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Turf Wars in Environmentalism:
Competing Discourses in Hydroelectric and Nuclear Power Campaigns in New Zealand

John Francis Hamilton Wilson

ABSTRACT

This study examines the role of environmental movement organisations in New Zealand during the early years of the 1970s. The study takes a comparative case study approach that examines the way competing discourses were used by these organisations to oppose construction of two hydroelectric power schemes and a nuclear power proposal. Based in frame analysis, the aim of the study is to examine the mobilisation of discourse as an indicator of the ability of environmental concern to politicise the energy policy domain. Research is performed in three areas: identification of the interpretive packages and discursive frames that delineate environmental discourse up to 1976, measurement of these discourses mobilised by environmental movement organisations, and an assessment of the influence this mobilisation had on the politicisation of the energy policy agenda.

The study uses both qualitative and empirical methods. Qualitative research is performed to identify the discursive interpretive packages and frames through a hermeneutic analysis of the literature on the history of the environmental movement. This analysis shows that three historically distinct environmental movements can be identified up to the mid-1970s. These are the conservation, preservation, and political ecology movements whose discourses can be analysed in terms of three culturally resonant frames. The study finds that these interpretive frames – the rational, the moral and the aesthetic – offer similar but competing understandings of the environment. The empirical research is based on three data sets – the submission records presented to three commissions of inquiry held between 1970 and 1976. These samples are used to estimate and compare the mobilisation of positions taken by a diverse range of environmental movement organisations. The results of this analysis suggest that, to varying degrees, these competing discourses help to politicise the energy policy domain. Conservationism was found to be the least mobilised environmental discourse by environmental organisations. Nevertheless, it provided institutional energy policy actors with a rhetorical strategy in an interpretive arena in which resource development claims could be presented and defended.

Environmental organisations were found to be important political actors not just because of their ability to mobilise organisational resources, or take advantage of political opportunities, but as engaged in discursive attempts to set the frames in which public discussion about energy policy issues took place. The study concludes that this political role may ensure the environmental movement remains an effective and non-transitory new political actor able to compete politically with, rather than for, party attention. It is the discursive ability of environmental movement organisations that allows them to compete in an increasingly politicised discursive sphere.
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For Claire
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Abbreviations

AJPR  Appendices to the Journals of the House of Representatives
CfE   Commission for the Environment
COG   Coalition for Open Government
DSIR  Department of Scientific and Industrial Research
EAO   Ecology Action Otago
EIA   Environment Impact Assessment
EDS   Environmental Defence Society
EMO   Environmental Movement Organisation
FOE   Friends of the Earth
HOWL  Hands Off Wanaka Lake
FFGNP  Fact Finding Group on Nuclear Power
MOW   Ministry of Works and Development
MP    Member of Parliament
MRC   Ministerial Review Committee
NWASCA National Water and Soil Conservation Authority
NCC   Nature Conservation Council
NZED  New Zealand Electricity Department
NZPD  New Zealand Parliamentary Debates
POS   Political Opportunity Structure
PSA   Public Service Association
RCI   Royal Commission of Inquiry
RMT   Resource Mobilisation Theory
SMO   Social Movement Organisation
INTRODUCTION

1. Politicising the Environment – the Role of the Environmental Movement

Prior to the 1960s, a nation’s use of its environment had not been a central political problem. The development of its natural resources – energy, forests, and minerals – evoked little public comment. Limited disputes had arisen over the method of development and over the distribution of gains from development, but, in general, resource use *per se* attracted little political attention. The developmental goals of society enjoyed widespread political consensus and public support. Within the space of just ten years, questions concerning the environment erupted on the political stage. Environmental issues began to shape public opinion, mobilised mass political protest and attracted media attention. In the two years between 1970 and 1972, environmental agencies were instituted in fourteen industrial nations, the United Nations Environment Programme was established, and a new type of political party – environmental parties – emerged on an electoral landscape that had remained almost unchanged for over 100 years (Cairncross 1995). Environmental issues were now political problems – they required national co-ordination and international co-operation.

This study is about the way in which energy issues in New Zealand became defined as political problems during the 1970s. Central to the account is the role of movement organisations in the early environmental and antinuclear power movements in New Zealand. The thesis takes a comparative case study approach to the way that environmental ideas were used by social movement organisations in opposing construction of two hydroelectric power schemes and a nuclear power proposal. The study adopts the frame analysis model of social movements to analyse the mobilisation of ideas by movement organisations, and their contribution to changing New Zealand’s energy policy agenda. Three general problems help to locate the study.

Firstly, it is not entirely clear the ways in which the modern environmental movement differs from its historical predecessors. Clearly, environmental concern emerged well before its most recent expression in the 1960s and 1970s. Such concern can be located within the environmental organisations of the conservation movement and the international environmental treaties of the
nineteenth century.¹ If the modern age of environmentalism is now taken to originate somewhere between Rachel Carson's *Silent Spring* (1962) and Earth Day 1970, some account of the political quiescence of environmental concern for over fifty years must be made. This political dormancy suggests there may be something qualitatively different about the way that environmental issues are now mobilised and presented (or framed) by new political actors.

Secondly, the level of mobilisation in the present environmental era needs explaining. It is not at all clear how or why modern environmentalism – as a movement or as an orientation – managed to mobilise vast and diverse numbers of people in Western democracies to participate in conflictual protest action, or how it has reshaped political understanding of the environment. After all, relative to other established political actors, social movements have minimal organisational resources, limited expertise and receive limited access to, and limited legitimacy from, the political system.

Thirdly, the variability in environmental issues, *as problems*, needs explaining. Within the possible universe of environmental issues, it is apparent that not all actually emerge as problems, or to the same extent. The condition of the environment, or its deterioration, does not always generate collective action. Complicating this process is that even the same environmental issues do not always appear in similar types of nations at the same time. Even where environmental issues do emerge under similar circumstances, the same issue can generate different levels of mobilisation. The French peace movement of the 1980s, for example, was relatively weak in comparison with French opposition to nuclear power. It was also weaker in comparison with the UK peace movement, the Campaign for Nuclear Disarmament. On the other hand, the antinuclear power movement in Britain at this time was much weaker than its French counterpart. Yet there is little reason to suppose that nuclear weapons in France were less dangerous than those in the UK, or that nuclear power in France was more dangerous than in the UK (Chafer 1985). Further, even where the

¹ Some examples of these early environmental organisations and treaties are given in Chapter Two. See also Bramwell (1989) and McCormick (1989).
same issue emerges at the same time and mobilises the same level of concern, the political response can vary enormously. Clearly, the same environmental issues are not always the same environmental problems. The variable politicisation that environmental issues exhibit, in terms of emergence, mobilisation and impact, requires explanation.

Most commonly, responses to these questions assume that there is something unique about the seriousness of problems facing humanity in the twentieth century. Either the levels of environmental deterioration – the ‘objective’ condition of the environment – or the character of environmental problems – its global pervasiveness – are cited to explain why environmental issues are important issues. Thus, relative levels of politicisation are attributed to the relative levels of pollution, or to the relative levels of risk posed by the relative levels of technological development.

These explanations, however, only partially explain why environmental issues become important political issues. The relative levels of environmental quality, risk, or resource development cannot always explain the relative levels of politicisation and political response. After all, environmental problems do not spontaneously emerge. It is social actors who interpret environmental issues as problems, and who must then attempt to engage political attention. In turn, institutional political actors must justify to their constituents their political responses to these issues. The perception, significance, and responsiveness to environmental issues are therefore shaped – constructed – by domestic and international political processes. In short, environmental issues can become political problems through interpretive processes – the attribution of meaning by individuals, organisations, social movements, and nation states.

This study seeks to understand the way that environmental issues became defined as political problems by New Zealand environmental movement organisations. It seeks answers in the mobilisation of ideas in three environmental campaigns, and the extent to which these ideas sought and received political attention from institutionalised energy policy actors. The study seeks to illustrate that the willingness to recognise issues and take action at the political level rests, in part, on the claims-making activities of social movement actors in particular protest campaigns.
The political role of social movements has previously been constructed in terms of their ability to mobilise particular types of supporters, to mobilise organisational resources, and to the external political context that give movement entrepreneurs opportunities to exploit conditions for protest. Yet the re-emergence of the environmental movement in the 1960s, and contemporary concern with environmental problems, suggests a further political role for environmental movements. It may be that movement organisations politicise environmental issues through a reinterpretation of the cultural frames in which public understanding of the environment is located. Not only do environmental organisations help to get new ideas articulated, disseminated and acted upon, but there is also increasing support for the view that they are enduring influences in the political arena. In short, social movements can act as agents of cognitive change (Jamison 1996).

2. The Research Gap

Clearly, the environmental movement, as a social movement, is an important political actor. It has been instrumental in politicising environmental issues, and has been a formative influence on the legislative, institutional and political landscapes at both the national and international level. Robert Nisbet writes that, 'It is entirely possible that when the history of the twentieth century is finally written, the single most important social movement of the period will be judged to be environmentalism' (Nisbet 1982, p.101).

Historically, social movement research has tended to be directed at an analysis of the organisational, motivational, and structural influences on mobilisation. In turn, these social movement models have shaped the understanding of social movement outcomes (Kriesi, Koopmans, Duyvendak, and Giugni 1995). While there is a vast literature on social movements, it is only recently that attention has returned to the investigation of interpretive issues in movement mobilisation and their influence on movement outcomes.
Secondly, while considerable attention has been paid to the impacts of a social movement, research has tended to focus on factors exogenous to the movement itself. Where factors internal to social movements have been allowed to play a role, the focus on ideational, cognitive, or interpretive issues has, until recently, been neglected as a research area. If it is accepted that the environmental movement has helped reshape individual, societal, institutional and political priorities — in short, effected a 'new cognitive configuration' — then an examination of the cognitive dimensions of environmentalism would seem justified (Caldwell 1990, p.76).

It is a major contention of this study that attention must be paid to factors internal to the environmental movement. This attention takes the form of a discursive approach that assumes that social movement organisations articulate distinct positions within environmentalist discourse. By examining the mobilisation of these different positions, an understanding of how issues are addressed and their contribution to campaign outcomes can be developed (Brulle 1996). Consequently, this study is an examination of the mobilisation of environmental discourse by environmental organisations in New Zealand during the first half of the 1970s. Constituting the environmental movement, these organisations are seen as engaged in an internal interpretive struggle in which variations in the mobilisation of environmental positions can be discerned. It is the frame analysis model of social movements that allows an appraisal of the variable mobilisation of the elements of environmentalist discourse articulated by movement organisations. It is the internal interpretive struggle between movement organisations that contributes to the variable politicisation of energy policy issues which in turn helps to account for changes to the energy policy agenda.

This study assumes that movement organisations are involved in an interpretive struggle over the definition and interpretation of environmental problems, but makes no prior claims to the seriousness or otherwise of such issues. This study suggests that the 'seriousness' of environmental problems cannot simply be discerned by an examination of environmental conditions. This is

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2 Determining the 'site' of social movement success is a choice between factors internal to the movement and those that emphasise external factors beyond the control of social movements themselves, such as the electoral, media, and public arenas. These issues are discussed further in Chapter One.
because the level of shared understanding of environmental problems held by social movement and policy actors is limited.

This study also does not see environmental conflict simply as a struggle in which the state must consider the competing interests of actors, as well as the considerations of the national interest, for political survival. This realist approach fails to see environmental politics as an interpretive struggle over the definition and significance of environmental problems in which the state must legitimate its actions by engaging in a social debate, rather than as the preferred outcome of the dominant political bloc (Hajer 1996).

Instead the study conceives environmental problems, conflict and politics as socially and cognitively constructed. The role of social movements, as actors in this process, forms a central focus of the study. This demands that the aim of this study is itself not misconstrued. It should not be misinterpreted as an attempt to discredit environmental claims, or to deny the existence of environmental problems, or even that the seriousness of the ecological dilemma is misplaced. After all, environmental events – from vanishing species to ozone depletion – are real, and not, as such, socially constructed by the environmental movement. The point is, rather, how these events emerge as problems – how sense is made of them. Events require them to be interpreted as problems – their significance is shaped by the understandings of social actors. Environmental claims are mediated – by current knowledge, by competing actors, and by current practices and preferences. This study is therefore interested in understanding how environmental claims are defined, contested and legitimated by environmental movement organisations.

Secondly, rather than undermining the legitimacy of environmental claims, the social constructionist approach actively encourages attention to all claims-makers and all positions adopted in environmental debate. For example, sustainable development, green consumerism, or the role of industry-funded think-tanks and ‘environmental’ front groups – the subject of Global Spin (Beder 1997) – suggest an increasing number of claimants engaged in presenting interpretations of environmental issues. Thus, the developmental goals of anti-environmentalists can also be seen as
socially constructed, and not just as a response to the objective, pragmatic and developmental needs of the nation state.

In this light, environmental concern should not be seen as conflict between competing actors who take positions on pre-defined environmental problems. Rather, environmental conflict involves actors in a complex and evolving 'interpretive struggle' over the definition, meaning, and significance of specific environmental problems. Both levels of concern are inherent in the term environmentalism – social concern over the meaning of environmental change and struggle over the organisation, values and orientation of society as a whole (Hajer 1995, p.13). Environmentalism, then, is a site of discursive struggle. This is not simply in the sense of opposition to developmental projects (whether to build dams, develop or conserve resources), but in the sense of competing discourses involving arguments between political priorities and value systems (Coupland and Coupland 1997).

3. Outline of the Thesis

This study uses three case studies to examine the politicisation of energy policy in New Zealand during the first half of the 1970s. Prior to 1970, this policy domain was seen as bipartisan and consensual. The study seeks to analyse the cognitive role of environmental and antinuclear organisations in this politicisation, and their impact in terms of the government's energy policy agenda. It proposes that the influence of these organisations can be partly explained in terms of the discourse of environmentalism. In comparing these three campaigns, it is hoped that the role of specific elements within this discourse – collective action 'frames' – is made apparent.

The thesis consists of eight chapters. Chapter One examines the theoretical literature on social movements. Social movement approaches provide the most theoretically developed models with which to examine environmentalism. The aim of this chapter is to review previous social movement research, and to justify the frame analysis model as appropriate to the examination of environmental discourse. This approach suggests that language has an important role in political life. Language cannot now be seen as neutral – as a non-partisan description of the world. Instead
language and description, in the hands of political actors, are seen as necessarily selective and therefore active in shaping the world (Fischer and Forester 1993). Discourse analysis, therefore, is a method that can be used to analyse the cognitive basis through which environmental and social problems are constructed (Hajer 1996, Johnston and Klandermans 1995). It assumes that discourse is not simply discussion but that it is structured, containing specific sets of ideas, concepts, categorisations, and ways of talking (idioms or frames). This chapter outlines the frame analysis model of social movements that will be used to examine the politicisation of the energy policy domain that occurred in New Zealand in the 1960s and 1970s.

Chapter Two conducts a brief review of the literature on the historical expressions of environmental concern. Politicised concern with the environment — hereafter ‘environmentalism’ — seemed to emerge in the late 1960s and early 1970s. Political sociologists often describe environmentalism in terms of new ‘postmaterial’ values that have emerged now in post-scarcity societies (Inglehart 1977). However, the emergence of environmental concern as a political problem has had a much longer history and genesis. This historical review identifies three environmental movements that came to prominence in the twentieth century. It aims to describe the discourse of these movements in terms of the dimensions, or frames, of environmentalism, and to test the plausibility of the framing model outlined in Chapter One. The chapter suggests that three types of claims can be discerned in environmental discourse. The three dimensions that comprise the cognitive content of environmentalism are analytical constructs derived from the literatures on frame processes, new social movements and the history of environmental thought. Chapter Two develops a typology of environmental discourse that will be used to analyse the variable mobilisation of these discourses in the case study chapters. The chapter concludes with the research questions that guide the discussion of the case studies.

Chapter Three outlines the research design, which is based on a comparative case study approach, and provides the political and energy contexts that locate the three case studies. Tackling
three case studies rather than one or two, should ensure a more representative sampling of the conflict between new and old politics, and should reduce the bias that the special features of only one case study might introduce. The study uses both empirical and qualitative approaches. The empirical research is based on three data sets – the submission records presented to three commissions of inquiry held between 1970 and 1976. These samples are used to estimate and compare the mobilisation of positions taken by a diverse range of environmental movement organisations.

Chapters Four to Six are the substantive case study chapters that focus on energy resource conflicts in New Zealand. These environmental campaigns emerged at much the same time; they mobilised similar levels of protest, and they were over by the mid-1970s. These resource conflicts were the longest and the largest protest campaigns in the history of New Zealand environmental politics. They should therefore exhibit most of the range and intensity of debate put forward by environmental organisations. Although the three protest campaigns at the centre of this analysis were the largest ever seen in New Zealand political history, previous accounts have not explicitly adopted social movement approaches.4

These case studies also offer an opportunity for an empirical assessment of the types of concern mobilised in hydroelectric and antinuclear power campaigns. Some authors see the antinuclear debate as distinct from the wider environmental movement and one that has emerged out of the different conditions pertinent to Western Europe, as opposed to those responsible for the environmental movements in Australasia (Hay and Haward 1988, Rainbow 1992). This reflects the different approaches taken in the literature between those who explain impacts in terms of the

4 Some technical accounts are by Jones (1979) and McKellar (1973), while for journalistic accounts see Powell (1978), Wilson (1982) and Peat (1994). Early social science comment was by Cleveland (1972), Slee (1974), and Erickson (1978). More recently, informed accounts include Kellow (1996), Martin (1991) and Rainbow (1992). This is not to suggest, of course, that studies in environmental politics in New Zealand are lacking. Excellent institutional analyses of administrative agencies and New Zealand environmental parties have been made. See, for example, Buhrs (1991) and Rainbow (1992).
external political context and those who focus on characteristics internal to the movements themselves.

The aim of the case study chapters is to examine the mobilisation of environmental concern and to account for the politicisation of energy policy issues as expressed in the three case studies. It is proposed that the cognitive content of environmental ideas can help to account for the politicisation of energy issues found in the three case studies at the centre of this analysis, which are themselves early examples of environmentalism.

Chapter Seven is an analysis of the results of the case study comparisons. This discussion examines the implications of these results in terms of the research questions outlined in Chapter Two. The case studies will suggest that the types of ideas held by the environmental movement organisations are contributing influences, not only to the politicisation of energy issues – which includes influencing the level of mobilisation and public opinion – but also to effecting change on the energy policy agenda. The analysis aims to show that it is the combination of all three types of claims, or frames, that helps to explain the politicisation of environmental concern – represented here by the attention that social movement actors command in particular environmental protest campaigns.

Chapter Eight widens the discussion to include the general political role of environmental movement organisations implied by the findings of the study. The study concludes that this political role may ensure that the environmental movement remains an effective and non-transitory new political actor, able to compete politically with, rather than for, party attention. It is the discursive ability of environmental movement organisations that allows them to compete in an increasingly politicised discursive sphere. The study now turns to a discussion of social movement research.
CHAPTER 1

Analysing Environmental Ideas Using Social Movement Theory

1. Introduction

This study’s theoretical orientation to the analysis of the environmental movement in New Zealand is centred on frame analysis (Benford 1997, Snow and Benford 1988, 1992, Snow, Rochford, Worden, and Benford 1986). This model has helped to refocus attention on the role of ideas in collective action, and to address what Jamison had contended was a fundamental gap in the analysis of social movements, namely, the analysis of their ‘cognitive dimensions’ (Eyerman and Jamison 1991, p.45). This renewed interest is also evident in the approach of ‘epistemic communities’ (Haas 1992), ‘argumentation’ (Fischer and Forester 1993), and in the ‘new social movement’ (NSM) approach that attributed a place for cognitive and cultural elements in assessing social movement identity and activity (Cohen 1985, Eder 1982, Melucci 1985, Offe 1985, Touraine 1981).

With increased interest in the dynamic and interactive nature of social movements, attention to interpretive and communicative processes is thriving. Scholars have begun to attend to various movement interpretive processes, including public discourse (Gamson 1988, Gamson and Modigliani 1989), grievance interpretation and reality construction (Benford and Hunt 1992, Ferree and Miller 1985, Gusfield 1989, Klandermans 1992, Tarrow 1992, Turner and Killian 1987), and collective identity (Friedman and McAdam 1992, Gamson 1992, Melucci 1985, 1988, 1989, Taylor and Whittier 1995). Indeed, one commentator reviewing the field states that interpretive and ideational studies have become ‘fashionable’ in social movement theory and research (Benford 1997, p.409).

Such developments provide a welcome theoretical diversity to the study of social movements and, by extension, to the analysis of the ideational or cognitive aspects of the
environmental movement. This chapter argues that social movement theory is a useful approach to environmental activism because of its theoretical diversity.

Secondly, the chapter illustrates how social movement models differ in their explanatory range. Not all social movement approaches model the emergence, mobilisation, and impact of a social movement. Also, although often empirically grounded, much social movement research has, until recently, been theoretical (Benford 1997). Instead, 'what is needed is more systematic, qualitative fieldwork into the dynamics of collective action at the intermediate meso-level ... the level at which most movement action occurs and of which we know the least' (McAdam, McCarthy and Zald 1988, p.729).

The study adopts a meso-level approach to the environmental movement through a focus on the particular campaigns in which movement organisations are engaged. Within these campaigns, the focus is on the social movement organisations (SMOs) who are to be viewed as political actors engaged in an interpretive struggle – over dominant cultural views, the organisation and direction of society, and the degree of participation at prescribed decision levels. With these considerations in mind, this chapter sets out to justify adopting the frame analysis model as an empirically grounded approach to the focus of this study – the campaigns of the environmental movement in New Zealand.

Thirdly, this chapter argues that understanding the way social movements influence political change is beset with a number of conceptual and methodological difficulties. Here again, frame analysis helps to build on previous social movement research by suggesting a method that can help to assess the contribution of a movement's interpretive strategies to campaign outcomes.
2. A Typology of Social Movement Models

Early approaches to environmentalism located it within empiricist approaches, or within media and class-based analyses. On the other hand, environmental philosophy paid considerable attention to the ideas of environmentalism. These approaches were found to be deficient once the diverse nature of mass participation and social protest became apparent during the 1960s. Instead, social movement theory, that was already established, came to be seen as one of the most productive research designs equipped to model the diverse nature of non-conventional mass political participation. In some eyes, 'social movement theory promises to be one of the most active areas of the social sciences in the opening years of the twenty-first century' (Garner and Tenuto 1997, p.42). Others, more modestly, claim it as the best theoretical analysis of environmentalism (Rudig 1990, p.11).

Yet, if social movements are sets of collective events, they may be too complicated to be studied through one theoretical lens (d'Anjou 1996, p.64). It is this complexity, as well as the availability of empirical data, that have tended to restrict the study of social movements to specific movements, and discrete elements of the movement process (Klandermans, Kriesi, and Tarrow 1988). Consequently, certain areas of movement research have been neglected and under-theorised.

1 Some regard these early approaches as constraining the development of the theoretical literature on environmentalism, by blaming the empiricist-positivist-behaviourist 'straitjacket' of analytical traditions; dominant until recently (Atkinson 1991, Buttel 1976). Other empirical approaches, based on public opinion and survey research, attempted to statistically measure the extent of expressed environmental concern (Dunlap and van Liere 1978). These studies, while useful, restricted analysis to the type of people involved, rather than the issues articulated by environmental activists. Others thought that attempts to trivialise environmentalism as a middle-class affair helped to marginalise the political appeal and radical nature of environmental debate as a legitimate area of investigation (Buttel 1976).

2 Some commentators came to see environmental concern predominantly as a product of media attention, as part of an 'issue attention cycle', whose popularity would inevitably wane (Downs 1972).

3 Environmental ethics and philosophy were disciplines to engage early in the debate on the character of environmental issues. See Naess (1973), Stone (1974), Sagoff (1974), and Tribe (1974). In fact, for over twenty years, Environmental Ethics provided one of the few professional literary forums for environmental debate.
In comparison to movement emergence and mobilisation, relatively little attention has been paid to the impact of social movements in comparative perspective. Until recently, only limited attention was directed at assessing the role of social movement ideas in this impact, and even less across movements or across time. Nevertheless, since the literature on social movements is vast, the brief overview that follows is intended to only indicate why a number of social movement models are inappropriate for the focus of attention in this study. This is followed by a conceptual outline of the frame analysis model that is adopted in this study. Finally, the difficulties in assessing movement outcomes are outlined.

Social movements have traditionally been seen as a force for social and political change, evidenced by such historical actors as the agrarian and labour movements of the nineteenth century. However, beyond a conceptual core that refers to forces of social, political and cultural change (usually expressed as mass political protest), no uniformly recognised definition of social movements exists. Rather, meanings coexist, and are informed by theoretical perspectives that have undergone considerable change in the last fifty years. Therefore, to locate this study, it is necessary to provide a brief overview of these positions because they determine the way in which activism has been conceptualised.

There are several possible ways of organising such a review. One is to distinguish between American and European approaches to social movements (Klandermans, Kriesi, and Tarrow 1988, Eyerman and Jamison 1991, Schmitt-Beck 1992). The United States has long been a strong centre of social movement analysis, including areas in resource mobilisation theory (McCarthy and Zald 1977), historical and political process, and culturalist approaches (Jenkins and Klandermans 1995, Johnston and Klandermans 1995, Traugott 1995). American scholars have applied both quantitative and qualitative research techniques (Smelser 1963). European approaches include influential social movement scholars from France (Touraine 1981, 1985), Germany (Eder 1982, 1996a, 1996b, Rucht 1988, 1991a, 1991b), and Italy (Diani 1992, 1996, Melucci 1984, 1988, 1989). Nevertheless, these
geographical distinctions are somewhat artificial since the theoretical interests of scholars are not determined by the Atlantic.⁴

An alternative approach is to review movement research in its historical context. Although the post-war history of the field does exhibit distinct periods, research approaches overlap, fall in and out of favour, and the earliest approaches continue to be of value and employed today.⁵

For analytical reasons, the approach adopted here uses four sets of distinctions that are presented below in Table One. The first division concerns the broad categorisation of movement approaches, which are grouped here in terms of their focus on motivational, structural and organisational, and cultural features. Within these broad groupings, distinctions can be seen in each model’s unit of analysis.

Some models analyse social movements in terms of the individuals that participate in them. Their use of pre-defined grievance, psychologising, and reductionist explanations emphasise the role of value orientations and the motivations of individual actors – they can be classified as actor-centred approaches. More recent models adopt a meso-level approach, taking social movement organisations and their strategies as their subject of study. A third group of approaches aggregate organisations and take entire social movements at the societal or macro level as their focus. Macro level analyses rely on events, changing conditions, and structural developments to politicise issues.

The third type of distinction presented in Table One is the range of explanation. Not all movement models are, or able to be concerned with, explaining the emergence, development (seen in terms of participation or mobilisation), and outcomes of collective action. For example, the rational choice model is simply unable to say anything about social movement success. The range of

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⁴ These differences are not just a matter of geography, but are derived from the different political cultures – what role social movements have tended to play in different regions – and different intellectual traditions based on philosophies of history, theories of knowledge, and the different personal relations of the sociologists to the movements under investigation (Eyerman and Jamison 1991, p.28).

⁵ For a review of the social movement literature that does take an historical approach, see Garner and Tenuto (1997).
explanation that is offered by any one theoretical position is thus typically limited – although this is neither necessary nor desirable. For the most part, relatively little systematic attention has been paid to the impact, outcomes, or success of social movement activity (Burstein, Einwohner, and Hollander 1995, Rudig 1990).

The final category in the typology presented here concerns the 'site' of social movement success. Studies that do examine outcomes have not always taken a comparative focus, sometimes equate success with the level of mobilisation,\(^6\) and attribute movement success to factors essentially outside the control of the movement. In effect, the choice is between explanations that see social movements as instrumental in effecting social change, and those that see social change occurring regardless of social movement activity.

3. Motivational and Individual-level Models

In the 1940s and 1950s, social movements were conceptualised as reasonably spontaneous forms of collective action. They were seen to arise as a response to tensions or strains within modernisation that imposed the effects of industrialisation, democratisation, and cultural change unevenly across various social groups (Bell 1964, Eyerman and Jamison 1991, Lipset 1960). Social movements also became associated with the rise of fascism that grew out of these tensions and the collapse of the industrial world economy. Not surprisingly, sociologists such as Heberle, a political refugee from Nazi Germany, came to analyse social movements as potentially dangerous forms of non-institutionalised collective political behaviour (Garner and Tenuto 1997). Seen in this light, social movements posed a possible threat to democratic political systems that were recognised as established and stable.

This collective behaviour approach, as it became known, used a combination of structural-functionalist and psychological assumptions that dominated the study of social movements until the

\(^6\) The level of mobilisation may be important in terms of movement identity or organisation, while external political factors – such as the electoral, media, and public arenas – may be important in achieving an environmentalist orientation in public policy. The conceptual issues in understanding movement success are discussed below.
end of the 1960s. Theories of crowd behaviour and mass psychosis were combined with theories of structural change within society that induced ‘strains’ – alienation, frustration, aggression – that led the individual to participate in non-institutional collective behaviour (Cohen 1985, p.671). Two theoretical models – relative deprivation and postmaterialism – incorporated aspects of this approach and retained the individual as the focus of interest.

**Table 1: A Typology of Social Movement Models**

<table>
<thead>
<tr>
<th>MOVEMENT TYPE AND MOVEMENT MODEL</th>
<th>LEVEL OF ANALYSIS</th>
<th>RANGE OF EXPLANATION</th>
<th>CAUSAL SUCCESS</th>
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<td>Individual</td>
<td>Macro</td>
<td>Emergence</td>
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<td><strong>MOTIVATIONAL</strong></td>
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<td>Relative Deprivation</td>
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<tr>
<td>Postmaterialism</td>
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<td><strong>STRUCTURAL/ORGANISATIONAL</strong></td>
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<tr>
<td>Resource Mobilisation</td>
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<tr>
<td>Political Opportunity Structures</td>
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<td>Frame Analysis</td>
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3.1 Relative Deprivation, Self-Interest, and Positional Goods Models

Gurr’s model of relative deprivation aimed to show how expectations of advances in an individual’s economic or social position could lead to political protest when frustrated by the actual progress made in these areas (Gurr 1970). The model assumes that effects on the personal experiences and life-chances of individuals are dominant motivations for participating in collective action. It draws on economic theories about the behaviour of rational individuals, whereby individuals are motivated to act by external events only when an impact is likely in their own material circumstances.
Bell theorised that these ‘external events’ were to be found in the emergence of a ‘postindustrial’ society (Bell 1973). Structural shifts in the economy of industrial nations – from the production of goods to the provision of services – resulted in the predominance of the professional and technical classes while marginalising other social groups in society.

In Nelkin’s study of the antinuclear movements in France and West Germany, she employs this approach, following Rammstedt’s idea that social movements emerge as a reflection of significant and disruptive changes in the economic and social structure (Nelkin and Pollak 1981, p.105). These changes include a decline in the agricultural population, rapid urbanisation, and the rise of a new educated middle class whose high expectations are frustrated by the existing opportunities for political expression. These socio-economic trends are used to explain the ‘ready market’ for ecological ideals, and the diverse constituency and thematic content of the antinuclear movement.

A variation of this model is to view social movement participation as a response to the increased availability of positional goods to larger sectors of the population. Positional goods are those that have been relatively scarcely distributed within society such as pleasant living conditions, expensive cars, and tertiary education. As the level of wealth and saturation of consumer goods grows, these positional goods are devalued and unable to provide their previous levels of satisfaction (Lauber 1983).

This type of analysis of social movements essentially employs the terminology of class used to analyse the old social movements. New class actors – professional, middle class, and managerial – are seen to emerge from environmental, feminist and peace activism (Kriesi 1989). A degree of hostility to such ‘middle-class’ activism can be identified in speculation that environmental concern is the luxurious preserve of an elite (Buttel 1976).

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7 For example, post-war specialists in the social and cultural services, and intellectuals in the humanities and social sciences, find that marked increases in the levels and spread of education lead to the devaluation of degrees and hence reduced employment opportunities in these sectors (Burklin 1987, Klandermans, Kriesi, and Tarrow 1988).
Yet, class or self-interest models fail to explain participation where no immediate benefits can be identified. Schmitt-Beck (1992) believes that it is misleading to interpret environmental concern as reflecting a particular class interest. Occupation itself can be conceived as a decision informed by values. Also, Rohrschneider (1990) finds that membership of the new middle class is largely unrelated to public support for environmental groups. Such empirical findings suggest that support for the positional goods theoretical position is, at best, ambiguous.

Nevertheless, these models, by maintaining a preoccupation with questions of class and the conflict between economic growth and welfare, do not always sustain attention on the wider investigation of ecological problems. The content of environmental issues is, for the most part, disregarded. Moreover, the empirical evidence for relative deprivation approaches remains quite weak. Assumptions that movement activists are socially deprived, or mobilise as a result of frustration, have found surprisingly little empirical support (Gurney and Tierney 1982, Koopmans and Duyvendak 1995).

A related difficulty with the role of grievances across diverse societies is that they offer little explanation for the variability in campaign participation and outcomes. Most cross-national studies note that energy programmes presented their citizens with similar levels of grievances, yet social movements mobilised and developed to differing degrees. Levels of mobilisation and campaign

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8 The 'luxuriousness' and therefore the marginalisation of environmental protest is probably due to the perception that the new movements are the class enemies of the working class – they are thus seen as antagonistic to, rather than a continuation of, the struggles of the old movements (Eyerman and Jamison 1991).

9 More recently, Rudig (1990) has tried to recapture the ideational content of environmental issues by applying aspects of relative deprivation theory to a comprehensive analysis of antinuclear movements around the world. His approach is aimed at addressing the discrepancy between the stimulus of objective deprivations and the response in terms of collective protest. Thus, nuclear technology can be perceived or 'felt' as depriving – it introduces the risk of accidents, health hazards, and impacts on political structures, civil rights and so on. While the concept of relative deprivation was initially associated with economic factors, Rudig employs it in this context as any condition where people feel deprived of something they consider to be entitled to, such as environmental security or democratic consultation (Rudig 1990, p.30).
outcomes do not simply correspond to the 'objective' level of deterioration in the environment. On the contrary, it is social actors who must mediate environmental concern and mobilisation. The most that can be said is that relative deprivation is a necessary but not a sufficient condition of social protest (Kitschelt 1986, p.59).

3.2 Postmaterialism

One model that has offered some empirical data, while retaining the individual as the unit of analysis, is the postmaterialism thesis. The main features of the postmaterialism model were developed by Inglehart, who based generational value change within individuals on an earlier psychological framework of needs satisfaction (Inglehart 1977, 1987, 1990). Postmaterialism attempts to explain participation in collective action as less a product of the structural contradictions of modernisation than of a differentiation between materialists and postmaterialists. The emergence of environmentalism is then explained in terms of the emergence of postmaterial values held by core supporters, such as preferences for self-expression and the quality of life.

Postmaterialism has been criticised on a number of theoretical and methodological grounds. The significant deficiencies of the model from the perspective developed here is that, because the model attributes increasing environmental concern to mechanisms within individuals, the condition of the environment is allowed to play little part. Environmental concern is seen as the

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10 In the case of New Zealand, for example, no actual levels of environmental deterioration can be attributed to nuclear power, since no nuclear installations were ever constructed. Moreover, the massive opposition to nuclear power predated many of the accidents and mobilisation found overseas.

11 Maslow (1964) had developed this earlier psychological model.

12 These include the application of Maslow's hierarchy of needs framework, doubts over the homogeneity of postmaterialists, and environmental concern expressed before the post World War Two period when the socialisation of affluence is thought to have begun. Andersen argues that some nature preservation movements early this century were postmaterialist and cannot be seen as motivated merely by the satisfaction of higher order needs afforded by increased levels of affluence (Andersen 1990, p.105).
'push' of value changes within people, rather than the 'pull' of changes within the natural environment (Offe 1985). Lowe and Rudig (1986a) note that the model effectively divorces environmental concern from ecological problems.

The theory also tends to see social movements as single-issue oriented and reformist. The environment is just one among a host of postmaterial issues, with little to indicate the content or form of protest, or whether environmental concern has significance for the wholesale reconstruction of the political system (Dalton 1988, p.61). For these reasons, the theory has only weak predictive power in accounting for the variable impacts of the environmental movement, and has been used less frequently in explaining the antinuclear movement 13 (Cotgrove 1982, O’Riordan 1981).

3.3 Rational Choice

As with much movement research, social movements themselves came to influence how they were conceptualised. The Civil Rights movement, for example, is seen as a key factor in the change in emphasis from a focus on the irrational characteristics of participants to analysing rational attempts to transform unjust social structures (Garner and Tenuto 1997, p.18).

The rational choice model attempts to assess the conditions under which individuals are likely to engage in collective action such as social movements. The approach is committed to methodological individualism – individuals act 'rationally' by weighing up the costs and benefits of participation. No overarching theoretical reference points, such as postindustrial society or the strains of modernisation, are used to locate social movements within this approach. The external frame of reference is limited to the individual's perception of the costs and benefits of participation. Such theorists argue that because grievances – but not social movements – are found in all societies, they cannot be a sufficient condition for the appearance of collective action. Building on Olson's

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13 Inglehart did not initially refer to the antinuclear movement as an expression of postmaterialist value change. Rather, this association was first proposed by Hildebrandt and Dalton (1978), and developed by Barnes and Kaase (1979).
logic of collective action, the model helps explain why people often do not take part in social movements (Olson 1965).14

In many respects, the development from collective behaviour to rational choice models of social movements reflect the assumptions of classic pluralism that came to be challenged by the neo-pluralism model of political action. Classic pluralism viewed the liberal democratic state as one of competing elites. The model assumed an expanding middle class, an increasingly professionalised mass media, and increasing economic affluence that would tend to mute social cleavages (Jenkins and Klandermans 1995, p.18). The representation of interests were seen to be provided by interest associations, non-partisan expert elites and the catch-all political party, which helped to marginalise social movements as extraneous and even irrational expressions of discontent by individuals at the social edges of society (Smelser 1963, Kornhauser 1959, Jenkins and Klandermans 1995). The traditional pluralist model of democracy assumes a limited role for direct public participation, preferring instead to mediate public demands through organised interest groups. These groups are then thought to be able to present their demands in a competitive interest group (plural) context, overseen by a neutral state.

This classic conception of democracy began to be challenged on a number of grounds by neo-pluralism. As evidence emerged on the support base of social movements, it appeared that rather than a disparate bunch of mal-contents, social movement support came from well-educated and well-integrated individuals who participated in both institutional and non-conventional politics (Oberschall 1973, Barnes and Kaase 1979). Thus, participation in both conventional politics and in social movements could be addressed by rational choice theories of social protest (Jenkins and Klandermans 1995, p.19).

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14 In order to motivate participation, individuals must be offered 'selective incentives' to participate. For example, psychological gratification is obtained when feelings of political alienation are reduced, or when reference groups help to confirm internal normative orientations (Schmitt-Beck 1992). These 'selective incentives', together with individuals' overestimation of their efficacy in effecting change, are thought to overcome the 'free-rider problem'. In other words, they preserve the rationale for participation in collective action.
Unsurprisingly, individual level explanations tend to see social movement activism within a framework that focuses attention on motivational factors. Individuals engage in social movements as a response to an ill-defined 'objective' level of grievances, or to an internal value reorientation, or to an individualistic calculation of costs and benefits. Little attention is paid to social movements as collective actors, the actions they carry out, their organisation or, most importantly, the ideas they hold. After all, as one commentator points out, the label 'social movement' should broaden attention to collective action, rather than restricting the focus to individual and motivational factors (d'Anjou 1996, p.40). Table One shows that models adopting the individual as the unit of analysis are generally not inclined to say much about the impact of social movements on the political landscape, or comment on the significance of environmental ideas for society as a whole.

Most research taking the individual as the unit of analysis seems to be inspired by psychological approaches – it is the push of new values, rather than the pull of events, that inform these theoretical positions. Also, explanatory variables have been motivational rather than cognitive. The rational choice approach, for example, has informed a number of studies, using a methodology that has relied on cost-benefit analysis and psychological survey research rather than historical and comparative case studies. However, based at the individual level, it is unable to say much about the reasons for the emergence of movements themselves, or to offer explanations for movement success.15

4. Structural and Organisational Models

As the deficiencies of individual level approaches became apparent, models appeared that analysed social movements within broader structural, political, and organisational contexts. These contexts were analysed at the 'macro' and 'meso' levels. **Structure** and **organisation** are key concepts that distinguish these types of approaches. They refer to conditions that limit and facilitate individual

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15 An exception is Rudig's recent comparative study of the antinuclear movement in a number of countries. His cross-national analysis has indicated that NSMs did not emerge to the same extent, or in the same form, in all Western industrialised nations (Rudig 1990, p.27).
action, and which exist independently from individual motivations (Garner and Tenuto 1997, p.19). It is to these macro-structural and meso-organisational approaches taken by the ‘political opportunity structure’ model (POS) and Resource Mobilisation Theory (RMT) that we now turn.

4.1 The Political Opportunity Structure Model

A model thought to be central to movement emergence and development uses the label ‘political opportunity structure’ (POS) as its key organising concept (Eisinger 1973, Kitschelt 1986, Tarrow 1988, 1994). This approach emerged, in part, out of the critique of neo-pluralism. Since, in fact, the state has interests of its own, it cannot automatically be seen as a neutral ‘umpire’, but has a role in defining the rules of the game in which challengers, such as movements, could or could not emerge (Jenkins and Klandermans 1995).

Secondly, it emerged that liberal democracies varied historically in providing opportunities for political representation, such that under-represented interests depended on political allies (Gamson 1975, Jenkins and Perrow 1977). These findings helped to emphasise the structural nature of the political process in defining opportunities or constraints for social movements. This became the central organising concept for the political opportunity structure (POS) model of collective action. The model argues that when political opportunities present themselves, is useful for understanding why people participate in social movements (Tarrow 1994, p.17).

Instead of looking at the internal life histories of social movements (or the participants' psychological profiles as earlier social movement studies did in the 1950s and 1960s), political opportunity theory focuses on the availability of external resources and the political context in which a social movement operates. At the general level, political opportunity structures are defined as the configurations of resources, institutional arrangements, and historical precedents for social mobilisation. Specifically, the POS model assigns central roles to the organisation of the state in which social movements must emerge and develop. Variables thought to be important are the cohesion and alignments among political elites, and the structure, ideology, and composition of political parties in shaping the conflict and alliance systems (Jenkins and Klandermans 1995, p.4,
Tarrow 1994). The roles of intermediary institutions and organisations – interest organisations and the mass media – are also usually referred to in shaping mobilisation processes.

These structural elements may help to determine the ‘openness’ of political institutions to processing the demands of social movements – hence, they provide ‘opportunities’ to be mobilised as a resource by movement entrepreneurs. A curvilinear relationship is usually postulated – open and responsive regimes assimilate social movements, closed ones repress them, while mixed regimes may allow articulation, but not accede to movement demands (Eisinger 1973, Kitschelt 1986). In a widely cited study of antinuclear movements in Europe, Kitschelt employed the POS concept to argue that the degree of openness influences whether movements adopt assimilative or confrontational strategies in their campaigns (Kitschelt 1986 p.66).

Recent social movement research using a political opportunity model centres on the distinction between institutional and dynamic aspects of political opportunity structure (Gamson and Meyer 1996, Meyer 1995). The institutional components of political opportunity structure remain relatively stable over time and represent the cultural and procedural elements of local and national governments, such as their openness to reform or centralisation of political power. Institutional variations in political opportunities are best analysed using cross-sectional studies (Eisinger 1973, Kitschelt 1986, Kriesi et al. 1995). The dynamic elements of political opportunity fluctuate over time – they are changes in opportunities affecting a specific movement’s emergence, potency, and decline (Tarrow 1996).

Numerous reviews of the POS model suggest that it continues to be of value (Klandermans et al. 1988, Kriesi et al. 1995, Rucht 1991a). Its utility has been enhanced by recent developments that have seen a number of attempts to integrate and synthesise accounts of social movement emergence, mobilisation and impacts (Diani 1996, Garner and Tenuto 1997, Rudig 1990, Tarrow 1994).

It is not my intention here to fully outline or critique this model since I return to some of the difficulties below. Instead, the suggestion is that both motivational individual level and structural macro level approaches have been theoretically less inclined to pay attention to the internal and
dynamic nature of movement mobilisation – the interpretive skills of actors, the resources they possess, and the significance of these for movement outcomes. The claim is that ‘students of social movements have felt the limitations of excessively structural and interest-oriented perspectives’ (Johnston and Klandermans 1995, p.vii). It is here that the utility of an intermediate or meso-level focus is apparent.

4.2 Resource Mobilisation

Although macro level approaches often talk about a social movement as if it were a unified actor, a social movement is actually composed of a field of actors commonly referred to as social movement organisations (SMOs). Rather than attributing activity either to individuals or to some nebulous actor called “the movement”, it is the organisations within a social movement that are responsible for campaign actions, developing strategies, and articulating ideas. Hence, it is the meso-level or inter-organisational level that is taken as the focus of analysis (Benford 1993a). A number of authors are convinced that it is at the meso-level of SMOs that most movement activity occurs, while remaining the one where systematic qualitative analysis is lacking (McAdam, McCarthy, and Zald 1996).

Resource Mobilisation Theory (RMT) emerged in the 1960s. This model was primarily developed by a group of American sociologists within the rational-choice school of collective action (McCarthy and Zald 1977, Tilly 1978). This meso-level approach is focused at the organisational level of social movements. RMT tends to neglect the macro-structural causes of social movements, which are simply presupposed (McCarthy and Zald 1977). Instead, the focus is on those factors generally ignored by macro structural approaches – the role of organisations in mobilising resources (McCarthy and Zald 1977, Tilly 1978). Thus, while tending to neglect the reasons for participation, RMT research is more concerned with the ‘how’ of social movement mobilisation – it uses a ‘meso’ level focus to examine the effect of the availability and organisation of resources on social movement activity (Neidhardt and Rucht 1991).
The effectiveness of different strategies and organisational forms was the focus of Gamson’s *The Strategy of Social Protest* (1975), which associated success with narrow goals, bureaucratic structure and disruptive methods. This emphasis on resources (money, media support, and time) and organisations is the result of viewing societies as ‘organisational societies’ in which technical expertise, planning, fund-raising, media contact, and professionalisation are critical for movement action (Garner and Tenuto 1997, p.23). Sometimes, ideas are also included in the definition of resources available to organisations. One of the early proponents of resource mobilisation theory showed that grievances and discontent may be defined as a resource to be ‘created and manipulated by issue entrepreneurs and organisations’ (McCarthy and Zald 1977, p.1215).16

Perhaps because of the ability of these variables to be tested empirically, RMT emerged as the dominant paradigm in movement research. Yet, in emphasising attention to the successful mobilisation of resources, RMT is less able to recognise SMOs’ attempts at redefining and transforming the cultural context in which people live (Garner and Tenuto 1997). These are long term aims that cannot be assessed within a restrictive focus on efficient resource deployment.

Similarly, while the POS model emphasises the structural potential for collective action, it is hardly sufficient, since that potential for action depends crucially on the understandings of the actors involved. ‘Mediating between opportunity and action are people and the ... meanings they attach to their situations’ (McAdam *et al.* 1996, p.48). Yet, until recently, the study of social movements has been dominated by organisational and structural approaches in which ideational or cognitive factors – broadly seen as cultural dimensions of collective action – received less attention (McAdam 1994, p.36).

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16 Thus, the resource mobilisation model can view the mobilisation of symbolic resources as an internal effort, rather than with the easily quantifiable material resources that the model usually focuses on (McAdam *et al.* 1996).
5. Cultural Approaches to Social Movements

Social movement theorists have increasingly turned their attention to the notion of cultural politics – the deployment of alternative conceptions of woman, nature, development, economy, democracy, or citizenship that challenge dominant cultural meanings. This definition of cultural politics assumes that articulating alternate conceptions and meanings are political processes that, implicitly or explicitly, seek to redefine social power (Escobar 1998). It is within cultural approaches to social movements that new social movement and frame analysis models can be located.


The introduction of the concept of political culture is attributed to Gabriel Almond and Sidney Verba, who used the subset of civic culture to describe subject, citizen, and activist orientations towards the legitimating symbols of democracy (Tarrow 1994, p.120). Yet, cultural approaches to politics remain dependent on the particular theoretical approach taken. Taylor and Whittier, for example, identify four conceptual frameworks that relate culture to collective action (Taylor and Whittier 1995).

The emergent norms and interpretive frame approach, based on the symbolic interactionist tradition, draws attention to the way challenging groups construct an ‘emergent’ (revised) definition of the situation (Turner and Killian 1987). Later developed by Snow and his colleagues, the perspective suggested the concept of ‘frame alignment’ as the mechanism by which social movement actors legitimate their challenges, and attempt to mobilise potential supporters (Snow, Rochford, Worden, and Benford 1986).

A second approach to culture recognises that a social movement is located not only in a political and social context, but is culturally situated as well (Eder 1982, Horowitz 1977, Marx and Holzner 1975). This perspective, informed by new social movement theorists, uses collective
identity as a conceptual focus (Cohen 1985, Melucci 1985, Touraine 1985). The goals, strategies, and organisation of social movements inform and are informed by culture. Such interactional processes help social movements develop a shared understanding of their organisational goals that in turn shapes their collective identity (Fine 1995, Melucci 1989). Here, the 'newness' of social movements is to be seen in their political organisation around a common identity compared with the class-based movements of the past (Klandermans, Kriesi, and Tarrow 1988).

Thirdly, dramaturgical perspectives examine the role of ritual in the culture of social movements. Ritual, in terms of symbolic expressive events, is thought to be important in expressing and developing solidarity among members (Taylor and Whittier 1995, Wuthnow 1987). This approach can be seen as analysing culture in terms of the individual, where, for example, affective bonds or psychological affiliations provide cultural benefits to individual members (Fine 1995, p.131).

The final cultural framework addressed by Taylor and Whittier conceives of culture as discourse. Influenced by poststructuralism and postmodernism, a number of theorists have explored how social movements both affect and are affected by the discourse – the language, ideas, and interpretations – of political and social conflict (Taylor and Whittier 1995, p.164). The discourse analysis approach has been an influential analytical and methodological tradition, and one that is related to a number of different disciplines ranging from linguistics to ethnomethodology and social psychology.\(^\text{17}\)

Since the four approaches outlined above overlap to a considerable extent, they should not be seen as independent. The following section begins with the new social movement perspective, which can be seen as a macro-level cultural approach. This model provides the discussion with a useful theoretical reference point. I then go on to discuss the discourse and frame analysis approach, which is the central theoretical approach adopted in this study to the cultural analysis of social movements in New Zealand.

\(^{17}\) For a review and critique of methods and approaches in discourse analysis, see van Dijk (1985).
5.1 The New Social Movements Model

European discussions of social movements were forced to reconsider many of the assumptions of the collective behaviour approach by the transnational appearance of the student and other social movements of the 1960s. The 'New Social Movements' perspective (NSM) was an attempt to account for this global emergence, given the diversity of national contexts in which domestic political structures varied considerably. Such social movements appeared 'new', arising in a response to structural changes induced by features of modernised, industrialised western society that were variously labelled postmaterial, postfordist, postmodern, or postindustrial (Inglehart 1977, Melucci 1985, Offe 1990, Touraine 1971).

The term 'new social movements' (NSMs) was originally introduced as a provisional collective term for a plethora of social, cultural, identity, and quality-of-life groups that emerged on the political scene in the late 1960s and early 1970s (Cohen 1985, Eder 1982, Melucci 1985, 1988, Offe 1985, Schmitt-Beck 1992, Touraine 1981). West German social scientists used the term 'Neue Soziale Bewegungen' to describe groups as diverse as the student, environmental, antinuclear, women's, and peace groups, among others. A key commonality that these groups share is:

18 Apart from the student movement (generally regarded as the earliest manifestation of a NSM), a number of single-issue groups became active in the 1960s in an attempt to influence local policy directions in urban planning, energy use and environmental protection. In the 1970s, especially over the latter, umbrella organisations at regional and national level began to emerge. In New Zealand, such groups fostered the early institutionalisation of environmental ideas in the Values Party. The early Values Party shared many of the characteristics of the environmental organisations of the time – an innovative policy programme and a decentralised organisation – and has been regarded by some as resembling more a social and political movement than a political party (Rainbow 1992, Wilson 1982).

19 In the mid-1970s, public concern and mass mobilisation emerged over nuclear energy in Western Europe, the USA and New Zealand. While the antinuclear movement has been seen as a precursor of the broader ecology movement in Western Europe, in New Zealand it followed and reinforced, rather than preceding and initiating, environmental activism (Hay and Haward 1988).

20 While a consensus exists that the student movement of the late 1960s denotes the beginning of NSMs, views diverge on whether the counter-culture, gay, civil rights, or consumer movements should also be categorised as NSMs.
a self-understanding that abandons revolutionary dreams in favour of the idea of structural reform, along with a defence of civil society that does not seek to abandon the autonomous functioning of political and economic systems – in a phrase, self-limiting radicalism. (Cohen 1985, p.664)

The NSM approach employs a macrosociological perspective – it takes the collective actor as the unit of analysis, and posits collective action as a response to external conditions in society. These external conditions include structural changes, forces, and long-term processes. Social movements are conceptualised as being historically significant in these changes, as arising in a new distinguishable period of history. The approach sought to characterise what was 'new' about modern social movements, as opposed to the 'old' and institutionalised movements of the working class. There is therefore a concern with locating the 'newness' of these movements and their role in a 'new politics', given that precursors for the women's movement, and for the ecology and peace movements, can be identified (Brand 1990, Nedelmann 1984). The newness of new social movements has been conceptualised in terms of their fundamentally different ideological agendas, modes of political membership, organisational structures, and action repertoires from those prevailing in Western industrial democracies (Dalton, Kuechler, and Burklin 1990, p.4).

Rucht attempts a typology of social movements based on their strategy and forms of action. He distinguishes between socio-political movements (seen as instrumental), which challenge power structures and elites, and socio-cultural movements based on expressive action which seek to change people’s minds and behaviour (Rucht 1991a).

Environmental or ecological parties are thought to offer empirical evidence of the impacts that new politics was having on the party system after decades of stability and consensus (Muller-Rommel 1985b, Poguntke 1987). For Muller-Rommel, Green politics had modified the 'frozen' character of the party system, that led to other contributions from election research where attempts were made to identify patterns of dealignment, realignment or both (Dalton et al. 1990, Muller-Rommel 1989, p.114).

In fact, the bases of support of NSMs tend to contrast with earlier social movements, such as the labour or agrarian movements, which were associated with identifiable class-based interests. NSM membership, on the other hand, is not derived from any one socio-economic or ethnic grouping. Their support is socially diffuse, suggesting a shift from group-based political cleavages to value- and issue-based cleavages (Dalton et al. 1990, p.12).
The questioning of industrial growth, materialism, patterns of gender relations, or the strategic rationale of defence policy places NSMs and environmental parties beyond, and sometimes in conflict with, their historical predecessors. Their ideology is seen as requiring fundamental social change to the extent that they are thought to represent a new social paradigm, in contrast and in conflict with the dominant social paradigm of Western industrial societies (Dunlap and van Liere 1978, Milbrath 1984).

Offe cautions that while NSMs are critical of the outcomes of the socio-political, economic, technological, and military processes of modernisation, no integrated or unified ideological vision exists. Instead of some identifiable social class, the object of the new movements' criticism is an abstract and dominating rationality (Offe 1990, p.234). There is some evidence to suggest that the postmaterialist orientation of NSM adherents has effected a redefinition of the left-right ideological axis (Inglehart 1990). Certainly, NSMs regard the idea of revolutionary transformation and the use of the left-right ideological codes as redundant. It is this redundancy, this 'post-ideological' feature of their critique, which is thought to confirm their 'newness' (Offe 1990, p.234).

Other authors argue that it is in fact NSM's ideological distinctiveness that influences the type of supporters they attract, their organisational structure, and the way they choose to operate politically (Dalton et al. 1990, p.11). Social demographic characteristics have suggested that NSM supporters are of the post-war generation with high levels of formal education, low attachment to traditional organisations, and occupations in social and cultural areas (Schmitt-Beck 1992, p.369). These supporters are then presumed to be the 'new middle class' (Offe 1984).

The unconventional nature of the political behaviour of NSMs also tends to signify what is unique about these movements. Most tend to operate outside the conventional (neo-corporatist)

In organisational terms, many NSMs use non-hierarchical, participatory forms of decision making, and have no formal membership structure, but instead exist as a collection of networks. Their organisational pattern is thus in stark contrast to 'old' social movement organisations, such as labour unions, where centralised, bureaucratic and hierarchical structures are evident. The role of NSMs, in this light, is to reflect in their organisational structures their ideals of a participatory political culture – that is, to be open to the fluid interests of their adherents.
channels of participation, lacking formal recognition, consultation or representation by administrative institutions (Dalton et al. 1990). Rather, NSMs employ non-institutionalised channels of participation – the use of experts outside the system, mass petitions, submissions, and the media.\textsuperscript{24} The fluid nature of NSM membership may in fact emphasise the need to use the media as a resource to mobilise public opinion, in which case the unconventional forms of political expression follow as a logical imperative. These forms of unconventional action centre on protest and boycott activities, which have been elevated to a pre-eminent role. By comparison to the 'old' spontaneous and unorganised social movement protests, NSMs' protests are well planned and organised, and designed to afford and entice media coverage. The modus operandi of an organisation such as Greenpeace, for example, seem almost entirely premised on the criterion of media impact.

New social movements and their ideological agendas, bases of support, organisation, and tactics have not been easily accommodated within analytical frameworks, such as collective behaviour or relative deprivation. The NSM approach is therefore valuable in suggesting that broad societal changes linked to processes of modernisation help to explain the great variety and mass mobilisation of social movements seen since the 1960s (Rucht 1991b, p.180).

5.2 The Politicised Spheres of Modernisation

The NSM approach emphasises structural conditions in the form of changing forms of political organisation, economic concerns, and the shifting relations between public and private spheres characteristic of ‘complex societies’ (Lentin 1999). Here, a number of authors have taken up what may be described as arguments about modernisation.

The starting point for Neidhardt and Rucht is that social movements should be seen in the context of the features and problems of modernity, and that movements are ‘non random products of

\textsuperscript{24} Offe believes that what is meant by defining NSMs as non-institutional political movements is that they use a mode of action that, while unconventional, is nevertheless recognised as legitimate. The ends of action are seen as binding for the wider community, not just those of its immediate proponents (Offe 1985, p.827). Thus, religious or lifestyle sects are excluded, as are groups that employ terrorist tactics such as EarthFirst!
continuing modernisation' (Neidhardt and Rucht 1991, p.448). However, modernisation is not, nor is its role, uniformly conceptualised. Sometimes, elements of modernisation are thought to be necessary before NSMs can emerge – such as urbanisation, the mass media, the expansion of education and guaranteed civil rights. These modernising elements are seen in a positive light – they support a notion that social change is possible and open, to be created by purposive social forces (Offe 1985, p.855).

At other times, modernisation is cast in a more negative light – NSMs are seen as a response to fundamental contradictions within modern industrial societies (Habermas 1981, Offe 1985, Rucht 1988). Here, their role is to point out and attempt to rectify the side effects both of a capitalist industrial growth society and an interventionist welfare state. NSMs seek to politicise the institutions of civil society in ways that are not constrained by the channels of representative-bureaucratic political institutions, and thereby to reconstitute a civil society that is no longer dependent upon evermore regulation, control and intervention (Offe 1985, p.820).

While this conceptualisation of new social movements and modernisation has so far been rather broad, three more distinct lines of argument are used to identify the role of NSMs in politicising the spheres of civil society. Claus Offe is concerned with the ‘dispersed’ nature of power, and the ‘broadening’, ‘deepening’, and ‘irreversible’ forms of social control in late-modern European societies (Offe 1985, p.845).

The negative side effects of industrial processes are now not localised but applicable at broader levels – across nations and across time. This leads diverse groups to experience first-hand, by means of a ‘spill-over’ effect, the once specific concerns of class. Offe (1985) describes these developments as a ‘broadening’ characteristic of postindustrial society.

Beck positions these developments within the changing nature of risks in modern society. Rather than being localised, and a function of one's economic position, risks are now global in nature, and generated despite an individual's economic position. Beck thinks that the minimisation of conflict through economic growth is eroded by the intensification of conflict through an increase in endangerment (Beck 1992). Thus, he talks of the politicisation of industrial production (Beck 1992).
NSMs are seen from this perspective as a response to an industrial 'risk society'; as an attempt to illustrate the collective and universal nature of the threats, and to stress the holism and interdependence of the moral community (Beck 1992).

A second feature of modernisation is the 'deepened' intrusions of domination and social control into previously autonomous individual and cultural spheres (Offe 1985, p.844). This modernisation perspective centres on modernity's threats to the individual psyche or identity. Industrial and economic progress invokes technocratic, rationalistic, and bureaucratic structures that imperil the personal autonomy and self-determination that is necessary to create a psychologically integrated and authentic individual identity. Habermas (1981) describes it as the 'colonisation of the life-world', suggestive of a deprivation of the preconditions necessary for a healthy functioning psyche. The environment in general, and wilderness areas in particular, may be seen as a necessary precondition in the shaping and authenticating of personal identity.

The role of NSMs here is to act as radically individualistic movements, to preserve values of identity, autonomy, participation, and democratisation that are threatened by the 'de-humanising' trends of the modernisation process (Habermas 1981). They attempt to advocate 'ways of life' as antidotes to the monocultural interpretation of society as concerns over material production and distribution. Similarly, Touraine locates the concerns of NSMs as conflicts over cultural patterns where issues of self-reflection, the immaterial aspects of life, and collective identity are important (Touraine 1981, p.81).

A third line of the NSM argument is critical of the processes by which interests have been mediated and represented by the political process, and by the functioning of political institutions. This can be attributed, for example, to neo-corporatist forms of representation and mediation that are unable or unwilling to respond to new issues and demands. This allows social movements to express dissatisfaction at the closure of the political system, and creates opportunities for them to represent new interests (Schmitt-Beck 1992). Social movements are thus seen as a reaction to corporatised forms of state administration, and take positions that are anti-state, anti party, anti-authoritarian, and anti-bureaucratic (Berger 1979, Lauber 1983, Offe 1985).
For Melucci, however, the key focus in structural transformation is information and communication processes in which the ‘globalisation’ of knowledge is pervasive at multiple levels and in different contexts (Melucci 1996). To the extent that they acquire information and convey new languages (such as the languages of ecology and gender), social movements play a new and significant role in affecting change in institutional and political structures, in both direct and indirect ways.

Yet, because societal modernisation and structural transformation among Western democracies have proceeded at relatively the same pace, such processes are less useful in explaining the cyclical nature of protest, or the variable success of such movements – either over time or cross-nationally. Although theoretically productive, the NSM model has tended to be more concerned with the reasons for the emergence of social movements, and has therefore focused on a macro-level frame of reference that has been difficult to test empirically. Nevertheless, the NSM perspective provides a valuable theoretical orientation to more empirically-focused cultural approaches to social movements, such as discourse and frame analysis. Frame analysis, in adopting a meso-level perspective, centres upon the discourse strategies that social movements follow as an explanation for their significance as actors in a ‘new politics’.

5.3 Discourse Analysis

Initially, discourse analysis emerged out of sociolinguistic research, semiotics, the French structuralists, and poststructuralists, such as Focault (1977), Barthes (1975), Bourdieu (1984), and Lyotard (1984). Much of this work has attributed a primary role to the text, and is highly technical (Taylor and Whittier 1995). Social movement scholars adopting this approach (while less likely to insist on the primacy of language), nevertheless think it important to examine collective action through the discourse that social movements express (Johnston and Klandermans 1995).

Collective attempts to articulate a movement discourse is to be seen less as a response to the domination inherent in class relations, than as attempts to contest the dominant cultural codes. No longer are social movements seen primarily as engaged in ‘emancipatory politics’, but in ‘life
politics' where issues of identity, the production of knowledge, and new normative frameworks are important (Giddens 1991, Taylor and Whittier 1995, p.181). From this standpoint, social movements are engaged in creating countercultural or oppositional forms of cultural expression. Thus, culture is dynamic and not simply a static set of opportunities and constraints – it is contested terrain (Fantasia and Hirsch 1995, p.144).

Cultural analysis that focuses on conflicting discourses can be seen as drawing on NSM attention to particular features of modern society that have emerged since the Second World War. Power in today's postmodern society is not seen to be exercised simply in economic and political institutions, but rather in more fragmented institutional contexts – educational, medical, legal, scientific, and technological (Offe 1990, Taylor and Whittier 1995).

To some extent, this fragmentation is associated with the neo-conservative programme. Functions that were previously the legitimate preserve of the state are now carried out by alternative mechanisms that employ incontestable (non-political) criteria of an economic, moral or cognitive nature – such as market, family values, and scientific and technical standards (Offe 1985, p.819). For example, moral claims about what goals and directions that New Zealand should be pursuing in pesticides policy, are countered by attempts to frame the debate as a technical-administrative issue (Wilson 1990). As the arenas of claims-making shift, actors who lack expertise and access to technical knowledge domains are disarmed and immobilised (Best 1993, Edelman 1977, Gusfield 1989, Stryker 1990). Employing professionalised discourses help to frame issues in seemingly non-political contexts – in effect, they function as central ideological practices that entrench domination (Smith 1990).

Discourse approaches to social movements have allowed attention to be focused, not on the objective level of social and environmental conditions, but on interpretive processes as an activity that politicises and reorients public understanding of such conditions. Social problems are sometimes seen in this light as social movements, because claims-making activities are regarded as
indistinguishable from social movement activities (Jenness 1995). In short, discourse analysis can be seen as an analytical method used to analyse the cognitive basis through which environmental and social problems are constructed (Eder 1996b, Hajer 1996).

This idea – that social movements construct social problems through the cultural interpretation of experience – has long been an emphasis of collective action theorists (Blumer 1955, Brown and Goldin 1973, Turner and Killian 1972). More recently, the constructionist approach has been concerned with understanding the creation of new systems of meaning, and the effectiveness of symbolic challenges to the ‘dominant definitions of reality’ (Diani 1996, p.1054). This perspective in cultural theory emphasises the role of discourse in several contested domains (that were previously seen as non-political), in order to understand how social movements act as agents of cultural change.

While the analysis of discourse is important in analysing the role of movement culture in mobilisation, it is also a useful addition to previous social movement approaches that fail to include movement discourse as a strategy. Discourse is analysed as the attempt by movements to expose the historically embedded world-views that legitimate the definition of the social problem (Brulle 1996). Seeing discourse in strategic terms then allows a consideration of its influence in campaign outcomes. In this way, culture can be analysed apart from more structural social features, and its relative impact on action can be distinguished. A model that approaches discourse in these terms, and the one adopted in this study, is frame analysis (Gamson 1992, Gamson and Modigliani 1989, Snow, Rochford, Worden, and Benford 1986, Snow and Benford 1988, 1992).26

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25 Jenness (1995) outlines the debate about whether the study of social movements is the study of social problems, and notes that, once again, the discrediting of grievance explanations estranged the social movement and social problem literature.

26 A number of authors use discourse and frame analysis interchangeably (Donati 1992, Triandafyllidou and Fotiou 1998). While they can be seen as complementary phenomena, frames should be regarded as the micro-units of discourse analysis (Eder 1996b).
5.4 Frame Analysis

The concept of frames is not original to the social sciences. It has been used in the work of Goffman (1974), but also in psychiatry by Bateson (1972), and in psychology (Piaget 1954, Minsky 1975). Moreover, other terms such as scripts, scenarios or packages have been used to denote interpretive schemes used to make sense of one's environment. In Goffman's Frame Analysis (1974), the term was used to describe the classification, organisation, and interpretation of life experiences. Goffman used the term frames as a label for these 'schemata of interpretation'. Snow employed the term to describe the activity of social movements, which were engaged in the production of meaning since they frame, or assign meaning to and interpret relevant events and conditions in ways that are intended to mobilise support, to counter the meanings assigned by antagonists. (Snow and Benford 1988, p.198)

Research based on frame analysis was developed in the early 1980s, concentrating initially on the study of political communication and media discourse (Benford 1993a, Gamson and Lasch 1983, Gamson and Modigliani 1989, Snow et al. 1986, Snow and Benford 1988, 1992, Tarrow 1992). The role of frames in selectively emphasising objects, situations or events has been shown in studies dealing in particular with news-making (Gans 1979, Gitlin 1980, Pan and Kosicki 1993, Tuchman 1978). More recently, a number of studies now reflect discourse approaches to environmental issues – acid rain (Hajer 1995, Hannigan 1995), ozone layer depletion (Coupland and Coupland 1997), and overpopulation (Wilmouth and Ball 1995). In New Zealand, a discourse approach has been applied to the development of mussel farming (Jobling 1998).

This approach has also been applied to social movements where the importance of the framing of issues in order to understand issue construction, movement interpretation, mobilisation, strategy, and outcomes are being recognised (Benford 1993b, Diani 1996, Eder 1996b, Gamson and Modigliani 1989, Gerhards and Rucht 1992, McAdam et al. 1996, Meyer 1995, Morris and Mueller 1992, Williams 1995). While many of these framing perspectives have concentrated on conceptual

The political science literature has also incorporated constructionist ideas in attention to ‘symbolic politics’ (Edelman 1977, 1988). Symbolic politics is not simply the mere contest of symbols, since the use of language and symbols help to shape how people understand real political events and behaviour (Edelman 1977, 1988). Politics, in these terms, is seen as persuasion, where actors engaged in claims-making use rhetoric strategically (Neuman 1998).

The focus of frame analysis in social movement research is on meaning, and the way movement actors seek to ‘affect interpretations of reality among various audiences’ (Benford 1997, p.410). Movement actors engage with other political actors to negotiate and reconstruct reality – to collectively interpret environmental issues as political problems (Snow et al. 1986, Snow and Benford 1988). Since frames help to order experience, framing activity helps social actors construct an alternative world-view to those that dominate society. Frames can be seen ‘as accenting devices that either underscore and embellish the seriousness and injustice of a social condition or redefine as unjust and immoral what was previously seen as unfortunate but perhaps tolerable’ (Snow and Benford 1992, p.137). Frames not only have both a diagnostic and prognostic function, but a mobilising potency as well because they launch a call for action, and also offer a rationale for it (Snow and Benford 1988). Thus, frames can be seen as both an internal defining characteristic of the movement, and as an external strategy of constructing an alternative political discourse (Pan and Kosicki 1993, p.57).

Nevertheless, while many studies note and analyse the importance of discourse and framing processes, the many branches of the ‘frame analysis’ literature do not exhibit a consensus over some basic conceptual issues, including how frames may be analysed or how social movements make use of them.27 This lack of consensus largely arises from the very different methodological aims of the various authors who have contributed to the framing literature (Fisher 1997). Compounding the

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27 For a critical overview of the diverse approaches to frame analysis, see Fisher (1997).
problem is that, in the literature, a confusing variety of labels are attached to the components of framing activity – the strategic use of discourse by social movements. Consequently, at this point it is necessary to specify the methodological approach and conceptual outline of the frame analysis model that is employed in this study.

6. Conceptual Outline of the Frame Analysis Model

The methodology for a frame analysis of environmentalist discourse presented here, distinguishes among four analytical components (see Table Two). The first and most general concept addresses *framing contests* within public discourse. The second component describes how this contest may be seen in terms of competing *interpretive packages*, while a third component outlines the *frames* that are constituent of these packages. The final analytical concept refers to the *signature* of each frame – the substantive content or the actual arguments located within frames that, in turn, define an interpretive package.

The frame analysis model regards culture as dynamic – as 'terrain' or 'turf' contested by social movements. This allows political conflict to be seen in terms of the set of discourses employed by both challenging groups (within a social movement), and dominant groups (Taylor and Whittier 1995, p.180). The political role of a social movement lies in its attempts at shaping public orientations, and attempting to alter social structures by offering alternative discourses (Brulle 1996, p.62). Movements attempt to expose, redefine, or reframe world-views, which is central to their task of motivating collective action and influencing public discourse (Brulle 1996, p.60). 'Public discourse is the arena where environmental concerns are tested for their power and legitimacy' (Eder 1996b, p.165). Public discourse emerges unintentionally 'as the result of framing strategies of competing actors' (Eder 1996b, p.169). This characterises movement actors (such as environmentalists), institutional actors (parties, the policy sector), and non-movement actors (such as industrialists and the media), as engaged in an *interpretive struggle* or *framing contest*.

It is here that a meso-level approach becomes analytically useful, since a social movement cannot be analysed as if it were a single entity with a coherent, unified diagnosis or strategy (van
It is scientists, activists, and social movement organisations who interpret environmental conditions as politically significant, rather than by a reified and nebulous macro entity such as a movement (Benford 1997, p.418).

It is this variety of unconventional actors and groups within a given movement that imply that interpretive struggles or framing contests will be evident within the movement itself, as well as between a movement and its opponents or targets. Social movements seldom reflect a consensus (McCarthy, Useem, and Zald 1982). The numerous organisations typically comprising a particular movement imply that disagreements will frequently erupt within and among movement organisations regarding specific objectives, strategies, and tactics. What often arises among social movement organisations are interpretive disputes over reality – what is actually at stake – as well as how best to articulate that reality to movement supporters, the media, the public, and the targets of change (Benford 1997).

The suggestion is that, within movement discourse, these framing strategies compete for attention. All organisations within a movement seldom meet – their political power, instead, derives from their adherence to particular framing strategies or ‘story-lines’ that they employ (Hajer 1996, p.13). Thus, social movements need to be analysed as a complex interplay of loosely organised individuals, groups, and sub-cultures that mobilise around particular story lines that shape or frame the understanding of problems. The contention is that the framing strategies of social movements can be seen as ‘communities of discourse’ (Wuthnow 1989), or ‘discourse coalitions’ (Hajer 1996). In effect, if a movement is to be seen as a discourse coalition, then discrete discourses within a movement should be able to be identified.

The second analytical component of the frame analysis model developed in this study is that of the interpretive or symbolic package (Eder 1996b, Gamson 1988, Wilmouth and Ball 1995, p.319). An interpretive package is the term given to a discrete discourse (story line or framing strategy) within the set of movement, or indeed, countermovement, discourses. In Gamson’s study of antinuclear movements, for example, he refers to an ‘issue culture’ that includes the themes and counterthemes found in public discourse – defined as the set of ‘interpretive packages’ that ‘frame’
or give meaning to an issue (Gamson 1988). Interpretive packages can be regarded as the framing strategies of collective actors – a cultural theme or belief system held by highly educated and motivated political activists, who adhere to it on the basis of their historical, ideological, and political experiences (Kitschelt 1991, p.123).

**Table 2: A Schema of the Frame Analysis Model**

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<tr>
<th>INTERPRETIVE PACKAGES</th>
<th>FRAME</th>
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<tbody>
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<td></td>
<td>NORMATIVE</td>
<td>CULTURAL/</td>
<td>EMPIRICAL/</td>
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<tr>
<td></td>
<td>(SIGNATURE)</td>
<td>SUBJECTIVE</td>
<td>OBJECTIVE</td>
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<tr>
<td>INTERPRETIVE PACKAGE 1</td>
<td>(SIGNATURE)</td>
<td>(SIGNATURE)</td>
<td>(SIGNATURE)</td>
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<tr>
<td>INTERPRETIVE PACKAGE 2</td>
<td>(SIGNATURE)</td>
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<tr>
<td>INTERPRETIVE PACKAGE 3</td>
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</table>

This study adopts the position that the discourse of the environmental movement (environmentalism), is best analysed in terms of its interpretive packages. While these packages are discrete discourses – and, in a sense, compete with each other as framing strategies – they nevertheless function collectively as a coalition of discourses. This implies that more than one interpretive package can be identified within environmentalism (see Table Two). Analysing the common, dominant patterns – the ‘interpretive packages’ held by SMOs, and within which they construct meaning – may extend the explanatory range of social movement models.

The third analytical component is that interpretive packages are internally organised by frames. ‘At the core of a [interpretive] package is its frame ... providing meaning to an unfolding strip of events’ (Gamson and Modigliani 1987, p.143). Frames are the cognitive devices that collective actors use to construct an overall framing strategy – their interpretive package. These cognitive devices are ‘general symbolic frames that are culturally resonant to their historical milieux’ (Swart 1995, p.466). In attempts to encode meaning about particular issues, social movements confront institutions that have invested in producing the established or dominant
meaning (Fisher 1997). Thus, in challenging structurally embedded meanings, social movements are forced to adopt the key cultural elements of the language used by the institutions they confront (Swidler 1995, p.37).

Where the state enshrines ‘rights’ as the crucial legal claim that trumps all others, both individuals and social movements will conceive of the claims they make as ‘rights’. And where legal claims are tied to group identities, as they long have been for American Indians and increasingly have become for women, the disabled, and members of many ethnic and racial groups, identity becomes a central focus for social movements. (Swidler 1995, p.37)

Frames are defined in the course of collective action campaigns, incorporating the pre-existing beliefs and idioms of the dominant culture. Culture is a resource both drawn from ‘cultural menus’ (Schudson 1989) or ‘cultural repertoires’ (Williams 1995), and modified and transformed through framing contests. In Snow’s view, a movement’s ‘interpretive schemata’ (interpretive packages) utilise and modify elements of the dominant culture through processes of ‘frame alignment’ (Snow et al. 1986). Articulating and presenting an interpretive package through culturally recognised frames, help to locate and organise the substantive issues of an interpretive package within a semantic and cultural context. Interpretive packages and their frames help to define and legitimate social problems, mobilise social movements, and shape public responses (Pedriana and Stryker 1997).

Drawing on the NSM and discourse perspectives, the politicised features of modernisation (broadly seen as cultural domains) are the theoretical reference points that inform these culturally recognised frames. These features of modern society can be seen as contested domains in which new

28 Snow labels these processes ‘frame bridging’, ‘frame amplification’, ‘frame extension’, and ‘frame transformation’ (Snow et al. 1986). These concepts are, for the most part, associated with individual-level cognitive processes, and are not the focus of this study.

29 The present literature on frame analysis does not confront the issue of the origins of these broad cultural frames (Fisher 1997). Fisher believes, however, that a cultural frame can work across national cultures, although the degree to which they are acceptable, or ‘resonate’, will vary (Fisher 1997).

A number of authors have attached various labels to these cultural or master frames. Three types are generally identified as important in the interpretive struggle (d’Anjou 1996, Eder 1996b, Gamson and Modigliani 1989, Snow et al. 1986). For example, social norms, aesthetic concerns, and empirical facts are thought to distinguish the culture of modern society (Eder 1996b). Frames can also be seen in terms of the ‘social’, the ‘subjective’ and the ‘factual’, or in terms of ‘justice’, ‘beauty’ and ‘truth’ (Eder 1996b, p.206, Rein and Schon 1993, p.149).30

Previous works on the different historical conceptions of nature in the twentieth century (see Chapter Two) help to identify three culturally resonant master frames within environmentalist discourse. Caulfield (1989, p.52) identifies ‘ethical’, ‘aesthetic’, and ‘intellectual’ values in environmental concern. ‘Equity’, ‘esthetics’, and ‘efficiency’ are terms used by Koppes (1988) to analyse the conservation and preservation movements, while Norton (1986) employs a fourfold distinction of ‘consumptive’, ‘aesthetic’, ‘scientific’, and ‘moral’ values in a similar comparison. The frames employed to analyse environmental discourse in this study see the normative frame in terms of the moral, the subjective or identity frame as the aesthetic, and the objective or factual frame as the rationality frame. These three frames are only briefly sketched here – it is the task of Chapter Two to expand and justify the utility of these labels as used in this study.

The normative frame can be described in moral terms – arguments made within the context of what should be done and for whom (Rein and Schon 1993). Framing the environment in moral terms can be seen, for example, in dilemmas between the value of efficiency and equilibrium, public versus private interest, appeals to economic interests, and the mobilisation of anxiety and fear (Beck 1992, Eder 1990, Lash, Szerszynski, and Wynne 1996). Whereas the rationality frame is concerned with decision making – who participates, and whose definitions count – the moral frame is concerned

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30 Eder notes that this threefold distinction is based on the conceptions of ‘philosophical giants’ such as Kant and Habermas (Eder 1996b, p.167).
with decision outcomes – those affected by the decisions made (Beck 1992). By organising our normative concern, this environmentalist frame can amplify our appreciation of the moral community at risk.

The label adopted for the cultural frame is the aesthetic frame, following Eder (1996b). Sometimes the resonance of this frame is referred to in terms of narrative fidelity (Schudson 1989). This refers to the degree that the proffered frame resonates with cultural history, a sense of the nation’s identity, or draws on subjective and historically specific ways of arguing its case. At other times, this frame is defined in terms of its ‘pathos’, seen in terms of appealing emotionally to an audience (Edmondson 1997).

The label adopted for the empirical frame in this study is that of rationality. This frame points to the rhetorical force of the discourse that involves rather intangible notions of articulation, clarity, logic, and credibility (Schudson 1989). This frame may be defined more usefully in terms of empirical credibility or empirical objectivity (Benford 1993a, Eder 1996b, Snow et al. 1986, Hajer 1995). This refers to the fit between the frame and actual events that occur in the world. In other words, there are events that can be held up as evidence that would seem to confirm the claims of movement adherents, or disprove those of movement antagonists. When mobilising the empirical credibility frame, the ‘ethos’ or reputation of claimants (such as scientists of national standing), may play a role (Benford 1993a, Edmondson 1997). Thus, competing notions of rationality depend both on the standing of those framing their arguments in these terms, and on the degree to which arguments reflect observable (empirical) conditions.

The final component of the frame analysis model developed here, is at the narrowest level of analysis. This refers to the substantive content or specific ‘idea elements’ within the frame (Gamson 1992, p.218). These idea elements – signatures – are the actual arguments and ideas employed by institutional and movement actors to support their positions. The signature suggests the core frame in a shorthand fashion (Gamson and Lasch 1983). Thus, the actual elements of discourse (the issues and arguments), are located within a frame that gives these issues their semantic meaning. As it is adopted
in this study, each frame also has a signature that helps to identify the frame or semantic context and can stand for the specific ideas and arguments of a specific frame.

In summary, key arguments or issues do not exist in a vacuum, but are employed within semantic and culturally resonant (and contested) contexts, labelled frames, which are in turn the constituent elements of an interpretive package. In turn, interpretive packages can be seen as competing framing strategies that nevertheless function as a discourse coalition such as environmentalism. Environmentalist discourse itself competes with other interpretive packages in a discursive field – a conflict that ‘entails a dramatization of the relationship between man and nature in modern culture’ (Eder 1996b, p.162). Thus, Table Two represents a ‘signature matrix’ in which rows represent different interpretive packages, and columns represent the different types of frames (Gamson and Lasch 1983, p.408). The cell entries within this matrix therefore represent the various signature ideas of the different interpretive packages.

This study is aimed at understanding the way that particular frames are employed to support the discrete interpretive packages of environmentalism. Firstly, it aims at identifying the interpretive packages of environmentalist discourse (the task of Chapter Two). Secondly, the study seeks to assess the frequency with which particular frames are mobilised within the interpretive packages. Thirdly, in adopting a comparative case study approach, the study seeks a qualitative assessment of the role of these frames in the three campaigns at the centre of the analysis.

In other words, a distinction is made between the actual claims and arguments used to support particular interpretive packages, and the frames within which those claims are made. While the arguments of different interpretive packages can be compared across the same frame, it is often the case that the arguments themselves are of secondary importance in presenting a case. Hajer, for example, describes the environmental movement as ‘haunted’ by the dilemma of whether to argue on its own terms (perhaps emotional, or subjective), or on the (credible) terms that are set by state policy actors – utilitarian, expert, and scientific (Hajer 1995, p.57). In this case, the environmental movement must choose between a cultural resonance frame, and one that enjoys legitimation and credibility in modern society. In practice, of course, this choice is likely to be one of degree, since these frames
should not be seen as incommensurable. Rather, "the turn to argumentation in policy analysis and planning appreciates competing frames as the foundation of the analytical process itself" (Fischer and Forester 1993, p.12). Frames are therefore to be seen both as meaning systems – hermeneutic devices – and performative or strategic devices for mobilising participants (Fischer and Forester 1993, Taylor and Whittier 1995).

In this respect, the frame analysis model can attempt to reclaim something of grievance based explanations that attribute a role to the intensity of the environmental issue as a social problem. The difference is that, while grievance models tend to see social problems as having fixed and objectively defined levels of intensity to which social movements react, the frame model’s focus is on the active cognitive role in defining issues as problems in the first place. Thus, the intensity of social problems are not simply given, but is a function of the interpretations applied by social movement actors, which in turn may help to account for the differences in mobilisation and policy impacts.31

Too much attention is focused on grievances per se and on their social psychological manifestations (e.g., relative deprivation, alienation), to the neglect of the fact that grievances or discontents are subject to differential interpretation, and the fact that variations in their interpretation across individuals, social movement organisations, and time can affect whether and how they are acted upon. (Snow et al. 1986, p.465)

The question of movement emergence and mobilisation is important – indeed, it has attracted the majority of research to date. Arguably, however, understanding the contribution of framing processes to a movement’s impact on shaping public policy and state action is even more significant (McAdam et al. 1996, p.16). This is because, post-mobilisation, a movement faces an established, organised, and resourceful set of actors with interests, interpretations, and agendas very different to its own. Here again, the frame model is useful in assessing the influence of interpretive factors on

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31 This approach is against the view that environmental conflict is determined simply by the ‘facts’ of environmental change. It essentially questions the realist analysis of power that assumes that power is simply the ability of actors to impose their own preferred definitions. Instead, it assumes that power is the ability to organise and legitimate authority through social debate (Hajer 1996, p.166).
SMO success under difficult conditions. In this respect, it is important to specify and qualify this study's attention to the interpretive struggle.

The important distinction is that which is indicated in Table One in terms of the 'site' of movement success. Of course, this is an analytical distinction, since, in practice, most models, including frame analysis, recognise that movement influence is a mix of internal and external factors (Tarrow 1994). Nevertheless, different movement models emphasise different locations, and attribute importance to either internal or external factors. In emphasising internal factors – the types of interpretive packages and frames articulated – the frame analysis model draws attention to the fact that the interpretive struggle goes on within a movement (among the variety of SMOs), as well as between the movement and other non-movement actors.

Clearly, the interpretive strategies of non-movement actors are an interesting and important influence on a movement's ability to attain its goals. Yet these non-movement strategies are to be seen as an external influence on movement outcomes, with the same analytical standing as the impacts of the political opportunity structure, or the relative 'objective' condition of the environment. In arguing for a focus on internal factors that might contribute to movement outcomes, the frame analysis model takes the same approach as the resource mobilisation model. Although the organisational form and resources of movement opponents may also prevent a movement attaining its goals, in many studies the analytical interest centres on the efficacy of the movement's mobilisation of resources.

This internal focus does not preclude RMT or frame analysis approaches from examining such external influences on movement outcomes. However, as a first step, the approach taken in this study confines attention to the interpretive struggle within the movement campaigns. With this qualification in mind, the study seeks an assessment of the campaigns' interpretive strategies, and the extent to which a movement's influence on campaign outcomes lie in its own hands. Nevertheless, a number of conceptual problems assail any assessment of the influence of social movement campaigns in specific policy domains, or on the developmental goals of the state. This is the task of the next section.
7. Social Movement Influence

The belief that social movements represent an important force for social change is a critical justification for their study (Burstein, Einwohner, and Hollander 1995). Implicit in the study of social movements is that their success is at least partly attributable to factors under their own control. As Burstein states, 'Why study phenomena with no significant consequences, or activities with no predictable impact on their goals?' (Burstein et al. 1995, p.293) Yet, despite Gamson's early influential study that attempted to systematically isolate the effects of organised social movements, the study of movement outcomes was assessed as showing little progress during the 1970s and 1980s (Burstein et al. 1995, Jenkins and Klandermans 1995). As late as 1995, Burstein thought that 'we still know little about the impact of social movements on social change' (Burstein et al. 1995, p.276).

This is not to suggest that studies of the impact of protest on reform are lacking. In fact, judging by several reviews of the social movement and effects literature, there are numerous studies (Burstein et al. 1995, Giugni 1998, McAdam et al. 1988, Neidhardt and Rucht 1991). Instead, what has been suggested is that we need to look 'systematically at the effects of movements on reform', in order to improve our knowledge of the role of social movements for the promotion of democracy (Tarrow 1993, p.580).

In the following section, I suggest that assessing social movement outcomes must contend with a number of difficulties. These difficulties include specifying the type of impacts that movements achieve, conceptualising outcomes in terms of 'success', the dual nature of the role of the state for social movements, and establishing a causal relationship between strategic movement action and impacts. Rather than disciplinary turf wars, it is these difficulties that seem to have constrained development in assessing movement outcomes (Kriesi et al. 1995, p.207).\textsuperscript{32}

\textsuperscript{32} Other methodological problems not discussed here include the problem of time reference and effect stability, the problem of movement goal adaptation, and the problem of interrelated effects, but see Giugni (1998) and Gurr (1980).
7.1 Types of Movement Impacts

Although social movement campaigns may have varying types of outcomes at the social, political, and cultural level, it is political effects that have been most frequently studied by scholars (Banaszak 1996, Burstein and Freudenburg 1978, Costain and Majstorovic 1994, Kitschelt 1986, Rüdig 1990, Tarrow 1993). That movements are successful to the extent that they achieve their political goals, seems an obvious approach. While there are difficulties in conceptualising all movement outcomes in these terms (to be discussed below), a number of typologies of political effects have been developed. However, this study follows Kitschelt (1986) in differentiating among procedural, substantive, and structural outcomes in the policy arena.

_Procedural_ impacts refer to access to the decision-making process where power-holders accept the organisations of social movements as legitimate representatives of collective interests. This type of impact can further be distinguished according to the frequency and regularity of the access (Schumaker 1975, Kriesi _et al._ 1995, p.210). _Ad hoc access_ or _access responsiveness_ refers to, for example, the sponsorship of petitions, interest group and union support, and formal recognition through cabinet reports and commissions of inquiry. _Permanent access_ or _agenda responsiveness_ refers to obtaining access to the political agenda – the reorganisation of the administrative structures of control, such as the pluralisation and independence of the regulatory mechanisms. Such changes imply the ‘democratisation’ of policy – an acceptance that energy policy, for example, is a legitimate subject of public scrutiny, open to public input, and not just the province of institutionalised experts.

Substantive outcomes are related to the capability of social movements to bring about _policy responsiveness_ – securing the campaign’s objectives, obtaining policy concessions, and obtaining new advantages (Gamson 1975). These policy changes can range from outright cancellation or curtailment of an energy programme, to construction or licensing delays. Also included here would be policy measures, such as a shift from supply management to demand management, increased

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33 For a review, see Burstein _et al._ (1995).
energy efficiency and conservation concerns, and increased research on renewable energy supplies. Schumaker also identified impact responsiveness, where, although a state actually implements policy changes, material conditions do not necessarily improve (Schumaker 1975).

Finally, Kitschelt (1986) added a further type of consequence, consisting of the structural impacts on the political system itself, such as any realignment of the party system or the emergence of new institutional actors, for example, environmental parties. These impacts can be defined in terms of the general changes in the political structures that influence all political participants, and may include an increase in the legitimacy accorded social movements as political actors in their own right. For example, the forms and tactics of political action, such as the sit-in or the peaceful protest march, seem to have become legitimated among mass publics (Tarrow 1994, p.185).

Structural outcomes can also be related to changes in the political culture – the diffusion of new beliefs, ideas, conceptualisations, networks of activists, and SMOs. These may become quiescent once the immediate incentives for mobilisation are over, but can rapidly be re-deployed should the need arise. Thus, the institutionalisation of policy gains is not necessarily an immediate process. Rather, because new issues have been introduced and remain on the agenda, the broader structural context has nevertheless been altered. For the most part, this study confines itself to identifying the influence of movement campaigns on procedural and substantive impacts defined in terms of the policy agenda. This is discussed in more detail below. However, the conclusion of the study does make some limited and generalised comments about movement outcomes in a structural context.34

Differentiating among types of movement outcomes goes some way towards assessing changes at the policy level related to movement claims. Nevertheless, it is insufficient to construe movement impacts simply in these terms. Distinctions also need to be made between unintended and intended movement outcomes.

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34 For a more detailed assessment of the structural impact the environmental movement may have had in New Zealand, see Rainbow (1987).
7.2 Unintended Outcomes

The first distinction to be made concerns the types of outcomes that social movements have. Like all kinds of actions, the effects of social movements are often indirect, unintended, and sometimes even in contradiction to their goals (Tilly 1996). ‘Outcomes’ is therefore preferred to ‘success’, which is subjective and ambiguous, since it fails to take into account the unintended consequences of social movement campaigns (Kriesi et al. 1995, p.211). Social movements may not anticipate all the outcomes of their actions – indeed, some political responses may be counterproductive for them. France, for example, responded to the antinuclear movement by streamlining nuclear licensing procedures, effectively limiting public hearings and appeals. Antinuclear protest and civil disobedience were also heavily suppressed by police action (Kitschelt 1986, p.15). Thus, the early campaigns of the French antinuclear movement unintentionally worsened the environment of political opportunities, in which subsequent protest campaigns operated.

Unintended effects may, of course, be positive as well. In Tarrow’s study of the Italian protest cycle of the 1960s and 1970s, the author shows that this period of disorder left a positive legacy for Italian democracy (Tarrow 1989). Like most research, this study confines itself primarily to a focus on the intended effects of social movements, although a number of unintended impacts are noted. In discussing movement outcomes, studies can generally be divided into those that see either external or internal factors as most significant.

7.3 Intended effects – External factors

The study of the outcomes of social movements cannot avoid taking into account the political context in which they operate. In examining how external political factors affect protest behaviour, the importance of the movements’ larger environment for their outcomes is stressed (Kitschelt 1986, Kriesi et al. 1995, Tarrow 1994). Policy elites cannot simply respond to the demands of a single movement. Rather, their response is conditioned by a multiplicity of factors, such as the demands from all challengers, countermovements, electoral demands, and the general political opportunity structure (Tarrow 1994, p.171). The most salient of the latter are the opening up
of access to power, shifts in the ruling alignments, the availability of influential allies, and the
cleavages within and among elites (Tarrow 1994, p.18).

That social movements are relatively powerless is a widespread assumption adopted among
researchers who see them as having no direct impact on policy changes (Giugni 1998). Seen in this
light, movement actors are thought to need support to bring about political change. In the course of
their interactions with power-holders, challengers must activate ‘third parties’ in order to enter the
bargaining arena, and to succeed (Jenkins and Perrow 1977, Lipsky 1968). Movements need the
help of these third parties – either public opinion or political alliances – if their claims are to be
recognised or implemented.

Several authors argue that it is public support or opinion that is critical to social movements
if they wish to see their claim fulfilled (Burstein and Freudenberg 1978, Costain and Majstorovic
1994). Others emphasise the need for movements to gain political support through powerful allies
inside the institutional arena (Kriesi et al. 1995, Tarrow 1994). Both approaches find support in
adopting the assumptions of specific, but opposing, models of democracy.

Those who stress the role of public opinion convey a pluralist or representative model of
democracy (Burstein et al. 1995). Movements try to influence public opinion in order to make it an
ally. To the extent that they achieve the support of public opinion, social movements increase their
legitimacy as political actors in front of the political authorities. In this view, those who hold the
political reigns respond to public opinion for electoral reasons.

A number of studies have stressed the relationship between public opinion and policy
(Burstein and Freudenburg 1978, Costain and Majstorovic 1994, Page and Shapiro 1983). Rather
than having a direct impact on public policy, the model of representative democracy accords social
movements a limited role when political elites respond to the claims that are supported by the
majority of citizens. The demands of minority or special interest groups, such as social movements,
cannot be responded to directly in an electoral competition system, where elites must remain
sensitive to demands from all sectors of society. Accordingly, this model of democracy views the
impact of social movements on policy as mediated by public opinion. Together with a variety of
other external factors, protest influences public opinion. Hence, a movement’s impact on policy is indirect at best (Page and Shapiro 1983).

In discussing the political success of a social movement in terms of public opinion, two difficulties are presented. The first is the paradoxical nature of success that campaigns achieve in mobilising public opinion. The transitory and historical nature of social movements means that the successful diffusion throughout society of a social movement’s worldview or ‘knowledge interests’, limits its existence as a permanent organisation (Eyerman and Jamison 1991, p.4). When movements try to raise public awareness and concern about certain issues, they are engaged in ‘consensus mobilization’ (Klandermans et al. 1988). That is, movements attempt to achieve structural and cultural changes in society by influencing people’s attitudes and behaviours.

At the same time, the successful maintenance of a movement’s identity outside of the established political culture is an admission that the movement is having little success in diffusing its ideas through that culture, or obtaining shifts in the policy paradigms. Other authors agree that movement success cannot be equated simply with the mobilisation of public opinion, since a high degree of mobilisation may in fact result in minimal impacts on the policy arena (Kitschelt 1986, p.72).35

A more serious concern is that a focus on the mobilisation of opinion (as an indicator of social movement success), continues to construct new social movements through ‘old’ social movement forms of analysis. Historically, social movements were seen as democratic attempts at institution building, where individuals, as objects of political mobilisation, were vital. Today, individuals in new political movements are seen as the subjects of political mobilisation – autonomous in defining and articulating their own interests (Nedelmann 1984, p.1034). Mobilisation, narrowly construed as public opinion, is therefore not the focus of this study. While it

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35 This may occur, for example, if the ‘political opportunity’ structures are not conducive to change. Since this study compares campaigns in one country, rather than cross-nationally, it is assumed that the political opportunity structure remains relatively constant.
is the success or otherwise of definitional and interpretive attempts that centres this analysis, this is not to deny a mediating role for public opinion.

In contrast to the public opinion mediation model, a political alliance model stresses the role of political opportunities for the emergence, development, and outcomes of movements (Kitschelt 1986, Kriesi et al. 1995, Tarrow 1994, Tilly 1978). To have a substantial impact on public policy, social movements are assumed to need the support of powerful political allies that take up their claims in the institutional arena (Tarrow 1994). This political mediation model implies an elitist view of democracy in which allies inside the political system must support demand for policy change. Again, social movements are assumed to have no direct influence on policy change in this model. On the other hand, third parties also include opponents, who might either prevent or facilitate movement outcomes. Thus, the relationship between movements and the state should not be oversimplified (Giugni 1998).

One suggestion is that the effectiveness of social movements depends on their capability to engage in bargaining activities with allies and opponents (Burstein et al. 1995). This draws attention to the multiple ‘targets’ that movements may ‘aim’ at in articulating their concerns. The political process approach assumes, for example, that social movements are essentially targeting political authorities and institutions. This view is encouraged by the assumptions of the pluralist model of democracy. The state is seen as the ultimate arbiter among competing interests for the allocation of scarce resources. Thus, the state as a ‘target’ for social movements is a widely adopted perspective in the literature (McAdam et al. 1996, Tarrow 1994).

Yet, contemporary movements often address other targets, such as the larger public, not in terms of opinion, but aiming to change actual behaviour. For example, the environmental movement often seeks to affect citizens in their role as individual consumers, advocating recycling, carpooling and so on.

Furthermore, from a frame analytical approach, the targets of SMOs are not homogenous. The target field, in fact, can be split into an alliance system of supporters, a conflict system of opponents, and a neutral sector comprising the public, the media, and, depending on the
circumstances, elite decision-makers and legislators (Lahusen 1996). The frame analysis approach can thus explicitly recognise that SMOs may have multiple targets in constructing their framing strategies.

However, in this study, attention to movement targets is largely restricted to those elite decision actors and policy actors within the energy policy domain. Thus, in assessing outcomes, it is the reactions or responsiveness of these influential policy actors (members of parliament, government personnel, and commission personnel) that is of interest. It is, after all, how these policy actors make sense of a movement’s framing efforts, and the extent to which movement organisations are seen as legitimate, that indicate movement influence.

Secondly, it is assumed that the various commissions of inquiry lie within the neutral sector, since this was the forum in which movement organisations, oppositional organisations, and neutral representatives presented their position. Also, the analysis presented here focuses on only one period of movement activity, so that the difficulties of accounting for variations in movement strategies among multiple targets are somewhat mitigated. Although it is recognised that these were not the only attempts at persuasion in these social movement campaigns, an examination of these particular interactions helps illustrate important, and often overlooked, elements of strategic campaign efforts.36

Social movements ‘move’ within a political, social, and cultural context of multiple targets and multiple impacts. It is extremely difficult to demonstrate that social movements cause social change, and to attribute any effects to the particular efforts of the movement itself (Gamson 1990, McAdam, McCarthy, and Zald 1988, p.727). Therefore, this study completely rejects any suggestion

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36 Moreover, the state may have other roles besides functioning as a target for social movements. As an actor best able to represent the interests of their adherents, social movements ask to be seen as a legitimate mediator between citizens and the state. They therefore seek to compete as an ‘antagonist’ to traditional political actors in this role (Dalton and Kuechler 1990). In addition, other authors have warned us about the dangers of restricting our attention to the political side of new social movements, as they have identity-related goals that do not necessarily require a political target (Melucci 1996).
that the analysis conducted here can demonstrate an independent causal relationship between the framing efforts of SMOs and policy change.

Nevertheless, this does not automatically justify the position that 'movements succeed or fail as the result of forces outside their control' (Tarrow 1994, p.24). In the case of the three New Zealand campaigns in this study, this strong formulation of the POS model is inadequate. The three inquiries took submissions within a relatively brief six-year period, in which the electoral system, legislative framework, and alliance structures remained the same. By following traditional approaches to the study of political opportunity, one would have to conclude that the three campaigns operated under a single political opportunity structure, and therefore that each campaign had the same possibilities for success. Yet differential outcomes across the campaigns point to the need for a different means of assessing movement outcomes. In fact, social movement research on outcomes began by attributing some influence to the impact of movement-controlled variables. Early research attempted to single out the characteristics of movements that are most conducive to success, or, more generally, that help certain outcomes to occur.

7.4 Intended effects – Internal factors

In general, three lines of investigation can be identified that reserve a contributing role for internal factors in movement outcomes. These are the effectiveness of violence, the resource mobilisation approach, and the frame analysis model of collective action. The first approach concerns the effects of disruptive and violent protest behaviour. The debate is whether the use of disruptive tactics by social movements is more likely to lead to policy changes than moderate tactics (Giugni 1998). A number of authors have argued that, rather than reasonableness in politics, the use of force by social movements increases the chances that they reach their goals (Astin, Astin, Bayer, and Bisconti 1975, Gamson 1990, McAdam 1983, Tarrow 1994). For example, Gamson found that

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37 This is perhaps to misrepresent Tarrow's position somewhat, as in the same volume he suggests that the 'powers of social movements are a mix of internal and external resources' (Tarrow 1994, p.153). Nevertheless, the strong formulation of the POS model often stresses the role of external variables.
the use of violence, or even just disruptive tactics, by challenging groups was positively correlated to his two measures of success – the acceptance of challengers as legitimate claimants, and the obtaining of new advantages for constituents (Gamson 1990). Yet there is no consensus on this point, or on the implications of this for movements. This suggests that the relationship between social movements and violent protest deserves much more theoretical attention (Eder 1997).

A second line of inquiry follows resource mobilisation theory that has been a dominant strand in movement research. The general approach has been to assess the impact, mostly on policy, of various organisational variables. Resource mobilisation theorists seek to explain the success or otherwise of social movements, although a fairly restrictive conception of success is employed. Generally, success is defined simply as the effectiveness with which social movements, as organisations, can obtain and deploy resources. The degree of support and success is then a function of the clarity of the organisational aims, and how effectively resources – people, materials, time, and ideas – are mobilised (Eyerman and Jamison 1991, p.24). This is an unnecessarily constrained view of success that limits the utility of the resource mobilisation model.

The resource mobilisation approach is also open to criticism, in that the common assumption has been that strongly resourced and organised movements are more successful than loosely organised movements (Gamson 1990). The approach tends to assume that both high levels of resources and high levels of organisation will lead to a greater degree of success.

On the other hand, Piven and Cloward’s (1979) thesis – that movements have a chance to succeed to the extent that they avoid building a strong organisation – brought a fundamental criticism to Gamson’s stress on the effectiveness of organisation. Many new political movements emerge, and are able to respond to new issues and events precisely because they lack a stable and hierarchical organisational form (Nedelmann 1984, p.1039). In fact, because they have low organisational costs – few paid professionals, and are unburdened by time-consuming decision-making procedures – social movements can be seen as highly adaptable and flexible organisations. At the same time, there is some evidence that established conservation organisations, with developed organisational resources and access to policy actors, are hesitant to risk their institutionalised constituencies by
unrestrained and open criticism (Andrews 1980, Cleveland 1972, Hays 1987). At best, resources play an ambiguous role in social movement influence, and we must therefore look at other explanatory variables.

In summary, by stressing specific aspects of the state movement relationship, political process models, resource mobilisation theorists, and pluralist models produce different accounts of policy formation and movement success. Resource mobilisation, for example (although empirically robust in terms of observing organisations), prioritises a view of movements as principally concerned with the efficiency with which they mobilise resources, and tends to minimise any role for the content or significance of environmental ideas in movement outcomes (Cohen 1985). Rather than an explanatory focus on the capacity of internal material resources, or on structural determinants, the frame model’s focus is on the interpretive or framing strategies of movement organisations. As it is applied in this study, attention is restricted to the nature and outcome of the interpretive struggle within the movement. In the next section, the study specifies the concept of the ‘policy domain’ or the issue arena in which movement organisations contest.

7.5 Opportunities for Movement Discourse

One recent approach that recognises the utility of both political opportunity and framing processes, takes the position that opportunities spur mobilisation only when they are recognised as opportunities (Sawyers and Meyer 1999). Essentially, SMOs play a role in creating and framing the opportunities they and other challengers face (Gamson and Meyer 1996). Challengers trying to mobilise support and make claims on the state can take advantage of windows of opportunity (Kingdon 1984). While political opportunity structure refers to a broad range of external social and political factors, a distinction should be made between those variables that are relatively stable, such as the electoral system, and those of a more dynamic nature, such as public policy and political rhetoric (Gamson and Meyer 1996).

Burstein’s idea of ‘policy domains’ is useful here in conceiving these dynamic aspects of political opportunity (Burstein 1991). Despite the effect of the larger social and political context,
Burstein argues that 'politics proceeds primarily in numerous relatively self-contained policy domains, each operating more or less autonomously with its own issues, actors and processes' (Burstein 1991, p.329). Therefore, the broader political context, such as the relative strength of the different political parties, will not in themselves have large effects on policy.

Instead, policy development within a policy domain, such as energy, will tend to be incremental and largely determined by the relationships among those actors within the policy domain. Kingdon (1984) argues that the type of policy domain affects susceptibility to changes in the policy agenda. Highly structured policy domains exhibit a policy consensus in which it is relatively more difficult for changes in the political agenda to occur. Similarly, some issues are thought to threaten the authorities to a greater extent than others do (when the core interests of the state are at stake), although the threatening character of these issues varies from country to country (Koopmans and Duyvendak 1995, Kriesi et al. 1995).

Giugni (1998) develops a typology of political issues in terms of a domestic/foreign policy division, and the high-profile/low-profile distinction that characterises the threatening content of issues. For example, the peace movement targets the foreign policy area that involves the core interests of the state, making it difficult to effect policy changes. The antinuclear movement is thought to represent an intermediate case, insofar as it addresses domestic policy, but at the same time it raises a high-profile issue – nuclear energy or, more generally, energy provision crucial to industrialised nations (Giugni 1998). Since the case studies under investigation all concern energy provision, and the energy policy domain is thought to exhibit a high degree of stability and consensus, SMOs face a difficult task in attempting to influence the policy agenda.

On the other hand, when policy domains are politicised due to movement mobilisation and increased public and media attention, larger shifts in policy become possible in these windows of opportunity (Sawyers and Meyer 1999). Limiting attention to a specific policy domain, such as energy, helps to recapture some of the relationship between what Tarrow calls 'proximate opportunity structures', or 'policy-specific opportunities', and framing processes (Tarrow 1996). This relationship may be overlooked if political opportunity is only examined at the level of the national state.
Policy domains, from the perspective of the frame analysis approach, are to be seen as dynamic sites of interpretive struggle among actors with an interest in a particular set of policies. These actors may include policymakers in government agencies, representatives of independent groups, movement organisations, or industry actors, depending upon the issue area. Actors such as social movements must not only attempt to present themselves as legitimate policy actors (through their knowledge and experience), but also attempt to influence the definition of the policy problem itself.

By analysing policy domains through the frame analysis model, the significance of the relationships among the mobilisation of frames, interpretive packages, the reactions of policy actors, and the policy outcomes can be assessed. Movements do not make policy directly, but protest mobilisation and interpretation contribute to the policy agenda through windows of opportunity within a given policy domain. Movements can influence the relative balance of actors within a domain, the definition of the policy problem, the responsiveness of policy makers, and, consequently, the solutions to them. The question of how movement-framing activity may accomplish this task is the question of the next section.

7.6 The Influence of Movement Discourse on the Policy Agenda

John Kingdon's Agendas, Alternatives, and Public Policies (1984) has remained a seminal work on agenda setting in the 1980s and 1990s – how issues come to the attention of governments. Kingdon is concerned with pre-decision processes – the processes through which problems, ideas, and politics combine to create an agenda that government addresses. Kingdon argues that windows of opportunity – policy windows – open at the confluence of three streams: problems, policies, and politics. The streams flow through government generally independent of each other until an opportunity for action occurs. Policy windows are aided by focusing events, which are often a perceived crisis or disaster. The actual role of the focusing event may be either to precipitate the merger of the streams, or to work in conjunction with windows of opportunity.
Public policy processes include the setting of the agenda, the specification of alternatives, an authoritative choice among specified alternatives, and the implementation of those choices (Kingdon 1984, p.3). This study is concerned with the influence of SMOs on the first of these processes, agenda setting, whereby the set of subjects available to be addressed is narrowed. Here, the agenda is defined as the list of subjects, or problems, that government members and policy actors (within the policy domain of energy) attend. The focus of interest in this study is how and why energy development issues, previously enjoying widespread consensus, become defined as policy problems on the governmental agenda.

In general, two broad sets of factors are thought to affect agenda setting – ‘the participants who are active and the processes by which agenda items and alternatives come into practice’ (Kingdon 1984, p.16). The set of participants could include governmental actors (the executive, and bureaucratic actors such as the New Zealand Electricity Department and the Ministry of Works), and forces outside of government (the media, the public, political parties and social movement organisations). Of course, the focus in this study is on how SMOs, as policy entrepreneurs outside the government, influence the governmental or formal agenda.

According to Kingdon, the general impact of ‘public interest’ groups, such as environmentalists, has been to diminish the dominance of the policy agenda by ‘self-interest’ groups in business, labour and the professions (Kingdon 1984, p.51). Thus, the general impact of environmental groups in the energy sector in New Zealand may be seen in their attempts to enter the policy arena as legitimate policy contestants.

The second set of influences on agenda setting occurs through policy, political, and problem processes. The policy process refers to the influence of the gradual accumulation of specialist knowledge in a particular policy area through the role of policy academics, new technologies, or general communication processes that shift the balance between values, such as efficiency and equity, in policy circles (Kingdon 1984, p.18). The political process refers to the influence of public opinion, changes in administration, and political events (perhaps unforeseen), that constrain or
enhance the promotion of issues on to, or on the agenda, and is perhaps broadly analogous to the political opportunity structure.

Finally, the concern of this study is the process by which issues or conditions come to be recognised as policy problems, and hence emerge on the political agenda. As already discussed under the relative deprivation model, the objective condition of the environment is not automatically a problem – there are perceptual and interpretive elements involved as well.

This is a crucial difference between the pluralist model of democracy, and the assumptions of the frame analysis model. Issues within a policy domain are not simply characterised by any 'objective' condition, on which policy makers can then resolve by choosing rationally among competing policy options (Rein and Schon 1993, p.150). Rather, frame analysis shows how the natural understandings of people are conditioned by the interpretive or claims-making activities of past and present policy actors, such as movement organisations. Thus, the attempt to use frame analysis in the study of environmental policy, aims at casting light on the role of the various policy actors in defining the problem in specific ways (Triandafyllidou and Fotiou 1998).

In this light, movement influence is successful to the extent that their definitions and interpretations of conditions are accepted as policy problems on the agenda. Social movements challenge institutionalised policy constraints by engaging in a 'battle for symbolic encoding' (Swidler 1995, p.34). If the movement succeeds, it 'can reshape the world more effectively through redefining its terms rather than rearranging its sanctions' (Swidler 1995, p.34). After all, in many cases it is the definition of the policy problem that helps to shape the design of policy solutions. For example, in the area of public health, whether disease is attributed to biological, medical, social or cultural factors has a significant impact on the choice of prevention measures (Conrad and Kern 1994). Interpretive struggles may well have policy consequences, since an important 'part of every public political struggle is a battle over whose symbolic “framing” of an issue is authoritative' (Williams 1995, p.127).

Generally, issues and conditions become problems, and find a place on the governmental agenda in one of three ways. Firstly, conditions may be defined as problems by violating important
societal values. For example, marked differences about the appropriate role of the government in the development of energy infrastructure in New Zealand (between the mid-1970s and the 1990s), can be noted. Yet, in the case studies under investigation, a policy consensus existed over the role of government in the development and the direction of energy policy. While Shamir challenged the idea that the party system was frozen, he did find that New Zealand's party system was one of the least fragmented, polarised, or unstable of the nineteen Western nations he studied up to 1975 (Shamir 1984). In a brief review of the New Zealand case, Debnam finds that the period prior to the early 1970s is generally regarded as a period of consensus, exhibiting a low level of policy differences between the two major political parties (Debnam 1990).

The second way that issues become problems can be through comparison with other jurisdictions; usually through international comparisons where, for example, the United States entry into the 'space race' became a problem on the political agenda once the Soviet Union launched their first sputnik (Kingdon 1984, p.117). Since this study involves case studies within the same nation and the same policy domain, this international source of problem definition lies outside the scope of this study.

Finally, the approach that centres this analysis is that conditions can become defined as problems through a reclassification from one particular category to another. ‘Thus much of the struggle over problem definition centres on the categories that will be used and the ways they will be used’ (Kingdon 1984, p.117). In other words, the categories that issues and conditions are placed into, structure people’s perceptions of the problem in many important respects. If lakes and rivers are categorised as resources for human consumption that must be utilised to maximise human welfare for present and future generations, then damming them is not likely to be seen as a problem. In fact, not damming them is likely to be seen as a problem of waste. On the other hand, if rivers and lakes are categorised as ecologically unique and significant biological communities, damming them might result in consequences that cannot be anticipated, or involve risks that are not democratically negotiated.
In this respect, SMOs act as policy entrepreneurs attempting to define issues as policy problems on the governmental agenda through transforming the categories and classifications with which policy actors perceive the status of lakes and rivers. Once water resources are modelled and conceptualised in new ways, new definitions of them as problems, and the acceptable solutions, come into play (Kingdon 1984, p.119).

Here, the analysis of collective action frames offers an explanatory method in terms of the variable efficacy of the frames of social movement organisations. In particular, it is the concept of 'frame resonance' that attempts to explain movement outcomes in terms of the character of the frames deployed by movement actors (Snow et al. 1986). In the interpretive struggle, Snow and Benford (1988) argue that 'frame resonance' is important to the success of framing efforts. Successful social movements depend, in part, on how arguments are 'framed and the degree to which they resonate with the targets of mobilization' (Snow and Benford 1988, p.213). Similarly, the 'critical factor that explains the prominence of an item on the agenda is ... the climate in government or the receptivity to ideas of a given type' (Kingdon 1984, p.76).

Building on this concept, two dimensions of resonance are employed in this study. The first is that interpretive packages, as competing framing strategies, may be deployed in movement discourse to differing degrees. It follows then that different movement packages may resonate differently, both for movement adherents and their targets, since

Not all symbols are equally potent. Certain packages have a natural advantage because their ideas and language resonate with larger cultural themes. Resonances increase the appeal of a package; they make it appear natural and familiar. (Gamson and Modigliani 1987, p.169)

To what extent does the relative distribution (in terms of the frequency of articulation) of interpretive packages reflect their resonance with movement adherents? To what extent do interpretive packages resonate with movement targets? For example, Benford (1993b) found that differences in peace movement frames (and by extension, interpretive packages) led to factionalisation that may have weakened movement influence. On the other hand, differences in packages and frames may be beneficial to the movement by articulating and appealing to a wider range of concerns (Marullo et
al. 1996). Or again, differences in the mobilisation of packages may indicate a polarisation between environmental positions that can serve to politicise specific understandings of issues. The general point, therefore, is that influences on the policy agenda may be partly the result of the relative distribution of interpretive packages across the movement discourse.

The second conception of resonance is that indicated earlier – the extent to which movement framing builds upon a ‘stock of folk ideas and beliefs’ (Snow and Benford 1988, p.204). As suggested earlier, three types of frames may be identified that resonate with the cultural ‘stock’ of modern societies. Here, the primary aim is to distinguish which frames (moral, aesthetic, or cognitive) are mobilised most frequently, and whether variations in this mobilisation contribute to an understanding of campaign influence. In other words, the extent to which the mobilisation of frames help to re-categorise issues as problems. Here, different ways of employing the same category to frame the issue may help to expose the limitations of old ways of classifying the issues. Lakes and rivers may not simply function to supply water as a resource, but also as important links in an ecological chain or as a source of national identity.

Previous research seems to suggest that these frames must combine to be fully effective (Bramwell 1989, Del Sesto 1979, Jamison et al. 1990). Jamison et al. (1990, p.67) believe it was only when the three dimensions (frames) of environmentalism were combined in the 1970s into an integrative force – a ‘living cognitive praxis’ – that the full force of environmentalism as a social movement could occur. Del Sesto (1979), studying the antinuclear movement, believes the sub-themes of the antinuclear debate would have little effect if taken in isolation. When taken together these arguments formed a powerful ‘nexus of concern’ (Del Sesto 1979, p.197). Bramwell (1989), too, sees the force of environmentalism arising from the combination of arguments – those about finite resources fused in the 1970s with arguments of a biological nature.

Frame analysis may thus further the understanding of how variations in the mobilisation of frames contribute to campaign outcomes in terms of resonance. All three frames may need to be mobilised if their nexus of concern is to be seen as resonant or powerful. These issues are taken up in more detail in Chapter Two, where the specific research questions are outlined.
The traditional approach of political science has been to frame public policy-making through concepts such as power, group resources, political alliances, and economic and international influences (Kingdon 1984). Yet the content of ideas and the way they are deployed by social movement organisations may further an understanding of movement influence on the policy agenda.

8. Conclusion and Limitations

The framing efforts of SMOs, broadly seen as a discourse coalition, are increasingly recognised in the literature as a potential influence in achieving legitimation for movement organisations, interpreting conditions and issues as policy problems, and influencing the design of policy solutions. Yet previous research on the environmental movement in New Zealand using social movement models is limited, and few studies have employed discourse approaches to protest and controversy in specific policy domains.

This study's primary aim is an empirically based assessment of the mobilisation of the interpretive packages and cognitive frames used in three environmental campaigns in New Zealand. A frame analysis model is proposed because it allows an analysis of the mobilisation, in terms of frequency, of SMOs' framing strategies. As non-institutional actors in these campaigns, SMOs sought to be seen as legitimate actors in the policy domain of energy. While there was no automatic consensus among these SMOs, they nevertheless may have helped to politicise the energy policy domain through their articulation of environmentalist discourses.

A secondary aim, which does not claim to be empirically grounded, is an assessment of the contribution these frames made to the campaign outcomes. The study does not claim that such an assessment can establish a causal relationship between the claims articulated by movement organisations in submissions to various commissions of inquiry, and the actual policy changes or reforms initiated after those inquiries took place. The multiple contexts, targets and impacts of movement activity preclude such a possibility.

Instead, both McCarthy (1994) and Gamson (1988) stress that the relative success of a discourse cannot be evaluated without the differential access to power and resources of the
advocates of the competing frames. This implies that the powers of social movements are a mix of internal and external resources (Tarrow 1994). These range from the 'opportunity structures' available (the economic and political conditions, the openness of the political system, the stability of electoral alignments, and the role of the media), to movement organisation and tactics (the resources available, the social networks in which supporters are found, and the way collective action frames are employed) (Kitschelt 1986, Rudig 1990, Tarrow 1994, p.153).

Restricting attention to the cognitive framing of energy issues is not meant to dismiss the significance of these variables. Indeed, interpretive approaches that do so, run the risk of repeating the errors 'of their structuralist predecessors by throwing out the metaphorical baby with the bathwater' (Benford 1997, p.422). Rather, given the primary focus of this study – processes of cognitive framing within three environmental campaigns – the study seeks to analyse how those internal processes contribute to social movement outcomes. It seeks to argue that the question of how movements mobilise can inform the understanding of why mobilisation succeeds (Lahusen 1996, p.15).

At best, a qualitative, comparative case study, and comparative movement approach that focuses on the interpretive influence of SMOs, can act as an important adjunct to previous social movement models. In analysing the campaigns of the environmental and antinuclear movements in New Zealand – their role in the production of culture – the frame analysis model is seen as a significant method for bringing the actor back into the study of social change (Taylor and Whittier 1995, p.181). In the next chapter, it remains for me to 'unpack' the concept of environmentalism – to describe and justify the labels I attach to the interpretive packages of environmentalism, and the frames that structure those competing discourse strategies. A review of the literature on the history of environmental thought serves this purpose well.
CHAPTER 2

Frames of Reference in Environmental History

1. Introduction

This chapter reviews the environmental history literature through a typology that uses the frame analysis approach to compare historical environmental positions, in terms of three analytical frames applied across three interpretive packages. This chapter therefore acts as a plausibility check on the utility of the theoretical model of framing processes outlined in the previous chapter. Out of necessity the review is limited, and locates environmentalist discourse within three generic and historical perspectives. More comprehensive environmental history accounts can be located in Bramwell (1989), Caulfield (1989), Cotgrove (1982), Hays (1987), McCormick (1989), Merchant (1982), Nash (1967), and Worster (1988).

The frame analysis model approaches movement discourse through the idea that it is structured in two distinct ways. The first structural component suggested in Chapter One is that movement discourse may be analysed in terms of one or more interpretive packages. This chapter begins by identifying three such packages within environmentalist discourse, and justifying the labels ‘conservationism’, ‘preservationism’, and ‘political ecology’ attached to them. Thus, I use the term ‘environmentalism’ to describe the collective discursive strategies of movement discourse, not to describe its reformist or shallow connotations, but in a broader sense, as a means to reflect the full range of environmentalist thought.

The second structural feature of the frame analysis model is that interpretive packages are internally organised by frames. In the following review, three labels are attached to the analytical frames conceptualised in the preceding chapter. This chapter goes on to argue that the normative frame within environmentalism is best seen as a moral discourse, the subjective frame as a discourse of the aesthetic, and the cognitive or objective frame as a discourse competing for different understandings of rationality.
This study offers an examination of the types of arguments found in New Zealand environmentalist discourse in the 1970s. It aims at understanding variations in the mobilisation of interpretive strategies within movement discourse, and whether this admittedly limited focus can contribute to an understanding of campaign outcomes. The chapter concludes with the research questions that emerge from this historical overview of environmentalist discourse.

Analysing the common, dominant patterns — the interpretive packages held by the environmental movement and the frames within which they construct meaning — may extend the explanatory range of social movement models. However, to avoid charges of 'linguistic structuralism' — a reductive and arbitrary identification of the interpretive packages and frames of environmentalism — the review of the literature developed by environmental historians serves as a general justification of the labels used in this study (Brulle 1996, p.59). Nevertheless, some additional comment on the choice of labels is first warranted.

2. Reach for your (Label) Gun: Naming the Terrain of Environmental Discourse

The term 'environmentalism' was first coined in the geopolitics field of political science (Caldwell 1990). This sub-field is concerned with the advantages and constraints that resources confer on the political evolution of nation states. It is built on the nineteenth century geographical determinism approach that sought to demonstrate the effects of the geographical environment on the human condition. When environmentalism was used to account for the rise and fall of entire civilisations, in terms of shifting climatic zones, the approach began to lose favour. By the 1940s, a reaction against such geographical determinism, or environmentalism, had set in. This association may have delayed the acceptance of the society-environment relationship as a legitimate field of inquiry (Caldwell 1990, p.40). In fact, the first use by a political scientist of the concept of 'environment' (with this modern understanding in mind), did not occur until 1963.2

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1 Ironically, the original meaning of environmentalism could resurface in international relations, where the effects of global warming on national economies will probably drive the responses of individual nation states.

2 This was to be found in Caldwell (1963).
Almost forty years later, the label 'environmentalism' is now very broadly deployed to describe and defend the political relationship of the human and natural worlds. Indeed, a host of terms are used to describe this relationship in similar or competing ways. Conservationism is sometimes labelled the 'amenity movement' (Hays 1987), 'resource conservation' (Eckersley 1992), 'shallow ecology' (Naess 1973), 'technocentrism' (Hays 1959, O'Riordan 1981), and the 'wise-use' movement (Caulfield 1989). Preservationism is associated with 'biocentric egalitarianism' (Vincent 1993), 'deep ecology' (Naess 1973), 'ecocentrism' (Eckersley 1992, McConnell 1965, O'Riordan 1981), and even conservationism (Eder 1996b).³ Finally, political ecology (Dobson 1990) is sometimes referred to as 'human welfare ecology' (Eckersley 1992), 'ecological modernization' (Dryzek 1997), and 'new environmentalism' (Cotgrove 1982, Dunlap and van Liere 1978, Gibbs and Collette 1990, Morris 1992, O'Riordan 1981).⁴ Even within these competing typologies, various environmental positions, such as animal liberation, can be identified if not easily located (Vincent 1993).

While the specific labels attached to environmental movements and environmental positions vary, this study adopts the terms 'conservationism', 'preservationism', and 'political ecology' as they are recognised in the literature for the period under investigation (Brulle 1996, Caulfield 1989, Cotgrove 1982, Eckersley 1992, Hays 1959, 1987, Norton 1986, Koppes 1988). Conservationism

³ Eder (1996b) defines the conservationist package as drawing 'upon a long tradition of aesthetic judgements of nature. Combining this romantic idea of nature with a scientific notion of nature enabled the development of a frame in which nature is distinct from society' (Eder 1996b, p.177). Eder's description of the conservationist package appears to describe the preservationist package as it is outlined in this chapter. To avoid terminological confusion on this point, the label conservatism is used to describe, in this study, the utilitarian, anthropocentric and technical-rational approach to resource management, which originated with the Conservation Movement in the United States in the latter years of the nineteenth century.

⁴ New environmentalism is not an established label in the literature, although O'Riordan used it as early as 1972 as a generic way of distinguishing modern environmentalism from the earlier approaches of conservatism and preservationism (O'Riordan 1972, 1981). Similarly, Cotgrove (1982) employed the term 'New Environmental Paradigm' for much the same reason (Cotgrove 1982, Dunlap and van Liere 1978, O'Riordan 1981).
emerged prior to the turn of the twentieth century, and advocated the efficient use of resources over time but was criticised by a second expression of environmental concern – preservationism (Brulle 1996, Caulfield 1989, Eckersley 1992, Norton 1986). This movement criticised the conservationist perspective as paying insufficient attention to values of a more intangible nature (Hays 1987, Norton 1986). Conservationism and preservationism were established descriptive labels in the literature even before the 1970s, and continue to be utilised to distinguish between, for example, conserving nature for development and preserving nature from development (Brulle 1996, Caulfield 1989, Cotgrove 1982, Eckersley 1992, Dobson 1990, Hays 1959, 1987, Lester 1989, Norton 1986). In turn, a third interpretive package emerged by the late-1960s, and here the label ‘political ecology’ has been adopted by a number of commentators (Brulle 1996, Dobson 1990, Eder 1996b).

Since this thesis argues that language matters, two further reasons for adopting this terminology can be given. The next justification is historical. While there are multiple ways in which nature is represented and socially contested – from the scientific to the mystical – it cannot be assumed that these emerge spontaneously or arbitrarily. Rather, the environment is a fluid concept that is historically and culturally grounded (Hannigan 1995, p.109).

With time, environmental discourses develop, crystallize, bifurcate, and (perhaps someday) dissolve. A crucial part of this history consists of the kind of politics surrounding, shaping, and shaped by the discourse. In some cases the politics might be that of a social movement or political party; in other cases, that of governmental commissions....(Dryzek 1997, p.18)

Environmental organisations are seen as arising in one of three distinct historical periods (Brulle 1996, Caulfield 1989, Gibbs and Collette 1990). The first period began in 1875, and lasted until the early 1960s, when the majority of conservationist and preservationist environmental organisations were founded (Brulle 1996). The second period, from the mid-1960s to the mid-1970s, saw organisations focused on ecocentrism and political ecology grouped under the rubric of the new environmentalism (Cotgrove 1982, Dunlap and van Liere 1978, Gibbs and Collette 1990, Morris 1992, O'Riordan 1981). The third wave, from the mid-1970s to the present, saw a number of organisations based on animal liberation, deep ecology, ecofeminism, ecological modernisation,

Since the focus of this study is on environmental discourses evident in the mid-1970s, it would appear inappropriate and perhaps misleading to adopt labels that emerged after the period under study. For example, the term ‘ecological modernisation’ was first identified in the early 1980s as an attempt to demonstrate, for example, the economic benefits of pollution control (Hajer 1995, Dryzek 1997). Clearly, this perspective is difficult to locate in the environmental discourses of the 1960s and early 1970s, when ‘almost no corporate leaders imagined that environmentalism had anything to do with business’ (Paehlke 1992, p.21).

Even the label political ecology, although used here and now widely adopted, emerged as late as 1977, although clearly the contents of this package were evident by 1971 (Greenberg and Park 1994, Paehlke 1992). For this reason, adopting typologies that examine the most recent discourses of environmentalism, such as those analysed by Dryzek (1997), appear less useful. At the same time, the typology developed in this study may well be inappropriate for understanding more recent environmental discourses such as ecofeminism.

The third justification for these particular labels is that the study aims at describing broad interpretive packages deployed by movements rather than narrowly defined positions identified through environmental philosophy. It may well be that labels such as ‘ethical theism’ or ‘consequentialist intrinsic value’ or ‘deep ecology’ refer to valid positions on the philosophical spectrum (Vincent 1993, p.256). Indeed, it is possible that these positions can be located within individual frames in the typology developed in this chapter, such as the aesthetic and moral frames of preservationism. Similarly, Dryzek’s (1997) ‘administrative rationalism’, and ‘democratic

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5 Turshen (1977) argued for a political ecology approach in the health field inspired by insights from political economy.

6 Barry questions the efficacy of the deep - shallow dichotomy, which he believes is not just a terminological issue, but because of its ‘theoretical hegemony’ has had ramifications for the development of environmental political theory itself (Barry 1994, p.369).
pragmatism’ appear substantively the same as this study’s use of the terms ‘managerial rationality’, and ‘participatory rationality’ respectively. Dryzek’s (1997) ‘green rationalism’, on the other hand, incorporates sub-categories such as social ecology, environmental justice, social ecofeminism, and bioregionalism. The recent emergence of both the contents and labels of these categories both post-date, and differ from, the understanding of ‘ecological rationality’ developed in this study.

The point is that an individual frame cannot do the discursive ‘work’ of an entire interpretive package. Applying the label ecocentrism or ‘green romanticism’ certainly describes a part of environmental discourse (Dryzek 1997). It seems less suited as a label for an entire interpretive package, since it would imply that a redefinition of the moral community or identity issues respectively are the most mobilised and most politicising frames – an assumption, it is asserted, that needs to be tested in historical and empirical analysis. Therefore, ‘preservationism’ is preferred to label the interpretive package, while ‘ecocentrism’ is retained to label the normative or moral frame of preservationist discourse.

As with labels, so with typologies of environmental positions. Indeed, typologies are now so numerous that a number of reviews chart the territory (Barry 1994, Eckersley 1992, Vincent 1993). Even by the end of the 1970s, a number of typologies had appeared in the literature. O’Riordan’s (1981) contribution, in a postscript for the second edition of his work Environmentalism, distinguished between an ecocentric and technocentric dichotomy. Only ecocentrists (described as either ‘deep environmentalists’ or ‘self reliant soft technologists’), were environmentalist because of their antipathy toward 'hard' technology, elitist expertise, centralised state authority, and materialism (O’Riordan 1981, p.376).

Sandbach (1978) also offered an intra-movement classification of environmentalism between an ecological and scientific brand, and an alternative technology, counter-culture movement. Cotgrove (1982) attempted to locate environmentalist ideas in terms of a general ideological spectrum, and to characterise them as not simply a re-emergence of earlier conservationist ideas. He identified a distinctly radical environmentalism that he thought occupied a unique position on the political spectrum (Cotgrove 1982).
More recently, Dobson (1990) distinguishes between environmentalism and ecologism, attempting to reflect the underlying dichotomies that are assumed to separate the different categories within environmental thought. Thus, shallow and deep ecology is meant to reflect the differences between reform and radical approaches to environmentalism (Dobson 1990).

A number of difficulties attend typologies of environmental discourse (Barry 1994). Firstly, while discourses bifurcate, adopting a dichotomous typology rarely captures the family of discourses beyond one or two generations. Between the 1890s and the 1970s are three broad generations of environmentalist discourse within which eight distinct positions can be identified (see Table Three).

Secondly, to the extent that these positions are explained, it is often assumed that labels (and their contents) are immutable. Deep ecology, for example, initially seemed to rely on arguments from moral philosophy, such as intrinsic value theory or biocentric egalitarianism. More recently, it seems to have abandoned such a moral monist position in search of an experiential identity (Norton 1991).

Finally, while categorisations and typologies of movement strategies are important, there are dangers in assuming a strict 'compartmentalist' approach (Barry 1994, p.388). This is not to say that all other labels are irrelevant or historically inaccurate, since valid alternatives are clearly applicable. Rather, to describe movement discourses is at the same time to prescribe a particular understanding for those discourses (Barry 1994). The frame analyst, it appears, is also engaged in meaning construction, since 'Labelling ... is itself an act of framing' (Gamson 1992, p.9). Perhaps the only resolution to this dilemma is to recognise the historical context from which environmental labels emerge, to use broad and recognisable terms that describe interpretive packages rather than frames, and to accept some degree of overlap among environmental positions.

In setting out my own typology in Table Three, I draw, firstly, upon the dictates of the frame analysis model outlined in Chapter One. Three structural elements were identified. Environmental discourse is structured by interpretive packages that are internally organised by frames. In turn, frames organise the substantive content used to support environmentalist positions. The differences
between the interpretive packages are illustrated by attention to these signature elements that help to define each position.

Secondly, given the historical embeddedness of environmentalist positions, the typology adopted here reflects the emergence of the conservation movement, followed by preservationist groups that mostly emerged before the mid-1960s. The discourse of political ecology emerged by the end of the 1960s, and continues to inform a range of positions more recently (Brulle 1996). In the following sections these labels are justified and explained. The section discusses each interpretive package as it emerged historically through a comparative analysis of the way each frame their moral, aesthetic, and rationality concerns.

Table 3: The Interpretive Packages and Frames of Environmentalism

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<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>FRAME TYPE</th>
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<tr>
<td></td>
<td>MORAL</td>
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<tr>
<td>CONSERVATIONISM</td>
<td>EXTENDED</td>
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<tr>
<td></td>
<td>UTILITARIANISM</td>
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<tr>
<td>PRESERVATIONISM</td>
<td>ECOCENTRISM</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>RISK</td>
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3. The Interpretive Package of Conservationism

A number of researchers identify conservatism as the first environmental discourse to emerge (Brulle 1996, Hays 1959, 1987, Caulfield 1989, Norton 1986). The origins are traced to George Perkins Marsh who argued in 1864 that humanity must develop a stewardship of natural resources (cited in Brulle 1996, p.68). Yet it is with Gifford Pinchot, the first chief of the United States Forest Service, that conservationism is most strongly associated (Eckersley 1992, McCormick 1989). As part of the scientific elite, Pinchot had jurisdiction of the public forest reserves in the late nineteenth century (Caulfield 1989).
The American Forestry Association, established in 1875, is also identified with conservationist discourse (Brulle 1996). It was the first environmental organisation to be established in the United States, and whose aim was to extract the maximum yield from the nation's forests for the greatest benefit to present and future generations (Brulle 1996). Other United States conservation organisations include the Izaak Walton League of America (1922), National Wildlife Federation (1936), and National Arbor Day Federation (1971) – the latter being the last conservation organisation identified by Brulle (1996) up until 1987.

3.1 The Rationality Frame of Conservationism – Managerial Rationality

The conservation fear at the turn of the twentieth century was that unless a system of scientific planning of resource use was implemented, some resources would become scarce and possibly even exhausted. Conservationism emphasised the rational management of resources in the name of efficiency, but saw such rationality possessed only by an elite of technical experts. The ‘gospel of efficiency’ was a rational and scientific method of making decisions through a central authority that was meant to take an objective and disinterested (non-political) view of environmental issues (Koppes 1988, p.234, Hays 1959, 1987). These elite decision-makers were thought immune to the short-term pressures of political in-fighting but nevertheless had a developmental bias. In a celebrated 1914 case, conservationists succeeded in building a dam in Hetch Hetchy Valley in Yosemite National Park over the opposition of preservationists (Koppes 1988).

Conservationism asserted that natural resource development should be guided by the criterion of ‘wise use’ that would avoid ‘waste’ (seen as non-use) through forestry management techniques such as ‘sustained yield’ (Caulfield 1989, p.20). These techniques came to be embodied in a number of resource management organisations by the 1930s, such as the Civilian Conservation Corps, the Tennessee Valley Authority, and the Soil Conservation Service (Dryzek 1997).

The 1930s saw a reinvigorated conservation politics. Environmental planning was thought able to assess the optimum uses of vast tracts of land, and thought that environmental policy should be made at the national level rather than left to entrenched local interests (Koppes 1988). By the
1950s, conservationist success had brought substantial environmental change to the United States and 'stood at the peak of its power and legitimacy' (Koppes 1988, p.251). The rationality frame of conservationism, consequently, is seen as its most enduring legacy (Brulle 1996, Dryzek 1997, Caulfield 1989). The signature element for the rationality frame of conservationism adopted in this study is therefore \textit{managerial rationality}.

3.2 The Moral Frame of Conservationism – Extended Utilitarianism

The normative or moral frame of conservationism adopts extended utilitarianism as its central theme. In stressing public ownership and management of natural resources, the movement is clearly concerned with the welfare of present and future generations (Caulfield 1989, Hays 1959, Rodman 1983). This is a moral discourse because ideas that nature is about the \textit{efficient} use of scarce \textit{resources} impose normative values. In other words, the movement defines the environment in terms of resource use, asserts that there is a correct (efficient) rate to use those resources, and prefers that benefits of resource use are to be distributed among the present and future human population.

The conservation movement emerged during the peak of neo-classical economic theory (the latter seen as occurring between 1870 and 1920), when it was recognised that the unrestrained operation of the market would not necessarily ensure an efficient market (Dietz and van der Straaten 1993). If resources were finite, an optimal allocation of resources could not be achieved over the long term. However, by extending Bentham’s Utilitarian ethic to include the greatest good of the greatest number, \textit{over} the longest time, the moral justification for the market could be preserved (Caulfield 1989).

This approach is clearly epitomised in the conservationist position. Conservationism was an attempt to counter the short term profiteering of a few, in the interests of the many, over many generations. While the conservationist position accepts the price mechanism, it also recognises that the long term implications of resource use demand additional mechanisms if the national interest is to be protected. These mechanisms take the form of rational management techniques implemented by professional and technical experts.
The conservationist position, then, is a moral position in the sense that it argues for a particular approach to resource extraction. The normative stress on efficiency is characteristic of market approaches to resource use. At the same time, it departs from the market model in ways that can be seen as environmental. For example, conservationism enhanced the idea of the 'commons' and 'access for all' – that resources of forests, water, wildlife, and water were jointly owned, and that their use was for public ends over the long term rather than for private short term gain (Hays 1987, p.22). According to Dryzek (1997, p.64), the Conservation movement fostered rational scientific management and government ownership of American natural resources in an effort to prevent an inefficient 'free for all' in resource extraction.

The conservationist position thus helped to extend the moral defence of the market, which was couched in terms of the distribution of resources. In other words, while the market claims to achieve intra-generational equity, the conservationist position claims to achieve inter-generational equity in the use and allocation of resources. It can be seen as laying the foundation for '... the notion of obligations to a remoter posterity to which we are linked by the half-life of radioactive nuclear waste.' (Rodman 1983, p.82).

Conservation's moral position, expounded by Pinchot, is therefore an extension of Bentham's Utilitarian Principle. The development and use of resources could now be justified in terms of intergenerational, as well as intragenerational, equity. Thus, conservation is the greatest good, for the greatest number, for the longest time (Caulfield 1989, p.20). This key signature element for the moral frame of conservationism can be defined as extended utilitarianism.

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7 This conservationist position can, in some ways, be associated with its modern day equivalent – sustainable management. As Dietz et al. (1993, p.134) note, sustainable development is a normative concept whose argument deals with the fair distribution of natural resources available among different generations, as well as among the different populations of the world.
3.3 The Aesthetic Frame of Conservationism – Amenities

While Dryzek (1997, p.64) does not see the conservation movement having any interest in 'environmental aesthetics', an aesthetic discourse can nevertheless be identified. Conservationism frames aesthetic concern through the concept of 'multiple use' that can lead to an appreciation of the non-use value of the environment in terms of amenities (Hays 1987). This perspective is also enhanced by a view of national parks as 'national playgrounds' that could be used for recreational activities, and therefore has helped to devalue the idea of resources as commodities (Rennison 1972). In fact, Gibbs and Collette (1990) state that environmentalism was, for the decades prior to the 1960s, popularly seen as a movement for the great outdoors, national parks, and nature appreciation.

McCormick, too, notes that the world's first private environmental group was the Commons, Open Spaces, and Footpaths Preservation Society (1865), who desired to preserve land for amenity uses (McCormick 1989, p.5). Indeed, Hays sometimes refers to environmentalism simply as the 'amenity movement' (Hays 1987).

Much along the lines of the postmaterial thesis, Hays associates the new environmental concerns with the lifestyle that increases in income makes possible, and the ways people choose to express their new standards of living (Hays 1987, p.4). In this interpretation, environmental concern is seen as the result of an all too successful materialism allowing unrestrained access to amenities that enhance the quality of life, such as national parks. This is understandable given the increase in visits to national parks last century. For example, of the third of a million who visited national parks in the United States before 1920, half were rural residents, and ninety-eight per cent travelled by rail. By 1970, park visitor numbers were 150 million, and most were urban dwellers who travelled by car (Catton 1971, p.345). Comparable increases can be noted for visitors to Fiordland National Park in New Zealand. In 1959, 7,100 persons travelled on launches on Lake Manapouri in the national park,
compared to 30,796 in 1969 (New Zealand Commission to Inquire into the Proposal to Raise the Level of Lake Manapourī for the Purpose of Generating Electricity 1970, p.35).  

At the turn of the century, therefore, conservationism helped to challenge the idea that nature should be seen simply in terms of the economic and functional value of its resources. This re-conceptualisation was aided by the idea of ‘multiple’ use. This notion devalued simple conceptions of these resources as commodities, and as the only source of productive values. Rather, conservationism sought to incorporate an expanding set of ‘non-use’ values that were embodied in the creation of national parks before the turn of the century.

Yet, although the national parks concept can be justified on a number of grounds, the conservationist position is to see them as ‘national playgrounds’ – areas for outdoor recreational activities such as boating, swimming, fishing, hiking and camping (Rennison 1972, p.9). While it did not ultimately displace the prevailing resource orientation (perhaps because its values were not easily quantifiable), the concepts of multiple use and national parks illustrate the conservationist’s aesthetic concern framed in terms of ‘amenities’.

In summary, it is perhaps not surprising that because of conservationism’s implication in economic and industrial development, its philosophical stance, and its political institutionalisation, conservationism is not always admitted as a full member of environmentalism (Dryzek 1997, Hays 1987, Rodman 1983, Eckersley 1992). For Eckersley (1992, p.36), conservation is ‘inextricably tied to the production process’. Also,

If what we now call environmental issues were thought about at all, it was often in terms of industrial processes. For example, rational use of such inputs was the main concern of the Conservation Movement [that] sought only to ensure that resources such as minerals, timber, and fish were used wisely and not squandered, so that there would be plenty of them to support a growing industrial economy. (Dryzek 1997, p.13)

Hays (1987, p.13) notes that most accounts of environmentalism stress its historical origins in the conservation movement concerned with production issues. By contrast, he argues that ‘true environmentalism’ arises not out of the history of production, but out of the history of consumption

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8 The report of the commission will hereafter be referred to as ‘New Zealand Commission 1970’.
For Rodman (1983), the belief in the cognitive ability of a managerial elite—managerial optimism—leads to a technological monoculture approach. Conservationism fosters an image of society as being exempt from limits, which are narrowly perceived as human. Limits are imposed by the temporary technical inability of humans to develop resources (Rodman 1983).

Conservationism is also seen as deficient in a philosophical sense because it is still an anthropocentric utilitarian ethic—all non-human entities and systems are seen by conservationism as resources, and conserving resources simply serves the self-interests of humans (Rodman 1983, p.82). Secondly, maximising benefits to humans leads to a total use approach that can be seen as ‘species imperialism’ (Rodman 1983, p.83). Eckersley (1992, p.36) states that ‘resource conservation is too limited a perspective to form the exclusive criterion of even a purely anthropocentric ethic.’

The conservation approach is also thought not helped by the degree to which it has been entrenched at the political level (Andrews 1980, Cleveland 1972, Koppes 1988). Although the benefits of efficient resource management were generally defended in terms of the national interest, conservationism came to be associated with a re-distributive politics that aroused political opposition (Koppes 1988). Conservationism was also entrenched in efficiency-oriented bureaucracies, and lacked organisations at the grass-roots level, providing an ambiguous legacy for the environmental movements that followed (Koppes 1988).

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9 In this light, some of the later arguments of *The Limits to Growth* take on a rather ambivalent shade of green (Meadows, Meadows, Randers, and Behrens 1972). If human cognitive skills were limited, resource planning would be better advanced through computer modelling and simulations of current consumptive behaviour. In part, the arguments of *The Limits to Growth* thesis may have found ready acceptance because they derived from computer modelling. It was now the auguries of computer science spelling ‘*D.o.o.m*’ that commanded attention, despite the unsubstantiated proclamations of previous Malthusians who had also argued that current resource-use patterns were unsustainable and unwise. Habermas (1981) argues that expressions of confidence in computerised control systems (used in technological complexes such as nuclear power), can be traced back to the conservation faith in expert control.
4. The Interpretive Package of Preservationism

Preservationism emerged as a social force in the United States between 1890 and 1914, at about the same time as the conservationist tradition (Brulle 1996, Caulfield 1989, McCormick 1989, Nash 1989, Rodman 1983). This interpretive package initially mobilised environmental concern through the frame of a spiritual identity (Brulle 1996, Rodman 1983). Preserving wilderness was not simply to enhance amenity values but to foster an aesthetic and metaphysical appreciation of nature. This discourse found expression in the Sierra Club, founded in 1892 by John Muir, to ‘explore, enjoy, and preserve the Sierra Nevada’ (cited in Brulle 1996, p.69). Other preservationist organisations in the United States include the National Audobon Society (1905), Wilderness Society (1935), World Wildlife Fund (1961), and Conservation International (1987) (Brulle 1996, p.77).

In New Zealand, the 1920s had seen the emergence of an organised preservation movement with the establishment in 1923 of the Native Bird Protection Society, which later became the Royal Forest and Bird Protection Society (Buhrs 1991, p.56). The Society succeeded in 1952 in establishing the Waipoua Kauri forest sanctuary, and again mobilised in 1967 over tourist proposals for the forest that failed to take into account the forest’s historical and scientific values (Cleveland 1972, p.11).

In turn, the wilderness perspective ‘may be seen as the harbinger of ecocentrism’, since it helped to inform a moral discourse that took exception with the conservationist construction of the environment simply in terms of resources for human consumption (Eckersley 1992, p.42). An ecocentric perspective began to frame the environment in terms of communities, and saw no reason why the idea of a moral community cannot be extended to the non-human world (Aldo Leopold 1949). Preservationists also became wary of the technological optimism of managerial elites within conservationist organisations that failed to recognise the uncertain ecological impacts from the civilian application of World War Two technologies.
The rationale for many wilderness campaigns has been suggested as originating in the search for a national identity, and the glorification of natural beauty (McCormick 1989, p.12). An awakening to the attractions of natural scenery found support in the United Kingdom among the primitivists and Romantics who found emotional solace in a natural world previously thought alien and hostile (McCormick 1989, p.2). This attitude helped to establish The National Trust (U.K) in 1893, which acquired land for the preservation of the nation’s cultural and natural heritage. Yet the world’s first national park (Yellowstone) had been created in the United States in 1872. Other national parks were created in Australia (Royal National Park, 1879), Canada (Banff National Park, 1885) and New Zealand (Tongariro National Park, 1894).

However, New Zealand’s first national park, Tongariro, should not be seen as a national playground in the sense envisaged by conservationism. Rather, the national park was a gift from the Ngati Tuwharetoa tribe to the nation in order to stop the sale of sacred tribal land to European settlers. Cultural identity values clearly predate amenity values since, in the settler and Victorian worlds, there was little need to ‘try and get away from it all’ (Rennison 1972, p.9).

Some of these identity values can be identified in the Manapouri campaign, which is a focus of this study. One of New Zealand’s largest environmental controversies, the Manapouri controversy erupted in the 1960s over the commitment by successive government administrations to provide electric power to a foreign multinational consortium through exploiting the full hydroelectric potential of Lake Manapouri. To achieve maximum power, the government planned to raise the levels of the lake, which was situated in New Zealand’s largest national park.

Issues of foreign ownership of national resources, the maximum yield criteria of the scheme, and the status of national parks clearly exhibit some of the tension between conservationist and preservationist positions. One commentator notes that the ‘defence of these lakes was not couched in intellectual terms, but arose from an emotional rejection of environmental destruction as the price of progress’ (Rainbow 1992, p.5). Similarly, Cleveland argues that Manapouri became a symbol of nature despoiled in the name of progress, and, because it generated a high level of protest, it meant
that governments would have to weave aesthetic considerations into public policy from then on (Cleveland 1972, p.32). Clearly, both authors see the Manapouri campaign primarily in terms of the symbolic and identity issues it raised. Public concern reflected a politicised identity dimension of environmental concern.10

Environmental concern of an aesthetic nature clearly implies something more than just recreational or amenity values – issues of identity and a sense of place feature just as strongly. For some, aesthetic values are ‘vital’ to ecologism, not only for the meaning places have for their inhabitants, but for the spiritual context such places can supply (Bramwell 1989, p.16). This context, for example, goes beyond the respect with which most human burial grounds are treated, to include a living experience of places often described in religious terms. Other writers believe the American tradition of transcendental philosophers (such as Emerson and Thoreau), also influenced an aesthetic appreciation of nature, where the contemplation of nature can avert feelings of alienation or separation (Hargrove 1989, p.99).

Although conservationists appreciated the value of outdoor recreation, an early preservationist (John Muir), used language that took on a religious flavour. To develop wilderness and natural areas was deemed a ‘desecration’ of ‘temples’ and ‘cathedrals’ (Rodman 1983, p.84). God was thus associated, if not identified, with beauty, and certain natural areas were associated with the sacred.

Allied with a search for national identity, then, is the search for individual and spiritual meaning. This search was often prompted by a moral and aesthetic revulsion against the city, and prompted calls for legislation to improve the urban environment, the garden city movement, and the escapism of alternative communities (Pepper 1984, p.18). These early back-to-the-land movements came to be emulated by the rural communes of the 1960s’ counter-culture. The later communes are

10 On the other hand, Hay and Haward (1988, p.434) argue that public concern to preserve wilderness areas is generated out of the notion that moral standing can and should be applied to the non-human world. Rather than aesthetic arguments dominating campaign discourse, it is thought that ecocentrism – representing nature – played the most significant role in campaigns such as Manapouri. These competing interpretations are tested in Chapter Four.
characterised as anti-industrial, opposed to obsessions with success or consumerism, and were usually marked by a refusal to take part in a societal rationality that could produce the Vietnam War (Cotgrove 1982). As a result, the return to wilderness was seen as an antidote to such morality, reflecting as it did an anti-establishment desire to reject societal norms, seen as authoritarian and hierarchical (McCormick 1989, p.64).\textsuperscript{11} Bramwell (1989, p.16) argues along similar lines that ecologists believe in an absolute responsibility for their own actions and for the world, since ‘There is no God the Shepherd so man becomes the shepherd.’

Gregory Bateson was also concerned with developing another form of ecological understanding called ‘aesthetics’, over and above environmentalism’s moral or ethical dimensions (Harries-Jones 1995). In Bateson’s view, rationalism, science, technology, and morality are based on western philosophical concepts that are anthropocentric and individualistic. Such a confined vision of our place in the world should be countered by an ‘aesthetics’ that attempts to grasp a consciousness removed from individual sensibilities (cited in Harries-Jones 1995, p.215).

The aesthetic is thus defined as the de-centring of the individual, who is subjugated to cultural, collective, and spiritual forms of understanding. Humans experience an aesthetic understanding as the ‘beautiful’ or the ‘ugly’ in nature. However, such visceral interpretations may not be merely contemplative or ritualistic, but act as a mobilising force for action. Naess, in fact, discusses aesthetics as ‘beautiful action’, as a path which can lead from the self to a vaster world of nature (Harries-Jones 1995, p.215).

\textsuperscript{11} Hays (1987, p.264) argues against the idea that the counter-culture and alternative life-stylers are the same movement. He sees the former as attempts at personal expression in dress and speech, and as a search for individual enhancement through drugs and sexual behaviour. This he tries to distinguish from the 1970s’ alternative life-style focus on self-discipline, and personal skills. A New Zealand example of the latter type of commune is the Ohu scheme – a government sponsored programme that made unused Crown land available to approved communal groups. To succeed, commune members had to overcome not only the physical challenges of survival, but also the social and emotional demands of community living – motivation, commitment, and balancing personal wants with group needs (Carroll 1994, p.1).
Rodman (1983) notes that some environmental writers are unhappy with such mysticism since it may be viewed as irrationalism, and hence be counterproductive. But he argues that experiential issues (what people feel in certain natural settings), should not be confused with metaphysical ones, such as whether God exists, or exists in nature. Thus, the therapeutic value of what natural settings evoke, can be distinguished from seeing such places as valuable because of what is thought to inhere in them. Although the experiential value of the environment has historically performed a powerful influence in modern environmentalism, both are risky positions. The Preservationist notion of nature’s value is thus in continual danger of being reduced by critics one way or another – either to subjective human experience, or to an (allegedly) objective (valuing) deity that is manifested in nature (Rodman 1983, p.85).

It appears that such an aesthetic framing of the environment may incur particular difficulties when presented as political positions. The first is that any aesthetic tradition may be historically transient. In the eighteenth century, Europeans and early American settlers, and in the 19th century New Zealand colonists, regarded wilderness with a fair degree of dread and horror, seeing it as an obstacle to be tamed rather than revered. It took the Romantic aesthetic of the ‘sublime and the beautiful’ – meaning the feeling of awe invoked by the magnitude and power of nature – to transform this perception of wilderness (Rodman 1983, p.85).

A second difficulty is that an aesthetic justification for environmental concern may be culturally Eurocentric. European cultural notions were traditionally invoked in informing what was worthy in wilderness preservation, while appreciating less the notions of indigenous cultures, or the ecological demands of particular ecosystems (Eckersley 1992, p.40). As a result, Rodman does not think that the preservationist or aesthetic tradition is sufficient as a general environmental ethic. Nevertheless, issues of individual and cultural identity clearly shape environmental perceptions over time, and provide the aesthetic frame with its signature element of identity.

12 The same distinction can be seen between a non-religious individual valuing the experience of visiting churches of architectural merit, and a priest valuing the most humble of churches.
4.2 The Moral Frame of Preservationism – Ecocentrism

The ... fervour of the recent concern for nature, and some of its political muscle, can be understood as resulting from the introduction into traditional, utilitarian conservation of the idea that respecting the environment was an ethical, not just an economic, matter. (Nash 1989, p.9)

For Nash, environmental concern is based in ethical ideals. He believes that this concern arose as the definition of the moral community was extended by the ideas of ecology – such as the concepts of a biological community and interdependency (Nash 1989, p.7). John Muir, a key figure in the preservation movement, asserted the rights of nature on a par with humans, while Aldo Leopold’s ‘land ethic’, introduced in his posthumous A Sand County Almanac (1949), also undoubtedly contributed to seeing the natural world in community, rather than commodity, terms (Koppes 1988). This ethic declared that ‘a thing is right when it tends to preserve the integrity, stability, and beauty of the biotic community. It is wrong when it does otherwise’ (Leopold 1949, p.224). Norton notes that Aldo Leopold’s shift from simple conservation may also have resulted from a loss of faith in human management, rather than a complete rejection of anthropocentrism (Norton 1986, p.211).

Extending ethical concern to a non-human moral community seems to have emerged rather early on in environmental thought. McCormick prefers to date the beginning of the environmental movement to the 1880s and 1890s, when Englishwomen began to express concern about the impact of the fashion for hat feathers on exotic and wild birds (McCormick 1989, p.195). Concern was also expressed over the depletion of wildlife in Africa. The first environmental treaty was the Convention for the Preservation of Wild Animals, Birds, and Fish in Africa, signed in 1900.

Writing in 1894, Edward Evans thought that ecologists challenged the Judaic and Christian views of man’s dominant position in the world (cited in Moneyhon 1982, p.29). A belief that man was the lord of creation was a conceit, and one that had fostered an all too ready destruction of the plants and animals around him (cited in Moneyhon 1982, p.29). This re-interpretation of the composition of the moral community is not, therefore, unique to the modern era of environmentalism.
It must be admitted that such concern for non-human life can be seen as simply anthropocentric concern – that treating nature without respect may lead to treating the human community in the same way. Indeed, political philosophers of the Enlightenment era argued from this position. Salt thought that pleading for the rights of animals is not just to plead for compassion, but to plead for the sake of mankind itself – we wrong ourselves when we wrong animals (cited in Nash 1989, p.29). Locke thought that the torment and torture of animals should be stopped, especially by children because it

will by Degrees, harden their minds even towards Men ... [people] who delight in the Suffering and Destruction of Inferiour Creatures, will not be very compassionate, or benign to those of their own kind. (cited in Nash 1989, p.19)

Whether nature can be valued for its own sake is of course a question for political theory and moral philosophy. Clearly, environmentalists have not waited for the philosophical verdict – one of the motivating influences in environmentalism has been, and continues to be, a desire to protect nature through an extended definition of the moral community.

Deep ecology is perhaps one of the most well known expressions of this environmental philosophy (Naess 1973). Incorporating Leopold’s land ethic and the intrinsic value of all natural things, the discourse found embodiment in the environmental organisation Earth First!, established in 1980 (Brulle 1996). Although Brulle (1996), Dobson (1990), Dryzek (1997), and Eckersley

\[13\] Wissenburg (1993, p.13) takes the approach that seeing nature as part of a moral universe or community can only inform our morality. In other words, concern for nature is not an end in itself, but a means of ensuring survival for humanity and society. However, attributing intrinsic value to human beings alone may be an arbitrary position, as it is neither necessary (other cultures do not take it) nor justified (since no moral quality, that both includes all humans and excludes all non-humans, can be successfully identified) (Rodman 1983). Other writers attempt to attribute intrinsic value to a range of non-human entities, in that humans have duties toward them based on their possession of rights such as intelligence, sentience, or consciousness (Singer 1975, Stone 1974).

\[14\] This desire is sometimes so strong that it can be described as a moral crusade with its most radical adherents members of such groups as Earth First! and the Animal Liberation Front.
(1992) associate deep ecology primarily in terms of a concern with the non-human world, the founder of deep ecology now defines it somewhat differently.

I’m not so much interested in ethics or morals. I’m interested in how we experience the world ... If you experience the world so and so then you don’t kill. If you articulate your experience then it can be a philosophy of religion. (Naess, cited in Norton 1991, p.233)

Since it is difficult attempting to pin a label on a moving ‘target’, this study adopts ‘ecocentrism’, rather than deep ecology, as broadly descriptive of the moral frame of preservationism.

4.3 The Rationality Frame of Preservationism – Ecological Rationality

Although the preservation movement in the early years of the twentieth century can be seen primarily in terms of an aesthetic identity, the movement was invigorated by attention to concern for non-human moral communities that emerged after the First World War. Preservationism underwent a third, and critical, transition as it felt the influence of the emerging science of ecology (Koppes 1988). Seen initially as an alternative technique to manage the environment by Aldo Leopold, ecological science provided a scientifically informed understanding that was more objective and utilitarian than either aesthetic or ecocentric concerns (Koppes 1988).

The ‘new’ discipline of ecological science could thus challenge the managerial rationality of conservationism in terms of ecological rationality. However, it appears that the development and legitimacy for an ecological understanding seems to have awaited the critical efforts of members from within the scientific community. The 1960s saw environmental concern about the global effects of atmospheric nuclear weapons testing (Commoner 1966), and the unforeseen impacts of indiscriminate pesticides use (Carson 1962). The global nature of resource and population issues was a theme developed by Borgstrom (1969) and Ehrlich (1968), culminating in the arguments of The Limits to Growth (Meadows, Meadows, Randers, and Behrens 1972).

In some ways, the arguments of The Limits to Growth (Meadows et al. 1972) echo the conservationist plea that unrestrained patterns of growth have unwelcome implications for the
future. In 1972 these arguments extended the debate by shifting concern away from the scarcity of resources to the implications of resource consumption. Effectively, the real impact of the notion of limits was mediated by the problems of the functioning of the larger ecosystem (Hays 1987, p.209). Environmental concern emerges over the ability of the environment to process or assimilate the effects of consumption, rather than over constraints on production that occur through shortages of specific raw materials.

Preservationism frames rationality in terms that are ecological. ‘Ecological rationality’ is a term that was coined by Dryzek (1987, p.118) to indicate the twin roles that ecology has played in transforming our approach to nature. In the first sense, ecological rationality is opposed to the undue emphasis that conservationism places on economic values, and the persistent interpretation of ecological resources and functions in economic terms without regard to their intrinsic values. Ecological rationality labels the rationality of economics as ‘economism’ (Caldwell 1990, p.29). Allied to this is hostility toward ‘scientism’ and ‘managerial rationalism’ – the conservationist belief that science, in the right hands, is capable of solving all human and ecological problems. It is illustrated by the belief that humans, eventually, will be able to engineer solutions to the problems of nuclear waste, and the decommissioning of nuclear plants.

In the second sense, ecological rationality is fundamentally concerned with the ways in which nature has been represented and modelled as a result of western science. Hargrove (1989) believes that Western philosophy is responsible for the ideas and attitudes that inhibit environmental protection. He traces this philosophy to the way that knowledge of the world was developed by the Greeks and early modern European philosophy (Hargrove 1989, p.15). Early Greek philosophy

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15 Of course, the notion of ‘limits to growth’ was not an entirely new argument. In a series of seven essays written between 1798 and 1823, Thomas Malthus set out his ‘principles of population’ – that the earth set limits to population growth and human well-being. He believed that there were ‘natural’ laws that governed population growth, such as the laws of nature – famine, war, or disease. Malthus was criticised (as would later limits to growth advocates), for appearing to be scientific, while ignoring the role of new scientific knowledge and technology that might transcend such ‘natural’ limits (cited in Pepper 1984, p.92).
assumed, for example, that the world had a rational structure, and that this structure can be revealed. However, it could only be revealed through reason (rationalism), rather than through the senses (empiricism), which were to be distrusted. As a consequence, first-hand observation was discouraged.

Additionally, the impermanent, changeable, and transformative nature of most ecological relationships were not seen as an important source of knowledge, since the properties of true knowledge were thought eternal and unchanging (Hargrove 1989, p.21). In some sense, ecological knowledge did not develop because it was not regarded as real. The proponents of modern philosophy (Descartes and Bacon), continued the Greek approach that sensation interfered with the search for the principles of ultimate reality, and that reason, or the ‘geometrical method’, was the only legitimate method of inquiry. This method had a reductionist character – complex problems were split into simpler parts to aid observation of the ‘separate’ components of the world ‘machine’.

Beginning with Darwin, through Tansley and Haeckel, however, the new ecological sciences – ecology, ecosystem and evolutionary theory – began to develop out of the natural history sciences of biology and geology. Bramwell, for example, considers that environmentalism is composed of two distinct strands that arose in the late 19th century (Bramwell 1989, p.4). Tracing the etymological origins of Oekologie, coined by Haeckel in 1866, Bramwell identifies the first strand as ethology. It was the science of relations between organisms and their environment, including the study of animal and human behaviour. Ethology was an anti-mechanistic, holistic approach to biology derived from Haeckel. Haeckel’s holistic approach can therefore be seen as an alternative view of science – opposed to reductionism, and thus saying something about the way scientific knowledge can be organised and generated. The second element Bramwell identifies is Oekonomie, the concept of ‘economical’ household management (Bramwell 1989, p.14). The second strand is
derived from a new approach to economics – energy economics, which focused on problems of scarce and non-renewable resources.\textsuperscript{16}

These ideas generated not only a new conception of the world, but a new way of generating information about that world – the new science looked at the inter-related parts of an organic whole, whose overall characteristics were more than the sum of the parts (Pepper 1984, p.102). However, the new approach was associated with the ‘wrong’ kind of science. The need to study the world at a complex and holistic level, through the senses, has meant that the science of ecology has not been easily reconciled with the traditional (pre-quantum physics) prejudices of the scientific method. As a consequence, to the extent that environmentalism relies on ecological science to present its arguments, it must do so in a scientific environment still wedded to the assumptions of the Newtonian world-view.\textsuperscript{17}

In fact, Pepper argues that the outcome of the scientific revolution of the sixteenth to eighteenth centuries has led to ‘technocentrism’ – a prejudicial set of attitudes toward the environment characterised by a particular kind of rationality. It was a belief in the possibility of an objective approach that assumes a separation between subject and object (Pepper 1984, p.37). This has led to differences within the scientific community itself, over the appropriate response to knowledge about the environment, and its ecological relationships. Pepper characterises these different responses as a debate between technocentrics and ecocentrics, who both use science to justify their own positions (Pepper 1984, p.116).

Technocentrics (conservationists) think that we can manage, manipulate, and dominate nature precisely because of the knowledge and understanding that we have of the environment. Ecocentrics, however, think that ecological knowledge, characterised by complexity and incompleteness, demonstrates the need to take a precautionary approach in environmental matters.

\textsuperscript{16} This second strand implies normative and moral overtones because it has something to say about the preferred rate of use (conservation) of resources.

\textsuperscript{17} These assumptions – technological optimism (prediction, manipulation), reductionism, anthropocentrism – are increasingly being challenged by ecology and the ‘new’ physics of quantum mechanics (Eckersley 1992).
Hargrove, therefore, believes Western philosophy, and its scientific method, has not only failed to provide a foundation for environmental thought, but has also actively inhibited it (Hargrove 1989, p.44).

Similarly, Norton (1991) believes that the differences between the conservationist position of Pinchot and the preservationist position of Muir are not due to contradictory value positions, but to different ideas on the role and status of science. Pinchot, for example, thought that science should be value-free, while Muir thought it encompassed Man, Nature and God (cited in Norton 1991, p.35). While the dichotomy between conservationism and preservationism is usually cast in terms of wise versus non-consumptive uses, Norton makes a good case for seeing it as conflict between professional, expert, and organised conservationists, and conscientious, driven amateurs, informed by an appreciation of the relatively new science of ecology.

Jamison (1990, p.6) identified a ‘cosmological’ dimension in his study of environmentalism, and central to it were the concepts of ecological science that environmentalists brought into public view. Essentially, this was a recognition of system, and of systemic interconnections – within nature, within society, and between the two. This is similar to Hays’ idea of ‘Permanence’, outlined in his study Beauty, Health and Permanence (1987). ‘Permanence’, suggests Hays, involves ecological questions of the imbalances between developed and natural systems over both the short and long term, and involves the ecological and scientific understandings of nature.

In the United States, ecological rationality found policy expression through a redefined sense of the value of wilderness areas and national parks (Koppes 1988). A number of national parks began to be added after 1945, their boundaries being drawn with new attention to ecological principles, while visitor accommodation was kept to a minimum. At the same time, a shift from ‘the monumentalist tradition’ could be noted with the preservation of everglade areas that had a unique role to play in the ecology of South Florida (Koppes 1988, p.247).

Scientific disciplines, such as reductionist approaches in biology and hydrology, came to be seen as fragmented because they ignored the interconnected properties of the natural world. Barry Commoner (1966) expressed these concerns, arguing that nature is an integrated whole. Rather than
an anti-science position, ecological rationality attempts a reorientation to scientific analysis in which attention to the ecological principles of a holistic or systems approach is fundamental. Certainly the reductionism of previous scientific disciplines was criticised, but the status of science itself was not questioned (Sandbach 1978).

In summary, the rationality of preservationism opposes the instrumental and optimistic rationality inherent in conservationism. It should not be assumed, however, that preservationism is therefore pessimistic about ecological relationships. Since pessimism and optimism are human ways of framing nature, they should be dismissed as inappropriate. Rather, attention should be paid to general ecological concepts, and to the way that these are interpreted. A number of these concepts are identified as key orientations in Appendix B.

5. The Interpretive Package of Political Ecology

The third environmental discourse to emerge is that of political ecology which locates ecological problems in societal structures (Brulle 1996). Rather than a strict focus on the principles of ecological systems, political ecology is concerned that science and technology are developing

18 Among these principles are ubiquity that implies that some environmental impacts are so dispersed, or migrate over such immense distances, that literally no area or organism of the world is immune from the effects. Four types of temporal effects may also be identified. Longevity implies that effects may persist well beyond our present lifetimes. In the case of radiation, much greater inter-generational effects may occur. Irreversibility implies that, once generated, effects are ever present. The buffering capacities of various ecosystems may slowly degrade until thresholds are irreversibly breached. Invisibility, additionally, means that detection of such threshold breaches is difficult, with effects becoming apparent only after decades. (Debate over global warming is an example of whether we can see such thresholds being reached). Bio-accumulation, or toxicity, implies that effects could accumulate over time rather than being diluted over time. (Concentration of certain compounds in the tissues of living organisms can increase either over time or with rises in the food chain). Synergistic effects are also of assimilative concern, and are seen when certain agents combine to magnify the impact beyond those of either agent. For example, pesticides could combine with radiation to greatly increase the risks of cancer attributable to just one of these technologies.
without due regard to liberal principles – democratic participation, environmental justice and the preservation of community identities (Sandbach 1978).

The discourse is identified as emerging in 1971, in which ecology now meant 'the expansion of environmental consciousness, a para-political movement, the beginning of a new ideology constituting a means of self-defence against uncontrolled industrial expansion' (Paehlke 1992, p.18). This new phase of environmentalism saw new organisational forms, and groups that attempted to set themselves apart from older conservationist organisations. North American groups such as the Clamshell Alliance, Environmental Action, and the Environmental Defence Fund were more activist and protest oriented. Concerned with the education and dissemination of ideas, a distinct participatory orientation can be identified.

The normative concerns of political ecology also see a shift to *consumption* concerns – that is, concerns with the impacts and effects of consuming resources on the human and non-human worlds. These concerns emerge out of the increased levels of risks incurred by technology that impact on the human and non-human worlds. The sub-community based on this discursive aspect is readily seen in the Environmental Justice Movement, whose focus is on the social creation of environmental problems, and their impacts on disadvantaged groups in society (Brulle 1996).

As a new *social* movement, political ecology is opposed to social exclusion, and whose political identity can be equated with emerging forms of political participation that emphasise protest, informal organisation, and collective action outside the conventional political system. As an identity movement, political ecology has seen a proliferation of perspectives emerge – deep ecology, ecofeminism, Gaianism, and the perspectives of indigenous cultures. These approaches are seen as attempts to reformulate and reconstruct personal and cultural identity in modern society (Eder 1996b, p.213). As a new *environmental* movement, it tends to mobilise around issues of environmental degradation, moving in a postindustrial 'risk distributing' society, and concerned chiefly with controlling environmental risks created by modern technology (Beck 1992).
For McCormick (1989), one of the central meanings of environmentalism is a re-evaluation of the legacy of technology. While technology has undoubtedly increased the production and efficiency of resource use, and benefited human society, it has also introduced new and increased threats to human survival (McCormick 1989, p.48). Jamison, too, sees a ‘technological’ dimension giving substance to the discourse of environmentalism by its critique of nuclear and chemical technologies (Jamison et al. 1990).

The moral frame of political ecology is therefore concerned with threats – in the shape of risk to the physical integrity of individuals, and in whether these threats are equitably distributed among the moral community. These threats are posed by the accelerated pace of destruction of the natural environment on which human life is ultimately based, and by technical developments in chemistry, biology, and physics that have allowed unprecedented rates of resource extraction, use, and unprecedented impacts on human and natural ecological processes. Ecologists and biologists, such as Carson and Commoner, became concerned about the impacts of technologies developed out of the Second World War – especially pesticides and the atmospheric testing of nuclear weapons (Carson 1962, Commoner 1966). Commoner pursued the theme of ‘flawed technology’ in The Closing Circle (1971), in which he argued that the increases in population and affluence could not account for the 200-2000 per cent increases in pollution observed worldwide.

Technology is also analysed by Hays (1987) in terms of health, since it involves choices between cleaner and dirtier technologies. This choice is clearly a moral one, as it implies a preference for how the costs and benefits of technology will be distributed – not only among the current human generation, but also among future populations, human or otherwise. Because much of the consumptive effects of resource and technology use are active temporally, as well as spatially, they ‘colonise the future’ (Kothari 1990, p.30).

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19 Pesticides, gene manipulation, and nuclear energy are examples of technological developments of the 20th century whose benefits to human society are thought ambiguous.
The Environmental Justice Movement can be seen as a recent expression of this perspective’s concern with the inequitable distribution of environmental impacts in space and time. The development of collective action based on this discourse was initially concerned with the pollution from toxic waste dumping that impacted on human health in local communities (Brulle 1996). The well-known example of such action was the Love Canal Homeowners Association, that formed once the impacts of the siting of a housing community on an abandoned toxic waste dump site in Love Canal New York state became known (Brulle 1996). The People of Colour Movement in the United States that identifies racial discrimination in such issues as the location of toxic landfills, while also concerned with identity issues, clearly shares much in common with this normative strand in political ecology. With the impacts of global warming unevenly distributed (in the form of rising sea levels on developing island nations in the Pacific), this discourse may well gain additional voices.

Identified as the ‘human welfare ecology’ stream of environmentalism, this discourse focuses on the implications that a degraded environmental quality has for human health (Eckersley 1992). While it is often criticised from an ecocentric perspective, this more anthropocentric approach defends itself by claiming that minimising risks to the human community benefits the non-human community as well (Eckersley 1992).

Offe describes these developments as a ‘broadening’ characteristic of postindustrial society. The negative side effects of industrial processes are not localised or class specific, as they were previously, but are now dispersed in space and time, and hence universal (Offe 1985). Because economic position cannot now insulate an individual, or a nation, from the production consequences of technological processes, populations are subject to higher levels of risk. In other words, regardless of their own voluntary level of technological modernisation, local, regional, and global communities are exposed to involuntary (unmanageable and unavoidable) levels of risk.

New social movements are seen from this perspective as a response to an industrial ‘risk society’, as an attempt to illustrate the changing nature of risks in modern society (Beck 1992). Social movements, therefore, act instrumentally – citizens consider their national circumstances in forming
opinions. Citizens view policy problems as national issues, rather than interpreting them in terms of their narrow self-interests. Thus, the previous rationale to minimise social conflict through economic growth has been eroded by the intensification of conflict through an increase in endangerment (Beck 1992).

Environment, antinuclear and peace movements can be viewed as collective risk movements engaged in the politicisation of industrial production (Beck 1992). Risk movements react against the encroachments of large-scale technologies on everyday life, as well as other externalities associated with industrial modernisation. Plough and Krimsky warn 'that those who control the discourse on risk, will most likely control the political battles as well' (1987, p.4). Consequently, concern about the consumptive sphere, about limits to growth, and about the health impacts of new technologies on human communities, can be seen as part of the risk frame of political ecology.

5.2 The Aesthetic Frame of Political Ecology – Issues of Identity

The position of political ecology on the cultural value of the environment is almost identical to that held by preservationism. The aesthetic frame of political ecology takes the form of a cultural critique. The frame regards the modernisation crisis as a conflict, not of production, but of reproduction, where issues of self-reflection, the immaterial aspects of life, and collective identity are important (Touraine 1981, p.81). Drawing heavily on the ideas and values of the Enlightenment and Romantic eras, the aesthetic critique centres on modernity’s threats to the individual psyche and identity at both the individual and collective levels. These threats emerge from the demands of industrial and economic progress that have generated technocratic, rationalistic and bureaucratic structures of control that are thought to imperil the personal autonomy and self-determination necessary to create a psychologically integrated and authentic individual.

For Offe, postindustrial society has effected a qualitative change in the methods and effects of domination, ‘deepening’ the intrusions into the previously autonomous cultural and aesthetic spheres by systems of rational and social control (Offe 1985, p.844). Habermas describes this process as the ‘colonisation of the life-world’, suggestive of a deprivation of the pre-conditions
necessary for a healthy, functioning psyche (Habermas 1981). Thus, alienation is seen as one of the main symptoms of a cultural crisis, prompting a search for individual and cultural meaning.

In particular, science and technology are often identified by New Left and anarchist supporters as fostering a sense of alienation (Sandbach 1978). These critiques emerged anew in the late 1960s in which increased specialisation, expert systems, and the security issues associated with, for example, nuclear power, were more likely to increase the mechanisms of social control than reduce them (Sandbach 1978). The alternative technology movement was thus not mobilised simply in terms of ecological concerns, but as a way of gaining a measure of control over one’s own life. Indeed, a cultural or aesthetic rationality seems to inform the alternative health movement, which may offer an increased sense of medical autonomy.

The role of social movements, in fostering an aesthetic and cultural critique, is to act as radically individualistic movements, to preserve values of identity, autonomy, participation and democratisation that are threatened by the ‘de-humanising’ trends of the modernisation process (Habermas 1981). The environment in general, and wilderness areas in particular, is therefore seen as providing a re-interpretation and a re-enchantment of the world (Bohm 1994). Social movements arise as a response to mono-cultural interpretations that see society simply in terms of material production and distribution.

In summary, only two distinct positions within the aesthetic frame can be identified. Conservationism frames the debate in terms of a multiple use and amenity perspective, while both preservationism and political ecology take issues of individual, cultural identity and autonomy as serious political positions. The case studies that follow aim to determine the way arguments of an aesthetic nature are used.

5.3 The Rationality Frame of Political Ecology – Participatory Rationality

So far I have outlined how the role of science has been politicised in the environmental era due to the unease over the failure of existing scientific methodologies to fully appreciate the implications of the new science of ecology. The politicisation of science, however, is not simply the
result of conflict within the scientific community itself over what to count as facts or how to interpret them. Politicisation also emerges over the democratic role of citizens in highly technical and scientific policy issues.

For Jamison, the project of modernity is based on institutionalising knowledge. Scientific knowledge becomes the province of certified professionals and experts, effectively demarcated from political concerns, and able to be presented as neutral. Jamison’s organisational dimension refers to ideas about the organisational forms of the production and dissemination of knowledge (Jamison, Eyerman, and Cramer 1990, p.147). Similarly, Hays is also concerned with the acquisition, interpretation, and dissemination of knowledge that plays such a critical role in environmentalism (Hays 1987). Scientific discourse plays this critical role because it enjoys societal-wide consensus and legitimacy. Accepted as neutral and non-partisan, scientific discourse is an authoritative version of reality, and has therefore come to occupy a privileged position in political society (Barker-Plummer 1995, p.308). In other words, framing social and environmental problems as technical problems, able to be solved by scientific and technical elites, helps to entrench the monopoly position of scientific discourse in political decision making. Indeed, Habermas argues that privileging science, or instrumental reason, leads to the ‘scientization of politics’ – a reduction in the willingness to engage, and allow to engage, an informed citizenry in the political (contestable) and ethical dimensions of environmental decision-making (Habermas 1984).

By politicising science, however, the new social movements hope to reverse this trend – an attempt to show that scientific discourse, as a dominant form of framing policy issues, is often ideological in a number of ways. The most general ideological function of science is the way in which it has tended to displace other ways of knowledge of the environment, such as myth, religion, magic or shamanism. Science is ideological in this sense since it has displaced these other methods as the only ‘legitimate’ form of knowledge generation. For example, the knowledge that indigenous
cultures have of the medicinal value of herbs and plants is regarded as unscientific or superstitious until it can be verified by western medicine.\textsuperscript{20}

A second critique of the ideological role of science is that it is not necessarily objectively or neutrally employed against the whole spectrum of scientific problems. Certain sectors of society, such as the state, can influence the selection, as well as the rate, of research, which is itself not independent of the demands for improvements in the technological infrastructure. That is, political actors influence the direction of scientific research by defining what is in the ‘national’ interest.\textsuperscript{21} Therefore, scientific research and technology do not develop independent of historical and national contexts. In many cases, scientific and technological advances are a response to specific economic needs, which may not necessarily be generated by, or coincide with, those of society as a whole (Pepper 1984, p.145).

A third ideological function is the way science is assumed to act as some sort of neutral umpire to legitimise projects assumed to be in the public good. Because science is assumed to be objective, rational, and divorced from factional interests (in short, non-contestable and non-political), appeals to the scientific evidence are often made in an attempt to justify policy positions in environmental and technical decision-making (Pepper 1984, p.137). In practice, of course, conceptions about the ‘public good’ depend on a political consensus over societal goals. Science may have something to say about whether, and how, those goals may be reached but can offer little help in defining them in the first place.

The final ideological use of science is the way in which it is used to increase the social and economic control of society. The use of technology that is increasingly complex increases the demand for technical expertise and control, while tending to reduce the ordinary citizen’s ability to

\textsuperscript{20} Perhaps the willingness to experiment with alternative health regimes, such as homeopathic approaches, reflects impatience with this verification process.

\textsuperscript{21} The importance of agriculture to the New Zealand economy, for example, and the demands of capital to reduce labour costs in this sector, sees scientific and technological advances in pesticides use, rather than research into the more labour intensive techniques of integrated pest management (see, for example, Wilson 1990).
comprehend it, and participate in decisions about its use. At the same time as technical elites decry the ordinary citizen’s ability to estimate the risk of technological accidents, they justify the lack of public consultation and public information by citing commercial sensitivity, or military secrecy.

Nevertheless, environmental issues almost always conceal complex scientific questions. It is this complexity, however, that has ensured controversy. Hays, for example, is struck by the role played by scientific debate in environmental issues:

Toxic control was a highly technical subject, and the degree to which regulation would be required and be effective depended on agreement about the scientific data. Controversy over such issues made clear the importance of the ability to generate information and apply it to public decisions. (Hays 1987, p.206)

Where scientific opinion has not been able to be monopolised by state or other vested interests, a corresponding increase in the politicisation of scientific information has occurred. As a result, the relative information capacity (the generation, acquisition, dissemination, interpretation and application of information), between citizen and other actors, may politicise environmental issues, and form the basis of environmental political power.

In expressing concern with the monopoly position of established and institutionalised experts, therefore, the environmental movement should not be seen simply as anti-science, anti-rational, or anti-technology. According to Joppke (1993), such movements are proactively oriented towards obtaining new resources, and expanding civil rights. They reject those conventional forms of political decision-making, which have created ecologically unstable and non-sustainable patterns of consumption. In challenging those participants in a socio-technological conflict who have scientific credentials, movements have effectively politicised scientific knowledge, its non-participatory social roles and functions (Jamison et al. 1990).22

The scientific and technical policy communities may not necessarily be well-informed, act neutrally, be committed, or act in the best interests of society just because they occupy a position in

22 In the energy field, for example, Hays (1987, p.226) identifies a number of issues that generated controversy associated with a consumptive focus, such as the site of energy installations, alternative energy supplies, and the questioning of demand projections.
society that commands legitimation and status. In fact, much of the underlying desire for processes of participatory democracy can be seen as direct attempts to counter the privileged and monopolised, hence ideological, function of knowledge – not just as a challenge to the established and structured routines of political behaviour.

Beginning as a reaction against the organisational elitism of the conservationists, political ecology has aimed to democratise all forms of knowledge concerning the environment, to counter the ideological control of science, and to promote the participation of mass publics in environmental debate. It has challenged the scientific and intellectual organisation of knowledge, which has led to organisational innovations, and support for the tenets of participatory democracy. Mechanisms, such as rotating leadership in environmental political parties, and decision by consensus rather than majority voting, are clear examples of the desire for an equal distribution of knowledge, and to dissolve the distinction between those who possess expert knowledge and those who do not. The analysis of environmental discourse, therefore, must include an account of the ‘science-politics’ interface (Boehmer-Christiansen 1988).

In summary, political ecology sees this interface as a participatory struggle. The participatory rationale is therefore one in which the ideological function of groups of actors competing to secure credibility for their knowledge claims must be revealed. Political ecology frames rationality in terms of participation, in its widest sense. It includes a right to be informed, opportunities to be consulted, opportunities to challenge established policy thinking, and a right to participate in making decisions. It seeks to establish the legitimacy of public participation in decision making, and to ensure that policy bodies are representative and independent. The participatory rationale stands in stark contrast, therefore, to the elite and expert roles favoured by the conservationist frame.

6. The Research Questions

This brief overview of the environmental history literature has been approached through a typology that uses the frame analysis model to compare historical environmental positions in terms
of three analytical frames applied across three interpretive packages. Despite the range of different labels a variety of authors attach to both environmentalist frames and interpretive packages, the core conceptual ideas comprising them can be identified and compared.

From this review, it emerges that environmentalist discourse is multifaceted and complex rather than exhibiting concern that is uniform or even dichotomous. Although interpretive packages frame their concerns through the same culturally resonant frames, this complexity appears to be the result of applying these frames in historically specific ways.

The research questions recognise, firstly, that although all three interpretive packages are likely to be present in modern environmental discourse (or at least in the period under discussion), the relative mobilisation of these discourses is likely to vary. It follows, secondly, that if packages vary, then their component parts (frames) are likely to exhibit some variation in mobilisation as well. Finally, variations in the mobilisation of interpretive packages and frames may help to understand the way movement discourses might contribute to campaign outcomes.

6.1 The Mobilisation of Interpretive Packages

This study is interested, foremost, in the mobilisation of interpretive packages and frames in the campaigns of the New Zealand environmental movement of the 1970s. What might the above review tell us to expect in this mobilisation? Firstly, if the modern age of environmentalism is now taken to originate somewhere between Rachel Carson’s *Silent Spring* (1962) and Earth Day 1970, some account of the political quiescence of environmental concern for over fifty years must be made. This political dormancy might suggest that there is something qualitatively different about the way conservationism frames environmental discourse, and the interpretive positions taken by preservationism and political ecology. The upsurge in environmental activism in the 1960s might lead us to expect a somewhat greater mobilisation of the packages of preservationism and political ecology.

A number of authors go further and suggest that in its implication in industrial processes, philosophical stance, and political institutionalisation, conservationism is insufficient as a fully
fledged environmental position (Dryzek 1997, Eckersley 1992, Hays 1987, Rodman 1983). While this study does not debate the merits of this argument, the highly politicised campaigns that emerged in the 1960s in New Zealand suggest an opportunity to test whether they exhibit a relatively weaker mobilisation of the conservation position. The first hypothesis that emerges out of this review is that:

1. *The conservationist interpretive package will be less mobilised, relative to those of preservationism and political ecology, across all three campaigns.*

Secondly, although distinct differences distinguish the preservationist package from political ecology, the fact that both propose alternative discourses to conservationism does not allow any direct prediction of which interpretive package might dominate mobilised environmental concern. However, based on previous comment outlined earlier in this chapter, hydroelectric campaigns are thought to mostly mobilise the identity concerns of the preservationist aesthetic frame, or the ecocentric frame of preservationism (Cleveland 1972, Hay and Haward 1988, Rainbow 1992). Also, a number of authors suggest that the antinuclear debate is framed more in terms of threats to the human community than on the moral standing of the non-human world (Hay and Haward 1988, Nedelman 1984). Taken together, this should suggest:

2. *Hydroelectric energy campaigns will see a higher mobilisation of the preservationist package relative to the political ecology package, although this mobilisation will be reversed in the campaign against nuclear power.*

### 6.2 The Mobilisation of Frames

The frame analysis model should help us investigate the relative incidence of each type of frame within environmental discourse. Here, the focus of interest is in terms of the generic culturally resonant frames (moral, aesthetic, and rationality) outlined in Chapter One. Do interpretive packages mobilise most around one particular type of frame, or are frames articulated (distributed) fairly evenly within the three interpretive packages? In other words, do campaigners primarily frame environmental concern in moral, aesthetic, or rationality terms?
Previous research tends to suggest that rationality frames might dominate each interpretive package. Hays (1987) believes that the acquisition, interpretation, and dissemination of knowledge play a critical role in environmentalism. Discourse, presented as scientific, enjoys societal-wide consensus and legitimacy. Accepted as neutral and non-partisan, scientific discourse is an authoritative version of reality, and has therefore come to occupy a privileged position in political society (Barker-Plummer 1995, Caldwell 1990). Rudig (1990) suggests that science is now the culturally dominant form of legitimation in modern industrial societies.

At the same time, the above review indicates that conservationism is seen to be dominated by the rationality frame, which is regarded as its most enduring legacy (Brulle 1996, Caulfield 1989, Dryzek 1997). Similarly, not until the development and acceptance of the new discipline of ecological science, championed by biological scientists such as Carson and Commoner, could the managerial rationality of conservationism be challenged by an ecological rationality. On the other hand, it is less common to make claims for the most important frame of political ecology. Social movements have, nonetheless, politicised scientific knowledge – its non-participatory social roles and functions. Much of the underlying desire for processes of participatory democracy can be seen in the direct attempts to counter the privileged and monopolised, hence ideological, functions of knowledge (Jamison et al. 1990). If these views are correct, it can be theorised that:

3. **Most mobilisation will accompany the rationality frame across all three interpretive packages, since environmental issues are thought to involve scientific claims to knowledge that are contested and (re)presented.**

On the other hand, a competing suggestion is that aesthetic concerns will feature strongly in hydropower campaigns, while antinuclear power campaigns mostly mobilise the moral frame. This suggests:

4. **The mobilisation of the aesthetic frame will be higher in the two hydroelectric power campaigns, while the antinuclear power campaign will see the moral frame most mobilised.**
6.3 The Mobilisation of Frames as a Politicising Influence on the Campaign

Chapter One outlined that in the interpretive struggle, ‘resonance’ is important to the success of framing efforts. Successful social movements depend, in part, on how arguments are ‘framed and the degree to which they resonate with the targets of mobilization’ (Snow and Benford 1988, p.213). This study’s focus is on whether variation within movement discourse helps to explain their influence on politicising the campaign, and sensitising policy actors to alternate interpretations of energy policy issues. It argues, therefore, that social movements themselves may influence the resonance with which their claims are received. How do variations in the mobilisation of frames affect targets such as policy actors? What sense might be made of these variations in terms of campaign outcomes?

Previous research outlined in Chapter One suggested that frames must combine to be fully effective (Bramwell 1989, Del Sesto 1979, Jamison et al. 1990). Only when the three dimensions (frames) of environmentalism were combined in the 1970s into an integrative force – a ‘living cognitive praxis’ – did the full force of environmentalism as a social movement occur (Jamison et al. 1990, p.67). Del Sesto (1979, p.197), studying the antinuclear movement, argued that the sub-themes of the antinuclear debate would have little effect if taken in isolation – however, when taken together, these arguments formed a powerful ‘nexus of concern’. This suggests that:

5. The politicisation of all three frames was a contributing influence to the change in the policy consensus in the Manapouri and antinuclear power campaigns.

6. A low level of politicisation in one or more frames was a contributing influence to the outcome in the unsuccessful Clyde campaign.

It is essentially the task of the case study chapters that follow to determine whether there are in fact variations in the mobilisation of interpretive packages and frames. However, because of the comparative nature of this inquiry, an assessment of whether variations can be associated with influences on the policy agenda is left to Chapter Seven. It should be stressed again that no single causal relationship is implied between the mobilisation of packages and frames, and campaign outcomes. Since social movements are constrained by the political opportunity structure, their level
of organisational resources, and the role of the media and public opinion, testing such a relationship is beyond the scope of this study.

Yet the collective mobilisation of environmental discourse by a diverse range of social movement organisations draws attention to the interpretive skills of movements as actors. By examining how social movement organisations articulate environmental concern in a campaign, variations in the mobilisation of this collective discourse might inform an appreciation of the influence of discourse on the policy agenda. A discursive and comparative approach seeks to add to the understanding of three of the most significant campaigns in environmental politics in New Zealand. These campaigns and the research design are the subjects of the following chapters.
CHAPTER 3
Research Design and Methods

1. Introduction

The primary purpose of the study is a comparative analysis of the mobilisation of cognitive frames in three campaigns in New Zealand during the early 1970s. A secondary aim is an assessment of the politicising role of these cognitive elements of environmentalism in the policy domain of energy. These aims are approached through a research design that employs a qualitative comparative approach to the analysis of three case studies, and that have been chosen as examples of the politicisation of energy debate in New Zealand during the 1970s. Energy policy is seen as being at the core of industrial or 'productionist' politics, and its analysis is regarded as especially suitable in determining the degree of politicisation of production in modern industrialised societies (Jahn 1992, p.386).

In a number of countries hydroelectric development and nuclear power projects have engendered mass political protest, and have been identified as formative influences on the environmental movement during the late 1960s and early 1970s (Hay and Haward 1988, Jahn 1992, Lowe and Rudig 1986b, Rainbow 1992). This chapter begins with an overview of the development of New Zealand's electricity infrastructure, and provides the context for the energy policy domain for the case studies that follow. The chapter then discusses the research design followed by the procedures of data analysis.

2. Energy Policy and Case Study Selection

The generation of electricity in New Zealand had its origins in the mining activities of the 1880s. These were privately-owned operations based on Pelton wheels, that, together with improvements in dam building techniques, allowed the development of hydroelectric power for electricity generation (Jackson 1994, p.9). Until the 1920s, hydroelectric power was not the dominant source of electricity. Generation was mixed (much based on thermal generation), and was
initially undertaken by a variety of private individuals, companies and local bodies. With the introduction of the Electric Lines Act 1896, and the Water Power Act 1903, the government began a deliberate policy of public power ownership. In 1904, the government commissioned a report – the Hancock Report – on the hydroelectric potential of the country (Kellow 1996). It was not until 1910 that the government actually became involved in electricity generation, commissioning the Lake Coleridge hydroelectric scheme. After 1915, all electricity generation became state owned.

State hydroelectric development began to dominate for two main reasons. Because New Zealand’s geographical isolation also isolated it from sources of capital, energy development projects required the capital raising capacity of the state. Kellow adds that ‘colonial socialism’ is the important context here – where the repatriation of profits, rather than reinvestment, made it difficult for small colonial economies to raise capital (Kellow 1996, p.10). Secondly, it may also have been that high capital, high technology projects involved a level of risk that private investors were unwilling to take, and which would therefore have resulted in an under-investment in energy infrastructure. The state, with its taxation powers, may have been more sanguine about its ability to absorb the risk element (Jackson 1994, p.6).

The government initiated moves to provide the whole of the country with electricity, achieving supply for Christchurch in 1915, Wellington in 1924 and Auckland in 1929. At first, the Public Works Department (now Ministry of Works, MOW) assumed responsibility for the design, construction, and operation of power schemes. By 1932, hydroelectric sources accounted for nearly eighty per cent of all electricity generated in New Zealand. A separate agency, the State Hydro-Electric Department, was set up through the Electricity Act 1945 to reflect the dominance of hydroelectric power. Growth in annual load grew at fifteen per cent per annum during the 1920s, and although interrupted temporarily during the Second World War, less than three per cent of the population was outside the supply area by the end of the 1940s (Jackson 1988). From the mid-1940s,

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1 This rationale would again play itself out in the high technology, high financial risk involved in many of the ‘Think Big’ projects of the 1980s (Easton 1989, Kellow 1996).
demand outstripped the supply of electricity through to the 1960s. By 1958, it was obvious that the demand for electricity could not be satisfied by hydroelectric generation alone. Consequently, with the introduction of a number of thermal schemes, the New Zealand Electricity Department took over the role of supplying power.

Between 1945 and 1975, energy development in New Zealand saw a massive construction programme that established the infrastructure for the electrification of New Zealand.\(^2\) Five dams on the Waikato River, a geothermal plant at Wairakei, and the Meremere coal-fired station were completed before 1965, allowing the end of electricity rationing by 1959. The end of the 1960s saw the construction of the Benmore dam, the Manapouri scheme, the oil-fired stations of Marsden Point and Otahuhu, and the Cook Strait direct current cable. By connecting the electricity supply to both the North and South Islands, a 'national grid' could be established. In turn, this served to justify constructing large-scale South Island hydroelectric projects, ostensibly to meet North-Island demand (Bertram and Johnston 1981, p.13).

By 1975, gas-fired stations at New Plymouth and Stratford, and the Tongariro hydroelectric scheme were completed, the 1973 Maui 'Take or Pay' gas contract was signed, and much of the easier hydroelectric dam sites had been developed. To ensure continuous baseload supply, as well as supplying intermediate and peak power, four major thermal stations at Huntly (coal), Auckland No. 1 and No. 2 (gas), and Helensville (nuclear) were planned, as was a massive hydroelectric scheme for the Clutha River.

This infrastructure construction period up to 1975 has been characterised as one of government control and responsibility, but with ad-hoc planning (McChesney 1991, p.25). The New Zealand Electricity Department (NZED) and the Public Works Department were the main planning and development agencies responsible for the 'hydro-industrialisation' of New Zealand (Rainbow 1992). Energy planners forecasted high rates of growth in electricity demand of five to eight per cent

\(^2\) For a detailed history of the construction of New Zealand’s energy infrastructure over this period, see Martin (1991).
per annum well into the 1970s, based on similar increases in the 1960s. The Ministry of Works (MOW), on behalf of the NZED, then undertook construction of the schemes necessary to meet this demand. A strong institutional alliance, therefore, developed between these two government agencies (Kellow 1996, p.65). From 1960 to the mid-1970s, total primary energy supply almost doubled, representing an annual average growth of five and a half per cent per annum (McChesney 1991).

Until the mid-1970s, then, the energy ‘problem’ was interpreted by energy planners and government as one of construction – perceived only in terms of increasing energy supply to meet this predicted demand. Control and development of energy were regarded as the responsibility of central government, and regarded as necessary for the national interest.

By the mid-1970s, energy issues had become visible on the world stage. Defending the development of energy in terms of the ‘national interest’ had become difficult. The national interest was defined in divergent and competing ways that propelled energy into the public and political arenas. Decisions to develop hydropower (‘hydro-industrialisation’) saw protest emerge in Australasia and Europe (Hay and Haward 1988, Rainbow 1992). The development of nuclear power, while seen as politicising the energy policy arena primarily in Europe and the United States, also prompted controversy and protest in New Zealand (Hay and Haward 1988, Jahn 1992, Lowe and Rudig 1986b).

In fact, energy issues dominated much of the environmental debate of the 1970s. In New Zealand, controversy surrounded concessional power pricing to large energy consumers (aluminium smelters and pulp mills), the use of natural gas, proposals to raise lakes and to dam rivers, nuclear energy, the energy forecasts of electricity planners, the oil shocks of 1973 and 1979, transport fuels, and, not least, the proposals to introduce a number of energy intensive industries.

These policy issues seemed to involve two essential features. The first was that electricity planning had become integral to the industrialising goals of successive New Zealand governments. These goals were defined in terms of economic growth; an essential component of which was the
rapid development of the nation’s hydroelectric resources, and the consequent desire to increase the levels of electricity consumption and supply.

The second feature of New Zealand electricity development was its de-politicised nature. Electricity planning and construction in a small economy was centralised, it relied on technical expertise over long time horizons, and enjoyed a high level of bipartisan consensus (Kellow 1996, p.2). Until the 1960s, this approach served to maintain the policy consensus, the domination of a narrow set of policy actors in the commercial exploitation of energy resources, the regulation of pricing arrangements, and the development of the energy supply infrastructure.

By 1975, three campaigns had challenged this consensus on policy goals, and the role of policy actors within the energy domain. The Lake Manapouri campaign, Campaign Half-Million (opposed to the introduction of nuclear power), and the controversy surrounding the development of the Clyde high dam were three of New Zealand’s largest protest campaigns. It is through them that the role of the environmental movement in the politicisation of energy issues can be seen.

The Lake Manapouri controversy had a long period of gestation during the 1960s, but erupted in mass political protest before the first oil crisis of 1973, and well before the emergence of mass environmental action on the international stage. The campaign developed, in fact, when few external factors can be identified as having upset the energy policy consensus that existed in the two decades after the Second World War. In other words, the campaign is significant because it emerged before environmental and energy issues erupted on the domestic and international political scene, and before environmental agencies had been established. Yet the Manapouri campaign mobilised a quarter of a million people, out of a population of three million, and effectively constrained the development of the Manapouri hydroelectric project.

On the other hand, in 1974 when it was proposed to introduce nuclear power, the extent of New Zealand’s vulnerability to movements in the price of oil had become starkly clear. From 1960 to the mid-1970s, total primary energy supply almost doubled, representing an annual average growth of five and a half per cent per annum. Energy planners continued to forecast high rates of demand growth based on assumptions about an increasing population, and on increased per capita
energy demand. At the same time, electricity capacity had been reduced through the curtailment of the Manapouri hydroelectric project. Yet, in the face of these energy constraints, the introduction of a nuclear energy solution was abandoned. In other words, despite a demonstrably ‘rational’ need for alternative and secure energy supplies, the mobilisation of mass political protest helped to close out the nuclear power option in New Zealand.

A similar level of environmental action accompanied construction of the Clyde high dam. By the mid-1970s, the combination of the oil crisis, the power schemes that had already been committed, and a decline in the use of energy between 1976 to 1983, meant that unnecessary excess capacity was being built (Bertram and Johnston 1981, p.12). In fact, by the end of the 1970s, the energy ‘problem’ was constructed as one of ‘surplus’, rather than as one of supply, or (as it would be later) a mis-allocation of resources (Treasury 1984). Despite these factors, the Clyde dam project was approved. In this case, mass political protest failed to either stop or curtail the project, despite the ‘rationality’ of lessening energy demand favouring opponents of the project.

These campaigns can be defined as episodes of collective action, which attempted to alter prevailing definitions, societal agendas, and access and changes to decision-making procedures. Social movement campaigns thus challenge government policy over an identifiable period, which then enables a series of campaigns to be identified with the rather more open-ended notion of a social movement.

A focus on campaigns directed at energy development is not meant to imply that all social movement activity be equated simply with the campaigns they engage in. Yet the complexity and heterogeneity, both of social movements and societal change generally, suggests that the unit of analysis must be limited (d’Anjou 1996, p.45). Also, a focus on collective action campaigns, with attention to the framing strategies of SMOs, allows a meso-level approach that is increasingly

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3 Energy intensity – the amount of energy needed to produce a dollar of gross domestic product – declined between 1973 and 1976, and was below the OECD average until 1976. However, since this time, New Zealand’s energy intensity has been consistently deteriorating relative to other OECD nations, such that New Zealand’s energy intensity is now fifty per cent above the OECD average (Terry 1991, p.9).
thought to be important (Benford 1993a, McAdam et al. 1996). It is to the methodology of analysing the framing strategies of these campaigns that I now turn.

3. The Research Design

Three features of social phenomena, that preclude the use of experimental methods to investigate complexity in society, can be noted (Ragin 1987). There is rarely one single cause of phenomena, causes rarely operate in isolation, and may produce opposite outcomes that are dependent on context (Ragin 1987, p.27). Thus, it is difficult to use the experimental method – defined as the testing of different combinations while holding one factor constant – when it is impossible to manipulate conditions involving large numbers of people, or to make sense of the diversity across cases that can order the similarities and differences.

This ‘order in complexity’ problem has two forms (Ragin 1987, p.19). The first is the construction of useable empirical typologies. In effect, what is required is to simplify the complexity among the attributes of cases. This has been the task of Chapter One and Chapter Two. The theoretical discussion in Chapter One outlined a model of interpretive or symbolic packages that is constituted by frames (Eder 1996b, Gamson and Modigliani 1987, Snow et al. 1986). Chapter Two then applied this model as a plausible means of analysing environmentalist discourse in an historical and comparative context. This application helped to identify the content of the interpretive packages and frames – an analytical typology useful for locating the discourses of environmentalism. Three interpretive packages (conservationism, preservationism, and political ecology) and three frames (moral, aesthetic, and rationality) were identified. However, because these labels are rather broad, Tables B-1, B-2, and B-3 in Appendix B identifies the key terms that were coded as characterising each orientating issue.

The second form of the complexity problem is attributing causation when an outcome results from several different combinations of conditions. Many different combinations of conditions across a number of cases may cause an outcome. The task, once ‘multiple conjunctural causation is
admitted', is to determine how the different conditions fit together, and in what combinations, to produce a given outcome (Ragin 1987, p.26).

Two broad alternative research strategies have been developed in an attempt to mimic experimental methodology in examining social phenomena. The quantitative approach is usually concerned with large sample sizes, and the data is usually expressed in numerical form. The qualitative approach assumes that the data is expressed primarily in words, and that it emerges from small, theoretically defined sets of cases in a comparative framework.

Since the relevant number of cases that I am examining is small (three in total), and because they rely on qualitative categories rather than quantitative data, methods that use rigorous statistical testing do not seem appropriate. The qualitative approach is more suited to an analysis that refers to theoretical categories rather than data categories – consequently, the research effort is directed at a comparative evaluation of these analytical constructs. As Ragin puts it,

many comparativists, especially those who are qualitatively oriented, are not often involved in 'testing’ theories per se. Rather, they apply theory to cases in order to interpret them. (Ragin 1987, p.11)

Qualitative research tends to regard cases as wholes, compares whole cases with each other, and views cases as configurations – as combinations of characteristics (Ragin 1987, p.3). Comparativists are interested in outcomes and their causes across a set of similar cases, and in how causes fit together in one setting and contrast in another. As such, the comparative method usually follows two of the methods of inductive inquiry – the method of agreement, and the indirect method of difference.

Although my general approach is qualitative in nature, and adopts case-oriented comparisons, the study does not follow Mill’s methods of agreement and difference, as outlined by Ragin (1987). 4

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4 The method of agreement is a search for patterns of invariance. All instances of a phenomenon are identified to determine which of the possible causal variables is constant across all instances. However, the method of agreement may yield incorrect results in situations of multiple causation (Ragin 1987, p.37). As a result, the method of difference is preferred because it uses negative cases to reinforce conclusions drawn from positive ones.
According to Lieberson (1994), the methods of agreement and difference are outdated and inappropriate procedures for comparative or historical analysis that are based on a small number of cases. The methods make four assumptions that are usually indefensible in social research – the existence of deterministic causes, no measurement errors, the presence of only one cause, and the absence of interaction effects (Lieberson 1994). Since multiple influences on the policy agenda are recognised in social movement research, and coding in frame analysis cannot claim to be error free (see below), even applications that take a probabilistic approach in small case study situations are not problem free. In fact, Mill explicitly advises against these methods in the social sciences (Mill, cited in Lieberson 1994). Instead, the case studies are chosen because they involve similar policy issues, they politicised the same policy domain, and achieved varying levels of influence on the policy agenda.

3.1 Sampling Procedures

An alternative to the survey research method is to examine the concerns of social movements that they express as collective agents in public debate. The concept of ‘discourse’ has been applied to characterise the range of public debate, and content analysis is often used to uncover the problem definitions and prescriptions of social movements. A methodological problem arises in deciding what to count as social movement debate, and where to count it, since concerns can only be examined in their ‘concrete manifestations’ in the public arena (Wilmoth and Ball 1995, p.319).

While this arena includes the general media, and political and scientific publications, the approach of this study has been to focus on two aspects of the record of evidence in two Royal commissions of inquiry and one environmental commission of inquiry. The first primary sources of material are the submissions of movement organisations to these inquiries on which the empirical analysis is based. The empirical research is based on three data sets – the submission records presented to three commissions of inquiry held between 1970 and 1976. These samples are used to estimate and compare the mobilisation of positions taken by a diverse range of environmental movement organisations. It might therefore be thought that the verbal record of evidence given to
the various inquiries could supplement the written submissions. This was not possible since only written submissions were accepted in the Clyde inquiry and the verbal transcripts for the Manapouri and antinuclear power inquiries were unobtainable.

The second source of primary material utilised in the study is the report generated by these governmental inquiries. It is this second aspect of the evidentiary record that helps to form the basis for a qualitative assessment of movement outcomes, given the considerations addressed above and in Chapter One. No empirical claims are made for the reports of these inquiries. Their utility lies in gauging the resonance or receptivity with which movement submissions were received. In this respect, the comments of the report authors are, where appropriate, noted in the individual case study chapters.

It should be stressed that the study is an attempt to assess the effects of influences, internal to movements, on campaign outcomes. The study is an attempt to consider the effect on movement outcomes of the interpretive struggle within and across environmental movement organisations, rather than between those organisations and their opponents. It is the impact of differences in articulation on outcomes within the movement that is the focus, and not the impact of differences between movement adherents and their opponents.

Clearly, any assessment (empirical or otherwise) that seeks to understand the causal determinants of movement outcomes must consider the interpretive claims of all actors in policy domain disputes. Yet, in this regard, the interpretive claims of non-movement actors have the same analytical status as every other external influence on movement influence, such as the political opportunity structure, the role of the media, public opinion and so on. Since this study is interested in the internal strategic dimensions of movement influence (represented here by the intra-movement submission record), the interpretive claims of non-movement actors must remain outside the scope of this study. These qualifications are discussed more fully in Chapter One.

With these considerations in mind, the study argues only that movement claims may, at best, play a contributing role to movement outcomes. Nevertheless, because the commissioned reports consider all claims (from both movement and non-movement actors), they are also useful for a
qualitative assessment of the overall tenor of the interpretive struggle among all participants. In effect, the reports illustrate the extent to which movement discourse resonated with movement targets. Other supporters of this approach note that reports of public inquiries are an excellent source on the nature of, for example, opposition to nuclear power (Rudig 1990, p.114). We are also reminded that public inquiries (such as Royal Commissions) are advisory mechanisms, and not judicial proceedings (Yearly 1989).

The idea of natural justice and public redress implicit in the litigation model is, however, contradicted by the fact that public inquiries are advisory mechanisms not judicial proceedings, and by their formal role in examining objections, with an underlying presumption in favour of development. (Wynne, cited in Yearly 1989, p.426)

The extent to which this is true depends, in part, on the terms of reference given to the various commissions of inquiry. The terms of reference are outlined in the individual case study chapters.

Submissions made to two Royal Commissions, and to the audit conducted by the Commission for the Environment (see Table Four), are the total populations from which the samples (the submission records) are drawn. Individuals, organised groups, and government departments made these submissions, for the most part. Corporate or commercial interests made relatively few submissions. Since the focus of interest is on the discourse tactics of movement organisations, only voluntary organisations were included as the sample populations. Commercial interests, government authorities or departments, and individuals were therefore excluded. It should not be thought that individual views were totally excluded from the sample, since individuals (including civil servants), did, at times, present submissions as part of citizen or environmental groups. In all, voluntary organisations accounted for approximately one third of all submissions made to the inquiries across the three case studies.
3.2 Coding Procedures

The assessment of environmentalist discourse in Chapter Two provided a typology of three interpretive packages – each assessed through three frames. This provides an eight-cell matrix (since two cells only are used for the aesthetic frame) within which the substantive content of frames can be assessed. Chapter Two provided a preliminary list of phrases – signatures and key phrases – that constitute the content of each cell or frame. This list was modified after several readings of the submissions that form the database of this study. Tables B-1, B-2, and B-3 in Appendix B contain the completed lists on which the submissions were then coded.

Table 4: Comparison of Campaign and Inquiry Lengths

<table>
<thead>
<tr>
<th>CAMPAIGN</th>
<th>CAMPAIGN LENGTH (YRS)</th>
<th>PETITION SIZE</th>
<th>TOTAL NUMBER OF SUBMISSIONS</th>
<th>ROYAL COMMISSION</th>
<th>INQUIRY LENGTH (DAYS)</th>
<th>ORGANISATIONS (SAMPLE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MANAPOURI</td>
<td>13 (1959 - 1972)</td>
<td>264,906</td>
<td>68</td>
<td>Yes</td>
<td>38</td>
<td>20</td>
</tr>
<tr>
<td>NUCLEAR POWER</td>
<td>2 (1976 - 1978)</td>
<td>333,088</td>
<td>141</td>
<td>Yes</td>
<td>52</td>
<td>31</td>
</tr>
<tr>
<td>CLYDE DAM</td>
<td>15 (1965 - 1980)</td>
<td>N/A</td>
<td>107</td>
<td>No</td>
<td>N/A</td>
<td>25 (CIE)</td>
</tr>
</tbody>
</table>

The method of coding submissions, however, owes more to frame analysis than content analysis. This is because locating issues within frames requires interpretive work rather than a mechanical counting of individual key words (Pedriana and Stryker 1997). This appears to be a key difference between content analysis and frame analysis. For frame analysis to make sense out of the diverse arguments SMOs employed (for example, using similar or even the same specific terms), the context in which issues or words are located has to inform an understanding of their intended use by the SMO. This is because frames organise the basic text or idea elements to impart meaning. Clearly, different SMOs will be able to fit any given collection of information into multiple frames (Donati 1992, p.141). Thus, in order to uncover frames, Gamson (1989) maintains that it is more important to analyse interpretive commentary than simple content.

To identify frames, the informational content of news reports is less important than the interpretive commentary that surrounds it. Television news is replete with metaphors,
catchphrases, and other symbolic devices that provide a shorthand way of suggesting the underlying story line. These devices provide the rhetorical bridge by which discrete bits of information are given a context and relationship to each other. (Gamson 1989, p.158)

It is the frequency with which frames are mobilised that is of interest, rather than a mechanical summation of individual key words. Submission discourses contain 'signature elements' that alert the reader or listener to interpret a text in terms of a particular frame (Donati 1992, Fisher 1997, Gamson and Lasch 1983, Triandafyllidou 1998). For this reason, it is the frame cell that is counted when signature elements are identified in a section of the text of the submission, rather than every individual occurrence of key terms within that section. A section of text could be a paragraph, a section under a specific heading, or several sentences that, together, support a line of argument. Organisations do not literally articulate the frame they are using. Instead, they need only make reference to one dimension of a pattern (signature element) to enable their audience to recall the whole frame (Donati 1992, p.149). In this respect, frames operate as 'an instrument for defining reality', as opposed to 'an instrument for describing reality' (Donati 1992, p.142).

In adopting this contextual approach to frame analysis, the study follows Gamson (1989), Donati (1992), Pedriana and Stryker (1997), and Triandafyllidou (1998). Counting in this way mitigates some of the vagaries of submission wording. For example, the repeated appearance of the signature element 'welfare', in close proximity in the text, could be coded either for ecological welfare or human welfare. Without this contextual approach, the frequency of frames could not be appreciated, nor could the relative distribution of frames within the interpretive packages. The coding results for the frame frequencies are tabulated in Chapters Four, Five, and Six. Two sample submissions are found in Appendix C to illustrate the coding technique.

Within the submission of any one organisation, frames could be coded that represented a mix of the cell (frame) positions across all three interpretive packages. This articulation of different frames (within and across packages) is because any individual SMO is likely to exhibit differences among its adherents on the most relevant frames, in terms of both defining and presenting their arguments. This might be thought to complicate the analysis only if the focus of attention is at the level of the individual organisation. Even here, since SMOs seek to control framing activity to
cultivate a specific collective identity, and to present a united front to a target audience, conflicts within SMOs are likely to be muted (Benford 1993a, 1993b). In a study of forty-four major environmental organisations in the United States, established between 1875 and 1987, Brulle (1996, p.75) found that each organisation could be coded in terms of the most dominant discourse present. Alternatively, differences among the articulation of frames within an individual organisation may actually be beneficial – a diversity of frames may appeal to, and mobilise, different audiences (Marullo, Pagnucco, and Smith 1996, McAdam 1994). Chapter One discusses these issues more fully in terms of polarisation and resonance.

Since the analysis conducted here is not concerned with individual SMOs, the discursive conflicts and variations within a specific organisation are not at issue. Instead, the aim is an overall appreciation of the discursive mobilisation and variation over the totality of environmental discourse within a campaign. The study is aimed at identifying the frequency of frames and packages over the total submission record, rather than attempting to analyse the use of frames by individual movement organisations. For precisely the same reason, the study does not attempt to compare the discourses of specific organisations across the three campaigns. While frame analysis is ideally suited to analyse whether a specific organisation invoked similar discourses in different campaigns, this avenue of inquiry must be left to future research efforts.

It is the collective mobilisation of frames and packages that is the focus of this study, for two reasons. Firstly, the study is aimed at a comparative evaluation of packages and frames across the campaigns, and not within organisations. Differences in the mobilisation of frames may tell us something about the concerns of the environmental and antinuclear movements. Differences in the mobilisation of frames (and consequently interpretive packages) across campaigns may shed light on campaign outcomes. Frame analysis thus affords a method of analysing interpretive packages using frames as a comparative lens (Gamson and Modigliani 1989, Hajer 1996).

Secondly, it is more likely that institutional actors within a policy domain will respond to the formally expressed goals of the movement as a whole, rather than to the demands of any one individual movement organisation. The study assumes, therefore, that SMO success generally
depends on the cumulative effect of the framing strategies of all movement organisations. Given the general difficulty of assessing the relationship between movement goals and outcomes, a credible research strategy is to confine attention to the cumulative analysis of the campaign submissions from all movement organisations.

By using the content of submissions to count frames, the study aims at producing a systematic, representative, and evidentiary basis for its conclusions. Since the record of the inquiries is public, and the list of words and phrases is provided in Appendix B, the coding procedure can be replicated and verified. Nevertheless, it is important to avoid the misapprehension that coding in frame analysis can lend a scientific gloss to qualitative research (Coffey, Holbrook, and Atkinson 1996).

Following the coding of submissions, the results of each cell position (identified by a signature element) are tabulated. The relative incidence of each cell position is expressed both as a percentage of the total number (N) of cell positions coded for the total submission record, and as a percentage of all three interpretive packages use of the master frame (moral, aesthetic, or rationality). In the following chapters, discussion of each particular master frame is based on a table, that, in the first column, sets out the frequency (f) of cell positions coded for the signature element, within a master frame, for each interpretive package. In the second column, this frequency is shown as a percentage share ($x\% = f / \text{sum}f$) of that particular master frame. Finally, the third column represents the frequency (f) of cell positions coded by signature element for each interpretive package as a percentage share of all cell positions across all three interpretive packages ($x\% = f / N$). The total submission record, in terms of master frames and interpretive packages, is then presented at the end of each chapter. The percentages for both frames and interpretive packages across all three case studies are then presented in Chapter Seven.

The research design and methodology outlined in this chapter allows an empirical approach to the mobilisation of cognitive or interpretive issues in social movement campaigns. Although this methodology could also be adopted for an empirical analysis of campaign outcomes, no such analysis is attempted here. Instead, campaign outcomes are assessed only within a qualitative and
comparative framework where the difficulty of establishing causal relationships is recognised. Such an approach can only suggest an alternative account of campaign activity and outcomes, albeit one that is beyond more traditional approaches that focus on organisational and structural variables. Attention now turns to the three case studies at the centre of this study.
CHAPTER 4

Saving Manapouri – Representing Nature or Re-presenting Nature?

1. Introduction

The Manapouri controversy erupted in the 1960s over the government’s commitment to provide power to a multinational consortium by exploiting the full hydroelectric potential of Lake Manapouri. To achieve maximum power, the government planned to raise the levels of the lake, which was situated in New Zealand’s largest national park. The government and the consortium contracted to use the power to establish an aluminium smelting industry. However, the original contract to raise lake levels to extract the maximum generating capacity possible from the lake was not honoured. A national ‘Save Manapouri!’ campaign emerged reflecting public opinion, mobilised massive protest action, and called for a public inquiry on the Manapouri issue. In 1972, the Labour Party Government (the same political party that had initiated the power scheme), renegotiated the power supply contract with the consortium, and ensured that the natural levels of the Lake Manapouri would be preserved.

Yet it is not at all clear how to account for the mobilisation or the influence of the Manapouri campaign. There is some controversy over what wilderness campaigns, such as Manapouri, were about. Rainbow (1992) and Cleveland (1972) see the Manapouri campaign primarily in terms of the symbolic and identity issues it raised. Public concern simply reflected an increased aesthetic appreciation of the environment.

On the other hand, it is also argued that public concern to preserve wilderness areas is generated out of the notion that moral standing can and should be applied to the non-human world (Hay and Haward 1988, p.434). Rather than aesthetic arguments dominating campaign discourse, it is thought that ecocentrism – representing nature – played the most significant role in campaigns such as Manapouri.

Similar difficulties attend the understanding of the campaign’s outcomes. Similar levels of protest failed to stop other hydroelectric projects, both in New Zealand and Tasmania, involving
similar wilderness areas. At the same time, the Lake Manapouri controversy had a long period of gestation during the 1960s, and erupted in mass political protest before the emergence of mass environmental action on the international stage. The campaign developed in a period where few external factors can be identified as possible contributors to the modification of the policy consensus around the energy developmental goals of New Zealand.

The aims of this chapter are threefold. In general terms, it applies the frame analysis model in order to assess the types of arguments mobilised in the Manapouri campaign, and to what extent variations in movement discourse can contribute to understanding the final policy decision not to raise lake levels. A second aim is to attempt to distinguish between environmental positions. As suggested in Chapter Two, variations in the mobilisation of interpretive packages might be anticipated. If this view is correct, it is expected that the discourses of preservationism and political ecology will be somewhat more mobilised, relative to the interpretive package of conservationism. Finally, in interpreting the outcomes of the campaign, the chapter seeks to understand whether particular types of argument – specifically the aesthetic and rational frames – were the most mobilised. The aim is to establish whether the mobilisation of frames can contribute to the understanding of the outcomes of the Manapouri campaign.

This chapter begins with an overview of the Manapouri hydroelectric scheme, and the campaign it engendered. It then analyses the submissions made to the Royal Commission of Inquiry, set up to examine the hydroelectric scheme proposals. The chapter proceeds with an assessment of the procedural and immediate outcomes of the campaign. It concludes with references to the three aims of the chapter set out above.

2. An Overview of the Manapouri Hydroelectric Scheme and Campaign

Lake Manapouri – meaning ‘Sorrowful Heart’ – is generally regarded as New Zealand’s most beautiful lake. Situated in the south-west of the South Island, inside Fiordland National Park, the lake contains thirty-three islands, and is surrounded by mountains whose slopes are covered in bush and native forest. Due to geological processes, the lake is very deep. Three geographical
features make the lake attractive as a source of hydroelectric power. The heavy rains of Fiordland, and the inflow of the Waiau River, ensure a constant flow of water. Secondly, the large area of Lakes Manapouri and Te Anau provide an impressive storage capacity. Finally, the 600-foot difference in height between the lake and sea level provides a satisfactory ‘head’ – the pressure available to drive the turbines.

In 1904, a surveying report noted the hydroelectric power potential of the lake. For scenic reasons, the report did not think it likely that a high dam would be built at Manapouri. The beauty of the lake was thought worth preserving to its fullest extent (Jones 1979, p.4). The hydroelectric potential of the lake continued to provide the incentive for further project evaluations in the 1920s, 1940s, and 1950s (Lusk 1975). By the 1960s, Lake Manapouri was one of the few sites remaining whose hydroelectric potential could be inexpensively developed to satisfy the levels of power demand that was then being projected.

The need to industrialise also contributed to the desire to harness Lake Manapouri’s energy potential. In 1958, Professor Gordon Williams from Otago University’s School of Mining addressed The Southland Progress League about the possibility of using hydroelectricity, from Lakes Manapouri and Te Anau, to establish an aluminium industry. To this end, he thought it desirable to have the lakes released from state control, and to have their resources made available to private interests (Slee 1974, p.5). In 1959, the New Zealand Labour Government’s Minister of Industry and Commerce began discussions in Melbourne with Consolidated Zinc (later, the Commonwealth Aluminium Company, or Comalco) about the lake’s electricity potential for aluminium smelting.

From the beginning, therefore, the energy project was fully conceptualised and designed with reference to the electricity needs of the smelter, which would require a 480MW-power supply. Three main variables determine the power available from hydroelectric schemes – the height of the water body above sea level, the flow of water, and the degree of friction in the tail-race that produces ‘head-loss’. Therefore, to generate the power level that was necessary for the aluminium smelter, either the tail-race tunnel could be made larger to reduce head-loss, or the lake level itself could be raised. The first option involved a greater degree of economic cost and difficulty, including an
increased risk of loss of life.\textsuperscript{1} Consequently, the design engineers concluded that a minimum 8.4m-lake level rise would be required to generate the levels of continuous power that would then allow an aluminium smelting industry to be established.\textsuperscript{2}

The prospect of raised lake levels immediately created controversy. The first opposition to the Manapouri hydroelectric project that can be identified arose at a meeting of the Southland Progress League in April of 1959, where the Government’s principal negotiator was requested to explain government thinking on Manapouri.\textsuperscript{3} Two proposals emerged at the meeting that would sustain long-term controversy.

Firstly, it was envisaged that the water rights of both lakes would be sold or granted to a private company, removing their control from state hydroelectric planning. Secondly, the Government’s Ministry of Works Engineer-in-chief saw it as ‘very wrong to allow the potential to be only partly developed in such a way that full development later would be prevented’ (Evening Post 1959). This meant that dam structures should be so constructed that they would support a raised lake level. This, in turn, meant that the full potential of the lake could be exploited – the hydroelectric scheme would be designed to deliver the maximum yield of power. Some individuals at the meeting opposed any lake level rise, suggesting instead that vast quantities of cheap power could still be harnessed, while retaining the lakes as tourist assets (Slee 1974, p.6).

In November of 1959, the New Zealand Travel and Holidays Association, concerned about the impact of the destruction of scenic resources on the tourist industry, organised a Conference on

\textsuperscript{1} As it was, over the eight years of the project, a total of eighteen men were killed. In 1967 alone, from a total work force of 1000, there were over 220 serious accidents (Martin 1991, p.214).

\textsuperscript{2} Although 8.4m was the minimum rise in lake levels envisaged, the scheme initially approved a rise of anything up to 26 m.

\textsuperscript{3} Jackson notes that the Chairman of the National Save Manapouri Campaign thought that opposition to the scheme had been expressed as long ago as 1952 (Jackson 1973, p.176). However, this cannot be confirmed, and is unlikely since it predates any suggestion to raise lake levels to generate sufficient power for an aluminium industry – the driving rationale for raising the lakes.
Conservation of New Zealand Scenic Attractions. This was convened by the Labour Government, and supported by the Scenery Preservation Society, which had been established that year specifically to oppose the energy project. The Conference also saw support for a watchdog nature-conservation body that was eventually established as the Nature Conservation Council in March of 1963 (Martin 1991, p.207).

In January of 1960, the Labour Government entered into an agreement which would grant to Comalco a ninety-nine-year right to use water for power generation, and the right to construct a dam or dams on the lakes. While this would not flood the Te Anau township, it would nevertheless grant to the company the right to raise the levels of Lakes Manapouri and Te Anau up to 26m, and to operate the levels of both lakes outside their normal range.

The Royal Forest and Bird Protection Society, and the Scenery Preservation Society, who were alarmed that this agreement meant 320 miles of shoreline forests would be drowned, presented a petition with 24,864 signatures, requesting that no alteration to lake levels be made. This petition was referred to a Parliamentary Select Committee, which heard submissions for just over a week and then rejected it, giving no recommendation to Parliament. Despite the claim that there would be ample time for an expression of opinions before a decision was made, the Manapouri-Te Anau Development Act, enshrining the agreement with Comalco, was passed without division less than eight weeks later on the first of September 1960. Although the proposed Manapouri project did not feature as an election issue, Labour lost the general election of November 1960, and would not be returned to power for twelve years.

Comalco, by 1963, was experiencing difficulties in financing the scheme. The new National Government was so convinced of the scheme's merits that it negotiated a new agreement. This saw Comalco offer its water rights in exchange for power rights of 480MW, delivered at cost for ninety-nine years with price increases fixed at no more than one per cent per annum. In addition, the New
Zealand Government would finance the construction of the hydroelectric project. The new agreement committed the New Zealand Government to raising lake levels in order to supply the power it had contracted to deliver to Comalco (Jackson 1973, p.177).

By 1966, the Labour Parliamentary Opposition was chiding the Government for proceeding on the project too slowly. The Labour Party election manifesto of that year complained that the scheme was behind schedule, pledged to speed up the project, and to reduce costs (Cleveland 1972). As late as 1967, this industrialist approach to energy resource development was still very much in evidence. At a 1967 conference, the General Manager of the New Zealand Electricity Department (NZED) thought it imperative to develop, to the maximum extent possible, New Zealand’s own energy resources for the sake of industrial expansion and employment creation.

Although a level of local opposition to the scheme had emerged, construction of the Manapouri hydroelectric project began in 1963. The main contractor finally completed it in 1977 at a cost of $1,096 million – almost double the original estimate. Construction included a 20-km road to Deep Cove; a powerhouse built 600 ft underground, and a tailrace tunnel 9.8 km in length. The tailrace was completed in 1969, allowing the generation of power from the first of seven turbines in 1970 and the subsequent supply of power for aluminium smelting at Tiwai Point by 1971. However, power output fell to 410MW as a result of pressure-drop losses, surge chamber design requirements, lower water inflows than anticipated, and a renegotiated lake level (Treasury 1985).

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4 The General Manager of the NZED recommended to Cabinet that the main contractor’s estimate of construction costs be accepted, since no time was available to make a detailed investigation of the project’s costs.

5 Delays were inevitable, however, given the technological complexity, isolation, and rugged terrain involved in the project. These factors also resulted in high labour turnover, and a high rate of industrial accidents (Martin 1991, p.214).

6 Factors contributing to the cost overrun were poor industrial relations, absent or inadequate evaluation of contractors’ estimates, a lack of detailed geological data, and difficult terrain and construction environments (Treasury 1985, Appendix 1).
By 1969, the Manapouri power scheme began to generate what would become the largest environmental controversy in New Zealand history. At a meeting convened by the Fiordland National Park Board in October of 1969, the Southland Save Manapouri Campaign was established. Initially consisting of about twenty Southlanders, the group had no constitution or formal rules, but its founder, Ron McLean, planned a national tour in 1970 in a bid to form local branches of the Campaign (Slee 1974, p.27).

This national tour found ready public support after a television documentary, ‘The Debit Side of Comalco’, was broadcast after the general election in November of 1969. Although filmed in three days, and ready for broadcast by early November, the documentary was prevented by government policy from being shown until after the election (Slee 1974, p26).

Following good public response to this documentary, support for a national Manapouri organisation emerged. With financial assistance from Wellington business people, and the leadership provided by a number of prominent professionals, the Campaign began lobbying the Nature Conservation Council, the Auckland Civic Trust, and the Federation of Mountain Clubs among others (Cleveland 1972, p.30). By March of 1970, a national organisation, the Save Manapouri Campaign, had been formed. It incorporated some fifty organisations that collectively represented over 200,000 people. This group was much more action-oriented than previously established conservation groups, undertaking extensive publicity campaigns, protest marches, and public meetings.

In a move seen as an attempt to take the political heat off the issue, and to gag the press, a ministerial committee was appointed in January of 1970. A subsequent announcement on January 28

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7 The documentary, produced by Ian Ralston, revealed that Comalco was getting electricity below the cost of production, and that it consumed ten per cent of the nation’s power, and fifty per cent of its industrial consumption. (In 1977, the International Energy Agency rated Comalco’s Bluff smelter at Tiwai Point as one of the most inefficient consumers of electricity in the world.)

8 This was due to a New Zealand Broadcasting Corporation ruling, forbidding programmes with controversial political content from being aired immediately before a general election.
that a commission of inquiry would go ahead, was made just one day after the decision by the Manapouri Committee to form a national Manapouri organisation (Cleveland 1972, p.31). In the meantime, the Royal Forest and Bird Protection Society decided to run another petition, and subsequently collected 264,906 signatures, but awaited the Commission’s findings before presenting it to Parliament. The Commission, meeting between April and September of 1970, recommended that lake levels not be raised in the meantime, but stated that the control dam should be constructed in such a way that would allow lake levels to be raised if later thought desirable.

This rather weak compromise did nothing to ameliorate concern, and ensured the continuation of the Save Manapouri Campaign which insisted that no dam construction that allowed later lake-raising be permitted. The Campaign was re-invigorated by the formation of the Te Anau Preservation Society in 1972 that took a more political stance, inviting political leaders to view the lakes first-hand, and publishing a comparison of party policy on the lakes in the Southland Times.

In 1972, the Third Labour Government was elected, and promptly carried out its campaign promise by issuing instructions to the New Zealand Electricity Department. These instructions were to not operate the lake levels beyond their natural levels, and to construct a narrow-based dam control structure that would prevent any future raising of lake levels. Finally, Labour also appointed ‘Guardians’ of Lakes Manapouri and Te Anau who would provide the NZED with lake operating guidelines.

On the face of it, Labour’s electoral stance could be interpreted as ‘electoral opportunism’ (Slee 1974). Certainly, right up until three months before the 1972 election, Labour had not taken a stand in favour of preserving the natural lake levels, and had not opposed the rationale or implications of the hydroelectric development project. Yet, as an explanation, electoral opportunism is attended by a number of difficulties. Firstly, New Zealand’s economic situation in 1972 did not favour a major downgrading of industrial energy projects such as Manapouri. Industrial relation disputes, inflation, and poor economic growth might indeed suggest that heeding environmental concerns would have been the politics of luxury (Eckersley 1989).
Secondly, the opposition Labour Party had much to lose and little to gain in constraining industrial development in the South Island electorates. In 1969, Labour had made regional development in areas such as Southland a major policy plank to balance rapid growth areas in the North Island. A number of provinces, including Otago, felt that too many resources had been concentrated in the Auckland region at their expense. ‘This feeling could exercise an important influence in several southern electorates in the coming election campaign, from South Canterbury through Oamaru to Central Otago and Awarua’ (Templeton and Eunson 1972, p.71).

Thirdly, both the National-led government and the Labour Opposition entirely misread the depth of conservation feeling, which suddenly took hold of a public previously little interested in, and largely uncommitted on, the issue. ‘With three months to go before polling day, it was still anyone’s election’ (Templeton and Eunson 1972, p.55). Finally, the National Party won the 1969 election with just over forty-five per cent of the vote, compared to the Labour Party’s forty-four per cent (Templeton and Eunson 1972). If electoral opportunism explains Labour’s new position on Manapouri, why did it not emerge earlier in 1969 when electorate sentiment was finely balanced?

These factors suggest that an interpretation of Manapouri in terms of political expediency is insufficient. Instead, the campaign can also be seen in terms of discourse – how the politicisation of the Manapouri issue in the public arena contributed to a reconsideration of the developmental aspirations of successive New Zealand governments. This politicisation can be seen in the petition signed by almost ten per cent of the New Zealand population, and examined through the context of the Save Manapouri Campaign. Incorporating some fifty organisations and the collective concerns of one in fifteen New Zealanders, the Campaign’s submissions to the Commission of Inquiry provide a representative sample of the concern expressed by New Zealand environmental organisations. It is to an analysis of submissions presented to the Commission that I now turn.
3. Analysis of Submissions to the Royal Commission of Inquiry

The Royal Commission of Inquiry sat for thirty-eight days over a three-month period in 1970. The Commission’s terms of reference were to

ascertain the facts relating to the matters which are in dispute...examine the rights, powers, obligations, and liabilities of the parties to the agreements which provide for the generation of electricity by the Manapouri Power Scheme... examine the immediate and longer-term effects of raising the level of Lake Manapouri... and assess the effects upon the aforesaid rights, powers, obligations, and liabilities and upon the availability of electricity to Comalco and to the Crown. (New Zealand Commission to Inquire into the Proposal to Raise the Level of Lake Manapouri for the Purpose of Generating Electricity 1970, p.5)

The basic question, according to the Commission, was whether the Crown was bound by contract to raise the level of the lake, and, noting that this was the position of the Crown and Comalco, the Commission submitted that it was (New Zealand Commission 1970, p.19). Together with the requirement that the Commission consider the effects on Comalco and the Crown of not raising the lake, the Commission’s terms of reference were thought rather narrow. For example, The Civic Trust Auckland (1970, p.3) thought that the ‘terms of reference of the Manapouri Commission of Inquiry did not allow the Commission to examine the moral rights and wrongs of the overriding of the National Parks Act 1952 by the Comalco Agreements’.

Nevertheless, the Commission received sixty-eight separate submissions on a range of concerns. Twenty submissions were from voluntary and professional organisations, and the balance from individuals, commercial organisations, and government departments. The method of selecting and coding submissions is described in Chapter Three. This section presents the results of the analysis of submissions coded by frame. Discussion of each particular master frame is based on a table, that, in the first column, sets out the frequency (f) of cell positions coded for the signature element, within a master frame, for each interpretive package. In the second column, this frequency is shown as a percentage share (x% = f/sumf) of that particular master frame. Finally, the third column represents the frequency (f) of cell positions coded by signature element for each interpretive package as a percentage share of all cell positions across all three interpretive packages.
Table Eight summarises these overall results which are discussed under campaign outcomes.

4. The Moral Frame – Biodiversity, not Resources

The benefits of the Manapouri scheme were articulated by the government within an industrialist framework. These included justifying raising Lake Manapouri in terms of widening the industrial base of the New Zealand economy and increased employment. Although the aluminium smelter would be accounting for ten per cent of New Zealand’s electricity consumption, the plant was expected to generate an estimated ninety million dollars (1969 dollars) in foreign exchange earnings through the export of aluminium. The energy project also gained support from the Southland County Council and the Invercargill City Council, who thought that the development of regional resources would provide long-term employment in a region that needed to diversify from its dependence on agriculture.

When opposition to the scheme emerged, the government of the day was able to defend its position by framing its developmental goals in the language of the conservationist interpretive package. It was the responsibility of the government ‘to see that the country is developed and that we make provisions not only for the present but for the future generations we have to cater for’ (Slee 1974, p.12). The Labour Prime Minister W. Nash, noted that

Although there will almost certainly be agitation and pressure about the establishment of a major engineering project in one of New Zealand’s most attractive scenic resorts, I am satisfied that by conscientious attention to objectives and mutual regard ... we can demonstrate that the industry will not have any serious repercussions on our tourist trade or scenic resorts. (Slee 1974, p.10)

The conservationist components of an extended Utilitarian ethic – cost-benefit analysis, multiple use, and careful planning – are readily identifiable. On the other hand, this conservationist defence, couched in appeals to future human (economic) welfare, seems to have found limited resonance among Manapouri campaigners, based on the submission record presented here. The analysis of the submission record supports this in three ways.
Firstly, Table Five shows that only about one fifth of the submission record was coded as supporting the signature element of extended utilitarianism. Almost eighty per cent of the submission record did not reflect the resource exploitation inherent in this conservationist approach. The head of the Save Manapouri Campaign, for example, thought that the government saw the nation through the eyes of a bulldozer driver (McLean, Fleming and Salmon 1970, p.19). In part, this opposition can be attributed to the view that the commitment of successive governments to public ownership was rather weak. Attracting large consortia implied that indigenous public energy would be subsidising foreign private profits through concessional power pricing. As the estimates of foreign exchange earnings from the smelter began to be revised downwards, public concern only intensified.

**Table 5: The Moral Frame: The RCI Submission Record (Manapouri)**

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>f</th>
<th>MORAL FRAME</th>
<th>ALL FRAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>(EXTENDED UTILITARIANISM)</td>
<td>24</td>
<td>21.4</td>
<td>7.5</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>(ECOCENTRISM)</td>
<td>60</td>
<td>53.6</td>
<td>18.7</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>(RISK)</td>
<td>28</td>
<td>25.0</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>TOTALS (N=320)</strong></td>
<td><strong>112</strong></td>
<td></td>
<td><strong>100 %</strong></td>
<td><strong>35.0 %</strong></td>
</tr>
</tbody>
</table>

Secondly, of the submission record coded as employing a moral frame, over half supported the preservationist discourse of ecocentrism. Biodiversity issues included five lakeside botanical species that were nationally endangered, species of orchids and ferns that had not been studied, and destruction of bird habitats and the breeding grounds of at least twenty species. Fish species were also threatened by the loss of fish feeding and spawning grounds due to eutrophication, and as a consequence of the proposed sinking of cleared logs from native beech forest. Some of these tree specimens were over one thousand years old. While the language of submissions does not reflect a
fully developed sense of moral standing as the rights of nature, the position that nature has intrinsic value can be identified (Southland Acclimatisation Society 1970). This is articulated in submissions as a desire to protect the ‘scientific’ or ‘ecological’ values at stake at Manapouri – such as the value of islands whose evolution had evolved separately from the mainland. These ‘evolutionary islands’ were valuable, since they could function as a comparative laboratory (The New Zealand Ecological Society 1970, McLean et al. 1970).

The political ecology risk orientation is less clearly identifiable. This package interprets moral arguments in the light of risks to the long-term integrity of the whole geosphere and biosphere, including humans. In seeking to minimise risk, it questions the assumptions of continued economic growth that can only be satisfied by ‘hard’ (large-scale and technologically complex) energy projects. This orientation seeks ‘soft’ energy alternatives, of which demand management is central. Few submissions, however, pointed to the now accepted stance of electricity conservation through demand management. Two submissions did suggest supplying the required electricity through alternative means, including the high risk ‘hard’ technology of nuclear power! This type of contradiction has been labelled an intraframe contradiction, defined as support for certain aspects of a frame while refuting others (Wilmouth and Ball 1995).

Even given a degree of contradiction within the risk frame, nearly eighty per cent of the submission record supported either preservationist or political ecology positions. The ecocentric frame dominated the moral frame, and accounted for almost twenty per cent of the submission record as a percentage of all frames overall. This type of discourse was one of the three most mobilised orientations to emerge in the campaign. It provides some empirical support for the view that a politics of wilderness preservation is substantively informed by a radical re-interpretation of humanity’s relationship with nature (Hay and Haward 1988, p.447).

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The chairman of the Save Manapouri Campaign thought nuclear power might be an alternative economic source of power (McLean et al. 1970, p.4). O’Flynn (1970, p.20) thought that ‘scientific and technological advances will lead to new or cheaper ways of generating electricity ... nuclear stations are already in contemplation and these should also eventually become cheaper’.
5. The Aesthetic Frame – Identities, not Amenities

Table Six presents the percentages of the submission record coded for the aesthetic frame. In total, about twenty-three per cent of the submission record was coded for the aesthetic frame in the Manapouri controversy, the lowest percentage of all frames. This does not support the general tenor of previous research, which has tended to categorise the campaign as dominated by arguments of this nature (Cleveland 1972, Rainbow 1992). Certainly, escalating shoreline costs – the cost of treating flooded shorelines to preserve a level of aesthetic appeal – had ensured that this type of concern remained in the public eye. There also seems little doubt that decision-makers underestimated the depth of feeling people held over characteristic features of the New Zealand landscape, such as bush, mountains and lakes.

Table 6: The Aesthetic Frame: The RCI Submission Record (Manapouri)

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>f</th>
<th>AESTHETIC FRAME</th>
<th>ALL FRAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>(AMENITIES)</td>
<td>20</td>
<td>27.8</td>
<td>6.2</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>(IDENTITY)</td>
<td>52</td>
<td>72.2</td>
<td>16.3</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTALS (N=320)</td>
<td></td>
<td>72</td>
<td>100 %</td>
<td>22.5 %</td>
</tr>
</tbody>
</table>

Although the submission record does not substantiate the view that aesthetic concern dominated the campaign, it might be supposed that these concerns were uppermost in the campaign, but were played down in formal submissions. For example, the Save Manapouri Campaign pointed to the difficulty of assessing scenic values objectively, even though scenery and recreational amenities have a wider appeal than specialised biological interests (McLean et al. 1970, p.21). Perhaps environmental campaigners tacitly understood the importance of making arguments with rhetorical force. Of note here, is the response of the Royal Commission of Inquiry’s response to how it saw the Ecological Society’s view.
The Ecological Society ... believed that the lake has a great scenic value and that every effort should be made to preserve it in its present form. However, it conceded that this view is mainly based on aesthetics or other intangible benefits to human welfare or is of special interest to its members and doubted whether these aspects are consistent with hydro-electric development. (New Zealand Commission 1970, p.35) (my italics)

The perception that aesthetic concerns, because of their subjective nature, lacked rhetorical impact may thus well have limited their deployment in the formal public forum.

These comments apply to the relative capacity of the aesthetic frame to politicise environmental debate in comparison to the other frames. Within the aesthetic frame, however, the submission record shows a substantial polarisation of the debate. Aesthetic arguments coded as conservationist – as amenities – represent little more than one quarter of the submission record in this category. By comparison, almost seventy-five per cent of the submission record characterised aesthetic concerns as issues of meaning and identity.

Conservationists accept the legitimacy of aesthetic concern as long as it is defined in terms of amenities, for it helps to demonstrate that resource development does not exclude ‘multiple use’ activities. At Manapouri, attempts were made to demonstrate that development objectives would not preclude a range of ‘quality of life’ activities, such as hunting, fishing, camping, and so on. In fact, mention was made that construction features such as dams could even provide a tourist feature. In a letter to the Labour Prime Minister, the Vice Chairman of Consolidated Zinc believed that engineering works could actually add to scenic attractions rather than detract from them (Slee 1974, p.10). In discussing the thrust of submissions concerned with biological diversity, the Commission described the loss of unique botanical species as ‘regrettable’, but thought that the powerhouse would be a compensating interest to the average tourist (New Zealand Commission 1970, p.35).

As it was, the range of recreational opportunities and outdoor pursuits that were threatened at Manapouri was quite extensive, making it difficult for the usual conservationist approach – trading off amenity values – to succeed. In fact, the 1970 Commission recommended that no limit at all should be placed on the costs of shoreline treatment. Therefore, as the costs of the trade-offs
escalated, one of the central planks of the conservationist ethic – cost-benefit analysis – became increasingly compromised.

Both preservationists and the political ecology positions, on the other hand, do not deny the concept of multiple use, but interpret the aesthetic appreciation of nature in fundamentally different ways to that of conservationism. For the head of the Manapouri campaign, the ‘beauty’ of the area had little to do with amenities, but everything to do with the sublime appreciation of an ecology that had evolved over thousands of years (McLean et al. 1970, p.8). When respect aspires to be translated as reverence, secular policy instruments that aim to trade off conflicting values may find little support. Equally significant were values that many perceived as ‘irreplaceable’, such as the experience of wilderness. Several submissions pointed to the value of Manapouri for its beneficial influence on the human character – wilderness provided values of solitude and moral uplift that increasingly were not to be found in the materialism of modern society (New Zealand Scenery Preservation Society 1970, O’Flynn 1970).

Wider still, beyond the uses of wilderness as a resource for physical well-being and spiritual contemplation, is the way in which particular landforms shape environmental perceptions, cultural meanings and a nation’s identity (Hays 1987, p.36). O’Flynn thought that resort to wide open spaces was central to the New Zealand character, and ‘a good deal of it depends on these parks and unspecified areas to which people can resort’ (1970, p.16). Cleveland suggests this wider meaning of aesthetic value when he states that the Save Manapouri Campaign generated a fair amount of ‘collectivist symbolism’ that sought to have aesthetic considerations incorporated into public policy making (1972, p.96). It is also significant to consider in this context the contribution of submissions by Maori when questions of identity are involved. While the conservation movement frames public land as a normative question, many indigenous people frame land as an identity issue. It is not land that belongs to the people – it is people who belong to the land.

Overall, while the aesthetic frame did not dominate the submission record, a level of polarisation between the conservationist position, and those of political ecology and preservationism, is evident within this frame. Despite the concession that the aesthetic frame is
subjective, intangible and difficult to quantify, a level of polarisation was enough to draw comment from the Commission, and may have kept it on the policy agenda.

6. The Frame of Rationality

Table Seven shows that the rationality frame accounted for over forty-two per cent of the three frames coded in the submission record. This frame addresses the debate in terms of rationality where appeals to expert authority, quantification, techniques, and empirical verification may be made. Unlike the normative and subjective approaches of other frames, claims are both organised and presented as facts. Nevertheless, significant differences about the meaning of rationality can be identified in the submissions.

**Table 7: The Rationality Frame: The RCI Submission Record (Manapouri)**

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>f</th>
<th>RATIONALITY FRAME</th>
<th>ALL FRAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>(MANAGERIAL RATIONALITY)</td>
<td>16</td>
<td>11.8</td>
<td>5.0</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>(ECOLOGICAL RATIONALITY)</td>
<td>64</td>
<td>47.0</td>
<td>20.0</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>(PARTICIPATORY RATIONALITY)</td>
<td>56</td>
<td>41.2</td>
<td>17.5</td>
</tr>
<tr>
<td><strong>TOTALS (N=320)</strong></td>
<td></td>
<td>136</td>
<td>100 %</td>
<td>42.5 %</td>
</tr>
</tbody>
</table>

Within conservationism there is an optimistic belief that the development of natural resources can be managed because humans possess a capacity for rational calculation. Indeed, much of the conservationist language frames the issue from this perspective. Developing and managing resources is regarded as ‘wise’, as opposed to the irrational approach of ‘wasting’ natural resources by ‘locking’ them up in their natural state. This position is bolstered by the belief that management techniques, such as sustained yield, are scientifically informed, and not open to question. Yet the belief that raising the lake level could be managed rationally, comprises about twelve per cent of all rationality perspectives, and only five per cent of the total submission record.
The very low level of scientific information about the lake provides one explanation. Typical was the attitude of the Nature Conservation Council (NCC), who had consistently opposed the project on the grounds that there existed no scientific information of any consequence that would allow informed predictions of raised lake levels on the lake's scenery and ecology. McLean (1970, p.9) thought that because the engineers had relatively good hydrological data, they saw little need to consult the NCC on other scientific information, or regarded the gaps in their own knowledge about the Manapouri region as a source of difficulty. Not until 1968 did the Department of Scientific and Industrial Research (DSIR) undertake a limited survey of geological, ecological, wildlife, scenic and recreational values.

[As] ecological and other scientific data slowly became known, and the enormity of the calamity planned for Lake Manapouri by the N.Z Electricity Department became more widely realised, public opinion against these proposals hardened and crystallised ultimately into the Save Manapouri Campaign and in a gigantic petition. (McLean et al. 1970, p.9)

The submission attributes, in a very direct way, an increase in the scientific database to the politicisation of the campaign. If the conservationist framing of the issue had any credence, increased levels of information should only serve to increase a belief in rational control, not undermine it. In the case of Manapouri, extending the number of scientific studies of the lake's ecosystem resulted in an increased number of conflicting studies that only served to undermine the credibility of the technical aspects of the project.

It is not, however, simply a case of conflicting studies disagreeing on the scale of impacts and costs – important though these were in casting doubt on the range of costs and benefits of the project. Rather, there were fundamental disagreements about the nature of ecological processes, and the way nature should be modelled (New Zealand Ecological Society 1970). The Save Manapouri campaign thought that

Considerable adjustment, difficult to predict, must be expected when shoreline processes begin to act at a new level. These will delay the stabilisation of both the shape and vegetation of a new shoreline. (McLean et al. 1970, p.19)
This type of argument seems to have had some resonance with the Commission, for it reprinted in its final report a submission from the Nature Conservation Council.

Most changes in nature are slow, insidious, and not readily detectable; and they are often irreversible. A slowly dropping water table, a change in the balance of power between small organisms, the very existence of which is unknown except to a few: these are potent factors in the destruction of a countryside. An action which in itself appears sensible and desirable may have far-reaching and unpleasant consequences, not foreseen and possibly not appreciated for fifty years. (New Zealand Commission 1970, p.29)

Norton makes the useful point that preservationists and conservationists both use the notion of ecosystem stability and health, but view it differently (1986, p.216). Conservationists favour the term ‘resilience’ because they are optimistic that ecosystems can recover and adapt quickly. Preservationists, concerned with the integrity of systems, seem to emphasise stability in terms of ‘predictability’, and are thus more attuned to risk. They emphasise that ecosystems are not static but dynamically stable so that change is autogenic. That is, it occurs as a result of internal systemic structures.11 When in 1972 a degree of lakeshore slumping occurred as a result of low water levels, it served to graphically confirm the unpredictability and lack of resilience in ecological systems, since the lake level was lowered by only 56 cm.

Preservationism thus looks to ecological science to orient its rationality, unlike conservationism’s optimistic belief in human technology, the resilience of the natural world, and rational control. Almost half (forty-seven per cent) of the submission record, coded for the rationality frame, supported the preservationist position. The ecological rationality position, at twenty per cent overall, represents, in fact, the single largest frame as a percentage of the total submission record.

A third view of rationality also helped to redefine what the campaign was about.

11 A particularly influential study, carried out by the University of Otago Botany Department, found that a delicate ecological balance prevailed (New Zealand Commission 1970). Because the ecosystem had been exposed to slow modification over hundreds of thousands of years, it had developed tolerance ranges highly vulnerable to landslides, tree avalanches and edge slumping. Thus, a high degree of uncertainty existed over whether a new equilibrium would ever be established.
The Manapourī issue was important, not simply because it safeguarded, at least temporarily, a particular segment of the earth’s biosphere, but more so because it opened up public debate to the tortuous question of how much environmental quality versus how much economic development in very realistic terms. (O’Riordan 1972, p.15)

Written some years before the publication of his seminal work *Environmentalism* (1981), O’Riordan’s analysis of the Manapourī issue clearly identifies the necessity of public participation in environmental conflicts. Judging by the eventual level of support, and the broad range of interests represented in the Manapourī campaign, this participatory ideal was substantially satisfied. Yet, initially, only a narrow range of interests supported concern over Manapourī – scenery preservation groups, constituted state authorities, and representatives of the tourist industry. By 1970, the Save Manapourī Campaign Committee was an umbrella organisation representing fifty groups and over 200,000 people. Groups as diverse as the Soil Association of New Zealand and the Maori Women’s Welfare League made formal submissions to the Commission.

At over forty-one per cent, participatory concerns represent a significant element within the rationality frame, and, within the overall level of the submission record, concerns of this nature represented about one sixth of total submissions. Three dimensions are evident, the first of which was concern over the abuse of constitutional structures. The proposal to develop Manapourī, a glacial lake within Fiordland National Park, contravened the National Parks Act 1952. This Act provided for the preservation, as national parks, of distinctive scenic features so beautiful or unique that their preservation in the natural state was in the national interest. The Act recognised more than scenic worth, however – national parks had value as soil, water and conservation areas, and provided the public access to sources of inspiration, enjoyment, and recreation.¹² The National Parks Authority and the Fiordland National Park Board (who had actual jurisdiction over both the lakes)

¹² The national parks concept has been justified historically on a number of grounds, including indigenous ideas about the ‘sacred’, the ‘national playground, and the ‘biota refuge’ (Rennison 1972, p.9). The conservationist frame of ‘amenities’, and the preservationist frames of ‘cultural identity’ and ‘ecocentrism’, can therefore be recognised in the National Parks Act 1952.
complained about the lack of consultation, and the secrecy with which negotiations over the hydroelectric scheme were being conducted (New Zealand Commission 1970). The scheme also, they said, ran counter to the National Parks Act 1952. Consequently, it took special legislation in the form of The Manapouri - Te Anau Development Act to override the National Parks Act, and to enshrine the contractual agreement with Comalco.

Also, neo-corporatist styles of decision-making also helped to politicise the debate. Comalco enjoyed privileged access to government as a powerful economic actor, and had sufficient resources to mount a significant public relations campaign. Cynical attitudes to decision-makers were only reinforced when it was revealed that Comalco had provided journalists with free trips to Australia, and preference shares to influential people. Perhaps the crux of the problem, recognised by one submission to the 1970 Commission, was that the Manapouri power scheme was designed to fit the terms of an agreement already made. The debate was about which contractual obligation the Government would honour.

Does the Government owe a greater duty to Comalco ... or does it owe a greater duty to the people of New Zealand not to violate a statute passed for their benefit, namely, the National Parks Act, by which it undertook to preserve the National Parks so far as possible in their natural state in perpetuity? (O'Flynn 1970, p.24)

Finally, participatory concerns managed to politicise the issue by questioning the conservationist assumption that expertise is found only in technical and advisory authorities. Counsel for the environmental groups complained about the lack of candour and lack of consultation with those entitled to be consulted, and an unwillingness to consider or adopt suggestions or advice made to them by people well qualified to make them. (O'Flynn 1970, p.2)

Examples of such advice supplied by environmental organisations included alternative estimates of the foreign exchange earnings of the project, and the costs of shoreline treatment. By 1970, a

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13 Initially, it was the very scale of the operation that would be an attraction – Manapouri would be the largest hydro development in New Zealand, and its power, in producing aluminium for export, would generate an estimated ninety million dollars in foreign exchange earnings (Civic Trust Auckland 1970).
number of environmental organisations had convincingly demonstrated that foreign exchange earnings ought to be revised downwards by seventy million dollars (Civic Trust Auckland 1970, Otago Branch of the Royal Society of New Zealand 1970). In the case of shoreline treatment, the initial budget of five million dollars doubled to ten million dollars after the American contractor admitted that he had not tackled a job comparable with Manapouri.

The ability of the public to participate in technical decisions is seen as important, not just because the public is qualified, but because there is a concern that technical authorities lack independence. Professor Mark, who would represent environmental interests as a ‘Guardian’ of Lake Manapouri for twenty-one years, thought that ‘[m]any Government scientists, unable or unwilling in terms of job security to speak out for themselves, urged me to take a stand’ (Mark, cited in Peat 1994, p.94).

Participatory concerns – constitutional abuse, lack of consultation, lack of independence, and neo-corporatist styles of decision-making – go a long way to understanding the politicisation of the Manapouri conflict. The campaign reflected decreased levels of confidence in government, and helped to undermine the legitimacy that citizens accorded its administrative agencies (Cleveland 1972, p.35). The increase in opposition to the Manapouri scheme – a ten-fold increase between 1960 and 1970 – is attributed to the Government’s repeated and unsubstantiated assurances that no decision had been taken, and that opportunities for public input would be provided (Cleveland 1972). Since participatory concerns represented almost eighteen per cent of the submission record, it supports Cleveland’s reasoning about the mobilisation of the campaign. It remains, therefore, to discuss whether we can understand the mobilisation of interpretive packages and frames in the context of the outcomes of the Manapouri campaign.

7. Assessing Campaign Mobilisation and Influence

Previous assessments of the Manapouri campaign have seen aesthetic concerns as dominating the campaign (Cleveland 1972, Rainbow 1992). The success of the Save Manapouri Campaign had ‘much to do with its manipulation of a superb, unassailable symbol of national purity
and potency' (Cleveland 1972, p.29). However, aesthetic arguments, at least as mobilised in the submission record, were not the only frame available, nor were they the most prevalent (see Table Eight).

**Table 8: Summary of the RCI Submission Record (Manapouri)**

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>MORAL % (f)</th>
<th>AESTHETIC % (f)</th>
<th>RATIONALITY % (f)</th>
<th>TOTALS % (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>7.5 (24)</td>
<td>6.2 (20)</td>
<td>5.0 (16)</td>
<td>18.7 (60)</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>18.7 (60)</td>
<td>16.3 (52)</td>
<td>20.0 (64)</td>
<td>46.9 (150)</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>8.8 (28)</td>
<td></td>
<td>17.5 (56)</td>
<td>34.4 (110)</td>
</tr>
<tr>
<td>TOTALS (N=320)</td>
<td>35.0 % (112)</td>
<td>22.5 % (72)</td>
<td>42.5 % (136)</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Part of the difficulty of analysis has been the lack of appropriate social movement models that have simply excluded the role of cognitive factors in environmental protest campaigns, such as Manapouri. With the development of the frame analysis model, more empirically focused qualitative tests have been possible. Indeed, to some extent, Cleveland anticipates the frame approach. It is not often that much thought is given to the type of arguments campaigners might use, indeed *manipulate*. This section summarises the main findings from two perspectives. The first is at the most general – identifying the type of package most prevalent in submissions, and assessing the outcomes in this light. Secondly, a more finely focused approach assesses the role of individual frames within the interpretive packages.

The highly politicised Manapouri campaign provided an opportunity to test whether it would exhibit a relatively weaker mobilisation of the conservation position, while the most mobilised package was expected to be preservationism in hydroelectric campaigns. Table Eight summarises the submission record in terms of frames, and the total share attributed to each interpretive package.

Quite clearly, the preservationist position dominates, accounting for nearly half (forty-six per cent) of the submission record, while the overall articulation of the conservationist package by
campaigners represents less than twenty per cent of the total submission record. The conservationist position, while finding a level of support, may have found less resonance with Manapouri campaigners. Consequently, the Manapouri controversy confirms the idea that highly politicised campaigns will see conservation concerns relatively less mobilised.

The main reason appears to be that successive New Zealand governments defended the Manapouri hydroelectric scheme by utilising critical components of the conservationist rubric. Since the state cannot simply impose its preferences, but must justify them in social debate, the conservationist package allows the essentially industrialist goals of the state to be articulated (Hajer 1995, Hays 1987). In other words, appropriating the discourse of conservationism seems to have been adopted by both National and Labour administrations as an interpretive strategy that could find a degree of resonance with the scheme’s opponents. Justifying the Manapouri scheme in terms of developing its maximum yield for all New Zealand generations past and present (extended utilitarianism), while assuring a sceptical public that attention to protecting amenity values through expert systems of management, helped to modify the perception that simple resource exploitation was at work. While eighty per cent of campaigners did not frame the debate in these terms, it had little immediate effect on the major policy actors.

When the Commission of Inquiry reported in October of 1970, it conceded that raised lake levels would cause permanent ecological damage, but stated that contractual obligations meant such damage was inevitable. The 1970 Commission, in attempting to respond to public concern, did recommend that no limit at all should be placed on the costs of shoreline treatment, after a submission by the Civic Trust that the scale of shoreline clearance had no precedent. Such uncertainty, it was stated in the submission, made nonsense of calculations about the net profitability of raising the lake in the first place (Civic Trust Auckland 1970, p.32). Despite the erosion of certainty about the actual levels of benefits and costs, the Commission disagreed that the scheme was not viable, believing that it was ‘feasible with modern sophisticated equipment’ to clear the shoreline to an acceptable standard (New Zealand Commission 1970, p.64). Managerial rationality was still the order of the day.
The campaign thereafter intensified, indicating that the conservation perspective found little resonance with the majority of the campaigners. Following the Commission’s report, the nation’s largest petition (of 265,000 signatures) was presented to Parliament in December of 1970. A parliamentary select committee referred it to government for ‘favourable consideration’ in June of 1971 with the rider that the government postpone raising the level of Lake Manapouri. In terms of the political opportunity structure model’s attention to the necessity of alliances for social movement success, the evidence is mixed. While the Labour Opposition spokesman on the environment criticised the need to raise the lake at all, the three Labour members of the committee supported the unanimous decision, and the rider (NZPD 1971, p.717).

In September, the National Government confirmed that it would postpone any lake level rise, although the controlling dam was to be constructed such that the potential for lake level rises remained intact. Clearly, because the option of raised lake levels at some future date remained open, conservationism again remained the dominant interpretive package within policy circles. Conservationism has been defined as the goal of maintaining the productive potential of a resource generating system for future availability, productivity and consumption (Norton 1986, p.200).

Campaign actions continued into 1972, which was an election year. Not surprisingly, some commentators saw the Manapouri issue as an opportunity for the Labour Party to use environmental issues as an election strategy (Slee 1974, Buhrs 1991). Slee (1974) attributes the subsequent policy reversal as an attempt to maximise electoral advantage, rather than any overriding concern for the environment. It was suggested above that the evidence for this interpretation is mixed (Templeton and Eunson 1972). Economic concerns, regional demands for growth in Southland, and the marginal nature of the 1969 election where Labour could equally have capitalised on environmental feeling, suggest that an alternative reading of Labour’s policy reversal is necessary.

The interpretive frame approach draws attention to influences on the cognitive structures with which people interpret environmental conditions, and here a crucial development can be noted. In 1972, record low lake levels resulted after operating the power scheme after a dry winter. In turn, unnaturally low lake levels caused extensive shoreline slumping so that many beautiful beaches simply
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disappeared into deeper water. This was 'a horrible sight, something the "experts" had not predicted, and was an excellent example of what could happen on a much larger scale if unnatural fluctuations of the lake levels were allowed' (Hutchins 1998, p.131). Thus, it was only after such shoreline slumping occurred, which Labour politicians saw first-hand, that the Labour Party committed to preserving the natural levels of the lakes. The Labour Party manifesto of 1972 stated that:

damage to the shoreline of Lake Manapouri resulting from abnormally low levels justifies opposition to operating Lakes Manapouri and Te Anau beyond their normal range of levels. [The Labour Party] will issue instructions to the New Zealand Electricity Department to ensure that variations in the levels of these two lakes do not fluctuate beyond the normal. (cited in Slee 1974)

Shoreline slumping served to graphically illustrate the model of nature that campaigners had consistently presented – an ecology vulnerable to irreversible changes was completely at odds with a conservationist outlook framed in terms of resilience and recovery (McKellar 1973). The slumping of lake shorelines was a graphic demonstration of the fragility of the lake's ecosystem. It also put paid to the assertion of the project's engineer that lake levels could be better controlled by the Electricity Department than by nature (Peat 1994, p.17). Yet it is unlikely that shoreline slumping would have been seen in quite the same light had not campaigners articulated uncertainty and stability within an ecological framework. Ecological ideas dominated the submission record, since at twenty per cent ecological rationality was the single largest frame to be articulated. It is conceivable, then, that a new understanding of ecological processes helped to frame the subsequent shoreline slumping of Lake Manapouri. Here, it appears that claims to an alternate rationality will be credible if they enjoy some measure of experiential verification (Snow et al. 1986, Hajer 1995).

Electoral opportunism also cannot account for Labour's subsequent policy (after they took office) of cancelling plans for a wide-based dam structure. This effectively ensured that the level of Lake Manapouri could never be raised. Thus, the successful outcome of the Manapouri campaign can be seen more in terms of preservationist aims than those of conservationism. The dam structure that was eventually adopted would ensure that the natural operating range of the lake levels would be maintained, while ensuring that the maximum yield criterion of resource management could not
be achieved. The new Labour government policy clearly did not conform to the conservationist philosophy.

This is not to say, of course, that articulating a preservationist discourse simply translates into policy outcomes. Rather, in continuing to articulate alternate and more radical environmental positions than conservationism, movement organisations indicated to policy actors that presenting the government’s position in conservationist terms enjoyed limited support in environmental circles. In turn, this may have forced greater attention to be paid to the arguments of preservationism and political ecology, and may have influenced a reconsideration of the conservation assumptions on which the policy agenda was predicated. While this may go some way to accounting for the relatively low level of mobilisation of the conservationist package by Manapouri campaigners, it does not account for the dominance of the preservationist discourse in the submission record. It is with these considerations in mind that an examination of the mobilisation of frames may be useful.

Table Eight illustrates that the most common frame in which submissions articulated their concern was the rationality frame. Over forty per cent of the submission record was coded in these terms. This certainly tends to confirm the expectation that most mobilisation will accompany the rationality frame across all three interpretive packages, since environmental issues are thought to involve scientific claims to knowledge that are contested and (re)presented. The idea that the Manapouri campaign was not conducted in intellectual terms must therefore be discounted.

Within this frame, both ecological and participatory rationales seemed to play a significant role in politicising the debate, since at five per cent the managerial rationality frame represents the single lowest frame coded across all frames and packages. While no causal relationship can be demonstrated, there is some evidence (above) to suggest that the preservationist model of stability found a good deal of resonance once lake-shore slumping provided verification of this environmentalist position. Norman Kirk, at that time Leader of the Opposition, was greatly affected by the sight of the severe slumping (Hutchins 1998, Slee 1974).

More tangibly, perhaps, the ecological rationality frame seems to have been reflected in an unprecedented reorganisation of the formal administration of Lakes Manapouri and Te Anau. In
early 1973, the new Labour Government established the ‘Guardians of Lake Manapouri’. This was a body of nine members that included representatives of the Fiordland National Park Board and the Electricity Department. Importantly, its chairman, Professor A. F. Mark, was not only a biologist but also an active member of the Manapouri Campaign. Indeed, most appointments as Guardians were made from those actually active in the campaign – a move described as both courageous and unprecedented in New Zealand political history (Peat 1994, p.vii).

The role of this advisory body was to establish ecologically based guidelines for lake level management within the natural range of the lakes. The Guardians, however, were not simply a scientific advisory body, but were actively political. They pushed for the repeal of the 1963 Act that had originally established the threat of raised lake levels. These 1963 provisions were finally repealed in the Manapouri-Te Anau Development Amendment Act 1981. This new Act formalised the role of the Guardians, and the protection of the existing patterns, ecological stability, and recreational values of the lakes.

At thirty-five per cent, the normative or moral expression of environmental concern may have also contributed to an increased sensitivity toward the value of biodiversity. In particular, ecocentric concern emerged quite strongly, tending to confirm previous research that public concern to preserve wilderness areas is generated out of the notion that moral standing can and should be applied to the non-human world (Hay and Haward 1988, p.434). Yet the language of submissions defended the value of biological diversity less in terms of intrinsic value than as a desire to protect the ‘scientific’ or ‘ecological’ values at stake at Manapouri. These included ‘evolutionary islands’, nationally endangered botanical species, orchids and ferns that had not been studied, and destruction of bird and fish habitats (Southland Acclimatisation Society 1970, New Zealand Ecological Society 1970). The Guardians, therefore, represent a strong statement of the preservationist position. Preservation is not about saving a fixed or immutable order, but rather about saving the patterns or processes of change.

Further, full disclosure of any departures from the ecological guidelines that were set up and monitored by the Guardians were to be tabled in Parliament – an indication that the rationale of participation and openness also enjoyed a new legitimacy. Again, it should not be assumed that this
shift in the value of public participation was automatic, or that it stemmed directly from the efforts of Manapouri campaigners. Buhrs (1991, p.154) draws attention to the role of individual politicians, some of whom thought that 'we should encourage and not discourage active participation by citizens groups in decision making on environmental matters'. Similarly, the relative early success of the Commission for the Environment, established in 1972, depended on the strong advocacy role by the Labour Minister for the Environment. While the early Manapouri campaign had been instrumental in establishing the Nature Conservation Council in 1962, it was not seen as a catalyst for the later 1970 Environment Council (Buhrs 1991). Clearly, the importance of allies within the political system, as suggested by the political opportunity structure model, provides a useful perspective.

Buhr's analysis of the Environmental Impact Assessment procedures (EIAs), however, does seem to reflect a shift from a conservationist position to one more fully reflecting a participatory culture. Initially, EIA procedures were an 'expert exercise conducted by informed technical and professional staff divorced from public input and value judgements' (Buhrs 1991, p.131). By 1973, all EIAs were being published, although their frequency seemed to be a function of the political administration. In the energy sector, twelve out of twenty-eight audits were done in three years of Labour administration, in contrast to the sixteen conducted in the ten years of National control (Buhrs 1991, p.181).

A competing expectation outlined in Chapter Two suggested that hydropower campaigns are dominated by aesthetic concerns. On the basis of the submission record presented here, describing the Manapouri campaign primarily as a conflict between the values of materialism and the aesthetic values of affluence (as a non-intellectual response to the loss of nature), cannot be supported. Nevertheless, paying attention to aesthetic arguments remains an important analytical focus. Although the level of submissions that used an aesthetic frame was relatively low, Manapouri campaigners were able to draw on nationally resonant scenic values, rather than attempting to articulate the local appeal of the area, and could identify Comalco as a 'foreign enemy' seeking to exploit New Zealand power. Significantly, a national umbrella organisation emerged that could foster a sense of campaign identity, and co-ordinate strategy. At Manapouri, the aesthetic frame –
although not mobilised as much as expected – was polarised, and may have attenuated an understanding of aesthetic concern framed simply in terms of amenity values.

Together with the frames of ecocentrism (representing nature), and ecological rationality (representing nature), campaign discourse helped to politicise the policy consensus held by energy planners for over a decade. In articulating the debate less in terms of conservationism, and more in terms of preservationism and political ecology, campaigners polarised the terms of the debate, and may have made it difficult for policy actors to justify their own position in terms acceptable to the majority of campaigners.

8. Conclusion

The Manapouri debate was a political struggle over the loss of nature. Whose definitions dominated – over resources, amenities, identity, ecological models and participation – and whose came to prevail, are fundamentally political questions. After Manapouri, the nature of politics had to include the politics of nature (Eder 1996b).

Construction or licensing delays did not occur at Manapouri, nor was the hydroelectric scheme cancelled. On the other hand, these were not the aims sought by the campaigners. The only substantive goal sought and achieved was a downgrading of the scheme’s energy output to preserve the operation of lake levels within their natural levels. Although eventually achieved, such an outcome was not immediately apparent. In terms of outcomes, it is evident that the mobilisation of environmentalist positions does not automatically translate into policy outcomes. Yet certain aspects of the outcomes of the Manapouri campaign suggest a reorientation in the policy discourse. The maximum yield of the Manapouri scheme was not achieved, lake levels were preserved, and the Guardians of Lake Manapouri opened up the administrative structures of control to public representation.

In this sense, the Manapouri campaign’s main legacy may have been to initiate a turning point in the political history of New Zealand, one that shaped a fundamental re-evaluation of the
significance of the environment – morally, aesthetically and scientifically. New Zealand for most of the 1960s was preoccupied with the pursuit of material influence, yet towards the end of the decade ecology and environment became matters of concern to an influential sector of public opinion. As a natural sequence, discussion of those issues has led on to equally fundamental questions: what kind of country are we living in, what kind of society do we want to create, are we committed to growth or are we worried by the “ecological” objections to it? (Templeton and Eunson 1972, p.11)

The campaign saw the first successful efforts in the mass mobilisation of environmental concern, and, in politicising the energy policy arena, contributed to the breakdown of the bipartisan consensus on energy development. The campaign served as a catalyst for legitimating protest action, it illustrated the importance of environmental interest groups, and saw the beginnings of the sponsorship of environmental ideas by political parties. The Environment and Conservation Organisation of New Zealand was established in 1971 as the representative of over forty environmental and conservation organisations. The Manapouri issue had also demonstrated that the existing political parties had been an inadequate channel for the articulation and values of many people. It is also seen as an important stimulus to the creation of the Values Party in 1972 – the first national environmental party to be established in the world (Cleveland 1972, p.26). In short, the campaign helped to mark the beginning of the environmental movement in New Zealand (Peat 1994, p.ix). However, at the same time as environmentalists were celebrating their first victory, another hydroelectric campaign was being played out – one that would have a very different outcome.
CHAPTER 5
The Campaign for the Clutha River

1. Introduction

The Clyde hydroelectric energy project generated the longest running controversy in the history of environmental campaigns in New Zealand. Protest spanned the 1960s, 1970s, and 1980s, and the decisions taken then are still being defended at the highest political levels today. The Clyde protest campaign foreshadowed the same criticisms that would later be made of the Think Big energy strategy in general – a strategy that threw into stark relief the tensions between the government’s twin roles of environmental management and resource development. The Think Big strategy itself emerged out of the impetus given to it by the Clyde project, both in terms of the electricity surplus and constitutional ‘opportunity structures’ created by the hydroelectric scheme.

The aims of this chapter are threefold. As with the Manapouri campaign, the frame analysis model is used to assess the types of arguments mobilised in the Clyde campaign. As a hydroelectric scheme, can we assume that the debate primarily mobilised aesthetic concern over the wild and scenic Clutha River? On the other hand, other commentators argue that Otago people were against the dam if it meant cheap electricity going to the national grid (Templeton and Eunson 1972).

Secondly, the chapter is interested in the role that campaign discourse played in politicising the policy issues in the Clyde energy project. As suggested in Chapter Two, variations in the mobilisation of interpretive packages might be anticipated. If this view is correct, it is expected that

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1 The label ‘Think Big’ was applied as a thematic umbrella to an energy strategy devised by the National Government prior to the 1981 general election. The strategy aimed at establishing a range of energy, technological, and capital intensive projects in a bid to widen the industrial base of New Zealand. It was criticised on a number of grounds – that it constrained public debate, concealed decision-making structures, lacked accountability, had poor incentives, abused legislative and constitutional structures, had poor information, lacked neutral technical advice, and imposed massive underwriting of financial risk by the Crown, among others. See, for example, Easton (1989), Hazeldine (1981), Heyes (1991), and Kellow (1996).
the discourses of preservationism and political ecology will be somewhat more mobilised, relative to the interpretive package of conservationism in hydroelectric power campaigns such as Clyde. To what extent might variations in the mobilisation of campaign discourse help to politicise the terms of the debate? Finally, since the Clyde campaigners ultimately failed in their attempts to stop the Clyde Dam being built, the chapter draws on a limited number of comparisons with the Manapouri campaign to note differences between the two campaigns in assessing outcomes. These comparative assessments are more fully explored in Chapter Seven.

This chapter begins with an overview of the Clyde hydroelectric scheme, and the campaign it engendered. It then analyses the submissions made to the Commission for the Environment that had authority to examine critical aspects of the hydroelectric project. The chapter then concludes with an assessment of the politicising role of the mobilisation of campaign arguments within the context established by the chapter’s three aims.

2. Overview of the Clyde Hydroelectric Project and Campaign

Hydroelectric generation on the South Island’s Clutha River was initially thought too difficult. Variable river flow, siltation problems, and the complexity and cost of dam structures were all factors cited in the Hancock Report of 1904. Nevertheless, the river had considerable hydroelectric potential. It is one of New Zealand’s longest rivers at 325 kilometres, and has a flow of 425 cubic metres per second – the greatest of any New Zealand river. For these reasons, further investigations were carried out during World War Two (Martin 1991, p.268). This led to the construction of the Roxburgh hydroelectric scheme between 1949 and 1956, the largest in New Zealand at the time. However, by the early 1960s, the hydroelectric potential of the North Island had been mostly realised and expected to satisfy demand only until the mid-1970s. Since Roxburgh did not fully exhaust the power potential of the Clutha, further investigations were undertaken. In 1965, proposals for a series of dams on the river, including one at Clyde, were announced.

As with Manapouri, these hydroelectric schemes presented the possibility of changes to the water levels – in this case, to Lake Hawea and Lake Wanaka – which were the sources of over fifty
per cent of the Clutha’s flow. Protest emerged almost immediately by mid-1965. Initially, this public pressure took the form of adverse newspaper comment and letters to the editor, but the prospect of raising the level of Lake Wanaka for hydroelectric power prompted the idea of a Hands Off Wanaka Lake (HOWL) campaign by September of 1965. In November of 1967, the Upper Clutha Basin Preservation Committee was formed from ratepayers and local body and fruit-growers associations, from a desire to be informed and included in planning intentions. While not against hydroelectric development, as such, this group wanted low-height dams, which would minimise the loss of productive orchards.

In 1968, an inter-departmental committee was established to assess the impact of a hydroelectric scheme on farming, irrigation and other resources. In the same year, more substantial protest emerged, attributed by some to the assumption that decisions had, as at Manapouri, already been taken without public consultation (Martin 1991, p.277). Even within governmental ranks, some dissension on the impacts of the scheme was apparent. A Government MP introduced a private member’s bill to preserve natural lake levels, and to prevent any control at all of Lake Wanaka – but this was defeated. In November of 1972, Friends of the Clutha and HOWL planned a meeting in Invercargill to link up with the Manapouri campaigners in an attempt to focus attention on the similarities of the issues involved. This may have had some effect because Labour promised before the 1972 election to protect Lake Wanaka.

In 1972, the inter-departmental committee’s report was eventually published, outlining six possible schemes above Roxburgh, and four below. While it did not recommend any one scheme, the report did rank them in terms of impact on economic activities – irrigation, farming, orcharding – and their effects on the local communities, such as sewerage, population dislocation, and water supply.

HOWL did not formally come into being until a public meeting in May of 1972 that called for an independent, non-departmental inquiry into development proposals for the Clutha Valley.
The year 1972 was also an election year, and the incoming Labour Government moved to fulfil its election promises. It enacted the Lake Wanaka Preservation Act 1973, which precluded any control over the lake's natural levels despite the opposition of the New Zealand Electricity Department (NZED). This Government also established an independent body – the Clutha Valley Development Commission. The Commission was asked to report on the most suitable form of power development on the Clutha River, and to identify opportunities for industry, tourism, recreation, and community development (Martin 1991, p.278).

The options, primarily as a result of the 1973 Preservation Act, reduced to two, and became the heart of the controversy. Scheme ‘H’ involved a series of dams including a ‘low’ dam at Clyde. Scheme ‘F’ also involved a series of dams, but included a ‘high’ dam at Clyde which would yield more power, more cheaply, and slightly sooner. It would produce about seven per cent of the nation’s electricity, and would be the country’s third largest power station after Manapouri and Benmore. It would establish Lake Dunstan, an artificial lake of 2642 hectares. This lake would, however, flood valuable horticultural land at Cromwell. While only twenty-three farms would be affected or lost, the flooding of these orchards represented six per cent of central Otago production.

In 1974, the Commission recommended Scheme H, which Cabinet adopted in 1975, despite Scheme F being preferred by both the Ministry of Works and Development and Treasury. Nevertheless, 1975 was an election year, with the National Party manifesto promising a review of hydroelectric schemes on the Clutha, including receiving public submissions. Upon winning the election, the National Government appointed its own Clutha Valley Advisory Committee to review the options, but failed to allow any public participation. Despite this, the Advisory Committee also came out in favour of the low dam proposal. Notwithstanding this recommendation, Cabinet approved Scheme F in December of 1976.

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3 Since Central Otago has an unusual climate – it records New Zealand’s highest peak temperatures in summer and lowest temperatures in winter – it is ideal for some orchard crops such as apricots.
When the decision immediately generated public protest, the Minister of Energy stated that it would 'be a little while before the reasons for the Government’s choice became adequately understood' (cited in Ministerial Review Committee ‘MRC’ 1990, p.28). The Government pressed on, approving preliminary construction, and then seeking water rights from the National Water and Soil Conservation Authority (NWASCA). Under its statutory obligations, NWASCA referred the application to the Otago Catchment Board for its recommendation. Viewing itself as representative of local interests, the Board heard 209 public submissions, of which only three supported the high dam proposal.

When, in 1977, the Otago Catchment Board recommended that the National Water and Soil Conservation Authority not issue the water consent for the high dam, it seemed as if the campaign against the Clyde high dam had been successful. However, in December of 1977, the Authority, chaired by the Minister of Works and Development, set aside the recommendation of the Otago Catchment Board, and granted the water right for the high dam on the basis that it offered extra power capacity which would offset the loss of the orchards. This decision prompted a number of appeals to the Planning Tribunal. Hearings were not begun until mid-1978.

The decision to proceed also partly reflected the preferences of the Ministry of Works and Development (MWD) who argued that the scheme was necessary to maintain employment for a skilled hydroelectric construction workforce. The MWD, increasingly concerned with what it considered 'delaying tactics', argued that if the commissioning date was to be met, increased funds for additional preparatory work should be granted, even though the environmental impact procedures had not been undertaken. Despite the objection of the Commissioner for the Environment, government ministers granted funds for preliminary works on the basis that they

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4 A Treasury paper identifies at least four other major hydro projects where this has occurred. Typical of MWD requests: ‘The position now is that further work is required at Mangakino to help present forces employed’ and ‘the Minister of Works seeks Cabinet approval to retain the present Aviemore construction force for further work of the kind it has completed and recommends that the Minister of Electricity be asked what new works he could recommend to enable this to be achieved’ (Treasury 1985, p.14).
would be equally necessary for a low dam. In May, Cabinet approved funds of thirty-five and a half million dollars for preliminary works, another fifty-two million dollars in June and, by May of 1980, a further seventy million dollars – all on the basis that such spending did not preclude a low dam. By 1980, however, Cabinet was adding the comment that money would be wasted by reverting to a low dam option.

By this time, the Environmental Defence Society, among others, had applied to the High Court for a review of the NWASCA decision on the grounds that it had failed to take account of the Otago Catchment Board’s report. Further grounds were that the NWASCA chairman, also the Minister of Works, had publicly declared support for the high dam, prior to the NWASCA’s decision. These appeals were rejected by the High Court in October 1979, but appeals to the Planning Tribunal were still pending.

The Government, in July of 1980, sought a date to have these appeals heard by the Planning Tribunal. Later that same month, it announced plans for a second aluminium smelter at Aromoana, allowing the Government to show the Tribunal an urgent need for power that only the high dam could provide. This led to suspicions that the Government had delayed the Planning Tribunal hearing of the water appeals until its own case had been strengthened (MRC 1990, p.30).

The Tribunal, by a four-to-two majority decision, rejected the appeals on rather curious grounds. On the one hand, the Tribunal interpreted its terms of reference to mean it could not consider the end uses of the electricity. Consequently, the Tribunal found that the high dam could not be justified in terms of the needs of the national grid, since the forecasted estimates of demand had been over-estimated by 100 per cent. However, the Tribunal then went on to award the water rights for a high dam which was entirely justified, it said, considering the end electricity needs of the proposed aluminium smelter. It had to reject arguments by many objectors that the smelter might not be built at all.

Given the Tribunal’s inconsistent interpretation of its terms of reference, it was not surprising that the Tribunal sought the guidance of the High Court on whether it had been correct in excluding the end use of the power. In May of 1982, the High Court found that the Tribunal had, in
fact, interpreted its terms of reference incorrectly, and returned the water consent appeal to the Tribunal for rehearing.

This put the Government in a difficult position, albeit one much of its own making. Any changes to the high dam proposal or its deferral, would create substantial procedural delays, and incur substantial costs. Within two weeks of the High Court’s decision, the Government, on the advice of the Crown Law Office, proposed to introduce special empowering legislation, the Clutha Development (Clyde Dam) Empowering Bill, that would grant the water right regardless of the Planning Tribunal’s rehearing.

Even some of the Government’s own members became uneasy at this point, with at least two threatening to cross the floor. Government MP Mike Minogue thought that the Government ‘is getting to the stage where it doesn’t regard itself as bound by due process of law at all’ (cited in MRC 1990, p.30). This threat was rather serious, since the Government only enjoyed a slender majority in Parliament. However, by July of 1980, the Government had secured the assurances of the two Social Credit members of Parliament that they would vote for the special bill. With this political backstop, and without waiting for the outcome of the Tribunal re-hearing, the Prime Minister, R. D. Muldoon, requested that the construction of the Clyde high dam proceed at once.

In August of 1982, the Planning Tribunal, noting that there was neither evidence nor contractual commitment that the smelter would proceed, reversed its previous decision and withdrew the water right for the high dam, stating that it should not be built. The Government ignored this legislative setback, introducing and passing The Clutha Development Empowering Act by late September of 1982. With the support of Social Credit, the Government defended the special ad hoc legislation on the basis that the high dam was needed in the national interest. With the constitutional difficulties legislated away, the Clyde project accelerated, and was half completed by 1986. Despite the further difficulties that lay ahead – in terms of construction, cost overruns, and litigation – the battle for the Clutha was lost.

Environmental campaigners had failed to organise a petition, and they had failed to mobilise public and media support on the scale and intensity characteristic of the Manapour and antinuclear
campaigns. They had also failed in their calls for a Commission of Inquiry. Yet by the mid-1970s, opponents of the energy scheme enjoyed a favourable political opportunity structure, in terms of the energy situation. The combination of the 1973 oil crisis, the Manapouri power scheme that was now operational, and declines in the use of energy, meant that unnecessary excess capacity was being built (Bertram and Johnston 1981). At the same time, the National government held a number of Central Otago electorate seats with narrow margins in a climate of regional opposition to the energy project. Despite these factors, the Clyde dam project was approved.

These factors suggest that understanding the failure of the campaign cannot be seen purely in terms of the external structural political context. Instead, a contributing role for social movement organisations in terms of their strategic attempts to present their case, and influence the terms of the debate, may be suggested. Attention can usefully be directed to campaign discourse – the attempt to challenge the assumptions of the government’s position in the public arena. Although no public inquiry was generated over Clyde, public submissions were presented that allow us to ascertain the role of the mobilisation of discourse to further the understanding of the politicisation of the Clyde campaign.

3. Analysis of Submissions to the Commission for the Environment

Although no public inquiry was achieved over the Clyde issue, the public and environmental campaigners had two opportunities to make formal submissions. The first inquiry saw 107 submissions made to the Commission for the Environment (CfE) over its audit of the Ministry of Works 1975 Environmental Impact Report. The second inquiry saw 209 submissions (only three in favour) made to the Otago Catchment Board over whether to recommend a water right for Scheme F. Although this latter public hearing is not examined in detail, since its terms of reference were limited to the water right application, public comment from the hearing is analysed where appropriate. Therefore, the following sections draw on the analysis of submissions made in the more comprehensive terms of reference of the Commission for the Environment (CfE).
The CfE was directed by the Environmental Protection and Enhancement Procedures to have 'particular regard to establishing whether or not all environmental implications of the proposal have been identified and evaluated' (Commission for the Environment 1975, p.37). The CfE interpreted these provisions within a multi-objective approach that had to consider national economic development, regional development, social wellbeing, and environmental quality (Commission for the Environment 1975, p.1). Equal consideration to all four objectives was thought desirable, with social wellbeing and environmental quality to be seen as goals rather than as restraints. The CfE clearly saw that the 'undue concentration on the goal of national economic development' in previous assessments of Clutha resource development, had resulted in 'inadequate consideration' being given to the other three goals (Commission for the Environment 1975, p.2). Clearly, submissions opposed to the hydroelectric scheme would receive a fair hearing from the CfE.

The CfE received 107 submissions – thirty-five from government departments or local government agencies, forty-two from individuals, and five from commercial associations – which left twenty-five voluntary and professional organisations to make up the submission record. The method of selecting and coding submissions is described in Chapter Three. The following section presents the results of the analysis of submissions by frame. Discussion of each particular master frame is based on a table, that, in the first column, sets out the frequency \( f \) of cell positions coded for the signature element, within a master frame, for each interpretive package. In the second column, this frequency is shown as a percentage share \( x\% = \frac{f}{\sum f} \) of that particular master frame. Finally, the third column represents the frequency \( f \) of cell positions coded by signature element for each interpretive package as a percentage share of all cell positions across all three interpretive packages \( x\% = \frac{f}{N} \). Table Twelve summarises these overall results which are discussed under campaign outcomes.

4. The Moral Frame – National Benefits, Local Costs

Show them a river and it turns to cusecs; take them into a valley and they see dam abutments. Their mind spindles are immovable in departmental concrete and their thought-blades rotate only in one plane. (Powell 1978, p.75)
Although poetic, this language clearly identifies how campaigners saw the resource orientation of energy planners. Seeing the Clutha as a resource is to see it purely as one of the largest New Zealand rivers, and as one having the greatest flow. Not to ‘harness’ such a resource was, for the energy planners, abhorrent – a literal ‘waste’ of resources. Protesters, on the other hand, saw connections with the extraction fever of the gold days. ‘Where once men had mined the land, they were about to mine the river’ (Powell 1978, p.25). Not all resources are created equal in the conservationist perspective, however – gas supplies were too valuable to be ‘wasted’ in electricity generation when hydroelectric capacity was available (Treasury 1984, p.14). Former Energy Minister Bill Birch thought that New Zealand had to have energy, and hydroelectricity was seen as the best source (MRC 1990, p.58).

Table 9: The Moral Frame: The CfE Submission Record (Clyde)

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>f</th>
<th>MORAL FRAME %</th>
<th>ALL FRAMES %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>(EXTENDED UTILITARIANISM)</td>
<td>16</td>
<td>14.3</td>
<td>5.2</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>(ECOCENTRISM)</td>
<td>10</td>
<td>8.9</td>
<td>3.3</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>(RISK)</td>
<td>86</td>
<td>76.8</td>
<td>27.9</td>
</tr>
<tr>
<td>TOTAL (N=308)</td>
<td></td>
<td>112</td>
<td>100 %</td>
<td>36.4 %</td>
</tr>
</tbody>
</table>

Of the submission record coded as moral, over three-quarters expressed concern in terms of the risk perspective of political ecology. Two types of risk perspective were evident. The first type was that hydroelectric development imposed ‘opportunity costs’ – it precluded investment in low technology alternatives, and meant the loss of production from fertile agricultural land. Submissions were highly critical of the government’s single-minded resource orientation that failed to consider the biological, rather than the energy, potential of the Clutha region (Friends of the Clutha 1975, Ecology Action Otago 1975). The government tried to compensate for these opportunity costs by reference to the ‘multiple use’ perspective of conservationism, but the government’s commitment to
this position was perceived as extremely weak. Thus, much of the Clutha protest was over the single-minded focus on developing the river’s hydroelectric potential at the expense of opportunities for irrigation, pastoral development, and improved soil fertility.

The second risk perspective was that hydroelectric technology came at a price. Dams could generate adverse effects, exposing the population to higher levels of risk – micro-climate change, siltation, flooding, bank erosion, and eutrophication. Many submissions claimed, therefore, that the project failed to incorporate all such costs in its cost-benefit framework. The Clutha watchdogs, for example, argued that the true costs (adverse and opportunity costs) of hydroelectric production, might be better evaluated using ‘McHarg’s “Design with nature” that is based on all values that society and environment have’ (Clutha Watchdogs 1975, p.3). There was a real danger, they thought, of perceiving hydroelectric energy as ‘cheap’. Environmentalists such as Friends of the Clutha questioned the projected power requirements up to 1998, while Ecology Action Otago was critical of the ‘assumptions underlying the power plan that could lead to an incorrect allocation of priorities’ (Friends of the Clutha 1975, Ecology Action Otago 1975, p.5). Later Treasury analysis stated that the over-capacity of electricity supply in itself represented a very poor use of resources, since, while an oversupply will force electricity to be sold cheaply, it cannot be said that producing it had been relatively inexpensive (Treasury 1984, p.13).

The later Treasury (1984) position, in emphasising economic risk, reflects one aspect of the risk frame of political ecology. Treasury stated that it was not just that the cost-benefit assumptions of the time appeared to be optimistic, but that the government encouraged projects which the private sector was unwilling to undertake unless some of the risks were shifted onto the community at large (Treasury 1984, p.18). In pursuing the Clyde energy project, the government imposed increased levels of financial and environmental risk, and in mis-allocating scarce resources, also imposed opportunity costs on New Zealand taxpayers. Thus, Treasury came to echo important components of the risk frame found within political ecology.

Treasury’s articulation of the risk perspective in 1984 came too late to save the Clutha. At the time, Treasury analysis was not couched in these terms, nor was its position as influential as it
would later become within policy spheres. This lack of institutional support for the risk perspective helps to account for its lack of impact on the policy position, despite the risk frame being the single largest frame (over twenty-seven per cent) of submissions overall.

Other normative concerns expressed by campaigners attempted to appeal to the innate sense of fairness of New Zealanders. By the mid-1970s, Otago and Southland were producing almost half of New Zealand’s total electricity production. Many were dismayed that the rest of the country was once again exploiting regional resources. One submission cited the inequity of resource use. ‘If the nation has first call on a region’s resources surely this is another form of colonialism?’ (Clutha Watchdogs 1975, p.14).5

It was relatively easy for the government to counter such intra-generational equity concerns using arguments that concentrated on inter-generational equity – Clutha hydroelectric development was for all New Zealanders, present and future, and therefore in the national interest. The costs of not developing the hydroelectric resource would be national – the costs of proceeding would only be local. In other words, it was relatively easy for energy planners to show that the local and regional benefits of not developing the resource were far outweighed by the national costs of not doing so. Consequently, the government was able to frame its developmental aims in terms that may have defused some concern. Indeed, in its submission, the Royal Forest and Bird Society stated that, although steps must be taken to minimise damage to the environment, the scheme was ‘in the overall interests of New Zealand’ (Royal Forest and Bird Protection Society 1975, p.2). Scheme F was adopted because it conformed to the efficiency criteria of the extended Utilitarian ethic – providing more power, more quickly, for more people, and over the longest time.

The ecocentric frame, at three per cent, must also be considered ineffective in mobilising the debate. Only five species of fish were found in the Clutha, and none were endangered. At the same time, the newly created reservoir offered some compensation as a recreational fishery. This frame

5 Electricity production and pricing have been a continuing politicising element in semi-serious calls for the South Island to secede from the rest of New Zealand.
also exhibited some intra-frame contradiction – some submissions explicitly framed the debate as a choice between ecocentric and anthropocentric concerns. Noting that, at Manapouri, generating capacity had been reduced to save trees and shoreline, one submission stated that, ‘in our case there are people and livelihoods affected and we suggest that these are of far greater importance, both locally and nationally, than beech trees and fish’ (Lowburn and District Action Committee 1975, p.14). Powell regarded the Clutha hydroelectric scheme as ‘politically and biologically amoral’, but, for the most part, the lack of unique or threatened species in the region ensured that such arguments had little purchase (Powell 1978, p.77).

Overall, over one third of submissions were normative in nature, similar to the level at Manapouri. Unlike Manapouri, however, the ecocentric position was significantly weaker, and the resource development perspective stronger. While the anthropocentric risk perspective dominated the frame, it was primarily articulated in terms of local and regional costs. This seriously weakened its rhetorical impact, allowing the conservationist interpretation of resource development in the national interest to remain intact.

5. The Aesthetic Frame – Divided Identities

Although Manapouri was not defended primarily within an aesthetic frame, there can be no doubt that Manapouri’s aesthetic features – native bush, snow-capped mountains and glacial lakes – struck a chord in the national psyche. Indeed, so iconic have these features of New Zealand become, that they appear on a diverse range of New Zealand products. The appeal of Clyde as a national trademark was not so apparent – denuded hillsides and rocky scree dominated a rain-starved landscape that failed to stir the hard-hatted officials from the NZED (Powell 1975).

It should not be assumed, though, that Clyde campaigners failed to appreciate the natural beauty of the region. One submission described their ‘special admiration for the arid-tawniness of the countryside, the tumbling, rushing rock-water gorges, the power and beauty of unsullied nature’ (Dunedin Citizens Group 1975, p.2). What was needed was not recreation, since ‘We need more from the Clutha than things. We need re-creation, elemental contentment, hope’ (Lincoln College
Working Parties 1975, p.16). Others were concerned with the threat of 'visual pollution' – from transmission lines, or from increased levels of siltation and increased aquatic weed growth – which would diminish the aesthetic appeal of the area (Clutha Watchdogs 1975, Cromwell and District Historical Society 1975). Table Ten shows that a very high percentage (seventy-seven per cent) of this frame’s submissions did not subscribe to the simple amenity orientation of conservationism.

**Table 10: The Aesthetic Frame: The CfE Submission Record (Clyde)**

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>( f )</th>
<th>( \text{AESTHETIC FRAME} )</th>
<th>( \text{ALL FRAMES} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>(AMENITIES)</td>
<td>14</td>
<td>22.6</td>
<td>4.5</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>(IDENTITY)</td>
<td>48</td>
<td>77.4</td>
<td>15.6</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL (( N = 308 ))</strong></td>
<td></td>
<td>62</td>
<td>100%</td>
<td>20.1%</td>
</tr>
</tbody>
</table>

Nevertheless, in comparison to the Manapouri debate a decade earlier, the localised appeal and range of scenic values meant the capacity for politicisation in this dimension was substantially lessened. Consequently, conservationist arguments were readily available. Energy planners found it relatively easy to demonstrate that development objectives would compensate scenic loss with extended recreational opportunities. The creation of the artificial Lake Dunstan, for example, rendered through an artist’s impression, and published in local newspapers, was promoted as offering even more leisure activities for the region than were previously possible.

There also appears to be recognition that arguments stressing the natural beauty of the valley were subjective, and would not be well received. Presenting his case to the Minister of Electricity, Powell noted the Minister’s response when he argued that ‘something unspoiled should be left for posterity. The Minister smiled, his cohorts leaned back again and yawned. Pure emotionalism: let the peasants wring their hands’ (Powell 1978, p.75). It seems that scenic values were important, but at the same time, such values had to be played down because presenting them forcefully would only
work against the campaign. Although much the same thing had occurred at Manapouri, the difference at Clyde was that the particular aesthetic appreciation was local. Perhaps the Clyde River failed to invoke in energy planners the more recognisable and iconic symbols of New Zealand that Manapouri represented. On the other hand, evoking an alternate aesthetic appreciation of nature may influence aesthetic attitudes in the long-term. Certainly, the importance of wild and scenic rivers, and their value in terms of adventure tourism, is much more recognised today.

The aesthetic frame’s politicisation capacity is not limited to scenic values. It can also effectively mobilise debate over identity issues. Three types of identity discourse were possible at Clyde. The first would have been significant had it emerged in time. By 1980, Clyde was coming to be justified in terms of the opportunity it represented to use ‘cheap’ energy to attract foreign investment in energy intensive industry, which would generate overseas exchange earnings. This rationale simply did not exist, at least publicly, either at the time of the dam’s commitment in 1976, or by 1978, when construction was irrevocably commenced. In other words, in the Manapouri campaign, Comalco was an issue around which identity concerns could coalesce – attracting large consortiums meant indigenous energy would be subsidising ‘foreign’ profits through concessional power pricing. By comparison, the Clutha campaign was unable to utilise this argument, and unable to frame the issue in terms of threats to New Zealand’s identity.

The absence of a third party such as Comalco, actively supported the rhetoric that only ‘investigations’ were under way. At the same time, Ministers and their departments managed to disguise the similarities and relationship between Clyde and Manapouri. The identity frame in the Clutha debate, therefore, lacked what was a significant politicising component at Manapouri. Frame analysis, at least deployed in a comparative context, helps to focus attention on how issues avoid being framed in the debate, since keeping issues off the political agenda also reflects the capacity of political actors.

6 A senior official of the NZED admitted as early as 1968 that if the Comalco agreement called for a very large smelter, the output from Manapouri would not be sufficient, and power would then have to be drawn from both the Clutha and Waitaki schemes (Evening Star, 10 July, 1968).
A second identity issue available to campaigners was that of ‘social costs’. One submission defined these very well.

In this community social effects is [sic] understood to mean the human implications of such development – the dreadful effects of inundation, the despair of families losing properties which have been theirs for three or four generations, the frightening uncertainty of one’s future, the loss of jobs by farm employees, the fear of the unknown, and the loss of such a fine heritage. These are the factors which are already promoting tensions among people concerned. This is what is affecting the emotional and social wellbeing in the community. (The Cromwell and District Women’s Organisation 1975, p.15)

Farming issues were also framed in terms of identity. While compensation could offset the monetary loss of orchardists, it could not replace an experiential dimension – the loss of the relationship with the land, and a way of life (Morton 1972, p.17).

Although the socio-cultural dimensions of hydroelectric development are well presented in submissions, their impact may well have been undermined. These types of identity concerns were continually dissipated by the competing and localised concerns present in the debate. For much of the time, the debate was conducted in terms of the threats posed to the groups’ own localised areas of concern – over Lake Wanaka or the future of the Cromwell township, for example. Indeed, between 1965 and 1972, when the prospect of the old historic town being flooded had depressed business confidence and land values, much concern was generated. When Government intimated that compensation would be given, and that a new town would be built, this ‘historic heritage’ began to be re-framed as a ‘shabby, scruffy encumbrance’ (Powell 1978, p.147). The divisive effect was not lost on some commentators. ‘It is selfish in the extreme of the people of Cromwell to think only of themselves in this way, at the complete expense of Lowburn residents’ (Clutha Watchdogs 1975, p.11).

A similar lack of unity is evident in the proliferation of environmental and citizens groups in the Clyde campaign. Over the course of twenty-five years, a number of organisations emerged in opposition to hydroelectric development on the Clutha, including the Otago Catchment Board, Otago Federated Farmers, the Lowburn Action Committee, Clutha Watchdogs, Clutha Action Committee, Clutha Rescue, and Ecology Action, among others. Despite, or perhaps because of, the
diverse nature of interests these groups represented, no umbrella organisation emerged that presented a unified approach to opposing Clutha hydroelectric development. Powell regards this lack of unity and the lack of a unified campaign as a tactical mistake, and one which subsequently prevented the emergence of a prominent campaign leader (Powell 1978, p.63).

In summary, although the level of submissions framing aesthetic issues was much the same at Clyde as it was at Manapouri, important differences in how these issues were articulated affected the capacity of the frame to politicise the issue in the same way. The Clyde campaign was unable to draw on nationally resonant scenic values, hesitated to articulate the local appeal of the area, and could not identify Comalco as a 'foreign enemy'. Significantly, no national campaign identity or strategy emerged. The diverse action committees, taking a range of positions, dissipated the potential for solidarity. It was these limited and divided identity interests at Clyde, then, which can be identified as critical factors in the failure of the campaign to politicise the aesthetic frame. At Manapouri, the aesthetic frame was mobilised sufficiently, and, importantly, more polarised, to move an understanding of aesthetic concern beyond the simple frame of amenity values.

6. The Frame of Rationality – Uncertainty Unchallenged

One commentator on energy projects notes two features of large-scale projects. The first is the size of the errors within cost-benefit analysis that tend to underestimate the costs and overstate the benefits. The second feature is the frequency with which these errors are made (Hazeldine 1981, p.34). Over the course of eleven energy projects between 1959 and 1985, analysis indicates a mean construction cost overrun of 125 per cent, delays in commissioning seven out of the eleven projects, and electricity cost overruns of an order of 150 per cent (Treasury 1985, p.5).

The frequency and size of errors in such projects is seen as a 'bias to optimism' within cost-benefit analysis – attributed to the type of people involved in the projects, to their activist, 'do-something' mentality (Hazeldine 1981, p.35). Not surprisingly, the Minister of Energy, Bill Birch,
was described as someone whose ‘express-train confidence’ in the energy projects was regarded as a crucial contributing factor shaping energy development in New Zealand (James 1980, p.4).7

Yet the ‘bias toward optimism’ in cost-benefit analysis cannot only be attributed to factors as idiosyncratic as personality. The number of shifting personnel across time, across bureaucracies, and across governments suggests that cost-benefit analysis be seen in structural terms as well. The propensity for cost-benefit analysis to err on the optimistic side stems, in other words, from a more general belief that the technique is ‘value-free’ and ‘objective’, and hence can actually resolve planning issues (Tester 1985, p.20). Not surprisingly, cost-benefit analysis forms a central part of the conservationist cognitive frame.

The Clyde project reflected the conservationist faith in full. It involved both an overstatement of benefits – satisfying demand projections – and an underestimation of costs. Perhaps one reason for this faith is that the conservationist frame seems particularly attuned to the rational calculations of a technical and expert elite. It is unsurprising, therefore, that a ‘sense of crisis’ was fostered in policy makers when the various planning agencies responsible for energy forecasting predicted that the historical trend of energy growth of seven to eight per cent would continue into the 1980s.8 Although these reports did contain conflicting views on the future growth of electricity consumption – from Treasury, the Ministry of Energy Resources, and the Department of Statistics – members from the Electricity Department and the Electrical Supply Authorities remained in the majority, and their view was adopted by the Planning Committee. At the time of public submissions to the Commission for the Environment in 1975, such institutional and authoritative challenges to the cost-benefit projections of energy planners were missing.

7 Indeed, Birch has now come to be so associated with these energy developments that he is personified as ‘Mr Think Big’ (Goulter 1991, p.27).

8 Later analysis would show that the ten-year demand forecasts were overestimated by thirty-three per cent in 1968, and by fifty-two per cent in 1973 (Boshier et al. 1986, p.10). These revised forecasts would not emerge until 1977, well after the commencement of the Clyde project.
Table 11: The Rationality Frame: The CfE Submission Record (Clyde)

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>f</th>
<th>RATIONALITY FRAME %</th>
<th>ALL FRAMES %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM (MANAGERIAL RATIONALITY)</td>
<td></td>
<td>24</td>
<td>17.9</td>
<td>7.8</td>
</tr>
<tr>
<td>PRESERVATIONISM (ECOLOGICAL RATIONALITY)</td>
<td></td>
<td>50</td>
<td>37.3</td>
<td>16.2</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY (PARTICIPATORY RATIONALITY)</td>
<td></td>
<td>60</td>
<td>44.8</td>
<td>19.5</td>
</tr>
<tr>
<td><strong>TOTAL (N=308)</strong></td>
<td></td>
<td>134</td>
<td>100 %</td>
<td>43.5 %</td>
</tr>
</tbody>
</table>

Although most of the submission record coded for rationality in terms other than the cost-benefit approach, almost twenty per cent supported the conservationist frame of managerial rationality. Indeed, many campaigners seemed to accept the argument that New Zealand needed to increase its energy supply. Instead, many submissions were concerned with improving, as opposed to discrediting, forecasting and cost-benefit techniques. These techniques were thought able to model a wide range of effects – power supply, river flow, river control, bank stability, water quality, siltation, climate, and flooding. For example, The Dunedin Citizens Group (1975, p.10) thought that ‘computer studies of these [flooding] effects should be relatively straightforward to perform in the Power Investigations section of M.O.W.D’. Only one submission saw where a problem lay with computer studies. ‘The high plant factor ... is open to criticism because simulation of flow was programmed differently by NZED computer’ (Clutha Watchdogs 1975, p.9). Submissions that questioned demand forecasts were even less evident.

The result was that many of the assumptions of cost-benefit approaches were seen as relatively problem-free. Combined with an institutional consensus on future electricity demand, confidence in the perceived benefits of the Clyde project remained intact. The assumptions of the cost-benefit model, however, could have been undermined had the costs of the project been fully evaluated. In particular, assumptions about the construction costs that would be incurred as a result of the geological environment of Clyde, remained intact.
In later years, two geological issues came to dominate controversy over the Clyde project—slope instability, and seismo-techtonic factors. When new lakes are formed, slope instability factors play a leading role in estimating the risk of landslides. In 1963, at Vaiont in Italy, a whole hillside had slid into a new hydroelectric lake within the space of a minute, resulting in the death of 2000 people. Since groundwater conditions play a central role in landslide behaviour, identifying the level of landslide risk requires both exploratory drilling and tunnelling investigations. Although even preliminary investigations of the hydroelectric potential of the Clutha had identified a certain level of landslide risk, by the time the dam was committed in 1976, only minor exploratory drilling had been undertaken on the dam site itself. No geological investigation at all had been approved on the reservoir shoreline, despite a number of submissions on the geological instability and risk present at Clyde prior to 1976.

The philosophy was to do some investigation, prepare a basic estimate, get the Government’s approval, then identify the problems as you went along. [Ministry of Works] investigated, got approval and started work. They were the king of the road. (MRC 1990, p.38)

Between 1967 and 1989, a total of nearly four and a half million dollars was expended (1990 dollars) in investigating the geological risk at Clyde (MRC 1990, p.12). Of this amount, just $120,000, or three per cent, had been spent on geological surveys before the dam was committed in 1976. In the event, the level of landslide risk was so extensive that it required $423 million to be spent on investigation and stabilisation—a staggering twenty-five per cent of the total $1.7 billion Clyde project (MRC 1990, p.14).

At the subsequent Ministerial Inquiry, the DSIR geology team indicated that in 1976 they simply had insufficient data to say whether the dam site was suitable or unsuitable. Despite the lack of data, such a level of uncertainty seemed to be regarded as manageable. ‘Those involved were confident that, if unforeseen geological problems emerged in the course of construction, they could be managed successfully’ (MRC p.1990, p.37).

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9 No submissions made reference to this example.
It is important to note what is being argued here. It is not just that no evidence of geological risk was apparent at Clyde – clearly, the lack of geological investigation precluded this. The finding is rather that despite the lack of data on the geological risk, an attitude of optimism nevertheless emerges – if geological problems do emerge they can be managed ‘successfully’. Several submissions were critical of the optimism typical of the cognitive frame of conservationism – although, significantly, none that applied to modelling geology. For example,

Extrapolation of statistics from the Waitaki Lakes and Lake Roxburgh is not sufficient, and in our opinion it is socially and scientifically ridiculous to build dams first and measure their climatic consequences for ten years afterwards. (Friends of the Clutha 1975, p.3)

This is not to suggest that uncertainty should, instead, be approached with pessimism, but it is to argue that both optimism and pessimism are value judgements imposed by human agents.

Much the same can be said about the other geological risk at Clyde, that of earthquake. Not only is the Clyde dam built on an active fault, but also there is recognition that large bodies of water in artificial reservoirs can induce seismic activity. Environmentalists pointed this out to Ministerial and NZED representatives as early as 1969, citing induced earthquakes that had resulted in over 200 deaths in India in 1967 (Powell 1978, p.79).10 Despite the 1969 warning, it was not until 1982 (six years after committal and one year after main construction had begun) that the seismo-tectonic hazards at Clyde were investigated. Again, such was the extent of the newly discovered seismic risks that excavation for foundation work had to be increased twenty-fold, resulting in protracted litigation by the contractor. The dam itself had to be radically redesigned to incorporate a slip joint to accommodate lateral and vertical movement sufficient to withstand a magnitude 7.5 earthquake.

10 In fact, so stunned was the NZED chairman that he specifically requested the full reference to the article ‘Fill a Lake, Start an Earthquake’ (Powell 1978, p.79). Lake Dunstan, the reservoir behind the Clyde dam, now holds an amount of water about three times that in Wellington harbour.
Such an earthquake had a two to seven per cent probability of occurring over the 150-year life of the dam.\textsuperscript{11}

The conservationist faith did not fail at Clyde because it was never tested. There was very little geological debate to challenge such a faith because there was very little geological work carried out prior to construction, and even less prior to committal. This approach precluded much of the scientific debate that was apparent at Manapouri, and which politicised the conflict within the cognitive frame.

In many respects, we might suspect that a failure to reorient the conservationist frame stems from a simple lack of data. On the face of it, this might explain the attitude of the MOW. For example, despite no research on the levels or patterns of snow and rain precipitation in the alpine and lake catchment area, the attitude of the MOW was, ‘There’s no reason to think the water won’t come every year, as it has before’ (Powell 1978, p.101).

Instead, it is contended that it was not just the absence of scientific data that enabled the conservationist cognitive frame to remain intact at Clyde. In other words, in the absence of scientific data (that is, uncertainty), it is the cognitive frame in which the uncertainty is embedded that is critical to predicting how it will be interpreted. This is most clearly demonstrated in the comparison of two fundamentally different conceptions of geological processes, and is the subject of the next section.

6.1 Ecological Rationality – Catastrophism not Uniformitarianism

Today, as the geologists take VIP visitors over the Cromwell Gorge landslides by helicopter, they point to cliffs where the tilted strata of the schist slope steeply from summit to valley floor. “You can readily see,” they say over the intercom, “how the upper layers are sliding down the incline towards the valley floor.” Twenty years ago, looking at the same sight, the same people drew the opposite conclusion. These were inactive ancient

\textsuperscript{11} It has been subsequently revealed that the movement the dam would be expected to endure before failing was not 200mm, as first anticipated, but 600mm (MRC 1990). Although this figure is regarded as being within the design tolerance of the slip joint, it seems to demonstrate a level of technological optimism that many environmentalists find difficult to accept, since it is a virtual certainty that earthquakes will occur over the life of the dam.
fossil landslides, they said, which had not moved for 50,000 to 100,000 years. (MRC 1990, p.46)

Since the landslides had, apparently, not moved for 50,000 to 100,000 years, it was difficult in the mid-1970s to convince people that they were actually slides at all. Constructing nature in this way was fundamental to attitudes toward risk. As late as 1978, the Commission for the Environment concluded that there appeared to be no cause for concern on geological grounds (MRC 1990, p.39). In fact, most slides were moving at the rate of about twelve millimetres per year.

It is not often that an appreciation of geological factors is found outside the environmental movement or its literature (unless these refer to the aesthetic and cultural importance of geological landforms). For the most part, geological processes occur at imperceptible rates of millimetres per year. Nonetheless, such processes must also be counted as ecological processes because they are dynamic.

What has altered in the present-day perception of the landslides at Clyde is a fundamental reappraisal over the nature of geological change. Hargrove identifies two approaches to geologic processes – 'uniformitarianism' and 'catastrophism' (Hargrove 1989). The first model assumes that geological change takes place very slowly, while catastrophism implies that such change does not always occur in this way.

These cognitive differences are significant. If uniformitarianism is part of the preservationist model, it suggests that the conservationist position frames geological processes within a catastrophism orientation (Hargrove 1989, p.118). Since MOW and NZED officials held the conservationist frame, no apparent movement meant that the risk of landslides could be discounted. The subsequent uniformitarian view of the slides that is held today is a perfect illustration of the social construction of nature (Eder 1996b). Although the Clyde landslides have not altered in any

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12 Preservation is not about saving a fixed or immutable order, but rather, saving the processes of change. If evolution is seen as the biological counterpart to the uniformitarian world-view, human action matters when it upsets features that have been established in wider timeframes.
empirical sense, the way they are now ecologically, economically and politically constructed are fundamentally different.

One further submission serves to illustrate the deficiencies of the cost-benefit approach when informed by deficient ecological models.

The supposition or contention that Hawea will be low at the time of a flood is a dangerous one, effectively disguised by the simplistic way in which the Lake Wanaka graph for the Roxburgh Station study was constructed and transposed to the Hawea catchment. This study, which in itself was based on faulty premises, dealt only with single and not multiple event conditions, and took no account of snow melt. (Dunedin Citizens Group 1975, p.11)

Although over sixteen per cent of the submission record reflected the ecological sensibility, quoted above, it is curious that it failed to undermine the confidence of the cost-benefit models. Four different types of explanation seem evident here. The first is the set of contributing factors already mentioned – the lack of contravening opinions in government sponsored institutional settings, the lack of data on which such opinions might have formed and the composure with which such uncertainty was viewed.

The second type of explanation is that no submissions suggested alternative ‘uniformitarian’ ecological models of geology at Clyde. In fact, very little attention was paid to geological risk at all. The third explanation is also significant, and illustrates the importance of empirical verification if ecologically informed models are to be regarded as credible. Shoreline slumping served to reinforce the vulnerability model at Manapouri. At Clyde, the geological experience reinforced the conservationist catastrophism model – if no catastrophic change can be identified, no problem exists. Although the Vaiont example could have served to weaken the entrenched view of geological change, Clyde campaigners seemed unaware of the precedent. Consequently, the uniformitarian worldview emerged only later. The principal reason for the change in perspective, it seems, was experience. Over the construction phase of the dam, sixteen landslides required 15 km of tunnels and

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13 Statistics themselves can be seen as social constructions, rather than objective indicators (Hannigan 1995).
hundreds of holes to be drilled to stabilise the site. Finally, had the legitimacy of public participation been recognised, decision-makers may have been more sensitive to the validity of alternative ecological models. It is to these participatory concerns that I now turn.

6.2 Public Participation – not Legitimate, not Rational

The deep issue was, Who governed New Zealand, the people or the technocrats? (Powell 1978, p.21)

The Clutha controversy involved more than the material future of New Zealand. Participatory concerns, in three senses, provided a stimulus for close to forty-five per cent of the submission record in this frame. These can be addressed as, firstly, a lack of consultation and a lack of public participation, secondly, a lack of independence and, finally, legislative and constitutional issues.

The stifling of the public’s right to be informed and its right to comment had always concerned the Friends of the Clutha (Powell 1978, p.149). Although Clutha investigations had been authorised by government as early as 1962, it was not until 1965, as a result of mounting public pressure, that government made its first public comment on its plans for the Clutha Valley (Powell 1978, p.12). This secretive approach to Clutha policy restrained the effectiveness of the early days of the Clutha protest.

Despite repeated assurances that only exploratory work was proceeding, tender notices were being called for a construction camp at Clyde by June of 1968 (Otago Daily Times 1968). Concern remained, however, indicated by dropping property values, dwindling business, and the refusal by some ratepayers in the area to contemplate a new road until inundation levels were established.

Nevertheless, debate about other hydroelectric schemes such as Manapouri, Te Anau, and Tongariro continued to make headlines, and keep the general level of debate alive. In 1967, Sir

14 Uncertainty, however, remains over these remedial measures, since it is unclear whether the tunnels will last the life of the dam, given previous rates of movement.
Edmund Hillary noted that hydroelectric power projects were often a good example of the dishonesty of government utterances (Powell 1978, p.45). Clutha proposals, on the other hand, were kept out of the public domain until 1971, when details of a six-dam proposal were published in the *Otago Daily Times* in September of 1971.

It was not until July of 1974, over a decade after ‘investigations’ had begun, that the public were invited to make submissions to the Clutha Advisory Commission. Not surprisingly, Powell attributes much of the impetus of Clutha protest to the use of sophistry and casuistry by government Ministers, and MOW and NZED officials that led to a predictable result – ‘Departmental secrecy bred public doubt’ (Powell 1978, p.21).

This loss of faith in official announcements cascaded into a more serious doubt – a questioning of the legitimacy of statutory bodies. This stemmed, not just from secrecy, but from the repeated lack of independence of the plethora of Clutha investigatory committees, whose membership was always dominated by NZED and MOW staff. The NZED, for example, was secure in its monopoly as the only power planning authority in New Zealand, in its guarding of information on which it based its estimates, in its immunity from anyone outside its offices challenging its arithmetic. (Powell 1978, p.24)

This produced an inevitable bias toward hydroelectric power and development, and one that, according to the *Otago Daily Times*, had only given lip service to multi-purpose planning (*Otago Daily Times* 1974).

The problem was more widespread than monopolised forecasts, however. At the Otago Catchment Board hearing to consider the granting of a water right for Scheme F in 1977, the chairman of the Guardians of Lake Manapouri suggested that NZED botanists had given misleading information about the growth of waterweed in hydroelectric lakes (Powell 1978, p.199). Because the chairman of NWSCA was, in fact, also the Minister of Works, NWSCA was perceived to be ‘stacked’ with ministerial appointees. These sorts of concerns were the motivation for the formation of ‘Friends of the Clutha’ in 1972, who called for an independent, non-departmental committee to assess the entire Clutha Valley development proposals. Others submitted that
When discussing committees of experts [ask] Is there a humanist among them one whose training is ... in the humanities? Is there a social scientist among them, one trained to examine the human foundations of the district as thoroughly as others no doubt examine the geological foundations of the dam? (Cromwell and District Women’s Organisation 1975, p.3)\(^{15}\)

The third area of participatory concern was the constitutional issue raised by the government’s repeated refusal to be bound by due process of law. Four examples demonstrate, but by no means exhaust, this dimension of participatory concern. The first was the National government’s refusal to consider the Commission for the Environment’s (CfE) 1975 report that the Clutha dam schemes were unbalanced, and failed to consider a wide range of effects. The Chairman of the Guardians of Lake Manapouri thought that the Government had made a mockery of the CfE, which represented responsible and expert opinion (Powell 1978, p.166).\(^{16}\) Secondly, the government overturned the recommendation of its own Clutha Advisory Commission by proceeding with Scheme F without undertaking, as required, an Environmental Impact Report. Thirdly, the NWSCA simply set aside the decision by the Otago Catchment Board not to grant a water right. Finally, after opponents of the Clutha scheme had won legislative victories through the Planning Tribunal and the Courts, the government introduced special empowering legislation that simply granted to the Crown a water right that the legislative process had refused. Speaking about the legislation, the Minister of Energy stated:

We become captives of the law at times ... an MP and an elected government have responsibilities to make decisions and provide leadership ... we shouldn’t expect the courts to accept those burdens. (cited in Young 1983, p.23)

\(^{15}\) Kellow points to a more fundamental role for social scientists than simply counting the human cost of development. That is, electricity planners (dominated by engineers with no social science training), failed to realise how predictions of future demand could become self-fulfilling prophecies. Planners were creating a future of increased electricity consumption, and not simply planning for such a future (Kellow 1996, p.18).

\(^{16}\) For an account of the suppression of the Commission for the Environment, and an attempt to limit its constitutional role, see Tester (1985).
In summary, participatory concerns were reflected in submissions, and were the second most important frame (nearly twenty per cent) in the submission record overall. This frame clearly provided much of the impetus to mobilisation of the campaign, which escalated at each new constitutional abuse, and prompted much of the organised groups to emerge. It was also the most effective. Opponents of the Clyde hydroelectric project used existing legislation to successfully fight the scheme before the Catchment Board, the National Water and Soil Conservation Authority, the Planning Tribunal and the Courts. This was to be a short-lived victory, however, and in the following section, a brief summary of the outcomes of the Clyde campaign are examined.

7. Assessing Campaign Mobilisation and Influence

The Clyde controversy was almost as much about the construction of the energy issue as about the construction of a high dam. It was a battle over whose frames would construct the terms of the debate. Some accepted the debate as a clear choice between development priorities, while many campaigners argued (not always successfully) that energy priorities were the result of decision-making structures. This section summarises the main findings from two perspectives. The first more general perspective identifies the type of packages most prevalent in the submission record and assesses their influence on the debate. Secondly, a more finely focused approach assesses the role of individual frames within the interpretive packages.

Table 12: Summary of the CfE Submission Record (Clyde)

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>MORAL % (f)</th>
<th>AESTHETIC % (f)</th>
<th>RATIONALITY % (f)</th>
<th>TOTALS % (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>5.2 (16)</td>
<td>4.5 (14)</td>
<td>7.8 (24)</td>
<td>17.5 (54)</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>3.3 (10)</td>
<td>15.6 (48)</td>
<td>16.2 (50)</td>
<td>27.3 (84)</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>27.9 (86)</td>
<td>20.1 % (62)</td>
<td>19.5 (60)</td>
<td>55.2 (170)</td>
</tr>
<tr>
<td>TOTALS (N=308)</td>
<td>36.4 % (112)</td>
<td>20.1 % (62)</td>
<td>43.5 % (134)</td>
<td>100%</td>
</tr>
</tbody>
</table>
Table Twelve presents the percentage of submissions attributed to each interpretive package. The political ecology position dominates, accounting for over fifty-five per cent of all submissions. The conservationist position (under eighteen per cent) is almost the same as the figure found at Manapouri (less than nineteen per cent). Clearly, the conservationist position was relatively less mobilised in the Clyde submission record. In comparison to Manapouri, the preservationist position, at over twenty-seven per cent, is much weaker.

The Clyde campaign also provided an opportunity to test whether it would exhibit a relatively weaker mobilisation of the conservation position, while the most mobilised package was expected to be preservationism in hydroelectric campaigns. The conservationist position, while finding a level of support among environmental organisations at Clyde, is consistent with the idea that highly politicised campaigns in the modern era of environmentalism in the 1970s will see conservation concerns relatively less mobilised.

Yet despite almost identical low levels of mobilisation of the conservationist position within the submission record, it is evident that the energy policy consensus remained intact. The maximum yield of Scheme F was adopted over the scheme preferred by the public, the Commission for the Environment, a succession of Clutha advisory commissions, the courts, opposition parties, and two of the Government’s own members of Parliament. Again, the National government was able to defend the Clyde hydroelectric scheme by utilising critical components of the conservationist package. The framing of the Clutha River as a national resource, whose development would benefit the nation, seems to have proved a powerful rhetorical strategy. Certainly, the ‘national interest’ was used extensively by the government as a justification of the Clyde hydroelectric development. While over eighty per cent of the submission record does not frame the debate in these terms, it seems to have had little effect on the policy agenda.

On the other hand, a crucial difference between Clyde and Manapouri is that the preservationist package is much weaker (under twenty-eight per cent compared with over forty-five per cent at Manapouri). The implication is that, although the combined preservationist and political ecology positions were represented to much the same extent in the Manapouri and Clyde campaigns,
the lower mobilisation of preservationist arguments may not have polarised the debate, as occurred over Lake Manapouri. The primary frames responsible for the weaker preservationist preservation are the ecocentric and ecological rationality frames, and to these I now turn.

Table Twelve illustrates that the most prevalent frame coded in the submission record was the rationality frame. Within this frame, while both ecological and participatory rationales are broadly comparable to their mobilisation in the Manapouri campaign, important differences can be noted. The first was that Clyde campaigners faced an institutional set of energy policy actors whose monopoly or hegemonic position in energy forecasting remained intact. Treasury, as one of these established policy actors, would later be highly critical of the energy cabal. At the time, however, Clyde campaigners had no such institutional ally.

A second difference was that data on crucial geological processes was simply non-existent, and such uncertainty was viewed as normal. Further, no submissions suggested that an alternative 'uniformitarian' model of the geological terrain was more appropriate at Clyde. In other words, the catastrophism model of geological change was not challenged, either by campaigners directly, or by some degree of empirical verification in the form of major landslides that might have challenged such a model. Finally, the absence of an ecocentric frame, and the localised context of the risk frame, limited their effectiveness in shifting the terms of debate within the moral frame.

While the aesthetic frame features less strongly (about twenty per cent) than the other frames, paying attention to aesthetic arguments remains an important analytical focus. Its relative lack of articulation does not suggest that the frame is unimportant. Rather, the lack of the Comalco issue to polarise opinion, the competing concerns of localised communities, and the perception that Clyde lacked status as a national icon (as at Manapouri), suggest why aesthetic issues were not influential in sensitising energy policy planners. In some sense, the fight over the Clutha River, at least in the early stages of the campaign, had to compete with the Manapouri debate, and may have been hindered by it. Powell believes that the 'Manapouri fury blazed with such brightness that it outshone the menace to the country's greatest river' (Powell 1978, p.89).
The failure of the Clyde campaign to reorient the policy discourse cannot simply be attributed to these differences in the politicisation of particular frames. Clearly, institutional support, campaign identity, and lack of public information played significant roles. Yet this does not exclude a role for the role of discourse in these areas. Campaigners failed to present their participation as legitimate, the level of data uncertainty as a problem, and failed to shift the understanding of geological change. This may suggest that influences on the politicisation of the policy agenda are not restricted to forces outside movement organisations.

On the other hand, although the campaign failed to get the project cancelled or even downgraded, it did manage to delay the construction and licensing process for four years. Yet this intermediate success of the protest campaign forced the Government to introduce ad hoc legislation to override the campaign’s previous victories, and influenced the campaign’s ultimate outcome. The political and legislative measures taken by the National government succeeded in limiting public challenges to energy planning decisions, and certainly helped to constrain the politicising influence of the Clyde campaign.

Thus, we must consider that campaign actions may not only be unsuccessful, but also counterproductive by worsening the political opportunity structure in which the legislative context must be included. While the Clutha Development Empowering Act 1982 was the most immediate consequence, more serious was the National Development Act 1979 — an act described as a profound breach of constitutional convention (MRC 1990, p.31). This limited the ability of the public to challenge subsequent projects initiated under the thematic umbrella of Think Big.17

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17 According to Tester, the National Development Act represented an attempt to streamline the decision-making process, to concentrate executive power, to constrain public participation, and opposition to projects that were deemed to be in the 'national interest' (Tester 1985, p.22). Overriding twenty-two other pieces of legislation, including the National Parks Act, it placed time constraints on the planning application process, and restricted rights of appeal. In fact, the basic structure of the bill, when first introduced into Parliament, was provided by an August 10, 1979 letter from British Petroleum that suggested public scrutiny and safeguards 'automatically slow progress to a decision and cause impatience, and one must ask: to what purpose?' (Tester 1985, p.8).
Political opportunities can go both ways, however. An indirect outcome of the Clyde campaign – in many ways an extension of it – was the formation of the Coalition for Open Government (COG). This campaign, formed in 1979 by many of the environmentalists active at Clyde, was a direct response to the authoritarian implications of the National Development legislation. Over its five-year life, COG expanded its appeal to a wide variety of groups spanning constitutional concerns, civil liberties, social justice, and environmental concerns.

In turn, the constitutional and participatory concerns of COG did see a move by the government in 1979 to defuse public demands for more involvement in energy decision-making. This took the form of the publication of ‘Goals and Guidelines’, a document intended to involve the public in energy planning. However, this document soon made it clear that public involvement meant ‘providing the New Zealand public with information on energy matters’, in order to achieve a better informed public (Hill and Lee 1979, p.1). Such an attitude implies that environmental concern is seen as a consequence of uninformed opinion, and that it could be countered by a public relations exercise aimed at ‘increasing awareness of the issues involved’, rather than a genuine opportunity for public participation (Hill and Lee 1979, p.2). Indeed, one editorial doubted the usefulness of the exercise, believing that pressure groups lacked expertise and in-depth knowledge to participate in energy planning (Hill and Lee 1979, p.1).

8. Conclusion

The Clyde project was not conceived, investigated, committed and constructed in a vacuum. Proposals to build it were heavily conditioned by the electricity demand forecasts at the time, the national and international energy environment, the agendas of the departments involved in the project, and the hopes and aspirations of the Government which approved it. (Ministerial Review Committee 1990, p.23)

Clearly, in reviewing the Clyde hydroelectricity scheme, Treasury analysis provides little room for the role of those environmental organisations that sought to halt the project. Considering the range of opponents it faced, this is a tempting conclusion, especially since few previous assessments of the Clyde campaign have been made. Yet the movement foreshadows some of the
arguments used to transform the administration of New Zealand's environmental and resource agencies in the mid-1980s. The environmental movement's critique of energy planning that continued through the 1970s and early 1980s, helped to illustrate the deficiencies of energy decision-making in New Zealand. By 1984, the Labour Government was willing to listen to an alternate and credible source on energy policy matters, since it diminished some of the monopolistic control exercised by an intransient energy bureaucracy. By the mid-1980s, Labour was highly critical of the system of bureaucratic and political incentives that had been operating in the energy sector.18

As a result, Labour initiated a corporatisation policy that sought to ensure that future power projects would not be built 'using the organisational structure or the systems of incentive and accountability employed at Clyde' (MRC 1990, p.60). By the 1980s, Labour's position was that, while new dams can increase exports and create jobs in hydroelectric construction, the cost of subsidised power would slow down the growth rate in the rest of the economy. Moreover, it was critical of the Ministry of Works' 'king of the road' mentality, which placed it in a position to manipulate the timing of major hydroelectric projects to suit the convenience of its own staff, rather than the energy needs of the nation (MRC 1990, p.67). While the short term goals of the Clyde campaigners were not achieved, the campaign might be seen as setting in train a justification that helped to dismantle and reorganise the decision structures that dammed New Zealand's greatest river.

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18 Labour was not unresponsive, or new, to such criticism. In the Second Labour Government, a 1958 White Paper had been critical of the assumption that government should automatically respond to spiralling domestic demand, and spend ever-increasing amounts of money on power stations (Martin 1991, p.137).
CHAPTER 6
Nuclear Power for New Zealand?

1. Introduction

This chapter examines the proposal and subsequent rejection of nuclear power in New Zealand. It examines the role of the antinuclear power movement (hereafter antinuclear movement) in mobilising opinion, and the rejection of the nuclear option, which was first raised publicly in the mid-1970s. The level of concern over such proposals was immense. In 1975, a sampling of 17,500 households found that seventy-five per cent of respondents were against nuclear power as a power generation option (Royal Commission on Nuclear Power Generation in New Zealand 1978, p.116). In June of 1976, The Campaign for Non-Nuclear Futures was formed, and just four months later had collected 333,088 signatures. In terms of petition size, this was, and remains, one of the largest petitions ever presented in New Zealand.

The mobilisation of opinion at such high levels was not confined to this country. Opposition to nuclear power in industrialised democracies had been so widespread, rapid and effective that 1988 saw most nuclear programmes halted (Rudig 1990). In many cases, programmes were reversed with the intention of phasing out nuclear power. In Western Europe, only Belgium, Finland, France, and Sweden increased capacity between 1974 and 1988. Italy and Austria phased out their operating capacities completely, while Switzerland halved its nuclear power capability. This figure is similar to the United States where, in 1974, 230 plants were either operating, under construction or ordered. By 1988, only 115 plants could be thus categorised. Table Thirteen shows that out of nineteen industrialised nations, only five continued an increased nuclear power programme.

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1 This is the report by the Royal Commission on the submissions made to it, and will be referenced hereafter as Royal Commission Report to distinguish it from the submissions, which are referenced as Royal Commission Submissions.
Table 13: Global Implementation of Nuclear Power Programmes, 1974 - 1988

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>TOTAL NUCLEAR CAPACITY (MW)</th>
<th>TOTAL NUCLEAR CAPACITY (MW)</th>
<th>CHANGE %</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1974</td>
<td>1988</td>
<td></td>
</tr>
<tr>
<td>AUSTRIA</td>
<td>692</td>
<td>0</td>
<td>-100</td>
</tr>
<tr>
<td>BELGIUM</td>
<td>1,293</td>
<td>5,480</td>
<td>+324</td>
</tr>
<tr>
<td>CANADA</td>
<td>7,336</td>
<td>12,185</td>
<td>+66</td>
</tr>
<tr>
<td>DENMARK</td>
<td>1,000</td>
<td>0</td>
<td>-100</td>
</tr>
<tr>
<td>FINLAND</td>
<td>1,540</td>
<td>2,310</td>
<td>+50</td>
</tr>
<tr>
<td>FRANCE</td>
<td>21,040</td>
<td>52,588</td>
<td>+150</td>
</tr>
<tr>
<td>GERMANY</td>
<td>20,704</td>
<td>21,491</td>
<td>0</td>
</tr>
<tr>
<td>IRELAND</td>
<td>650</td>
<td>0</td>
<td>-100</td>
</tr>
<tr>
<td>ITALY</td>
<td>5,310</td>
<td>0</td>
<td>-100</td>
</tr>
<tr>
<td>LUXEMBOURG</td>
<td>1,300</td>
<td>0</td>
<td>-100</td>
</tr>
<tr>
<td>NETHERLANDS</td>
<td>3,500</td>
<td>508</td>
<td>-86</td>
</tr>
<tr>
<td>NEW ZEALAND</td>
<td>1,200</td>
<td>0</td>
<td>-100</td>
</tr>
<tr>
<td>NORWAY</td>
<td>900</td>
<td>0</td>
<td>-100</td>
</tr>
<tr>
<td>PORTUGAL</td>
<td>700</td>
<td>0</td>
<td>-100</td>
</tr>
<tr>
<td>SPAIN</td>
<td>7,508</td>
<td>7,519</td>
<td>0</td>
</tr>
<tr>
<td>SWEDEN</td>
<td>7,372</td>
<td>9,693</td>
<td>+32</td>
</tr>
<tr>
<td>SWITZERLAND</td>
<td>5,444</td>
<td>2,852</td>
<td>-48</td>
</tr>
<tr>
<td>UNITED KINGDOM</td>
<td>11,831</td>
<td>11,921</td>
<td>+1</td>
</tr>
<tr>
<td>UNITED STATES</td>
<td>223,146</td>
<td>95,273</td>
<td>-57</td>
</tr>
</tbody>
</table>

Note. Nuclear Capacity = current capacity, ordered or under construction
* projected capacity
Source: (adapted from Rudig 1990)

Yet so many Western nations began such large-scale nuclear programmes in the 1960s and 1970s, that one commentator noted as late as 1979 that

Given the world energy situation, it is unlikely that nuclear power development can or will be halted in the near future... The task, therefore, is not simply deciding how to abolish nuclear power, but rather, deciding how to manage its use. (Del Sesto 1979, p.xiii)

Nevertheless, within just ten years, nuclear power programmes had not only been halted but reversed, the decommissioning of nuclear power plants remains a formidable task, and decisions over the management of nuclear power continue to polarise political parties, and mobilise public opinion and protest. The transport of nuclear waste for reprocessing, for example, continues to fuel controversy from Germany to New Zealand. It is no wonder that Wolfgang Rudig contends that the shift – from a universal view of nuclear energy as the technology of the future, to one where its
inevitability was being discounted – can be regarded as one of the most ‘spectacular failures of human enterprise ever recorded’ (Rudig 1990, p.1).

The aim of this chapter is an attempt to understand the role of New Zealand’s antinuclear movement in the ‘spectacular failure’ of nuclear power as an energy option. While many studies of particular antinuclear movements have been made, relatively few studies have examined the role of ideas in movement campaigns in a comparative framework. Yet if antinuclear concern has had varying levels of success in influencing nuclear power programmes, it is the campaigns of the antinuclear movement that deserve attention, as much as an individual’s state of mind, or the peculiar features of democracy that allow such concern to be expressed.

As with the previous case studies, this chapter seeks answers in the way the antinuclear campaign in New Zealand engaged in an interpretive struggle with government actors and nuclear energy proponents. For reasons discussed in Chapter One, the frame analysis model is used to analyse the type of concern expressed, and to assess the influence of that concern on the energy policy agenda. Further, little has been done to assess whether antinuclear arguments differ in either type or degree from those of the broader environmental movement. The points of tension between the two movements were observed as early as 1972.

Environmentalists can’t expect lakes and rivers to be left alone in the face of a booming demand for electric power generation, and at the same time campaign against nuclear power .... New Zealand must restore its nuclear plans to priority; delays will mean disastrous shortfalls – and probably the raising of Manapouri after all. (*Sunday Times* 1972)

For some nations, the antinuclear movement helped provide the stimulus for the formation of environmentalist parties. In New Zealand, on the other hand, the antinuclear movement mobilised after the emergence of the Values Party. Hay and Haward argue that the two movements are analytically distinct, since a ‘wilderness-inspired green commitment is qualitatively different from an anti-nuclear derived position’ (1988, p.437). On the other hand, nuclear power is seen as a grim

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2 Examples of this approach can be found in Benford (1993a, 1993b), Entman and Rojecki (1993), Ladd, Hood and Van Liere (1978), while for a general overview of the literature, see Finsterbusch (1988).
symbol of the increasing erosion of the natural environment and aesthetic values at the hands of developing technology, industrialisation, and urbanisation (Ladd, Hood, and van Liere 1978). The frame analysis model allows a qualified test of such claims, at least in terms of the New Zealand context. This chapter begins with an overview of nuclear power proposals and protest, followed by an analysis of the Royal Commission of Inquiry (RCI) set up to examine the nuclear power option for New Zealand. The chapter concludes with an assessment of the arguments in the context of the Commission’s findings.

2. Overview of Nuclear Power Proposals and Protest

Keen to establish a state-controlled nuclear research programme, the New Zealand Government introduced the Atomic Energy Act in 1945. This legislation gave the government monopoly control over all aspects of nuclear development – minerals exploration (uranium and thorium), and the monitoring and use of radioactive substances in medicine, manufacturing, government departments and university research (Clements 1988, p.28). By 1950, New Zealand scientists, from the Department of Scientific and Industrial Research (DSIR) and the National Radiation Laboratory, had become involved in the development of nuclear reactors in Canada and Britain.

With the failure to discover commercially viable supplies of indigenous uranium, attention turned to a ‘heavy water’ programme that would allow New Zealand to continue to contribute to nuclear development. In 1955, the Government announced a joint venture with Britain’s Atomic Energy Authority to produce heavy water from geothermal steam at Wairakei. This attempt to establish a first step toward a nuclear industry soon ended because of cost overruns, and because the Atomic Energy Authority discovered it could acquire heavy water more cheaply from the United States (Clements 1988, p.28).

The mid-1950s then saw the ‘Atoms for Peace’ initiative by the United States – a programme ostensibly designed to develop nuclear power for electricity production, but which also
served foreign policy goals. \(^3\) Signing the agreement with the United States in 1956 gave New Zealand access to information on the design, construction and operation of research reactors. Official enthusiasm for nuclear generated electricity was soon apparent. ‘Atomic power in the North Island would be much cheaper than a cable across Cook Strait’ (NZPD 1956, p.70).

New Zealand was therefore quick to become involved in nuclear research, and optimistic about the potential of nuclear power. Just one year after the world’s first commercial nuclear power plant began operations in the UK in 1956, New Zealand power planners were mentioning the nuclear power option. The official position was that, although New Zealand had better immediate sources of power, nuclear power was seen as promising (Royal Commission Report 1978, p.125).

By 1964, references about the timing of the introduction of nuclear power began to appear in the power plans of the New Zealand Electricity Department (NZED). It was thought that nuclear power planning would have to be initiated by 1968. Indeed, the 1968 power plan included a 250MW plant in its calculations, assuming this would be commissioned in 1977. However, the Kapuni and Maui gas discoveries put back the projected commissioning date to 1990. Nevertheless, government actors began to agitate for a ‘decision in principle’ to be taken on nuclear power by 1975 (Royal Commission Report 1978, p.125).\(^4\)

Until the late 1960s, little opposition to nuclear power can be identified. Public attention can be characterised as either apathy or acceptance. In fact, nuclear power was presented as an alternative energy source in the defence of Lake Manapouri. The Chairman of the Save Manapouri campaign thought that,

\(^3\) Clements (1988, p.30) notes that the programme allowed the United States to defuse its reputation as a ‘nuclear bully’, and reorient itself as a peace-loving nation. There is also some evidence to suggest that the subsequent development of the fast breeder reactor had more to do with producing plutonium for weapons production than civilian nuclear power.

\(^4\) The NZED Chief Engineer defined the ‘decision in principle’ concept as ‘an acceptance of the fact that nuclear power technology was something that the country was prepared to proceed with’ (Royal Commission Report 1978, p.127).
Is it not a fact ... that a nuclear station to produce electricity for aluminium smelting, of similar size to Tiwai ... is now being commissioned at a very competitive price per unit of electricity? (McLean et al. 1970, p.4)

Apart from its economic advantages, some environmentalists were technological optimists, believing that

scientific and technological advances will lead to new or cheaper ways of generating electricity ... nuclear stations are already in contemplation and these should also eventually become cheaper. (O'Flynn 1970, p.20)

By 1972, some concern had emerged. The newly created Values Party rejected nuclear power as an energy form in its 1972 manifesto. The Environmental Defence Society (EDS, which was established in 1971), was the first environmental group to argue (in May of 1974) that a decision to ‘go nuclear’ involved moral, political and resource problems that should be debated publicly. Wilson argues that Bob Mann, the leader of EDS, was a forceful and well-researched opponent of nuclear power, forcing the NZED to investigate the nuclear option in some secrecy (Wilson 1982, p.41).

In mid-1974, the staff director of the Rasmussen Report on reactor safety visited New Zealand, meeting with MPs, officials of the NZED, and the New Zealand Atomic Energy Committee. No members of the public were able to meet with him. In 1975, energy environmentalist Amory Lovins met with members of conservation organisations in New Zealand, and, although invited, no government, industry or other officials attended his public meetings.

Between 1973 and 1977, over 600 articles on nuclear power had appeared in the Auckland Star and New Zealand Herald (Ericksen 1978). Radiation hazards and risk comparisons emerged early in the debate, and continued to dominate it, with planning and research issues emerging later.

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5 The Rasmussen Report refers to a study on light water reactor safety features undertaken by Professor N. Rasmussen of the Massachusetts Institute of Technology in 1975. It concluded that the risk of accident was extremely low. The study was criticised on methodological grounds such as the use of input data, and the neglect of certain fault conditions (Royal Commission Report 1978, p.103).
Overall, the media appeared to have been responsible in its reporting, and responsive to genuine public and scientific concern (Ericksen 1978, p.43).

Public opinion was firmly against nuclear power by 1975. One study surveyed 17,500 households, finding that only one quarter of those who responded preferred nuclear power as an energy option. Women were markedly less in favour of the nuclear option (Royal Commission Report 1978, p.116). The 1975 Ericksen survey, of the Birkenhead suburb in Auckland, found sixty-seven per cent opposed to nuclear power.

Public concern intensified in September of 1975 when the Minister of Electricity announced that six sites were under consideration for the construction of nuclear power stations (Wilson 1982). By 1975, therefore, nuclear energy had become politicised. In the same year, the Labour Government set up an independent Fact Finding Group on Nuclear Power (FFGNP) – a group of scientists who would examine the possible environmental consequences of nuclear power. Although chaired by Sir Malcolm Burns of the Royal Society, the Burns Commission deliberated in closed session, and did not call for public submissions. It reported its findings in 1977.

Members of environmental organisations such as EDS, Ecology Action, and Friends of the Earth saw the benefits of a united opposition to nuclear power. Therefore, in June of 1976, the Campaign for Non-Nuclear Futures (CNNF) was formed. Within four months it had collected 333,088 signatures to a petition, which it presented to Parliament that November, advocating a non-nuclear future for New Zealand. This represented one in seven New Zealanders over the age of fourteen. Its organisers estimated that it had two hundred main co-ordinators, with other campaign activists, many Values Party supporters, numbering in the thousands (Royal Commission Report 1978, p.117).

In September of 1976, the new National Government set up, as promised, a Royal Commission of Inquiry, chaired by Sir Thaddeus McCarthy, and open to public comment. New Zealand was therefore the first country in the world to initiate broad public debate on nuclear power before its introduction. The Royal Commission of Inquiry reported to government in April of 1978, recommending that no immediate decision on nuclear power was required. Although suggesting the
issue be revisited as early as 1985, the Commission rejected nuclear power as an energy option for New Zealand until next century. This was ‘a striking change from some official attitudes which obtained when the inquiry was set up’ (Royal Commission Report 1978, p.307).

Several explanations might be advanced to account for the rapid mobilisation of antinuclear concern, and the official discounting of the nuclear power option. One explanation is that the decision to delay nuclear power implementation was not prejudiced by prior commitments – regulatory and licensing authorities, scientific research, economic costs – or the presence of a strong nuclear industry lobby. However, these ‘sunk costs’ have not precluded the abandonment of the nuclear programme worldwide.

Simple demand and supply explanations are also open to challenge. In terms of per capita electricity consumption, New Zealand in 1978 ranked fourth highest in the world, behind only Canada, Sweden and the United States. Electricity generation had doubled every ten years for the previous four decades (Royal Commission Report 1978, p.124). With the rapid escalation in the oil price following the 1973 oil crisis, and the curtailment of the Manapouri scheme, the nuclear power option was high on the energy policy agenda as late as 1975. Despite this, a ‘strangely paradoxical situation’ evolved where the growth of nuclear power receded to levels below those existing before the oil crisis (Royal Commission Report 1978, p.243).7

Nor can the increase in construction costs (labour and inflation costs) of nuclear plants adequately explain the decline of nuclear power. This is because these costs apply equally to other types of power generation, and to the fact that they have increased by orders of magnitude far less than the six-fold cost increase of nuclear plants between 1967 and 1974 (Royal Commission Report 1978, p.243). Krymm (1976) concluded that nuclear power stations appeared to have a decided

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6 Rudig (1990, p.103), using a resource mobilisation approach, cites the strength of the nuclear industry as determining the level of opposition – the greater the level and organisation of nuclear research and development agencies, nuclear construction industries, and electricity utilities, the weaker the opposition.

7 See Table Thirteen, at the introduction of this chapter, for the way in which the nuclear programme has been curtailed worldwide.
advantage over fossil-fuelled stations, and that the reasons for the declining nuclear power programme worldwide were to be found outside economics.

Other explanations attribute antinuclear feeling to the result of close association with the general increase in attention to environmental issues that began in the late 1960s and early 1970s (Paehlke 1992, Sandbach 1978). Surprisingly, nuclear power concerns were not originally part of the environmental movement as it developed in Australasia and the United States (Hay and Haward 1988). Also, it was indicated above that some activists in the early campaigns of the environmental movement in New Zealand actively supported nuclear power. Secondly, newspaper data convincingly show most protest occurring during 1976 in conjunction with the establishment of the Royal Commission (Ericksen 1978, p.42). If opposition to nuclear power has now become associated with the broader environmental movement, the reasons for this association need to be explored.

This thesis argues that realist explanations offer only a partial account for the official rejection of nuclear power in New Zealand. They do not fully account for the rapid mobilisation of the antinuclear movement, or the influence of the campaign on the removal of nuclear power from the energy policy agenda. A role for the ideas presented by New Zealand antinuclear campaigners offer an alternative focus for such an analysis, and are the subject of the next section.

3. Analysis of Submissions to the Commission for the Environment

The Royal Commission of Inquiry on Nuclear Power Generation in New Zealand (hereafter, Commission), sat for fifty-two days over a period of nineteen months between 1976 and 1978. Chaired by Sir Thaddeus McCarthy, its other members included Professor Liley (who had denounced the Campaign Half Million petition as highly irresponsible and highly dangerous), but also Dr Ian Blair, a Guardian of Lake Wanaka (Wilson 1982). Inquiry members also travelled overseas during 1977, interviewing organisations, and visiting nuclear power installations in the United States, Canada, Britain, France, Sweden, Switzerland, Austria, and South Africa.
Although some criticism had also been directed at the Commission’s terms of reference, environmental groups were encouraged by the chairman’s assurance that a broad investigation of nuclear power would be undertaken (Wilson 1982). The actual terms of reference were to inquire into and report upon the likely consequences of a nuclear power programme and, in so doing, to consider such matters as siting, licensing, environmental effects, safety factors, transport of fuel and waste, disposal of waste, and any other matters which the Commission decides should be brought to [its] attention. (Royal Commission Report 1978, p.22)

The Commission did indeed appear to interpret its warrant fairly broadly, rejecting as inappropriate an inquiry that adopted a scientifically-based approach that failed to consider the wider philosophical and moral issues surrounding the nuclear power option (Royal Commission Report 1978, p.19). While the Commission did not have the authority to decide in favour of nuclear power, or to reject it, the Commission noted that any assessment of consequences should compare the effects of other energy sources such as hydroelectric power, coal and oil-fired power stations. In fact, the Commission noted an advantage of nuclear energy that is increasingly stressed today.

There are many eminent scientists who believe that the changes in the atmosphere produced by accumulations of carbon dioxide from burning fossil fuels could ultimately prove more worrying for mankind than the products of nuclear fission. (Royal Commission Report 1978, p.19)

The Commission received 141 submissions, twenty-two from government departments or agencies, forty-eight from individuals, four from commercial interests, and thirty-one from voluntary and professional organisations. The method of selecting and coding submissions is described in Chapter Three. This section presents the results of the analysis of submissions coded by frame. Discussion of each particular master frame is based on a table, that, in the first column, sets out the frequency \( f \) of cell positions coded for the signature element, within a master frame, for each interpretive package. In the second column, this frequency is shown as a percentage share \( (x\% = f / \text{sum\(f\)}) \) of that particular master frame. Finally, the third column represents the frequency \( f \) of cell positions coded by signature element for each interpretive package as a percentage share of all cell positions.
positions across all three interpretive packages \( x\% = f / N \). Table Seventeen summarises these overall results which are discussed under campaign outcomes.

4. The Moral Frame

The 1973-1974 oil crisis did not prompt calls for a nuclear power programme in New Zealand, since nuclear power plans had been tabled before the crisis emerged. The oil crisis did, however, help to elevate security and cost issues, and support the nuclear case as an opportunity to limit New Zealand’s vulnerability to external shocks. The Commission claimed that oil production would peak by 1985-1990, and thought that by the year 2000 oil would be extremely scarce (Royal Commission Report 1978, p.31). Nuclear power was the solution to the fear of scarcity – an echo of the conservationist position.

A number of organisations argued that introducing nuclear power was simply substituting one sort of vulnerability for another, since New Zealand would now be hostage to the uranium supply, and to fuel reprocessing availability (Ecology Action Otago 1978, Friends of the Earth 1978). At the same time, nuclear power imposed opportunity costs. A nuclear programme would be so capital intensive that it would preclude investment in alternatives, such as wind, biomass, solar, energy conservation and energy efficiency. On the other hand, few submissions drew attention to hydroelectric power as an alternative. This rather surprising finding may be explained by the fact that New Zealand had few economically viable hydroelectric sites by the mid-1970s, but it also seems likely that campaigners had been sensitised to the environmental consequences of hydroelectric power.

Although alternatives to nuclear and fossil fuels were canvassed, the Commission was forced to agree with the NZED that indigenous energy supplies could not meet New Zealand’s energy requirements. Consequently, the Commission thought that nuclear power might be essential after the year 2000 (Royal Commission Report 1978, p.152). The Commission was, at least, consistent. While it regarded alternative energy technologies as unproven, it rejected nuclear power until it
could be demonstrated that suitable technology for decommissioning nuclear plants, and disposing of their waste, could be found (Royal Commission Report 1978, p.58).

**Table 14: The Moral Frame: The RCI Submission Record (Nuclear Power)**

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE (SIGNATURE)</th>
<th>( f )</th>
<th>MORAL FRAME %</th>
<th>ALL FRAMES %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM (EXTENDED UTILITARIANISM)</td>
<td>12</td>
<td>3.7</td>
<td>1.9</td>
</tr>
<tr>
<td>PRESERVATIONISM (ECOCENTRISM)</td>
<td>31</td>
<td>9.6</td>
<td>5.0</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY (RISK)</td>
<td>279</td>
<td>86.7</td>
<td>45.1</td>
</tr>
<tr>
<td><strong>TOTAL (( N = 618 ))</strong></td>
<td><strong>322</strong></td>
<td><strong>100 %</strong></td>
<td><strong>52 %</strong></td>
</tr>
</tbody>
</table>

**4.1 The Risk Orientation**

Nedelmann regards antinuclear protest as predominantly a moral issue (Nedelmann 1984, p.1042). Table Fourteen offers some confirmation of this interpretation. The moral frame represented over half of the submission record. Within that frame, risk concerns dominated (eighty-six per cent), but not simply in terms of the risk to New Zealand society. Nuclear power, as presented to the Royal Commission, was seen in global terms – it was a threat to the world, and to humanity.

The central theme that was consistently expressed in the risk frame was the global inequity of nuclear power development – both for present and future generations. Intra-generational concerns, for example, were the unequal distribution and inefficient consumption of global resources. Affluent nations were seen as consuming more than their ‘share’, or indulging in ‘wasteful’ patterns of energy use – both were seen as immoral.

There is a moral obligation for New Zealand, when considering the consequences of a nuclear power programme, to pay very careful attention to all the ramifications and all of the hazards associated with the concomitant nuclear fuel cycle, even though some of these ramifications and hazards may not appear to directly affect New Zealand. (Ecology Action Otago 1978, p.199)
Similar sentiments were expressed over the inter-generational effects of nuclear power generation. The Public Service Association (PSA) thought education would help the public conserve and rationally use energy, rather than ‘abuse’ it, without any concern for the availability of resources for future generations (Public Service Association 1978, p.15). The Commission remained unconvinced by such arguments – it noted that no consensus existed on what sacrifices should be made, or even on whether society should make them (Royal Commission Report 1978, p.191).

The Commission was more sympathetic to concerns over the implications of radioactive waste for future generations. Waste storage implied an economic risk burden on future generations, and it was regarded as morally wrong for them to be faced with conditions of disposal that were not acceptable or currently obtainable. The disposal of radioactive wastes was one of only two aspects that, by themselves, the Commission thought grounds for the rejection of nuclear power (Royal Commission Report 1978, p.58).

Several submissions cited numerous examples of types of risk – seismic, waste disposal, pollution, terrorist acquisition, weapons proliferation, radiation (genetic, mutagenic, somatic), reactor accidents, and decommissioning (Ecology Action Otago 1978, Friends of the Earth 1978, Public Service Association 1978). The PSA, for example, as the representative of the work interests of its members, was determined to ensure their safety, and thought nuclear power should be deferred until proved technologically safe (Public Service Association 1978, p.7).8

Siting concerns was a noticeable feature of the submission record. Because in New Zealand seismic activity is higher than in most nations with a nuclear programme, geology was seen as an important consideration in site selection. The Geological Society of New Zealand was ‘not very enthusiastic’ about the chances of finding a suitable site (Geological Society of New Zealand 1978, p.12). The consensus among environmental groups was that any nuclear station should be situated in

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8 Although not coded, the New Zealand Federation of Labour did not accept the risk of a nuclear accident (Royal Commission Report 1978, p.212). This seems consistent with the attitudes adopted by unions elsewhere, which were among the earliest to initiate concern of a moral character – they adopted antinuclear positions on the issues of radiation hazards, operational accidents, and siting policy (Del Sesto 1979, p.144).
a sparsely populated area, outside national parks, away from agriculturally sensitive areas, but free of earthquake risk. The Commission noted these concerns, but thought that the adoption of shutdown procedures that were triggered by any level of earthquake was an unrealistic demand. This would effectively prohibit the building of any nuclear plant – a restriction the Commission regarded would be seen as undesirable. Despite this, the issue seems to have found a degree of resonance with the Commission who thought the seismicity issue was one aspect of the nuclear power programme that, by itself, could lead the Commission to reject nuclear power (Royal Commission Report 1978, p.58).

The most obvious moral argument, and one often thought to be central to antinuclear concern, is the association of nuclear power with nuclear weapons. However, historically, this association is not well supported. In the 1940s, a Scientists Movement did arise against the military control of nuclear research and development, and in the 1950s, the public health impact of radioactive fallout from nuclear tests did generate concern once evidence was found about the global nature of radioactive fall-out. Nevertheless, after the 1963 Partial Test Ban Treaty, fallout lost salience as an issue. The fallout controversy had ‘in hindsight’, a mostly positive effect on the peaceful applications of nuclear energy (Rudig 1990, p.54).

The dissociation between military and civilian nuclear energy does not seem confined to a discussion of the United States. The French peace movement, up to 1985, was relatively weak in comparison with its antinuclear counterpart – the two movements operated independently, and regarded the military and civilian aspects of nuclear power as separate issues (Chafer 1985, p.12)."
The New Zealand situation deserves a little more care, given the history of nuclear testing in the Pacific, and opposition to nuclear-armed warships. A number of submissions did comment on these aspects, including The Women’s International League (1978) and the Campaign Against Nuclear Warships (1978), who certainly regarded nuclear technology as adding to the possibility of nuclear war, since a nuclear power station could be a target in the event of war. Yet the latter organisation headed its submission stating that ‘the common ground of this Commission and the Campaign Against Nuclear Warships is very little’, and in its one and a half-page submission, devoted its attention to the environmental and health risks of nuclear power (Campaign Against Nuclear Warships 1978, p.1).

The Commission accepted that this type of concern was legitimate, given that India may have established nuclear weapon capability on the basis of its civil nuclear power programme (Royal Commission Report 1978, p.195). On the whole, though, the extent of such concern was limited, and certainly did not comprise the bulk of the risk frame. The issue failed to figure in the Commission’s executive summary of the issues. This finding is rather surprising given that concern over nuclear energy is usually thought to be overtly and logically connected with fears of nuclear war. Nevertheless, this association, at least as it appears in the New Zealand submissions here, is an indirect one, and was not articulated as a central issue of the debate. On the evidence presented here, this study suggests that the antinuclear and peace movements are discrete movements – the antinuclear movement is better seen as part of the environmental movement. This suggestion is supported by Chafer’s study of the French antinuclear and peace movements, and the general finding that the antinuclear literature of the early 70s ‘seldom dealt’ with the weapons theme (Chafer 1985, Nelkin 1971).

power, but was ambivalent about the campaign for nuclear disarmament. Writing in 1985, a former leader of the ecology movement thought that an independent nuclear deterrent was a defence against the Soviet threat, and of the right of ecologists to be green rather than red (Chafer 1985, p.16).

11 I exclude, here, opposition to nuclear propelled ships, as concern of this nature seems to have been generated after the debate on nuclear power.
4.2 The Ecocentric Frame

The final area of moral debate is a consideration of non-anthropocentric or ecocentric concerns, which centre on the radical notion of extending the moral community to non-human species, ecosystems, and even inorganic features of the natural landscape. The New Zealand Seamen’s Union had, in 1976, stated its opposition to the dumping and disposal of nuclear waste at sea, which it argued would contravene the London Convention (Royal Commission Report 1978, p.184). Clearly, such concern could be seen in anthropocentric terms, since seamen might be concerned about the threats to their own human health in handling nuclear waste rather than with the threats posed to the more general marine environment. It is not necessary for this study to determine whether this or any other type of concern expressed here is ‘genuine’ (possible). The expression of concern does, however, effectively illustrate part of the philosophical problem about the possibility of an ecocentric distinction.12

The Commission itself took the view that environmental effects *per se* must be made in a comparative context. The impacts of nuclear and hydroelectric power on land, water resources and air quality were a feature of the Ministry of Works (MOW) submission that the Commission reprinted in its final report. The MOW suggested that, leaving aside the question of waste disposal, a nuclear site would impact its immediate environment less than a hydroelectric scheme (Royal Commission Report 1978). This restrictive and comparative context may account for the relative lack of submissions (five per cent) opposing nuclear power on purely ecocentric grounds.

In summary, the risk, the generational, and the global implications of a New Zealand nuclear power programme mobilised a plurality of submissions. Featuring most strongly was the immorality of creating radioactive waste when the technology to treat it had not been developed. For many, simple burial for disposal at a later date was not an option, since there was no guarantee that current social institutions and communication technologies, including language, would survive over a thousand years (Ecology Action Otago 1978). Without this guarantee, future civilisations involved

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12 See, for example, Eckersley (1992).
in archaeology or exploration would fail to recognise sites as contaminated. At forty-five per cent of
the entire submission record, the risk frame of nuclear technology can be seen to have dominated
environmental concern. This frame also seems to have found most resonance with the Commission
who cited seismicity, waste disposal, and decommissioning aspects of nuclear power as difficult to
overcome, and reasons, that by themselves, led to the rejection of nuclear power (Royal Commission

5. The Aesthetic Frame

There is a tendency for the conservationist perspective to see aesthetic concerns as a rather
shallow affair, as simply amenity loss that is based on rather subjective and individual appeals to
beauty. The Commission reflected this approach by noting that it was important to consider issues of
access, the enjoyment of the countryside, and whether nuclear power stations might be more
aesthetically pleasing than fossil fuelled ones (Royal Commission Report 1978, p.176). It needs to
be noted, though, that subjective individual preferences are partly constituted by community
identities and wider cultural contexts. For example, when nuclear plants began operation in the
United Kingdom, the public were said to be proud of the rapid and successful development of
nuclear power, a demonstration that reinforced cultural notions of the UK’s position as a
technologically competent society (Royal Commission Report 1978, p.113).

Therefore, in employing the category of the aesthetic, I think it important to examine the
implications of nuclear energy in terms of the cultural meaning it represented for New Zealanders.
For Nelkin (1981), nuclear power involves a notion of crisis, evident within human relationships and
in the contrast of nature with civilisation. She attributes this to a ‘cultural mood’, identified as
Weber’s rationalisation and disenchantment of the world, that threatens the identity of land and
people, and leads to a ‘psychological desert’ (Nelkin 1971, p.143).

Identity issues discussed in the submissions concerned issues of control and domination, and
the loss of civil liberties, consequent on security measures necessary to counter the terrorist threat,
leading to a police state.
Table 15: The Aesthetic Frame: The RCI Submission Record (Nuclear Power)

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>f</th>
<th>AESTHETIC FRAME</th>
<th>ALL FRAMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>(AMENITIES)</td>
<td>6</td>
<td>7.5</td>
<td>&lt;1.0</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>(IDENTITY)</td>
<td>74</td>
<td>92.5</td>
<td>12.0</td>
</tr>
<tr>
<td>POLITICAL ECOLGY</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL (N=618)</td>
<td>80</td>
<td>100%</td>
<td>13.0%</td>
<td></td>
</tr>
</tbody>
</table>

A nuclear power plant is a totalitarian organisation ... we are resolutely opposed to the erosion of democracy that we see as one of the inevitable and undesirable consequences of the introduction of nuclear power. (Public Service Association 1978, p.12)

Ecology Action Otago (1978, p.91) noted that New Zealand was a relatively small country in population, economic, and geographic terms. They submitted that, setting aside all other issues, it did not seem plausible that nuclear power was best suited to New Zealand conditions and temperament. Several submissions concerned the identity issues of the individual – they were critical of a centralised energy system that creates a different political animal to someone who is allowed to determine his or her own energy needs. The Friends of the Home thought that small scale simple technologies allow a wider choice to the individual ... there is independence, satisfaction and creativity for the individual in deciding where and how to site a solar water heater ... there is only boredom and alienation in turning on a switch to release a flood of expensive electricity. (Friends of the Home 1978, p.7)

The Commission stated that this was an ‘extreme view’, did not endorse such a position, and thought it at variance with the rest of the community (Royal Commission Report 1978, p.77). Clearly, within the aesthetic frame, individual and cultural issues were not an ‘extreme view’, since Table Fifteen shows that ninety-two per cent framed the issue in these terms. Amenity issues, on the other hand, were not of paramount concern. It is true that, while most submissions reflected environmentalist positions on individual and societal identity, the aesthetic frame overall represented only a minor part (thirteen per cent) of the debate. However, it is suggested that, if the proposed
nuclear sites at Oyster Point and South Head on the Kaipara Harbour were selected, community and regional identities would mobilise the aesthetic frame to a greater extent.

On the whole, though, the aesthetic frame seems not to have shifted the terms of the debate with the Commission. 'The contention that guards, armed or unarmed ... would be the first step on the way to a police state is, we think, exaggerated' (Royal Commission Report 1978, p.199). On the other hand, nuclear power stations were thought to be more aesthetically pleasing as buildings when compared to their fossil-fuelled counterparts (Royal Commission Report 1978, p.176).

6. The Frame of Rationality

In discussing the antinuclear debate in the United States, Del Sesto observed that the single most important contributor to heightening citizen participation was the Atomic Energy Commission’s hefty power projections (Del Sesto 1979, p.120). A similar role can be attributed to the NZED, who had consistently overestimated electricity demand in their annual forecasts. It is precisely the forecasting estimates of demand that generated much of the debate. Many submissions were critical about the high levels of electricity consumption, the way energy demand was estimated, and whether energy growth is automatically linked with economic growth (Campaign for Non-Nuclear Future 1978, Action for Environment 1978, Public Service Association 1978).13

Once uncertainty emerges over the validity of demand calculation, the conservationist view is vulnerable, since it not only undermines the 'rational' need for increased energy supplies, but casts doubt on the authority of the established energy bureaucracy. The Royal Commission provided a forum in which this uncertainty could be exercised, and where challenges to the economics of nuclear power could be mounted.

13 The PSA, for example, disputed the simple correlation of energy use with economic growth, which was not predestined, but open to choice through the democratic process (Public Service Association 1978, p.12).
Table 16: The Rationality Frame: The RCI Submission Record (Nuclear Power)

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>f</th>
<th>RATIONALITY FRAME %</th>
<th>ALL FRAMES %</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>(MANAGERIAL RATIONALITY)</td>
<td>31</td>
<td>14.3</td>
<td>5.0</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>(ECOLOGICAL RATIONALITY)</td>
<td>111</td>
<td>51.4</td>
<td>18.0</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>(PARTICIPATORY RATIONALITY)</td>
<td>74</td>
<td>34.3</td>
<td>12.0</td>
</tr>
<tr>
<td>TOTAL (N = 618)</td>
<td></td>
<td>216</td>
<td>100 %</td>
<td>35 %</td>
</tr>
</tbody>
</table>

For example, the figures supplied to the Commission over the capital and operational costs (fuel cycle, uranium supply, enrichment and reprocessing) were systematically questioned. Submissions from the Environmental Defence Society (1978) and Ecology Action Otago (1978) were so technically competent that they forced the NZED to amend their earlier estimates. A nuclear power station, originally costed at $300 million, was re-estimated to cost over $1,300 million – three times that of an oil-fired station (Royal Commission Report 1978, p.254). The PSA (1978, p.9) suggested that if the economic cost was not warranted relative to other energy sources, then this should be sufficient ground for the rejection of nuclear power. These arguments were somewhat undermined by the general assumption, largely unquestioned by the antinuclear movement, that trends downwards in the cost of nuclear power fuels would increasingly make nuclear power the rational economic choice (Royal Commission Report 1978, p.32).

6.1 Conflict Over The Rationality of Participation

Once such doubt and uncertainty is established, it seems a short step to begin to question the organisational incentives at work. The Environmental Defence Society, for example, was totally dismissive of the forecasting role of the NZED, and preferred to characterise them as formulating self-fulfilling plans (Environmental Defence Society 1978, p.12). The Ericksen public opinion study

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14 The NZED estimated that the required capital cost for power stations of comparable generating capacity was: nuclear $1,345 million; oil $384 million; coal $492 million (Royal Commission Report 1978, p.247).
confirmed a heightened sense of cynicism towards the planning system. People believed that the government had been too secretive in nuclear energy planning, that the public had been excluded from the decision process, and that, despite its complexity, nuclear power planning should not be left to governmental experts (Ericksen 1978, p.43).  

Certainly, Table Sixteen shows that participatory concerns were represented (twelve per cent) in the submission record. The PSA (1978, p.8) recognised that, while power generation had been state controlled in New Zealand, nuclear regulatory structures should be independent of departments, ‘free from their rivalries and from conflicting interests’. The public should have the best possible access to information, in order to participate in the debate, because an educated population was a safeguard for democracy (Public Service Association 1978, p.16). In general, such concern is consistent with increasing demands by environmentalists for broader participatory structures and citizen involvement in decisions about science and technology policy.

Participatory concerns found some purchase with the Commission who stated that nuclear power raised far wider issues than just a concern for generating enough electricity. It also brought into question the assumptions of continually increasing growth, and a centralised administration (Royal Commission Report 1978, p.190). However, they attributed the suspicion of nuclear power to its origins and associations in a military context, a culture hostile to the free and uncontrolled dissemination of information (Royal Commission Report 1978, p.33). While the nuclear industry had since been subjected to necessary and intense public scrutiny, the Commission believed that such scrutiny had not been even-handed when compared with other large scale industry. Consequently, the Commission saw public concern as overestimated. Part of its own role was to defuse such concern – by holding a commission of inquiry, a rational approach toward nuclear power could be taken (Royal Commission Report 1978, p.190).

15 United States antinuclear concern also seems to have been mobilised over the incredibly ‘ritualistic’ treatment of public groups, and the deficiencies of a centralised congressional regulatory structure (Del Sesto 1979, p.144).
Similar explanations for antinuclear concern have been noted – an assumption that such protest is uninformed, even irresponsibly manipulated by movement leaders (Rudig 1991, p.241). Once antinuclear concern has been impugned (indeed, framed in this way), continual calls for public information campaigns (and commissions) can be rationalised. Ecology Action Otago attempted to turn the argument around. The group noted that, as more information has become available to them, uncommitted observers have shown a tendency to ally themselves with the antinuclear position. ‘Support for the nuclear industry’, stated the submission, ‘seems increasingly to be concentrated among the relatively uninformed’ (Ecology Action Otago 1978, p.99).

This issue illustrates the difficulty that antinuclear and environmental campaigners have had in convincing policy actors that their concerns are legitimate. Part of the problem, perhaps, is that such concern has been associated with the ideological battles of the past. Prior to 1969, while individuals and some unions had expressed apprehension over nuclear safety, these were seen as isolated cases of concern, and subsequently ignored.16 It was not until the 1970s that the scientific consensus over the effects of low level radiation was broken. Labour union concern, therefore, seems to have had only a limited impact until it was reinforced by expert testimony that questioned the prevailing consensus on the health and safety aspects of nuclear technology.

Attention must be drawn in this regard to a noticeable feature of some submissions, such as that of Ecology Action Otago, which went far beyond the descriptive level of risk description. The EAO submission, for example, reviewed the nuclear power literature, and, with over 614 citations, illustrated the history of concern over reactor safety, and used graphs and figures to present its case.17 Half a dozen PhDs on the staff of the Department of Physics at Otago University compiled

16 For a summary, see Rudig (1990, p.73).
17 The EAO submission reflects the general consensus on how this debate progressed. Initially, concern was local, scattered, and confined to specific projects – not over radiation pollution, but over the thermal effects on waterways and fisheries. Concerns then turned to the inadequacies of emergency core cooling systems, which intensified public controversy, and, finally, to the wider debate of the overall acceptability of nuclear power (Ecology Action Otago 1978).
the submission, and not surprisingly, the Commission commended submissions such as these, noting them in its final report. Individual scientists in the antinuclear campaign can therefore be said to have not only made knowledge claims, but sought to demonstrate 'ignorance claims', pointing out areas of institutionalised neglect (Hannigan 1995, p.77). More importantly, in impressing the Commission, these sorts of submissions may have done much to reframe the perception that antinuclear concern is simply informed by an emotional rejection based on ignorance.

Although the antinuclear organisations expressed a level of participatory concern, the debate was not framed in these terms to the same extent evident at Manapouri or Clyde. This may, in fact, have been partly the result of those campaigns by fostering a degree of institutional learning over the likely response to official secrecy, and the lack of public consultation. The end result of government secrecy would thus be counterproductive – massive public protest, and perhaps the need for special enabling legislation. Overall, however, the deficiencies of participatory structures are less able to offer sufficient explanation for the magnitude of the antinuclear controversy. It is to a consideration of the politicising role of ecological rationality that I now turn.

6.2 Ecological Rationality

Despite private expressions of concern over nuclear accidents in the UK and USSR in 1957, and in the USA in 1961 and 1966, the hegemony provided by the nuclear industrial complex did not allow expert concerns to publicly surface until the 1970s (Rudig 1990, p.103). Public concern was mobilised only after the 1969 studies of Tamplin and Sternglass that took issue with the interpretation of previous low level radiation research (cited in Rudig 1990). Their new revisions lowered the safe radiation emission levels by a factor of ten. It was Tamplin, and later Goffman, who as AEC scientists provided the antinuclear movement with its first public and scientific legitimacy

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18 It is the special nature of nuclear technology – the invisibility of radiation, the impenetrability of technical and risk evaluation – that allowed it to remain socially invisible to the public until the early 1970s (Rudig 1990).
As the number of competing studies increased, the increased politicisation of nuclear energy followed.

In New Zealand, this same pattern is evident. The Commission found marked differences of opinion among scientists and medical witnesses, especially over the genetic effects of ionising radiation (Royal Commission Report 1978, p.51). This has remained one of the key issues of the nuclear debate, and generated increasing concern, publication, and protest. For Rudig, this is because science is the 'culturally dominant' form for the legitimation of technical decision-making in the Western industrialised world (Rudig 1990, p.105). Indeed, the Commission noted the suggestion that because the risks of nuclear power have been meticulously investigated and documented, they should be morally more acceptable (Royal Commission Report 1978, p.50).

At times, Rudig employs a resource mobilisation approach to explain the mobilisation of antinuclear concern. If science is regarded as a resource, then the increase in opposition and concern over nuclear energy can be explained by the shift of this resource from the nuclear establishment to its critics. Specifically, science, and the legitimacy it commands, has been able to be mobilised by expert opponents of nuclear energy (Rudig 1990, p.104). In this sense, antinuclear concern cannot be regarded as an anti-science position. At other times, however, Rudig talks about expert dissent as a pre-condition for opposition to nuclear power to emerge. He uses the concept of 'expert entrepreneurs' who look at nuclear energy with 'interpretation frameworks', constituted by predecessor movements such as the Scientists' Movement, the Test Ban Campaign, and the environmental movement in general (Rudig 1990, p.106).

This thesis has adopted, and obviously prefers, this second account (although seeing science as a 'resource' is not dissimilar to seeing it as being used to frame aspects of the antinuclear debate). The reason for the preference has already been canvassed in Chapter One, and is taken up again in Chapter Seven. Suffice it to say here that, firstly, if science is a resource then it must be admitted that other 'culturally legitimate' resources may be envisaged - normative and aesthetic concerns, for example. Secondly, if, as Rudig notes, expert dissent is only a pre-condition for antinuclear mobilisation, it is the nature of 'dissent' over the putatively 'objective facts' of nuclear science that
must be examined. In other words, it is not simply what the 'facts' of nuclear science happen to be that is important, but in which interpretation frameworks they are located.

As this thesis has been suggesting, three such interpretive frameworks may be said to frame the way in which the facts of nuclear science are approached. Preservationism's ecological rationality frame has been suggested as a significant explanation for the increased mobilisation of science by the environmental and antinuclear movements. Some empirical support for this hypothesis is found in this study. Table Sixteen shows that eighteen per cent of the overall submission record coded for the ecological rationality frame. In particular, concern was expressed over the assumptions and uncertainties inherent in the nuclear industry's evaluation studies and modelling techniques.

Here, much attention was devoted to refuting the risks to human health based on questionable assumptions. Models that try to establish adult baselines based on rodent studies may be inappropriate for women, children and the unborn. The Friends of the Earth noted that 'scientists can predict much more accurately the fate of your own beagle after plutonium inhalation than your own fate' (Friends of the Earth 1978, p.66). The Commission found some of this reasoning compelling, accepting that models that assume a radiation threshold may simply be incorrect (Royal Commission Report 1978, p.203).

The Friends of the Earth (1978) also noted that nuclear plants have been built incorporating safety mechanisms that are based on purely theoretical models. The Friends of the Earth and Ecology Action Otago devoted much of their testimony to the controversy over modelling assumptions – fault-tree analysis, reliability of computer modelling, and errors in the computer code.¹⁹ Ecology Action Otago cited 'the extraordinary degree to which the nuclear industry places reliance on computer simulation of complex phenomena' (Ecology Action Otago 1978, p.104).

¹⁹ The EAO submission read: 'Accurate computer modelling of three-dimensional two-phase (water-steam) systems requires vast computing facilities and is very difficult. Consequently, at the present time LOCA / ECSS codes employ a gradual-geometry nodalised (lumped-parameter) methodology which manifests major compromises which
The Manapouri and Clyde case studies also illustrate that if such alternative modelling is to be accorded legitimacy, some degree of empirical verification may well be important. In the absence of these ‘focusing events’, such as the later nuclear power plant accidents at Three Mile Island and Chernobyl, the alternative modelling of nuclear processes suggested by some submissions may have lost some of their resonance (Kingdon 1984). If anything, real-world experiences tended to reinforce the Commission’s cognitive faith in managerial rationalism.

No amount of printed matter, be it in books or submissions, can possibly substitute for the experience of seeing nuclear reactors being built or operated, with their extensive control and safety systems, or convey the feelings of those who live within range of the possible effects of an accidental release of radioactive material. (Royal Commission Report 1978, p.25)

In summary, challenges to the assumptions of rationality, while not mobilised the most in the submission record, provided a powerful ‘culturally legitimate’ frame. Participatory concerns were not in evidence as much as in other campaigns, and there is some suggestion that the antinuclear concern of mass publics is stigmatised as irrational. At eighteen per cent, challenges to the modelling and estimation techniques of the nuclear industry found a degree of resonance with the Commission, although their first-hand experience tended to confirm their faith in nuclear control systems. Ralph Nader described the faith with which the nuclear industry could model uncertainty, or find solutions for currently unresolved technical problems, as a kind of scientific evangelism (cited in Del Sesto 1979, p.197).

7. Assessing Campaign Mobilisation and Influence

Table Seventeen illustrates that there are differences in mobilisation between the conservationist position and those of preservationism and political ecology. Less than ten per cent of the submission record coded for extended utilitarianism, the loss of amenities, or the managerial rationality of the cost-benefit framework. If anything, antinuclear concern is even less willing to include single-phase flow, non-conservation of energy and momentum, small number of nodes, limited dimensionality ...

... and the introduction of arbitrary parameters to overcome theoretical deficiencies’ (Ecology Action Otago 1978, p.103).
accommodate a conservationist perspective than the previous campaigns already examined. It is this polarisation or re-framing, it is argued, that is a contributing influence on the politicisation of the nuclear power option on the energy policy agenda.

Table 17: Summary of the RCI Submission Record (Nuclear Power)

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>MORAL % (f)</th>
<th>AESTHETIC % (f)</th>
<th>RATIONALITY % (f)</th>
<th>TOTALS % (f)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>1.9 (12)</td>
<td>&lt;1.0 (6)</td>
<td>5.0 (31)</td>
<td>7.9 (49)</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>5.0 (31)</td>
<td>12.0 (74)</td>
<td>18.0 (111)</td>
<td>29.0 (179)</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>45.1 (279)</td>
<td></td>
<td>12.0 (74)</td>
<td>63.1 (390)</td>
</tr>
<tr>
<td>TOTALS (n=618)</td>
<td>52 % (322)</td>
<td>13 % (80)</td>
<td>35 % (216)</td>
<td>100 % (618)</td>
</tr>
</tbody>
</table>

As in the Clyde campaign, the political ecology position dominates the antinuclear debate, accounting for almost two-thirds of the submission record. Preservationism is also not mobilised to a great extent, suggesting that the antinuclear debate is framed more in human than ecologically egalitarian terms. A number of authors, in fact, argue that the focus of antinuclear politics has tended to remain on the human condition, rather than on the moral standing of the non-human world (Hay and Haward 1988, Nedelmann 1984). The findings presented here in Table Seventeen provide some empirical support for this argument considering that the moral frame dominated the submission record, although differences within the frame can be noted. The debate on alternative technologies and the sharing of resources among the world's population were found by the Commission to be less than compelling. The ecocentric dimension was a muted part of the debate as presented by antinuclear campaigners. Overall, though, it was the risk perspective of political ecology that accounted for the bulk of concern, and one that was more compelling.

This polarised nature of the debate over the morality of nuclear power in New Zealand can be characterised as a competition between two risk paradigms. On the one hand, New Zealand in the mid-1970s was thought vulnerable to overseas sources of oil combined with a diminishing domestic
ability to supply projected increases in electricity demand. This risk was thought best managed by a technically competent core of energy policy managers in the New Zealand Electricity Department who supplied annual forecasts of power requirements.

Yet the opponents of nuclear power helped to illustrate that, rather than competent risk management, energy planners' predictions of future demand could become self-fulfilling prophecies (Environmental Defence Society 1978). Planners were creating a future of increased electricity consumption, and not simply planning for such a future (Kellow 1996, p.18). Rather than a rational response to objective risk conditions, risks to energy supplies were, in part, socially constructed. At the same time, environmental movement organisations stressed that adopting nuclear technology would substitute vulnerability on oil with vulnerability on nuclear fuel. Combined with an emphasis on the expanded risks of nuclear technology, in terms of waste, seismicity and decommissioning, these organisations had some influence on re-framing the social, economic, and political dimensions of the risks of nuclear power generation. In particular, the Commission found the inter-generational arguments to be a legitimate area of concern. The implications of radioactive waste contributed a powerful argument – one that, taken alone, justified the rejection of nuclear power (Royal Commission Report 1978, p.58).

Although less mobilised, the debate about the rationality of nuclear power seems to have impressed the Commission. The antinuclear movement forced reassessments of both electricity demand, and of the complexity of nuclear technology. In using the 'cultural legitimacy' of science, environmental organisations helped to cast doubt on the assumptions used to model health impacts on humans, and the questionable theoretical basis of nuclear safety mechanisms. This tended to undermine the confidence with which the radiation impacts of hazardous technologies like nuclear power stations can be understood in terms of statistical probabilities (which are based on dose rates and cost-benefit calculations for large populations, but not for individuals). In turn, the ecological challenge to the monopoly on expertise may have helped a reassessment of the belief that public input and debate would add nothing valuable to the technical evaluation of nuclear technology, or that public concern is based on fear and ignorance.
The aesthetic frame, as with previous case studies, was not well represented in the submission record. Identity issues certainly did appear in submissions, especially over the need for nuclear power to employ policing technologies of security and control, leading to a potential loss of civil liberties. It is also possible that had nuclear power sites been proposed for specific communities, identity issues would have featured more strongly in the submission record. Although, here again, there may be no simple linear relationship between levels of mobilisation and the ability to shift the terms of the debate, the aesthetic frame continued to be viewed by the Commission as problem-free.

The lack of a linear relationship between the level of mobilisation of a frame and their receptivity, points to the role of intervening influences in helping to change the policy agenda. Here, the overseas visits by the Commission seem to have acted in much the same way as visits by MPs to the shoreline slumping at Manapouri, although with the opposite effect. In other words, the structures of control and safety mechanisms seem to have reinforced their view in the manageability of the nuclear enterprise, although ultimately not enough to recommend that New Zealand proceed with the nuclear option. Nevertheless, other intervening influences on the removal of the nuclear option from the policy agenda cannot be discounted.

Contributing roles for the influence of public opinion and the media must be acknowledged. The campaign obviously benefited from a supportive public opinion, given that the Philips and Ericksen surveys indicated that around one-third of the population supported nuclear power in 1975 (Royal Commission Report 1978, p.116). On the other hand, Campaign Half Million also contributed to public opinion collecting over one-third of a million signatures between June and October of 1976. Here, too, the role of a national co-ordination strategy appears to have been important in the success of the campaign with a number of newly emergent national organisations, such as Greenpeace and Ecology Action, able to mobilise an active membership.

The role of the media also deserves consideration given the national character of the campaign. Here, though, discussion of the influence of the media needs to distinguish between its influence on the governmental policy agenda, and on the public opinion agenda (Kingdon 1984). The
attention of elected representatives was no doubt affected by media attention to nuclear power issues because they followed the mass media, and because media interest affected the attention paid by the public. Certainly, media attention to a national antinuclear campaign may have enhanced the perception that the campaign was a legitimate representation of national concern. It is less clear that the media played a role in defining the nuclear issue as a problem, and was a direct influence on the policy agenda as a result. The Commission singled out the media as a cause for concern, and ‘were very disappointed at the extent and quality of the coverage given by the news media .... we felt that with some exceptions the media, in addition to the intermittent character of their participation, were over-inclined to give prominence to the views of some witnesses (Royal Commission Report 1978, p.26).

In short, the antinuclear campaign illustrates that, while the campaign may have benefited from favourable public opinion and media interest, these influences were partly of its own making.

The fact that the nuclear power industry (and lobby) was not established in New Zealand may well have assisted the antinuclear campaign. Equally, the lack of high profile accidents that would occur later in America at Three Mile Island in 1979, and in Russia at Chernobyl in 1986, may have favoured nuclear proponents. Yet the Commission was less inclined to take such a realist view of the change in the policy agenda.

During our inquiry governmental and scientific sources made many statements indicating that a decision on nuclear power was not now as urgent as was previously thought. The Planning Committee on Electric Power Development reduced its earlier predictions of future demands for electricity, and dropped nuclear power as an alternative possibly needed within the next 15 years. These manifest changes of opinion...caused the question to be asked in the later months of 1977: had not this Royal Commission already sufficiently fulfilled its purpose by influencing considerably the turn of these very events? (Royal Commission Report 1978, p.21)

The Commission went on:

But we feel entitled to claim that our inquiry probably as much as (if not more than) anything else has led to these substantial changes in viewpoint [because] officers felt obliged to re-examine their earlier estimates of demand. (Royal Commission Report 1978, p.29)

In summing up the turnaround on nuclear power, the Commission implicitly recognises the role of the environmental organisations in the antinuclear debate. If environmental organisations had
not called for a public inquiry, and challenged a range of assumptions of energy policy actors, there
seems little reason why NZED officers would have ‘felt obliged’ to conduct such a re-examination.
This is not to suggest that the strategic use of discourse by environmental organisations can offer a
full account of the rejection of nuclear power as an energy option for New Zealand. Yet this ‘striking
change from some official attitudes which obtained when the inquiry was set up’ suggests that a
contributing role for campaign discourse is not unwarranted (Royal Commission Report 1978,
p.307).

Twenty years after the Commission reported, antinuclear opinion is entrenched in public and
institutional thinking in New Zealand. It has informed opposition to nuclear power-propelled ships,
and forced New Zealand’s exit from the Australia, New Zealand, and United States military alliance.
However, the arguments of the antinuclear movement are not of purely historical interest. They may
well be re-mobilised over the direction of energy policies in the twenty-first century. Given
increasing demand for electricity, the unavailability of further hydroelectric power, and the possible
constraints on using coal and oil in a greenhouse world, proposals to introduce nuclear power may
be reactivated. Indeed, the Royal Commission envisaged that the nuclear power option would be
revisited by the year 2000. In 1998, one commentator saw the transport of nuclear waste from
France to Japan for reprocessing as the ‘efficient and secure exploitation of nuclear power’, and
urged that we ‘resist the temptations to continued ignorant posturing on the nuclear issue’ (Smith
1998, p.6). The 1976 campaign against nuclear power in New Zealand should at least illustrate that
any future ‘posturing’ will not be ignorant or ignored.
CHAPTER 7

Campaign Discourses – It's The Environment Jim, But Not As We Know It

1. Introduction

This thesis has argued that the frame analysis model is a useful method for the empirical assessment of the ideas mobilised in social movement campaigns. The previous case studies also suggest that the model may help in understanding how social movements move – the extent to which campaign discourse is a contributing influence on the policy agenda. The frame concept focuses analytical attention on what is, after all, a fundamental aspect of social movements – on the fact that campaigns, and what they say in them, are the result of the conscious efforts of campaigners. New Zealand environmental movement organisations sought to challenge the prevailing understandings (moral, aesthetic, and rational) of energy policy actors. In attempting to reorient policy positions, environmental organisations have drawn on the ideas and arguments articulated in specific campaigns. In doing so, they have helped to establish the legitimacy of environmental discourse – discourse is a key to understanding both environmental ideas as problems, and the influence of social movement organisations active in environmental campaigns (Eder 1996b, p.204).

In applying the frame analysis model to the study of environmental campaigns, this study identified two structural elements critical to the analysis of environmental discourse. Interpretive packages and frames – the common, dominant patterns held by the environmental movement and within which they construct meaning – are concepts that improve the understanding of social movement mobilisation, and campaign influence. This chapter begins with a discussion of the interpretive packages found across all three case studies, and seeks to explain these findings within the context of the historical emergence of the three environmental positions. Secondly, the chapter compares the relative mobilisation of the frames across the three case studies, and assesses this variation in frame mobilisation as a contributing influence on shifts in the policy agenda. The chapter concludes by acknowledging that frame analysis can only contribute to understanding social
movement campaigns. Frame analysis should not be seen as a substitute for more established social movement models that continue to provide valuable conceptual tools.

2. The Mobilisation of Interpretive Packages in the Campaigns

From the history of environmental discourse, reviewed in Chapter Two, three interpretive packages – conservationism, preservationism and political ecology – were identified. Table Eighteen presents the results of the comparative percentages of the submission record attributed to each interpretive package across the three case studies – Manapouri, Clyde, and antinuclear power.

Table 18: Comparing Interpretive Packages: All Campaigns

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>MANAPOURI</th>
<th>CLYDE</th>
<th>NUCLEAR POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td>CONSERVATIONISM</td>
<td>18.7</td>
<td>17.5</td>
<td>7.9</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td>46.8</td>
<td>27.3</td>
<td>29.0</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>34.5</td>
<td>55.2</td>
<td>63.1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>100 %</td>
<td>100 %</td>
<td>100 %</td>
</tr>
</tbody>
</table>

Based on the coding of the submission record, all three campaigns demonstrate low saliency for the conservationist position ranging from eight to nineteen per cent. Clearly, the conservationist orientation, while finding some support in the hydroelectric campaigns, does not represent the majority of positions as presented in submissions over the three campaigns. In these campaigns, a clear polarisation between the conservationist interpretive package and those of preservationism and political ecology can be noted. It therefore confirms the study’s first expectation that the conservationist interpretive package will be less mobilised relative to those of preservationism and political ecology across all three campaigns.

Two broad explanations – discourse resonance, and interest mediation – can be advanced to account for the relatively low level of mobilisation of the conservation position.
The first explanation draws on the concept of resonance, outlined in Chapter One and explored in Chapter Two, that environmental discourse exhibits changes in resonance (receptivity or legitimacy) over time. Environmental movements (conservationism, preservationism, and political ecology) emerge once disquiet over the use and understanding of the environment becomes politicised and mobilises sufficient support. Thus, conservationism emerged when influential administrators such as Pinchot objected to the inefficient use of national resources by local and factional political interests. Yet more recent environmental variants succeeded conservationism once significant elements of the conservation framework were found insufficient. That is, conservationist attitudes toward resource use — extended utilitarianism, amenity protection, and managerial rationality — modify, but do not transform, the framing of the environment in terms of resource exploitation. In terms of resonance, the conservation package — although represented in campaign discourse — did not resonate with the interpretive positions of New Zealand’s environmental organisations of the early 1970s.

Nevertheless, while the conservationist position was a minority one within campaign organisations, it retained enough resonance for energy policy planners. In effect, the conservation framework allowed the energy development goals of successive New Zealand governments to be articulated. These goals were essentially defined in terms of economic growth, and were inextricably tied to increasing the levels of electricity consumption and supply. Since successive New Zealand governments could not simply impose their preferences, they were required to continually justify and present their policy positions in social debate (Hajer 1995). ‘In the last resort, government in New Zealand, as in most democracies, depends on the power to persuade’ (Cleveland 1972, p.35). The conservationist position thus provided a rationale for the New Zealand government in which specific energy projects could be promoted, and the prevailing administrative regime could be defended. In other words, energy policy actors adopted the conservation interpretive package as a rhetorical strategy to defend their commitment to resource development. This attempt by the New Zealand government to defuse environmental concern, however, was insufficient. Environmental campaigns emerged once policy actors failed to mediate environmental concern through this
discourse strategy. This implies that as the resonance, rhetorical effectiveness, or legitimacy of conservationism faded, new environmental discourses emerged. Preservationism and political ecology – as discourse competitors – sought to establish their own legitimacy in the policy arena.

Ironically, in ‘re-categorising’ the frames of the debate, in establishing the legitimacy of environmental discourse, the environmental movement has enabled a variety of social actors to seek to legitimate their own actions within its context (Kingdon 1984). The ‘environment’ is now a discursive reference point, imbued with cultural legitimacy. Once in the public domain, environmental discourse is open to public use, conferring attention, respectability, and power on those that wield it as an ideological weapon (Eder 1996b, p.204). Ideology can be ‘defined as a dominant form of framing social reality’ (Eder 1996b, p.181). The ideological role of environmental discourse can be seen, for example, in the widespread adoption of sustainable development, which has been argued to be the repackaged rhetoric of conservationism, and in the trend towards ‘green consumerism’ (Hajer 1995). In other words, Eder (1996b) argues that an environmental discourse emerges first as an oppositional discourse, and then has to compete in the marketplace of public discourse. As it gains in public legitimacy and currency, however, it moves beyond the control of the actors who initially invented it as an interpretive package, and becomes established as the dominant form of framing environmental realities (Eder 1996b, p.181).

If this account of the evolution of environmental interpretive packages seems plausible then conservationism can be seen in much the same way. The political dormancy of environmental concern until the 1960s can be seen as the result of the dominance of conservationism as a ‘collectively shared masterframe of social reality’ (Eder 1996b, p.181). Eventually, however, while

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Green consumerism may be seen as an attempt at corporate public relations – aimed at mediating a favourable impression of companies’ industrial production and consumption activities. Nevertheless, green consumerism should be seen in wider terms – as an attempt to position consumers as individuals, and to suggest that only through individual action can environmental problems be ameliorated. The ideological use of environmental discourse in this sense allows industrial production patterns to be maintained, and helps to deflect organised collective action from drawing attention to the more fundamental structural context, in which production and consumption patterns are embedded.
conservationism may have continued to resonate at the political and policy levels, it found less favour in the reinvigorated environmental movement of the 1960s.

This erosion of the conservationist package can also be located within the general framework of interest mediation. The post-1945 period witnessed lower levels of social and political conflict than before, or immediately since, insofar as collective bargaining, party competition, and representative party government were the virtually exclusive mechanisms of the resolution of social and political conflict. All of this was endorsed by a "civic culture" which emphasised the values of social mobility, private life, consumption, instrumental rationality, authority, and order and which de-emphasised political participation. (Offe 1985, p.824)

Prior to 1970, electricity planning in New Zealand was effectively de-politicised. Removed from the arena of party politics, the development of New Zealand's energy infrastructure was undertaken by technical experts, and enjoyed support across party lines (Debnam 1990, Kellow 1996, Shamir 1984). Dissatisfaction emerges, however, as neo-corporatist forms of representation and mediation become unable or unwilling to respond to new issues and demands. New Zealand conservation interests had enjoyed formal consultation with government since the early 1960s, yet may have found this access too important to endanger by publicly criticising government policy (Cleveland 1972). Moreover, these forms of bargaining are inadequate for environmentalists, since they do not require open discussion that could lead to a societal consensus on policy goals (Hager 1993). Hence, the emergence of new environmental organisations, as a collective political actor, can be attributed to the inadequacy of the forms of interest mediation that had been in place in the post-war era. The autonomous position of the new environmental organisations that emerged in the 1960s enabled them to challenge pluralist assumptions about political participation, interest group equality, and state neutrality.

Also, the membership, organisation, and tactics of the modern environmental movement organisations differed markedly from previous conservation groups. The environmental groups of the 1970s are thus thought to have evolved only in part from the earlier conservation interest groups (Andrews 1980). Wilson notes a disjunction between early environmental groups, such as the Royal
Forest and Bird Protection Society, and those emerging in the early 1970s, such as Ecology Action, whose membership was almost entirely drawn from university campuses (1982, p.171).

These trends can be identified in the New Zealand campaigns over hydroelectric power development where the bureaucratisation of political institutions is seen as self-serving, open only to certain interest groups. Despite justifying the Manapouri and Clyde energy projects in terms of the national interest – the conservationist position – the suggestion has been that bureaucracies such as the Ministry of Works enjoyed privileged access to the policy agenda. The implication is that the fundamental motivation of successive New Zealand governments was the maintenance of a skilled construction workforce, rather than satisfying actual energy demand. In other words, these large energy projects helped to maintain corporatist forms of interest mediation – a social partnership between mission-oriented government departments, such as the Ministry of Works and Development, and labour unions.3

The environmental campaigns can thus be seen as attempts to democratise energy policy, and as a reaction to the corporatised forms of government administration. The campaigns are also a response to the inability of the established New Zealand political parties to sufficiently mediate the types of issues and values that campaign actors demanded be articulated through a now dissonant conservation framework (Kriesi 1989, Hager 1993, Muller-Rommel 1985a, Rainbow 1992).

Mediation failure and shifts in the resonance of environmental discourses offer a plausible account of the emergence of environmental campaigns over energy policy in New Zealand, as well as the relatively low mobilisation of the conservation position. Yet this broad level of polarisation between interpretive packages is less useful in understanding differences between the campaigns in terms of which interpretive package is most mobilised, and whether these overall differences contribute an influence on the policy agenda. Despite similar low levels of support for the

2 An example worth repeating is the Minister of Works seeking Cabinet approval 'to retain the present Aviemore construction force for further work of the kind it has completed and recommends that the Minister of Electricity be asked what new works he could recommend to enable this to be achieved' (Treasury 1985, p.14).

conservation position across all three campaigns, only the Manapouri and antinuclear campaigns saw their goals achieved. The Clyde campaign, on the other hand, failed to overturn a preference for the high dam and maximum yield option of Scheme F.

No immediate explanation is apparent, since both the Clyde and antinuclear power campaigns enjoyed a similar (low) level of support for the preservationist position relative to that found in the successful Manapouri campaign. In this light, the expectation that hydroelectric energy campaigns will see a higher mobilisation of the preservationist package relative to the political ecology package, while this mobilisation will be reversed in the campaign against nuclear power, must be rejected. While it could be confirmed if only the Manapouri and nuclear power campaigns were compared, the Clyde case suggests that understanding the variations in interpretive packages requires a review of the mobilisation of frames. This is undertaken in the following section.

3. The Mobilisation of Frames across Environmental Campaigns.

This study has argued that the variable mobilisation of frames in energy policy campaigns may be a contributing influence to the politicisation of these campaigns, which, in turn, sheds some light on the way they might influence the policy agenda. In other words, these campaigns helped to politicise energy policy through their framing efforts — efforts directed at conceptually organising and articulating energy issues as environmental problems. The preceding case studies have shown that campaigns frame their concern in three ways. We begin with an examination of the most mobilised frame — rationality.

4. The Rationality Frame

Table Nineteen clearly shows that the rationality frame dominated across the two hydroelectric campaigns while retaining substantial support in the campaign against nuclear power. There is therefore support for the study's proposition that most mobilisation will accompany the rationality frame across all three interpretive packages, since environmental issues are thought to involve scientific claims to knowledge that are contested and (re)presented.
This follows Rudig’s idea of science as the ‘culturally dominant’ form for the legitimation of technical decision-making in the Western industrialised world (Rudig 1990, p.105). Accepted as neutral and non-partisan, scientific discourse is an authoritative version of reality and has therefore come to occupy a privileged position in political society (Barker-Plummer 1995, Caldwell 1990). Yet, at the same time as campaigners rely on this framing device to present their positions, there is a paradoxical loss of scientific legitimacy, as the frame polarises over the meaning of an objective rationality, and becomes politicised (Eder 1996b).

Table 19: Comparing Rationality Frames: All Campaigns

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE (SIGNATURE)</th>
<th>THE CAMPAIGNS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MANAPOURI</td>
</tr>
<tr>
<td>CONSERVATIONISM (MANAGERIAL RATIONALITY)</td>
<td>5.0</td>
</tr>
<tr>
<td>PRESERVATIONISM (ECOLOGICAL RATIONALITY)</td>
<td>20.0</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY (PARTICIPATORY RATIONALITY)</td>
<td>17.5</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td><strong>42.5 %</strong></td>
</tr>
</tbody>
</table>

A clear polarisation can be seen in Table Nineteen between the older environmental tradition of conservation, and the more recent interpretive schemas of preservationism and political ecology. Confidence in managerial rationality is shown as being supported only about five to eight per cent of the time. While ecological rationality frames record similar levels of mobilisation, important differences in this frame can be noted across the case studies, as can concerns of a participatory nature.

4.1 Participatory Concerns I – Mobilisation

The types of participatory concerns that emerged in the campaigns – constitutional abuse, a lack of public consultation, a lack of regulatory independence, and neo-corporatist styles of decision-making – go a long way towards providing an understanding of the politicisation of the hydroelectric
energy conflicts. The participatory frame clearly provided much of the impetus to mobilisation of the campaigns. Concern escalated at each new constitutional abuse, and these abuses, especially apparent over the Clyde dam, prompted many of the organised groups to emerge.

On the other hand, participatory concerns in the nuclear power controversy were somewhat less mobilised (twelve per cent) relative to the hydroelectric campaigns. A degree of institutional learning might be suggested as influencing the decision to seek wider public consultation over nuclear power – an attempt to defuse highly politicised energy decision-making. Here, we can note that New Zealand was in an unusual situation in holding an inquiry before any substantive steps had been taken to introduce nuclear power (Royal Commission Report 1978). Overall, desires by environmental campaigners for greatly increased levels of participation can be explained in the context of the cognitive mobilisation thesis (Dalton 1984, Inglehart 1990).

This thesis is concerned with explaining the emergence of new political actors within the context already outlined. Traditional mediators – such as political parties – fail to fully appreciate the systemic nature of environmental issues (Eder 1996b). An explanation for the emergence of new actors is that they have a relatively easy cognitive appreciation of systemic problems and cumulative deprivations (Offe 1985). This cognitive appreciation – mobilisation – implies less reliance on external sources of cues – partisan mobilisation – and more on resources that citizens possess to evaluate political issues (Dalton 1984). In other words, voters are increasingly less reliant on parties to interpret issues.

One of the explanations for this decline of the functional value of party is that the need for cues declines as the political skills of the voters increase and the costs of information decrease (Shively 1979). Perhaps this is because citizens now tend to have more resources (in terms of time, information, and motivation), than they did in the 1950s (Nedelmann 1984). Much higher levels of education, and the recency of education (indicated by an age variable), are reflected in individuals’ faith in their own ability to make rational assessments of environmental issues. New cognitive actors are therefore less dependent on traditional sources of mediation and interpretation.
Yet cognitive mobilisation should not imply that all external reference groups are declining in importance – just those of parties. Other non-partisan cues and resources could be provided by other information providers – the mass media, independent scientific authorities, citizen, consumer and protest groups, and new social movements generally.  

4.2 Participatory Concern II – Legitimation

The cognitive mobilisation thesis offers a credible explanation for the greatly increased levels of participation in social movement campaigns, and an account for the demands to participate in policy decisions in issue arenas such as energy. However, the outcome at Clyde suggests that there is no linear relationship between increased participation levels and an enhanced ability to achieve campaign goals. A further critical element appears necessary before environmental campaigners can begin to have their definitions of environmental problems accepted at the political level. Not until social movements achieve recognition as legitimate social actors do their interpretive claims stand much chance of being attended to, and, perhaps subsequently, influencing the prevailing policy positions.

Two co-dependent processes of ‘legitimation framing’ appear evident. The first involves challenging the monopoly position that mission-oriented government agencies (such as the Ministry of Works and the New Zealand Electricity Department), enjoy in defining the national interest (Andrews 1980). In providing credible and alternate information on the merits of the energy projects, environmental movement organisations eroded the ability of such agencies to claim that they were the only legitimate mediators in energy policy. At the same time, environmental organisations drew attention to their own reputations, to their non-partisan positions, and to their levels of broad-based support. Environmental movement organisations must, therefore, frame their

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4 Nedelmann (1984, p. 1034) thinks that this ‘self-referential’ aspect is a defining feature of NSMs – they are seen as increasingly autonomous in defining and articulating their own interests, without relying on professional interpreters such as priests, party representatives, and so on.
own participation as legitimate at the same time as they attenuate the legitimacy of their opponents if they are to achieve their aims.

In this light, although Clyde campaigners mobilised concern, they failed to establish themselves as fully legitimate and credible participants. In both the Manapouri and nuclear power campaigns, active involvement of both prominent scientists and prominent national environmental organisations were more evident. The Clyde campaign, on the other hand, showed significantly less participation by both prominent individuals and organisations. Environmental groups were more local, and, with smaller memberships, were perhaps unable to claim to represent the broad interests of New Zealanders. This allowed government policy actors to frame the discrepancies between the views of the public and expert advisory bodies as the result of a lack of informed judgement. Public concern and participation at Clyde could be framed as irrational and emotional, and as the result of scientific illiteracy (Cvetkovich and Earle 1992).5

Secondly, the Clyde campaign may have failed to benefit from a sufficient level of divided opinion among government departments that was evident in the other campaigns. The Manapouri and antinuclear campaigns clearly exhibited a marked degree of institutional dissent on the merits of the energy projects – dissent that was less obvious in the case of Clyde. It might also be contended that one of the major bureaucratic actors in hydroelectricity projects (the Ministry of Works) took a more neutral stand in the nuclear power debate – a project providing less employment opportunities to its workforce. While Treasury would later be critical of government bureaucracies, they could not be seen as an institutional ally of movements in the 1970s.

Overall, a comparison of the campaigns shows that environmental organisations must present themselves as legitimate participants, which is crucial if they are to open up previously monopolised spheres of political decision making. Particular factors affecting the legitimacy with

5 Framing public attitudes in this way often leads to calls to either exclude the public completely from technical decision-making, or to define participation simply in terms of public education – providing information campaigns, or even commissions of inquiry, to allay 'irrational' concern.
which public participation is accorded are national reputation, nationally active environmental organisations, and a degree of institutional dissent.

4.3 Ecological Rationality I – Modelling

The emergence in the 1960s of credible scientific figures – such as Rachel Carson and Barry Commoner – suggests that influencing the policy agenda is enhanced when one of the most authoritative social institutions of society becomes politicised – that of the generation of knowledge through science. Table Nineteen shows ecological rationality featuring equally strongly across all three case studies. Two areas – a lack of data and uncertainty issues – were significant in highlighting the way environmental conditions were interpreted. A lack of data about environmental conditions – shoreline formation, geological stability, and radiation thresholds – reflects not simply knowledge gaps per se, but the way in which those gaps are constructed.

At Manapouri and Clyde, there were few gaps in knowledge about how to build a hydroelectric dam or its infrastructure, since hydrology and engineering were established and institutionalised sciences in New Zealand by the 1960s. On the other hand, other types of information pertinent to hydroelectric development – botanical, geological, and physiological – were thought so unnecessary that in some cases data was simply unavailable. At other times, the marginal nature of ecology as a science was demonstrated. The Commission on Manapouri thought that

while we think that in certain contexts hydrological considerations might include ecological ones, we think, for the reasons given, that the word “hydrological”, in this agreement, bears its dictionary definition and not an extended one. (New Zealand Commission 1970, p.18)

Individual scientists in the Manapouri and antinuclear campaigns not only made knowledge claims, therefore, but also sought to demonstrate ‘ignorance claims’, pointing out areas of institutionalised neglect (Hannigan 1995, p.77).

Drawing attention to environmental issues is also difficult because of the way in which ecological knowledge must be generated, modelled, and verified. The environmental history literature suggested that ecological science had initial difficulties being accepted because of its
failure to conform to the rationalist and reductionist way in which science has been conducted for much of this century. In part, much of ecological science is precluded from adopting this methodology because of the unique spatial, temporal and assimilative properties characteristic of many environmental processes. For example, ubiquity, longevity, irreversibility, bio-accumulation, and synergy characterise many environmental impacts. However, the long lead times, multiple causation and indirect nature of the effects of such impacts make it difficult for environmental scientists to supply empirically confirmed data that would support their positions.

Nevertheless, attention to ecologically informed models was increased when the models of government actors were portrayed as deficient. When campaigners managed to reveal that government actors' assumptions were inappropriate – flood variables in computer models, sample sizes or using a threshold model of radiation exposure – they helped to undermine the belief that ecological processes could simply be incorporated into a standardised cost-benefit framework.

Also in this respect, it appears that whether uncertainty issues become politicised depends on the extent to which environmental controversies are brought into public forums. Here, the legalistic and adversarial demands of proof confront the uncertainty and conditionality of science (Hannigan 1995, p.78). Commissions of inquiry, such as those held over Manapouri and nuclear power, generally demand a burden of proof that cannot easily be satisfied. In these circumstances, and regardless of their final decisions, such adversarial forums can hardly fail to polarise opinion. In fact, some environmental organisations, such as the Environmental Defence Society (EDS, which was modelled on the US-based Environmental Defence Fund), made good use of legalistic challenges to planning decisions. EDS, established in March of 1971, was quite unlike other New Zealand environmental organisations in that its membership was dominated by both lawyers and scientists, and its campaigns had an explicit focus on court action (Wilson 1982). In the Clyde campaign, the lack of openness about planned hydroelectric development on the Clutha, and the lack of a public inquiry, both limited the opportunities in which an adversarial forum could generate concern over uncertainty issues.
4.4 Ecological Rationality II – Verification

This thesis has noted that experiential verification often provides timely illustrations of the legitimacy of alternative ecological models. For example, shoreline slumping served to reinforce the vulnerability model at Manapouri, while undermining the view held by policy elites who assumed that the Manapouri ecosystem was resilient and self-correcting. Yet had it not been that alternative ecological understandings were ‘in the frame’, so to speak, it is conceivable that the slumping of the Manapouri shoreline would have been passed off as unfortunate, but that shorelines would recover. Labour Members of Parliament undertook field trips after the 1970 Commission of Inquiry reported, indicating that the experience of actual conditions was important in the process of persuasion at Manapouri. At the same time, field trips by New Zealand nuclear scientists to overseas nuclear installations before any major nuclear power accidents had occurred, helped to reinforce, rather than undermine, faith in technological control of nuclear processes. The timing of field trips and experiential verification is therefore important (Hajer 1995).

The timing of exposure to changed environmental conditions, then, can help to verify particular ecological models. Individuals are thereby sensitised to new threats – such experiences can act as a reference point that orients the adoption of subsequent ecological models (Vaughan and Siefert 1992, p.130). In formulating their position, campaigners at Manapouri drew on previous experience they had of the devastation of Lakes Hawea and Monowai, among others. At Clyde, campaigners had no direct experience of landslides, and failed to refer to the landslide at Vaiont, Italy, in which 2000 people were killed.

Table Twenty summarises the analysis of the rationality frame so far presented, and lists those elements thought to cumulatively politicise the frame of rationality. The politicisation of the rationality frame can be envisaged as a four-stage process. The first two stages reflect the participatory challenge. The first involves challenging the monopoly or hegemonic position of established policy actors – inevitably, the by-product of perceived deficiencies in the non-partisan and independent status of policy organisations. In other words, the challenge is to demonstrate that
energy demand, for example, is a political variable – determined as much by the preferences of energy policy-makers as by any ‘objective’ technical indicators of demand (Hager 1993, p.54).

**Table 20: Frame Politicisation: The Mobilisation of Rationality**

<table>
<thead>
<tr>
<th>THE RATIONALITY FRAME</th>
<th>THE CAMPAIGNS</th>
<th>MANAPOURI</th>
<th>CLYDE</th>
<th>NUCLEAR POWER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>HIGH</td>
<td>HIGH</td>
<td>HIGH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>HIGH</td>
<td>LOW</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>PARTICIPATORY RATIONALITY</td>
<td>MOBILISATION</td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td></td>
<td>LEGITIMATION</td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH(-VE)</td>
</tr>
<tr>
<td>ECOLOGICAL RATIONALITY</td>
<td>MODELLING</td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td></td>
<td>VERIFICATION</td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
<tr>
<td>FRAME POLITICISATION</td>
<td></td>
<td>HIGH</td>
<td>LOW</td>
<td>HIGH</td>
</tr>
</tbody>
</table>

The second participatory challenge is aimed at establishing the legitimacy of publics to make competent evaluations of complex technical data. At Manapouri (and to a lesser extent in the nuclear power campaign), participatory challenges – extensive public participation, and extended scientific studies by independent scientists in their field – not only mobilised the campaign but also polarised the policy discourse. By contrast, although participation was mobilised at Clyde, it was seen as less authoritative and less legitimate.

The third stage in the politicisation process is the mobilisation of scientific legitimacy – attempted through an alternative ecological modelling of physical reality. Thus, both the Manapouri and antinuclear campaigns were able to frame uncertainty and other orthodox assumptions of cost-benefit analysis as untenable. At Clyde, data on crucial geological processes was simply non-existent – the resulting uncertainty was viewed as normal, and no submissions suggested that an alternative ‘uniformitarian’ model of the geological terrain was more appropriate at Clyde.

Finally, if politicisation of the rationality frame is to influence the policy discourse, it appears that empirical verification can play a contributing role. Here, the absence of any empirical proof of the possible geological risk at Clyde tended to reinforce the non-dynamic model of geological processes held by energy planners.
The failure of the Clyde campaign to reorient the policy discourse cannot simply be attributed to the low politicisation of the rationality frame. Yet the cumulative effect of campaigners failing to present their participation as legitimate, the level of data uncertainty as a problem, and the failure to shift the understanding of geological change, suggests that policy influence was not enhanced by the low politicisation of this frame in the Clyde campaign.

More generally, the idea that energy policy debates are not conducted in intellectual terms must be discounted. At least in the hydroelectric power campaigns, the level of mobilisation and politicisation of the rationality frame was high. Although the antinuclear power campaign mobilised this frame somewhat less, the campaign nevertheless saw a clear polarisation between the conservationist assumptions of rationality, and those of preservationism and political ecology. In other words, it is often the case of how successfully the conservationist assumptions of rationality are challenged that can help to politicise environmental debate, and potentially lead to a change in the policy agenda. With this in mind, this study confirms the suggestion that *most mobilisation will accompany the rationality frame across all three interpretive packages, since environmental issues are thought to involve scientific claims to knowledge that are contested and (re)presented*. This does not imply, however, that the politicisation of the rationality frame will, by itself, enhance the position of environmentalists. The role of the other frames must also be considered.

5. The Moral Frame – The Distribution of Risk

According to Nedelmann, ‘the core values of the classical party ideologies are not always adequate as interpretative systems for the morally-based demands made by the new political movements’ (Nedelmann 1984, p.1042). Table Twenty-one certainly supports the view that morally-based demands featured strongly in the environmental campaigns over hydroelectric power. Indeed, this frame was the most prevalent element in the nuclear power campaign.
In summarising the framing of morally-based concern in the campaigns, a distinction emerges between anthropocentric and ecocentric risks. The former category can be further divided into intragenerational and intergenerational equity concerns. There is a progressive increase in the level of risk in which morally-based arguments are framed. The concept of *risk amplification* – changes in the intensity of the risk signal – will therefore orient the following discussion, which is summarised in Table Twenty-two (Cvetkovich and Earle 1992, p.17). The differences across the cases suggest that variability in the mobilisation and framing of risk issues can affect the politicisation of the moral frame, and, in turn, play a supporting role in influencing the energy policy agenda.

**Table 21:** Comparing Moral Frames: All Campaigns

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE (SIGNATURE)</th>
<th>THE CAMPAIGNS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MANAPOURI</td>
</tr>
<tr>
<td>CONSERVATIONISM (EXTENDED UTILITARIANISM)</td>
<td>7.5</td>
</tr>
<tr>
<td>PRESERVATIONISM (ECOCENTRISM)</td>
<td>18.7</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY (RISK)</td>
<td>8.8</td>
</tr>
<tr>
<td>TOTAL</td>
<td>35.0%</td>
</tr>
</tbody>
</table>

**Table 22:** Frame Politicisation: The Mobilisation of Risk

<table>
<thead>
<tr>
<th>THE MORAL FRAME</th>
<th>THE CAMPAIGNS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MANAPOURI</td>
</tr>
<tr>
<td>INTRAGENERATIONAL RISK</td>
<td>LOW</td>
</tr>
<tr>
<td>INTERGENERATIONAL RISK</td>
<td>MEDIUM</td>
</tr>
<tr>
<td>ECOCENTRIC RISK</td>
<td>HIGH</td>
</tr>
<tr>
<td>FRAME POLITICISATION</td>
<td>HIGH</td>
</tr>
</tbody>
</table>
Questions of distributional equity (intragenerational risk) within the current human generation present the lowest level of risk framing. How the benefits and costs of hydroelectric and nuclear energy projects were to be distributed among all New Zealanders did mobilise concern. Certainly this perspective was resonant with energy policy planners. This approach was also adopted by environmental organisations in the Clyde campaign where it was primarily framed in terms of local and regional costs. In effect, opponents of the Clyde scheme attempted to talk of the ‘colonisation’ of Southland’s power resources by the rest of New Zealand. This seriously weakened their moralistic challenge, allowing energy planners to utilise the conservationist interpretation of resource development in the national interest.

By contrast, the Manapouri and antinuclear campaigns diverged on the degree to which they mobilised intragenerational concern. At Manapouri, resource use was a national issue, and opponents objected to resources being given away ‘cheaply’ to foreign consortiums. Over nuclear power, campaigners argued that resource use had implications for the distribution of resources at the international level. On the evidence provided here, it appears that variability in framing intragenerational concern has a limited role in politicising the terms of moral discourse.

In terms of the distribution of costs and benefits between generations, the positions of the campaigners were reversed. The Clyde campaigners could not argue that future generations would not benefit from the power generated, since it would (presumably) be going to the national grid. At Manapouri, however, campaigners could, and did, argue that a ninety-nine-year fixed-price power contract with Comalco would impose a severe burden on the New Zealand generations to come. Similarly, campaigners against nuclear power found that arguments framed in terms of generational justice received some attention. In fact, the Royal Commission regarded the involuntary imposition

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6 It could be argued, however, that developing national hydro resources is an international question as well, since such development helps to preserve an international resource – the capacity of the atmosphere to absorb global emissions of greenhouse gases. Indeed, the preservation of Amazonian rainforest is also premised on the moral belief that the benefits of this carbon sink should be distributed among a community of nation states.
of the costs of radioactive waste disposal for countless generations to come as sufficient grounds to reject nuclear power.

This receptivity toward intergenerational equity is suggested in the literature as a consequence of those states featuring strong traditions of social democracy or welfare capitalism (Eder 1996a, Kitschelt 1986). Where traditions of fair and equitable distribution have been well established, such as in New Zealand, a certain historical resonance is thought to explain the ready acceptance of intergenerational equity arguments.

Conversely, the lack of much historical resonance in framing ecocentric concern sees more variability in the mobilisation of this frame across the case studies. This frame articulates moral concern in the widest sense – the representation of the non-human community, and a concern with the long-term integrity of the geosphere and biosphere, of which humanity is just one part. The ecocentric frame, at nineteen per cent, featured strongly at Manapouri but only weakly in the other campaigns.

On the other hand, although the Clyde campaign mobilised the political ecology risk frame much more strongly than at Manapouri, it failed to find much purchase. This finding suggests that framing risk in its widest sense (ecocentrism) can add to the politicisation of the frame. Of course, the Clyde campaign was faced with different real-world conditions, since there was simply less biodiversity threatened in the Clyde River. Also, the ecocentric position today enjoys more widespread legitimacy than was perhaps evident at the time of these early campaigns.

In summary, the normative (moral) framing of environmental issues is an important component in politicising environmental debate, and can contribute to campaign influence. Whereas the rationality frame is concerned with decision making – who participates and whose definitions count – the moral frame is concerned with decision outcomes – those affected by the decisions made (Beck 1992). By organising our normative concern, environmentalist frames can amplify our appreciation of the moral community at risk. These frames draw attention to the incomplete nature of the conservationist moral position.
The normative principle of the conservationist outlook is the efficient and equitable distribution of ‘goods’. The normative principle of political ecology is the inequity of the distribution of ‘bads’ (Lash et al. 1996, p.2). It is under these conditions, modern environmentalists argue, that the state must re-evaluate its role. On the one hand, increased universal levels of risk have helped to reinvigorate the rationale for state action (Eder 1996a, p.210). At the same time, where state action itself is implicated in ‘risk amplification’, the state’s role as mediator becomes difficult to defend. Consequently, the state’s role in the production of collective goods is compromised because it is also implicated in the production of public ‘bads’, or externalities.8

This is not to say, of course, that conservationist discourse has been superseded. At least on the evidence of these campaigns of the 1970s, conservationism represented almost twenty per cent of the submission record. Even today, its main normative rationale appears in its descendant, ‘sustainable development’. Ostensibly framed in terms of intergenerational equity, sustainable development maintains its core preference for utilitarianism – maintaining the productive capacity of environmental resources for maximum yield over the longest time. Environmental economics is itself a normative orientation in economics, aimed at re-establishing Pareto optimality through the use of economic instruments. Sustainable development, therefore, is normatively oriented – how best (in terms of efficiency) to develop resources so that the consequent risks and externalities are distributed equitably, allowing the framework of production to remain largely unquestioned.

7 Nowhere is this more apparent than in the global environment, where intragenerational and intergenerational equity debates are used to legitimate co-ordinated action among competing nation states. A nation’s use of its own resources is now a moral issue, creating new discourses such as international environmental justice, and informing established conflicts, such as the North-South debate.

8 The notion of the differences between the private and social costs of the provision and consumption of goods and services can be regarded as cost shifting. In the language of economists, these unintended consequences of human economic activity are called externalities. Externalities can thus be defined as the unintended consequences (positive or negative), that arise from the actions of contracting (market parties), and which subsequently influence the welfare of non-market parties (Dietz et al. 1993, p.123).
While environmental movements have politicised normative discourse, and reinvigorated the debate over the role of the state, the sustainable development interpretive package has countered with the concept of tradable property rights in environmental ‘goods’ and ‘bads’. This interpretive package argues against the suggestion that nation states should accept any moral vision beyond that of efficiency. In this sense, the normative framing of environmental issues will continue to be central to the politicisation of the environment – the environmental crisis is not just a physical crisis, but a social crisis as well (Lash et al. 1996, p.6).

6. The Aesthetic Frame

Table Twenty-three clearly shows that the aesthetic frame – relative to those already discussed – was not a dominant feature of environmentalist discourse. Clearly, environmental campaigns seem to be mobilised least over the subjective meaning of the natural environment. This finding contradicts earlier studies that environmental campaigns involving wilderness issues are primarily mobilised over symbolic and cultural concerns (Cleveland 1972, Rainbow 1987).

<table>
<thead>
<tr>
<th>INTERPRETIVE PACKAGE</th>
<th>(SIGNATURE)</th>
<th>THE CAMPAIGNS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MANAPOURI</td>
</tr>
<tr>
<td>CONSERVATIONISM</td>
<td>(AMENITIES)</td>
<td>6.2</td>
</tr>
<tr>
<td>PRESERVATIONISM</td>
<td></td>
<td>16.3</td>
</tr>
<tr>
<td>POLITICAL ECOLOGY</td>
<td>(IDENTITY)</td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td></td>
<td>22.5 %</td>
</tr>
</tbody>
</table>

Despite this finding, aesthetic concern nevertheless appears an important component in attempts to reorient the aesthetic understanding of the environment. A clear polarisation can be

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9 These include, for example, tradeable pollution permits, pollution bubbles, and per capita shares in the atmosphere’s greenhouse gas absorption capacity.
identified between the conservation position, and those of preservationism and political ecology in the way aesthetic issues were framed. A clear preference for a generic identity position can be shown, with confidence in an amenity orientation being supported only about five per cent of the time. The focus on identity and cultural issues was clearly preferred. Articulating identity concerns, then, may help to isolate the conservation frame of amenities that, in turn, can contribute to the politicisation of the aesthetic debate, and keep identity issues on the policy agenda.

Although the level of the submission record framing aesthetic issues was much the same across the campaigns, important differences in how these issues were articulated affected the capacity of the frame to mobilise the issue to the same extent. Table Twenty-four summarises these differences across the campaigns.

Both the Manapouri and Clyde campaigns began as the initiatives of local people – tourist operators, local farmers, and regional organisations. Both campaigns also had a long gestation period, but toward the end of the 1960s the Manapouri campaign became symbolic of a wider New Zealand identity. Manapouri came to reflect a national, or cultural, identity, in a way that Clyde did not. Significantly absent in the Clyde campaign were nationally resonant scenic values, and a ‘foreign enemy’ in the form of Comalco. In the absence of these orientating issues, the cultural significance of ‘saving’ the river appeared low.

At the same time, both the Manapouri and antinuclear campaigns enjoyed a high level of campaign identity. More national-level organisations participated in these two campaigns, providing a sense of solidarity for participants, and a demonstration that opposition to the energy projects was united. Conversely, fewer national-level organisations played a role at Clyde (see Appendix Two). Campaign identity, and the diverse action committees (many of whom had conflicting agendas), further dissipated solidarity. It was these limited and divided identity interests at Clyde, then, which can be identified as critical factors in the failure of the campaign to shift the discourse beyond that of amenities.
The importance of campaign identity to campaign success is further shown by the antinuclear campaign. Despite low scores on mobilising individual and societal identity concerns, opposition to nuclear power successfully emerged as a national campaign. Although a diverse number of organisations opposed nuclear power, they did so consistently, and without the factionalism characteristic of the Clyde campaign.

This finding confirms the idea that movement cohesion or identity is an important contributing factor if campaigns are to influence the policy agenda (Kingdon 1984). Manapouri and antinuclear campaign identity were enhanced by national ‘umbrella’ organisations that fostered a broad-based membership and consequent media attention. Campaign legitimacy can be enhanced when they are seen as broadly representative of the national population. Thus, campaigns show to the established policy community the extent to which alternative policy preferences are supported.

Unlike the cognitive and normative analysis of environmentalist positions, this study made no initial distinction within the aesthetic frame between the preservationist and the political ecology positions. This study finds that it still remains difficult to identify components that would further differentiate between a preservationist and political ecology package.

One possibility is to locate the individual identity issues of the aesthetic frame within the preservation package, and the wider cultural identity aspects within the political ecology position. An individualist, experiential, and metaphysical valuing of nature can clearly be seen in the preservationism of John Muir, that emerged at the turn of the century. Individual identity, as
spirituality and metaphysical contemplation, is also identified with the ‘deep ecology’ position. Indeed, deep ecology has been criticised as apolitical precisely because its individualist orientation deflects attention away from the social origins of environmental degradation (Eckersley 1992, p.146). If this is correct, then it may be useful to associate the wider cultural, symbolic and collective dimensions of identity with the political ecology position. This differentiation would require further empirical analysis.

More generally, explanations for the emergence of identity issues are, once again, best located in the failure of established political actors to mediate concerns of this nature. These deficits may be an inevitable consequence of political parties acting as ‘catch-all parties’. While attempting to broaden their appeal, political parties risk distancing themselves from their traditional bases of support, abandoning the cultural and ‘life-world’ dimensions of politics, and concerned less with fostering a collective social identity than with strategic power seeking.

Some empirical support for this line of reasoning is suggested by feelings of low efficacy in electoral politics – indicated by declining levels of voter turnout – and declining partisanship in western democracies in recent years. Many ‘new politics’ voters, such as those who support environmental parties, evidence weak partisanship – they are less likely to hold strong party attachments compared to ‘old politics’ voters. In terms of affectivity, or emotional identification, then, there is an increasing tendency to identify less with parties than with primary groups, such as social movements that are community focused (Dalton 1984, Nedelmann 1984, Scott 1990).

The non-partisan nature of environmental voters has also been suggested as a reason for the relative lack of success of environmental political parties around the world, since they have generally found it difficult to increase their levels of electoral support much beyond the ten per cent level (Rudig 1991). From the analysis conducted here, it is suggested that a further contributing explanation for the relative failure of environmental parties is the continuing role of environmental

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10 Partisanship, or party identification, has been a useful concept in understanding political behaviour by its functional roles. Political parties act as providers of low cost voting cues for unsophisticated voters, as reference groups on issue positions, and as mobilising agents in political participation (Dalton 1984, p.265).
movements in accommodating identity interests. In other words, voters may feel that, because they express their identity concerns through participation in environmental campaigns, they have less reason to support environmental political parties on these grounds. For example, despite mass participation in antinuclear campaigns in Europe, many environmental protesters clearly continue to vote for traditional and established political parties.\textsuperscript{11}

7. Summary

A number of commentators believe that the force of environmentalism occurs when its dimensions are combined (Bramwell 1989, Del Sesto 1979, Jamison \textit{et al.} 1990). Although a politicising role for all three frames has been identified, the expectation that all three frames must be politicised is only partially confirmed, based on the results summarised in Table Twenty-five. Although the Manapouri campaign successfully mobilised concern in all three frames, the antinuclear campaign was also successful – despite mobilising aesthetic concerns to a weaker extent. The prediction, therefore, that \textit{the politicisation of all three frames was a contributing influence to the change in the policy consensus in the Manapouri and antinuclear power campaigns} is true for Manapouri, but only partially confirmed for the nuclear power case.

At the same time, it was supposed that \textit{a low level of politicisation in one or more frames was a contributing influence to the outcome in the unsuccessful Clyde campaign}. With the qualification that this result is based on the submission record, this interpretation is at least consistent with the analysis undertaken here. The cumulative effect of the low politicisation of the rationality frame, the weak morally-based challenges to the energy project, and the limited and divided identity interests at Clyde, supports the idea that discourse was one factor in the failure of the campaign to politicise the debate. In turn, the lack of politicisation helps to account for the lack of influence on

\textsuperscript{11} While over eighteen per cent of antinuclear energy supporters voted for the Greens in Germany in 1989, over fifty-seven per cent of movement supporters chose the SPD (Rohrschneider 1993, p.166).
the policy agenda. Clearly, interpretive influences by themselves cannot account for policy agenda outcomes, and this is discussed in more detail below.

**Table 25: Policy Agenda Influence: The Role of Frames**

<table>
<thead>
<tr>
<th>FRAME POLITICISATION</th>
<th>THE CAMPAIGNS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MANAPOURI</td>
</tr>
<tr>
<td>RATIONALITY</td>
<td>YES</td>
</tr>
<tr>
<td>MORAL</td>
<td>YES</td>
</tr>
<tr>
<td>AESTHETIC</td>
<td>YES</td>
</tr>
<tr>
<td>POLICY AGENDA INFLUENCE</td>
<td>YES</td>
</tr>
</tbody>
</table>

Given the comparative nature of the study, it was also theorised that the relative incidence of each frame within environmental discourse differs between the antinuclear campaign and the hydroelectric campaigns of the environmental movement. The prediction was that *the mobilisation of the aesthetic frame will be higher in the two hydroelectric power campaigns while the antinuclear power campaign will see the moral frame most mobilised.*

This prediction is borne out to some extent, since Table Twenty-one shows firstly that the moral frame was the most mobilised (over fifty per cent) in the antinuclear power campaign, compared to the levels (thirty-five per cent) in the hydroelectric power campaigns. Within the moral frame, it was the risk perspective of political ecology that was mobilised most in the submission record, which tends to confirm that the interpretive systems of the new political movements are oriented around morally-based concern (Nedelmann 1984).

Some decrease in the incidence of the framing of aesthetic issues is also evident in the nuclear power campaign. However, as noted in Chapter Six, this low level of mobilisation may be attributed to the unspecified location of proposed nuclear sites. Once nuclear power sites are chosen, in other words, it would be expected that identity and cultural issues would figure more prominently.
On the other hand, the weaker mobilisation of the aesthetic frame by the antinuclear campaign does not seem to have affected the campaign's ability to influence the policy agenda.

It is tempting to conclude, in light of this finding, that the weak showing of the aesthetic frame in two out of the three case studies means that it can be dismissed as a significant force in environmental debate. This conclusion should be resisted. Since these cases are examples of the early debates in the environmental movement in New Zealand, the aesthetic frame may have been accorded less legitimacy – by both campaigners and government actors – than would be the case today. The metaphysical and cultural value of the environment is now recognised precisely because of past efforts. This recognition is today reflected in the deep ecology movement, increased legitimation of indigenous perspectives, and, indeed, in the academic courses in the politics of identity, now taught worldwide.

8. Alternative Explanations

The frame analysis model of social movements can only claim to offer a partial account of three of New Zealand's most significant environmental campaigns. The model's utility, as it is undertaken here, primarily lies in its ability to analyse the mobilisation of arguments in campaign discourse. A second feature of the model is that it can add to the understanding of campaign influence on the policy agenda. Here, the focus has been on the extent to which campaign targets have responded to campaign discourse as a measure of that influence. Clearly, no definitive account – either of campaign mobilisation or influence – is offered here, since a range of other factors are also significant influences on the conduct of social movements in general, and campaigns in particular. These alternative accounts are now briefly reviewed.

Cleveland (1972), for example, locates the policy shifts on Manapouri within a number of theoretical models. These approaches range from the rise of aesthetic and cultural values, (postmaterialism), to the participation and frustration of middle-class, educated and professional activists (class-based analyses), to the role of the media, and to the peculiar importance of individual talent (resource mobilisation) (Cleveland 1972). Postmaterialism and class analyses may predict the
participation of a middle class, but they cannot explain why all strata of society supported the campaign. Nor can changing cohorts effectively explain the massive increase in opposition to the Manapouri scheme between 1960 and 1970. In 1960, a petition opposing the scheme attracted 25,000 people, while 265,000 people signed the petition organised in 1970. Clearly, the level of environmental concern cannot be attributed to a ten-fold increase in the numbers of postmaterialists. As suggested in Chapter One, it is also difficult for the postmaterial model to suggest why environmental organisations are able to exert influence in one campaign and not others.

Contributing roles for the influence of public opinion, however, must be acknowledged. The nuclear power campaign obviously benefited from a supportive public opinion, given that Campaign Half Million collected over one-third of a million signatures between June and October 1976. The level of public support was also clearly important in the Manapouri campaign, especially in terms of the numbers supporting the later 1970 petition. This level of support was absent over the Clyde River, and did not help the campaign move beyond a local and regional context.

As the 1978 Commission notes, however, petitions, by their very nature, are unable to demonstrate the depth of concern and commitment of the signatories, and the reasons for their attitudes (Royal Commission Report 1978, p.117). Furthermore, the public can hardly be said to have established the issue by themselves. Rather, the fact that the public became sensitised, and supported the issue, can be explained in terms of the extent to which campaigners were able to frame the issue as one of national importance, and succeeded in mobilising nationally resonant values. According to Kingdon, it is just as likely that government officials and other activists affect the public’s agenda as much as the reverse (1984, p.70). In other words, environmental organisations mobilise public opinion around issues, rather than public opinion establishing those issues and mobilising organisations.

Cleveland (1972) also believes that the Manapouri issue did not evolve into its full political potential until it became salient in the media. Certainly, some papers, such as the Otago Daily Times, were relentlessly unfavourable to both hydroelectric schemes. The role of television also should not be underestimated. In particular, the role of the Gallery programme broadcast prior to the 1969
The election is often credited as generating a substantial degree of support for the campaign (Cleveland 1972, Rainbow 1992). Yet, media influence can work both ways. Comalco had its own substantial resources with which to mount a public relations campaign that included television commercials, advertising in newspapers and free trips to Australia for journalists. At the same time, the Commission for Inquiry on Manapouri helped to suppress any influence the press may have had.

While the commission was conducting its inquiry, of course, the press felt obliged to refrain from comment on the affair for fear of contempt proceedings concerning a matter of *sub judice*. (Cleveland 1972, p.31)

In the nuclear power controversy, media attention to a national campaign may have enhanced the perception that the campaign was a legitimate representation of national concern. In this campaign, most newspapers are assessed as taking a neutral stance on nuclear power (Ericksen 1978). While much the same can be said for the Clyde River campaign, it is apparent that the Clyde issue did not resonate with the public as in the other campaigns. As a local, rather than a national, issue, saving the Clyde River failed to generate the same level of media interest.

In general, however, discussions of the influence of the media need to distinguish between its influence on the governmental policy agenda and the public opinion agenda (Kingdon 1984). The attention of elected representatives was no doubt affected by media attention to energy issues because they followed the mass media, and because media interest affected the attention paid by the public. Certainly, media attention to national campaigns seems to enhance the perception among policy makers that it is broadly representative of national feeling, and, hence, an expression of legitimate concern.

It is less clear that the media played a role in defining these energy issues as a problem, that they are engaged in an interpretive role per se, and were a direct influence on the policy agenda rather than influencing the public agenda. Cleveland (1972, p.30) notes, for example, that the Manapouri problem received widespread publicity in the press as pressure group opposition intensified, and that the news media did not establish the saliency of the issue entirely by their own inspiration. In the nuclear power debate, the Commission of Inquiry was very disappointed at the
extent and quality of the coverage given by the news media, and felt that the media participated in an intermittent fashion during the inquiry (Royal Commission Report 1978, p.26). In other words, the narrow span of attention among mass publics, the very small ‘news hole’ in the mass media, and the confined range of issues that actually emerge in media coverage, imply that media influence on the policy agenda is an indirect one. The media is more likely to report the government agenda, rather than to have an independent effect on it (Kingdon 1984, p.62).

In terms of the social movement literature discussed in Chapter One, the factors thought responsible for movement influence depend on the particular social movement model adopted. Resource Mobilisation Theory focuses on organisational variables and the effectiveness with which resources are used. The professionalism of campaign leadership, the type of organisational structure, the degree of formalisation, centralisation, and institutional access are all thought to contribute to the capacity of movement organisations to affect the policy agenda.

In the Manapouri and nuclear power campaigns, the role of a campaign co-ordination strategy, (directed by a national or umbrella organisation), appears to have been an important influence in establishing the profile of the campaign. Although the leader of the Manapouri campaign, Ron McLean, was ‘just’ a farmer from Southland, he toured the country forming a ‘web of protest over the whole country’ (Cleveland 1972, p.34). Campaign Half Million provided much the same organisational function in the nuclear power debate, aided by a number of newly emergent national organisations, such as Greenpeace and Ecology Action, who were able to mobilise an active membership. Although more groups were active in the Clyde campaign, most were local, and the few national groups who were active did not take the ‘umbrella’ role characteristic of the other campaigns.

Resource mobilisation offers a valuable suggestion that highly resourced activism can help to strengthen the presentation of environmental ideas. On the other hand, organisational features alone cannot predict what ideas are actually presented, or explain why some ideas are more readily received in policy circles than others. Here, the political opportunity structure (POS) model offers some insights.
One of the main emphases in the POS model is the role of ‘third parties’, who can be seen as a sponsor or an ally of the movement organisations in particular campaigns (Jenkins and Klandermans 1995, Kitschelt 1986, Kriesi 1995, Tarrow 1994). It was noted above that those states featuring strong traditions of social democracy or welfare capitalism are more receptive to environmental issues when distributive questions are involved (Eder 1996a, Kitschelt 1986). Here, a role for the New Zealand Labour Party can be suggested. For example, some commentators saw the Labour Party’s role in the Manapouri issue as an important influence on the outcome of the campaign (Slee 1974, Buhrs 1991). On the other hand, Labour had failed to support the environmental position prior to 1972, planned its own hydroelectric scheme for the Clutha River, and it was the National Party that set up the Commission of Inquiry on nuclear power in 1976.

From the case studies, the degree of institutional dissension seems to have contributed more to the outcomes of the campaign than party sponsorship. In the Clyde campaign, government departments seemed to be more united in favouring the scheme than was perhaps evident in the Manapouri debate. Here, the National Parks Authority and the Fiordland National Park Board had some jurisdiction, and opposed the lack of consultation and the secrecy with which the energy scheme had been conducted. The lack of benefits for the Ministry of Works, which took a less self-interested stance in the nuclear power debate, has also been noted.

Yet the ability of government agencies to publicly question government policy in the highly centralised, secretive nature of the policy-making process in the New Zealand of the 1970s, was perhaps limited (Cleveland 1972). In the climate of the 1970s, such agencies were expected to adopt a neutral and limited advisory role, rather than acting as ‘political brokers or as channels for the articulation of pressure group interests’ (Cleveland 1972, p.38). Indeed, conservationists must therefore recognise that the only real restraint on government policy in any situation resembling the Manapouri affair lies in the capability to mobilise public opinion. Without aggressive supervision by pressure groups, the National Parks Act is only a paper illusion and its statutory administrators, the National Parks Authority and the various boards are lame watchdogs whose method of protecting the public interest is likely to be limited to limping along apologetically with the very thieves they are supposed to be detecting. (Cleveland 1972, p.39)
Nevertheless, campaign success or failure in changing public policy depends on more than its ideas. Rather than assigning causal priority to one or more social movement models, policy agenda success is dependent on the interactions between public support and media attention, mobilised movement actors, and political and institutional forces within policy domains. Policy influence depends on the movement sector’s ability to create a mutually reinforcing combination of ideas and organisational practices (movement culture), and to deploy them strategically. The external structural context, that is generally the focus of research on political opportunity, also played a role in shaping protest effectiveness in these three campaigns. Although beyond the scope of this study, the ideas and organisational strength of the non-movement sector (counter movements and institutionalised policy actors) are also key external factors affecting the policy agenda. More historically contingent factors, such as developments in energy technology or climate change that reduces energy demand, can also impact the policy agenda. Note, however, that these external structural factors are not simply a given set of objective conditions – the meanings that people attach to such developments require interpretation, definition, and articulation (Einwohner 1999).

In addition, incorporating ‘ideational elements’ from the broader culture into protest strategy can broaden the focus of political opportunity (Tarrow 1992, Williams 1995, Zald 1996). Thus, a ‘cultural opportunity structure’ also affects social movement dynamics such as emergence, mobilisation, and outcomes (McAdam et al. 1996). Social movement organisations thus have an advantage in the cultural opportunity environment. They have an ability to innovate and quickly respond in the cultural arena because popular attention, agendas, and policy change occur ‘during periods of general heightened public attention’ (Baumgartner and Jones 1993, p.20). Although the campaigns under investigation had a long genesis, only four years elapsed from the 1972 policy change on the Manapouri issue to the 1976 nuclear power inquiry. Within this period, New Zealand environmental organisations were able to politically mobilise new meanings in public forums as a strategic way to shape policy and its institutionalisation. This cultural approach to social movement influence understands that ‘historical eras differ not only in what people think, but what is thinkable’, and looks at ‘how ideas become plausible to those who hold them’ (Swidler and Arditi
Indeed, ‘altering cultural codings is one of the most powerful ways a social movement actually brings about change’ (Swidler 1995, p.33).

9. Conclusion

The three campaigns examined in this study are representative of a turning point in the political history of New Zealand – one that saw a fundamental re-evaluation of the political significance of environmental concern. These campaigns were among the first to mobilise mass environmental concern at the national level, to question the bipartisan consensus on energy development, and to achieve substantive and procedural success in the energy policy arena.

In politicising energy policy, the Manapouri, Clyde dam, and antinuclear campaigns drew attention not just to the politics of a particular energy project, but to the equivocal role of the state in environmental management and resource development. Demands for meaningful public participation in decision making, increased accountability in planning processes, attention to wider environmental values, and reductions in environmental and financial risk, all challenged the utilitarian and developmental mandates that New Zealand government departments had enjoyed since 1945. Borrowing an expression from popular culture, it was the environment, but the new cognitive, normative and aesthetic frameworks made it almost unrecognisable and alien to established policy actors. These environmental concerns, first raised in the campaigns of the 1970s, were used in the 1980s to justify a fundamental restructuring of environmental administration in New Zealand. In short, by acting as a catalyst for the creation of environmental interest groups

\[12\] The expression ‘It’s life Jim, but not as we know it’ was regularly uttered on the television series Star Trek, when alien forms of life were encountered.

\[13\] New Zealand extensively reformed its resource management laws and local government administration between 1987 and 1991. These reforms were a conscious effort to restructure local governments, and to devolve power from the national government to local governments. The Resource Management Act (RMA), adopted in 1991, with subsequent amendments in July 1993, replaced nearly sixty pieces of environmental and resource management legislation with a single, comprehensive approach to natural resource and environmental management. New Zealand’s RMA is
(especially those organised at a national level), and by legitimating protest action, these campaigns helped to initiate the modern environmental movement in New Zealand. The environmental movement, as a social and political movement, deserves attention from political analysts.

In this study, frame analysis has been applied to the mobilisation of environmental concern over New Zealand’s energy policy agenda of the early years of the 1970s. This model enabled the discourse of environmental concern, as articulated in three campaigns, to be analysed. It showed that the politicisation of New Zealand energy policy could be partly explained by the variable mobilisation of concern seen in these campaigns. This concern was expressed in terms of ecological rationality, environmental risk to an extended moral community, the symbolic and identity meanings of nature, and the desire for public participation in energy policy decisions. The analysis was based on submissions made to three public forums by a range of environmental movement organisations that were active across the life of the campaigns.

Two aims have guided this study. The first has been to concentrate on the different ways in which social movement organisations articulated environmental concern through a range of discourses that were a dynamic response to new energy developments, defined by the institutional nature of the policy process. Secondly, by revealing competing interpretive packages and frames within environmental discourse, the study has attempted to illustrate how frame analysis can contribute to the cultural approach to the study of policy processes.

Frame analysis offers a cultural perspective in the study of public policy that can add to rationalist and pluralist understandings of policy behaviour and policy outcomes. The analysis of the discursive frames used within the energy policy domain helps to show how institutional and movement actors seek to legitimise their positions by appealing to generally accepted cultural norms, and by adapting pre-existing frames to their own views. The model can be used to

distinguished by procedural emphasis on local government consideration of ‘effects’, and a policy adoption process that ensures all parties have a strong voice in policy and plan development (Buhrs and Bartlett 1993, May 1995).
empirically assess the debates and arguments articulated in specific movement campaigns. Thus, frame analysis is useful in cross-movement and cross-national comparative research.

Frame analysis also offers some insights into the policy-making process, and the way movement discourse may influence the policy agenda. It shows, for instance, how specific discursive strategies can help to legitimate new policy actors and discredit institutional actors in the policy process. It can help to illustrate how and whether issues emerge on the policy agenda, such as the use of Clyde River power by Comalco.

Finally, frame analysis is useful in historical analysis. It can illustrate differences between environmental positions, help to inform why discourses emerge when they do, and the extent to which they become institutionalised as the dominant strategy framing the environment. In this regard, the wider processes of modernity inform frame analysis where the cultural dimensions of postindustrial society – normative, subjective, and objective – are increasingly politicised. The ‘bifurcation’ of environmental discourses that has occurred since the period under study indicates the continuing nature of this politicisation (Dryzek 1997). At the same time, students using frame analysis must be careful to employ relevant categories when undertaking historical research.

The early campaigns of the New Zealand environmental movement were therefore political campaigns. Until environmental issues were framed as questions of participation, ecological understanding, risk and identity, they could not emerge as environmental problems. Variations in the way these questions were conceptualised, presented, and received help to model our understanding of the way environmental and social movements emerge, and help to account for campaign mobilisation and influence on the policy environment. The environmental movement is also a framing movement – engaged in helping to organise our understanding and experiences of the natural world. In offering alternate interpretations of the environment, campaign organisations have forced the recognition that the perception of environmental issues reflects the social and institutional framework in which the environment is actively perceived, interpreted, and defended.

In this sense, environmental organisations can act as alternate political mediators – fostering an appreciation that environmental understandings are socially constructed. The way in which
environmental issues are framed, in fact, often parallels the values, worldviews, or institutional affiliation of the decision maker (Bradbury 1989, Dietz et al. 1989, Vaughn and Seifert 1992). As political actors, social movements (through specific campaigns) seek to challenge the prevailing interpretations (moral, aesthetic, and rationality) of institutional actors. Where environmental organisations have contributed to changes in the policy agenda, they have, in part, drawn on the ideas and arguments articulated in specific campaigns. In doing so, they have helped to establish the legitimacy of environmental discourse – discourse is a key to understanding both environmental ideas as problems, and the outcomes of social movement organisations active in environmental campaigns (Eder 1996b). This study now concludes with a wider focus on the political significance of the environmental movement, and the increasing significance that discourse plays in political life.
CONCLUSION

1. A ‘New’ Social Movement?

Up until now, the discussion of New Zealand environmental organisations (located in the campaigns presented here) has suggested a distinction between an older conservation movement and a ‘new’ environmental movement that can be seen as a typical example of a ‘new’ type of social movement. Chapter One identified a number of features thought characteristic of new social movements generally – different ideological agendas, non class-based membership, modes of political organisation, and action repertoires. Similarly, Chapter Seven located the newness of New Zealand environmental campaigns in the fresh demands and new issues that were unable to be articulated by the existing forms of interest mediation within industrial society.

Simply defining the newness of the environmental movement in these terms is misleading if it is accepted that it carries forward much the same aims as older movements – expressing concern over the use of environmental resources, opening up the political sphere, and politicising issues once restricted to the private domain (Scott 1990, p.155). At the same time, the history of the environmental movement, reviewed in Chapter Two, demonstrated that organised environmental concern had emerged before the start of the twentieth century.

From an historical perspective, then, today’s environmental movement can hardly be regarded as a new phenomenon. In fact, many of the so-called ‘new social movements’, such as the women’s, peace, and environmental movements, have their historical precursors. In the words of Nedelmann (1984, p.1033), ‘it is very misleading, even empirically wrong to talk of the present popular movements as new in the sense of their historical uniqueness.’

In concluding this study, I argue that the environmental movement, at least as it has emerged in New Zealand, is a new type of social movement, but that its newness should not be defended

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1 See Chapter One and Dalton et al. (1990).
2 For a review that argues against the ‘newness’ of new social movements, see Scott (1990, Chapter Six). For supporting views, see Dalton (1990), Nedelmann (1984), and Rohrschneider (1993).
simply in historical terms. Instead, the environmental movement is a new political actor for two reasons. Firstly, although the environmental movement is not new historically, its political influence is new – it has enjoyed considerable, though varied, political success. Secondly, the environmental movement is non-transitory – it continues to mobilise mass political action despite formal political representation of environmental concerns. These two features – effectiveness and permanence – are discussed in turn, since they may ultimately prove to be defining features of environmental movement politics.

2. Environmental Movement Effectiveness

The environmental movement is a new political actor because its influence on the modern political landscape is new. In other words, what is noticeable now is the environmental movement’s comparative effectiveness compared with the ‘politically doubtful influence’ these movements had in the twenties and thirties (Nedelmann 1984).

Two issues centre the debate about the ability of new political actors (such as the environmental movement), to achieve their political aims, and to compete in the political arena. The difficulty is to understand the competitive nature of the environmental movement – how it achieves its influence – given the twin problems of the resources and rewards required for political participation. The problem of rewards is particularly acute in the environmental arena for two reasons.

Firstly, rewards for participation and mobilisation in environmental campaigns are difficult to identify where issues are not defined in class or industry sector terms. The material benefits of economic growth, or the distribution of economic production, are obviously inappropriate. This study confirms that environmental actors mobilise against industrialism, not to secure a share of it. Environmental actors, therefore, not only cannot compete for the rewards of economic distribution, they actively oppose competing in these terms.

Instead of offering benefits that are divisible – able to be distributed by a party representing an ‘environmental class’ – the environmental movement offers rewards that are universal and
Both greater participation by mass publics and acceptance of ecologically informed models are likely to advance a societal understanding of environmental processes, and improve standardised cost-benefit evaluations of energy projects, for example. Benefits are less likely to be over-estimated and costs under-estimated when a greater range of benefits and costs are allowed to be included in such evaluations. Improved cost-benefit models do not just reduce the financial risk that societies must bear, but also reduce the ecological risks for society. In other words, reduced financial and ecological risk, and the equitable distribution of risk across generations are universal societal benefits – satisfying the demands of environmental actors does not benefit specific categories of voters (Nedelmann 1984, p.1042).

Secondly, the new environmental organisations do not define their aims or offer rewards simply in terms of those defined by the older conservationist organisations. The older conservation movement sought to conserve environmental conditions and resources through mechanisms such as irrigation, flood and erosion control, forest management, amenity resources and the like. In this sense, the conservation movement predated the modern environmental movement’s engagement in environmental politics – conflicts over the state’s allocation of property rights, and the efficient use of environmental resources among competing uses and claimants (Andrews 1980, p.226). Nevertheless, conservationists believed that establishing technically appropriate expertise in institutionalised resource management agencies could satisfy their resource concerns.

Yet more recent environmental organisations regarded these institutionalised agencies as insufficient, and symptomatic of a wider problem. The agencies had limited statutory mandates, and embedded the older conservation movement in a ‘lame watchdog’ relationship that restricted their autonomy – the ability to take a critical and active role in opposing state sponsored energy developments (Cleveland 1972). All three case studies examined here confirm a polarised condition between the articulation of the conservationist position and those of preservationism and political ecology. The study suggested that conservationism had become the dominant form of environmental discourse in the energy policy culture. Accepted as the legitimate orientation, it enabled energy policy actors to control the package and articulate their developmental goals within its rhetoric.
Yet, a frame aligned with dominant cultural beliefs may have its radicalism inhibited (Tarrow 1992). Embedded in a resource orientation, conservationism helped to constrain public debate about ecological rationality (different ecological models), environmental risk to a wider moral community, or the symbolic and spiritual meaning of nature. Consequently, newly emergent environmental organisations could not, and did not, want to seek solutions in terms of agency representation, since institutionalised conservationism had proved to be, if not implicated, at least ineffective in challenging the developmental and neo-corporatist style of energy decision-making in New Zealand.

The second problem environmental organisations must confront in order to be effective is one of resources. The previous chapter argued that the politicisation of the energy policy domain is, in part, a response to corporatism – exclusion from the institutionalised forms of negotiation among economic and conservation interests. Although it helps to explain the emergence of environmental action, corporatism hardly explains environmental campaign influence. Environmental political actors are precisely non-institutional actors – a (self-imposed) removal from producer and labour centres of political power, and, indeed, from conservationist agencies.

At the same time, once environmental campaigns have mobilised, they face an established, organised and resourceful set of actors. Relative to established actors with organisational and institutional resources, then, is that environmental campaigners lack comparative levels of resources necessary for movement effectiveness. This suggests careful attention is required to factors affecting movement influence under difficult conditions. In short, the successful outcomes of the campaigns of the environmental movement need explanation in the absence of both the resources and incentive structures available to the traditional political parties and established conservation actors.

To some extent, environmental organisations cope (are effective), in the face of such constraints on rewards and incentives by challenging some of the stock assumptions of social movement models, for example, about resource mobilisation, which view movement organisations as being at an organisational disadvantage. Although the organisational resources of the environmental movement are far outweighed by its opponents, its organisational structure may
actually confer some advantages. As a complex mix of loosely organised individuals, groups, and sub-cultures, environmental movement organisations (EMOs) are able to respond to new issues and events precisely because they lack a stable and hierarchical organisational form (Nedelmann 1984). In fact, low organisational costs – volunteers (not salaried professionals), and a lack of time-consuming decision-making procedures – are a resource that confers flexibility and adaptability on EMOs.

At the same time, the loose organisational structure of EMOs means that they have at their disposal ready and diverse channels of communication – EMOs act as ‘information conduits’ between scientists, the media, the public, and other policy actors. Since the frame analysis model regards the dissemination and communication of ideas as a variable contributing to campaign outcomes, such information networks act as an important resource for EMOs. This study has argued that environmentalist discourse can be seen in terms of frames, and these are a contributing influence to the effectiveness with which EMOs mobilise support and achieve their goals. In other words, discourse as strategic action is an important research focus.

3. New Types of Resources and Rewards for Environmental Mobilisation

While the particular labels attached to these frames vary, the frame analysis model of environmental concern shows in which ways environmental conditions come to be socially constructed as problems. That is, environmental problems are the products of claims-making and definitional processes (Holstein and Miller 1993). Environmental problems are thus defined in terms of the orientations that environmental movements take towards environmental conditions.

Environmental organisations such as Ecology Action (established May of 1971) and Friends of the Earth (established early 1975) formalised this resource by publishing a range of magazine articles, reports and pamphlets. Ecology Action’s publication *New Zealand Environment*, in fact, outlasted the organisation itself (Wilson 1982, p.173).

On the other hand, it does not appear that these information networks had an international dimension, at least in the early days of the environmental movement. Wilson notes that Friends of the Earth (FOE) was the first environmental group to be set up with the backing of a broad international network, but FOE did not form until 1975 (Wilson 1982).
Conditions become problems to the extent that actors are able to frame conditions and situations as requiring attention, or contest the claims of other political actors, and of the extent to which other political actors accept such claims. 5

At the most general level, this study found that environmentalist packages acted as competing discourses to the industrial discourse employed by the traditional political parties in New Zealand. Clearly, both parties failed to mediate newly emergent preservationist and political ecology concerns, despite attempts to do so within the conservationist framework.

More specifically, environmentalist frames provide political power because they have a (differing) capacity to mobilise environmental activists. In this sense, the environmental movement is a discourse coalition composed of unconventional actors – scientists, activists, or organisations – whose adherence to, and articulation of, these frames help it to function as a political coalition. This study has illustrated that EMOs compete in the political arena by interpreting environmental knowledge through the use of three types of frames.

The first type of frame is the rationality frame. This study found that this frame was the one most mobilised across the three campaigns examined here. This finding can be best explained in terms of the assertion that science is the culturally dominant form of legitimation in modern societies (Barker-Plummer 1995, Caldwell 1990, Rudig 1991). While the ‘cultural legitimacy’ of science was a resource previously exercised only by experts in a mission oriented energy ‘technocracy’, New Zealand environmental organisations became politically effective once they, too, began to mobilise

5 Describing environmental problems in terms of construction does not mean, however, that they are somehow fabricated or unreal. The shoreline slumping at Manapouri, or the Clyde landslides, were real events, but the way these events came to be reinterpreted – ecologically, economically, experientially, and politically – illustrates the social construction of nature. Environmental perceptions are embedded in social (private and institutional) frameworks.

The task for the political analyst is therefore not over arbitrating between ‘real’ and ‘unreal’ claims based on some sort of privileged knowledge that the analyst is supposed to enjoy about the ‘objective’ conditions of the environment. Rather, in accepting that claims-makers interpret conditions as political issues – whether over hydro or nuclear power – the
this resource. The campaigns examined here reflect the variable success EMOs had in establishing their cognitive credentials (legitimacy), while also challenging the credibility of their institutional opponents by pointing out expert dissent on issues such as electricity forecasting.

If, also, the interpretive frameworks of environmentalists are better – if their ecologically informed models fit the facts more coherently and more consistently than their opponents (modelling) – then EMOs are likely to be perceived as credible and legitimate political actors. The background of activists (especially of the scientific and university communities) does not mean, therefore, that they serve narrow class interests, or that environmental concern is simply middle-class activism. If participants are drawn disproportionately from middle-class backgrounds, it is because such people are the most active and knowledgeable in political affairs (Andrews 1980). EMOs are thus cognitive actors who are able to draw on the cognitive skills of their members – a resource that, in an increasingly complex and technological society, enjoys high cultural legitimacy.

The second type of frame found to be most prevalent across the case studies was the moral or normative frame. Environmental concern framed in these terms centres on the imposition of environmental conditions on future populations (human or not) that can have no say in such decisions. Yet the present human generation is not forced to endure the consequences of decisions taken today, such as the loss of biodiversity, global warming, or the many thousand-year maintenance of depositories required to secure nuclear waste.

The environmental movement may thus function as a new type of moral authority, arguing for the inequity of current distributions of risk. Such moral authority may be an important resource for the movement in the present technological age where assumptions that the technical efficiency of means (hydroelectric or nuclear power technologies) can be separated from the normative value of ends (material and economic prosperity), can no longer be maintained. Also, since environmental organisations are not dependent on specific categories of voters, framing environmental issues in

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area of analysis is concerned which political actors get to make claims, how these claims-makers make their claims, and how they restrict others from making opposing claims.
terms of moral concern gives them a high value load without the responsibility of offering fully articulated alternatives tied to an election cycle (Nedelmann 1984).

Relative to those already discussed, the aesthetic frame – the subjective meaning of the natural environment – seems to be mobilised least across the campaigns. Nevertheless, EMOs may be able to compete politically if they offer a sense of campaign identity or solidarity. Such campaigns may reward participation by fostering a sense of emotional belonging, which established political parties now seem less able to provide. The decline in the emotional attachment, or the affectivity, of voters to parties does not necessarily imply that emotional needs per se are in decline. These undiminished identity needs may act as a ‘resource’ that environmental campaigns can mobilise – participation in environmental campaigns is ‘rewarded’ by action that is community oriented, and involves face-to-face contact within informal networks.

By the same token, participation in environmental campaigns may provide a reawakened sense of democratic identity – an opportunity to re-envisage the meaning of citizen participation in a democracy beyond that offered by party and electoral forms. With increases in the levels of education, and the channels of communication, participation in environmental campaigns shows how a more participatory model of democracy might once again be possible (Dryzek 1997, Hager 1993).

4. Environmental Movement Permanence

A second feature that helps to define the environmental movement as ‘new’ is its continued visibility and political mobilisation despite a level of formal political representation offered, if not already achieved, by established environmental parties. Historically, social movements have been rather transitory. Emerging as challenges to the prevailing representation of interests in political society, traditional social movements have eventually been incorporated into more formal levels of representation. Socialist movements largely declined, once participation and representation were achieved through their own political parties.
On the other hand, the environmental movement has not followed this pattern. It is true that it has enjoyed some level of institutional penetration, since in most industrialised nations environmental parties dot the electoral landscape, if not the parliamentary one. Yet, despite both the Values Party and Green Party emerging in the political arena in New Zealand, and the establishment of much environmental legislation, the environmental movement is not quiescent. It mobilises regularly in a number of campaign forums, acts autonomously in the formal political arena, and maintains grass-roots support in a diverse number of environmental and non-governmental organisations. In 1991, for example, the Save Manapouri Campaign re-emerged as a response to proposals to privatise the Manapouri hydroelectric scheme, managing to get the sale off the political agenda. Therefore, even though the environmental movement has led to the formation of environmental legislation, environmental agencies, and environmental parties (in much the same way as socialism did), environmentalism, as a social movement, continues as an independent political force.

The significance and newness of the environmental movement must, therefore, be seen in political, not historical, terms. In short, the environmental movement has to be recognised as an enduring and permanent political actor in the electoral, legislative, institutional and, indeed, natural landscapes. Its political profile, its continuing mobilisation despite formal representation, and its political effectiveness (despite lacking the resources and rewards that other political actors can muster) are features that signify the ‘newness’ of the modern environmental movement. Consequently, Nedelmann prefers to label today’s movements as ‘new political movements’, rather than the ‘new social movements’ label conferred on them by sociology (Nedelmann 1984).

5. EMOs as a New Type of Political Actor

If the on-going effectiveness and non-transitory nature of environmental movement organisations are to be taken seriously, it can also be suggested that its politicisation of the environment – achieved through cognitive, normative and subjective frames – is not intended to seek rewards simply in terms of representation in the formal political arena. That is, environmental
organisations do not simply assume that their role is to transmit the environmental concerns of their members to other political actors such as parties. Instead, EMOs seem to be competing with political parties to represent public concerns and demands, rather than simply competing for party attention (Nedelmann 1984, p.1038).

Also, the arena in which all political actors now compete is new – the cultural dimensions (normative, aesthetic, and cognitive) of public discourse are now politicised. As new political actors, EMOs advance new understandings of the cultural dimensions of public life as a strategic way to shape policy and its institutionalisation. Indeed, advancing cultural understandings in the political arena is one of the most powerful ways that a social movement might actually bring about change (Swidler 1995).

The suggestion is that the environmental movement does not automatically aspire to be a 'real' political actor and define its ultimate success in terms of party institutionalisation. Indeed, the greater autonomy of individuals in new political movements implies that they are no longer satisfied with having their participation in decision making restricted to the traditional party and electoral channels (Nedelmann 1984). Also, there is some suggestion that formal representation is less than a compelling incentive for movement mobilisation. Rudig (1991) notes, for example, that the environmental movement’s continued distrust of institutional politics partly accounts for the relative lack of success that environmental political parties have had in moving beyond political representation levels of five to ten per cent. This suggests that the environmental movement seeks to (partly) bypass institutional politics as a discursive forum by claiming to be a legitimate actor in the policy process in its own right.

This non-institutional forum confers some advantages on movement organisation activity. It allows them to function as an independent and critical policy actor, while being seen to be outside the partisan arena of bias and compromise. Secondly, it is, in part, the increasing discursive nature of politics, and the discursive ability of EMOs, that allow environmental organisations to function
politically as *movement* actors rather than as *party* actors. In suggesting alternative energy policy or energy project criteria, for example, EMOs force bureaucratic policy actors to justify their claims publicly (Hager 1993). The framing efforts of environmental campaigners are therefore to be seen not just as attempts to mobilise public opinion, but as engaging in discursive politics – an interpretive arena in which all claimants must present and defend their claims. The appearance of the environmental movement as a political actor, then, is an example of action at a fourth level of interest mediation, challenging the function of traditional intermediaries.

This study has carried forward the study of the campaigns of the environmental movement in New Zealand. The study used three case studies to examine the movement’s politicisation of energy policy. It analysed the role of environmental discourse in this politicisation, and its impact in terms of the government’s energy policy agenda. Environmental discourse was examined through three collective action frames. These analytical constructs were derived from the literatures on frame processes, new social movements, and the history of environmental thought.

The studies found that these frames helped to account for the mobilisation of protest, and were a contributing influence in achieving changes to the energy policy agenda. In a wider context, these campaigns contributed to the politicisation of the energy policy domain in New Zealand, and helped to establish the legitimacy of environmental perspectives and environmental organisations as legitimate political actors. These energy policy campaigns were seen as an interpretive struggle involving attempts to frame the moral, aesthetic and rational understandings of the environment. It is the *combination* of all three types of claims, or frames, that explain the politicisation of environmental concern, represented here by the attention that environmental movement actors command in particular campaigns.

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6 It is in this respect that both traditional and non-traditional channels of articulation and communication become critical for EMOs. For example, the use of personalities with high cultural capital – television personalities, actors, prominent scientists, and explorers (such as Edmund Hillary) – is an important adjunct to organisations’ own informal information networks.
Conservationism was polarised in the submission record since it was implicated in the bipartisan consensus on the development of New Zealand’s energy resources. The New Zealand environmental movement thus drew attention to the political exercise of power in environmental decision-making. Environmental problems are not simply given, but are the products of political actors who have different capacities to make claims and to enforce definitions. In short, the focus of attention has been on the mobilisation of claims-making activities, and how different interpretations of nature compete for, and receive, political recognition (Brulle 1996).

This study has built on the frame analysis model to develop a more systematic approach to analysing the role of environmental discourse, and assessing the extent to which discourse can contribute to campaign outcomes. This approach has enabled attention to be placed on the content of environmental ideas – their variable capacity to mobilise political action and to influence policy positions. Environmental movement organisations have been found to be a significant mediator of environmental ideas, and it is this role that has helped to initiate the era of environmental politics in New Zealand. There is also a strong suggestion that the environmental movement will continue as an effective and non-transitory new political actor. Its role in mediating environmental issues and ideas enables it to compete with political parties for attention, rather than compete just for party attention. If this suggests more fragmentation and less certainty about the solutions to environmental problems in the global environmental era, we are reminded that only the naive, ontological pessimism of certainty commits one to pessimism. Whoever cultivates doubt can and must resaddle the stallions of inquiry. (Beck 1996, p.40)
## Table A-1: Environmental Organisations Making Submissions

<table>
<thead>
<tr>
<th>Environmental and Citizens Organisations</th>
<th>Campaign</th>
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<tbody>
<tr>
<td></td>
<td>Manapouri</td>
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<tr>
<td>Action for Environment</td>
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<tr>
<td>Alexandra Rowing Club</td>
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<tr>
<td>Auckland Institute and Museum</td>
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<tr>
<td>Campaign Against Foreign Control in New Zealand</td>
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<tr>
<td>Campaign Against Nuclear Warships</td>
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<tr>
<td>Campaign for Non-Nuclear Futures</td>
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<tr>
<td>Civic Trust Auckland</td>
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<tr>
<td>Church and Society Commission of the Church Council</td>
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<tr>
<td>Auckland Institute and Museum</td>
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<tr>
<td>Civic Trust Auckland</td>
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<tr>
<td>Clutha Watchdogs</td>
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<tr>
<td>Cromwell and District Historical Society</td>
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<tr>
<td>Cromwell and District Women’s Organisation</td>
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<tr>
<td>Dunedin Citizens Group</td>
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<tr>
<td>Ecology Action Auckland</td>
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<tr>
<td>Ecology Action Otago</td>
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<tr>
<td>Environmental and Conservation Organisations of N.Z.</td>
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<tr>
<td>Environmental Defence Society</td>
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<tr>
<td>Environmental Vanguard Society</td>
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<tr>
<td>Federated Mountain Clubs of New Zealand</td>
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<tr>
<td>Friends of the Clutha</td>
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<tr>
<td>Friends of the Earth</td>
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<td>Friends of the Home</td>
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<tr>
<td>Geological Society of New Zealand</td>
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<tr>
<td>Greenpeace (New Zealand) Ltd.</td>
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<tr>
<td>Guardians of Lake Wanaka</td>
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<tr>
<td>Hands Off Wanaka Lake Committee</td>
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<tr>
<td>Lincoln College Working Parties</td>
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<tr>
<td>Lowburn and District Action Committee</td>
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<tr>
<td>Manapouri Progress Society and Boating Club</td>
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<tr>
<td>Manawatu Save Manapouri Committee</td>
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<tr>
<td>Manawatu Tramping Club Inc.</td>
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<tr>
<td>Maori Women’s Welfare League</td>
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<tr>
<td>Massey University Tramping Club</td>
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<tr>
<td>National Council of Women</td>
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<td>National Forest Action Council</td>
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<tr>
<td>National Save Manapouri Committee</td>
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<tr>
<td>Nature Conservation Council</td>
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<tr>
<td>New Zealand Campaign for Nuclear Disarmament</td>
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<tr>
<td>New Zealand Deerstalkers Association</td>
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<tr>
<td>New Zealand Ecological Society</td>
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<td>New Zealand Federation of University Women</td>
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<td>New Zealand Federation of University Women</td>
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<tr>
<td>New Zealand Federation of University Women</td>
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<td>Organization</td>
<td>Auckland</td>
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<tr>
<td>New Zealand Historic Places Trust</td>
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<tr>
<td>New Zealand Institute of Architects</td>
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<td>New Zealand Institute of Chemistry</td>
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<td>New Zealand Institute of Engineers</td>
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<td>New Zealand Institute of Foresters</td>
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<td>New Zealand Institute of Surveyors</td>
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<tr>
<td>New Zealand Inter Church Council on Public Affairs</td>
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<td>New Zealand Medical Association</td>
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<tr>
<td>New Zealand Salmon Anglers Association Inc.</td>
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<td>New Zealand Scenery Preservation Society</td>
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<td>New Zealand University Student’s Association</td>
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<td>Otago Acclimatisation Society</td>
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<td>Otago Branch of the Royal Society of New Zealand</td>
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<tr>
<td>Otago Tramping and Mountaineering Club</td>
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<tr>
<td>Otago University Tramping Club</td>
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<tr>
<td>Palmerston North Tramping and Mountaineering Club</td>
<td></td>
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<tr>
<td>Peace Action Tauranga</td>
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<td>Pisa Irrigation Committee</td>
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<tr>
<td>Public Service Association</td>
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<td>Religious Society of Friends in New Zealand</td>
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<td>Royal Forest and Bird Protection Society</td>
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<td>Royal Society of New Zealand</td>
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<td>Save Manapouri Campaign</td>
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<td>Soil Association of New Zealand</td>
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<td>Southland Acclimatisation Society</td>
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<td>Te Anau Boating Club</td>
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<td>Women’s Electoral Lobby</td>
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<td>Women’s International League for Peace and Freedom</td>
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<tr>
<td>West Otago Save Manapouri Committee</td>
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### Appendix B

#### Table B-1: Key Words Characterising the Conservationist Package

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<th>INTERPRETIVE PACKAGE</th>
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<tr>
<td></td>
<td>(SIGNATURE)</td>
</tr>
<tr>
<td></td>
<td>(EXTENDED UTILITARIANISM)</td>
</tr>
<tr>
<td></td>
<td>1) USE VALUES</td>
</tr>
<tr>
<td></td>
<td>&quot;WISE USE&quot; EFFICIENCY</td>
</tr>
<tr>
<td></td>
<td>NO WASTE</td>
</tr>
<tr>
<td></td>
<td>2) PUBLIC OWNERSHIP</td>
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<tr>
<td></td>
<td>3) DISTRIBUTION OF 'GOODS'</td>
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<tr>
<td></td>
<td>INTRAGENERATIONAL EQUITY</td>
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<tr>
<td></td>
<td>INTERGENERATIONAL EQUITY</td>
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<tr>
<td></td>
<td>4) WELFARE = ECONOMIC</td>
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<td></td>
<td>5) TECHNOLOGY 'GOOD'</td>
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<tr>
<td></td>
<td>REDUCE SCARCITY</td>
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</tr>
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<td>INTERPRETIVE PACKAGE</td>
<td>FRAME</td>
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<tr>
<td><strong>MORAL</strong></td>
<td><strong>AESTHETIC</strong></td>
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<td>Signature</td>
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<tr>
<td>Ecocentrism</td>
<td>Ecological Rationality</td>
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<tr>
<td>2) Ownership Immoral Extended Moral Community</td>
<td>2) Cultural Identity Wilderness Beauty Indigenous Perspectives Social Costs (Police State, Civil Liberties)</td>
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Table B-3: Key Words Characterising the Political Ecology Package

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<tr>
<td></td>
<td>(SIGNATURE)</td>
</tr>
<tr>
<td></td>
<td>(RISK SOCIETY)</td>
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<tr>
<td></td>
<td>1) RISK: NON-VOLUNTARY UNIVERSAL INESCAPABLE IRREVERSIBLE DEVELOP ALTERNATIVES</td>
</tr>
<tr>
<td></td>
<td>2) GLOBAL OWNERSHIP</td>
</tr>
<tr>
<td></td>
<td>3) DISTRIBUTION OF 'BADS' (POLLUTION, SILTATION, EROSION, EUTROPHICATION, CLIMATE, EARTHQUAKE, DAM FAILURE, PLANT FAILURE ETC)</td>
</tr>
<tr>
<td></td>
<td>4) WELFARE = HUMAN, HEALTH</td>
</tr>
<tr>
<td></td>
<td>5) TECHNOLOGY 'BAD' REDUCE DEMAND, FIND ALTERNATIVES</td>
</tr>
</tbody>
</table>
Appendix C

Sample Submission: Submission to the Royal Commission on Nuclear Power (Greenpeace)

Greenpeace of New Zealand is an incorporated society concerned with both the quest for peace and the problem of a healthy, humane and balanced environment. We do not claim to be nuclear experts. We do, however, wish to present to the Commission a short summary, the essence, in fact, of the fears and suggestions concerning nuclear power, that have been expressed to us by many of the ‘ordinary’ people of NZ. The suggestions which we make are based upon these communications from the public. Concern has been expressed particularly in the following areas: Pollution, Cost, Centralization and Size, Complexity of Process, Weapons from the waste products.

<table>
<thead>
<tr>
<th>Submission Coding:</th>
<th>Greenpeace RCI (Nuclear Power)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretive Package:</td>
<td>Not Coded – (Preamble)</td>
</tr>
<tr>
<td>Frame:</td>
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<tr>
<td>Signature:</td>
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</tbody>
</table>

Pollution

It is unrealistic to speak of ‘economic progress’ or a ‘higher standard of living’ if in fact our world is being contaminated by substances which may cause malformations in our children and grandchildren. We must surely have learned something from the Thalidomide tragedy.

It is evident that there is no real solution to the problem of nuclear waste disposal at this time. It is also evident that human error makes it very difficult to guarantee against the radiation hazards inherent in this exceptionally dangerous technique. We fear that once these stations are built there would be powerful pressures to ignore radiation hazards and continue using the reactors. We feel that it is very foolish to build reactors now on the assumption that some way will be found to solve the problem in the future. From the economic point of view (and this ignores the far more important human consideration) it would appear essential that N.Z.E.D. be required to privately insure against accident damage estimated at many billions of dollars if in fact a reactor is ever built in New Zealand.

<table>
<thead>
<tr>
<th>Submission Coding:</th>
<th>Greenpeace RCI (Nuclear Power)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpretive Package:</td>
<td>Political Ecology</td>
</tr>
<tr>
<td>Frame:</td>
<td>Moral</td>
</tr>
<tr>
<td>Signature:</td>
<td>Risk (human welfare, radiation, accident risk)</td>
</tr>
</tbody>
</table>

Cost

A nuclear reactor is very expensive to construct. We assume it is meant to produce a relatively large amount of energy at a price the general public can afford.

An estimate by Professor Robin Court, Dept. of Economics, Auckland University, is $1800 million in 1976 dollars (public seminar, Auckland University, 25 September 1976, reported NZ Herald, 27 September). We suggest that an initial cost of this nature for a reactor that may last only 30 years is unrealistic for a country with such small population numbers and economic resources as New Zealand. The cost of the uranium could rise dramatically and there is no guarantee of unlimited supplies. An undesirable degree of dependence upon the supply nation could endanger our
sovereignty. There is no guarantee that the price of electricity generated will be at a level the general public are able to afford.

Centralization and Size

The centralization of energy production at one or two geographical locations makes that supply very vulnerable in the event of war, accident or civil disturbance. We would have to assume a future of endless tranquillity.

This criticism applies also to such structures as the large hydro stations, but the loss of life and the long term damage inflicted by ‘nuke busters’ would be of an infinitely more horrifying dimension than that inflicted by the ‘dam busters’.

Fear of sabotage could lead to the widening of police powers with a resulting loss of civil liberties. Increasing fear could lead to the acceptance of harsh measures. The carrying of identification and restriction on travel could become part of our New Zealand scene.

We suggest that urgent consideration be given to the advantages of dispersed, small-scale energy sources as a means of more certain survival in an uncertain world situation.

Complexity of process

Power through nuclear fission could be described as a highly complex, forced and in a sense ‘violent’ process.

We suggest that it may be more in our interests to move towards simple, elegant, non-violent methods, which tend to co-operate with rather than drastically alter or unbalance our slowly developed natural environment.

If the power development authorities were not oriented towards nuclear power, they could be investing the available funds instead in conservation and in other forms of energy supply.
Weapons from the Waste Products

Greenpeace of New Zealand was responsible, with the moral and financial support of some eighteen thousand New Zealand people, for the launching of FRI upon her present goodwill Odyssey around the Pacific, in specific opposition to nuclear fear – fear of weapons, fear for our children’s’ futures. New Zealand is a small country, therefore we either store our wastes and we would seem to be too small and too earthquake prone for this, or we would export them for reprocessing, immediately placing ourselves in the world armament race, for certain of the waste products are ingredients for the making of nuclear weapons. We suggest that windmill, solar panels, methane gas etc. etc. offer man less opportunity to bring about his own extinction.

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For the reasons given above we feel that the first step is to make far more prudent use of our present resources, while we intensively investigate alternative methods of small scale, diversified and preferably geographically dispersed energy sources. We suggest that there should be urgent rethinking regarding the present situation whereby any industry and individual unit is connected as of right to the national grid. It could be that many industries are actually capable of producing for themselves the energy they require.

Large scale nuclear fission is the most dangerous and profound of all the changes introduced by man into an environmental setting that has developed slowly over millions of years. Therefore we suggest that no nuclear reactor should be built in New Zealand until such problems as those mentioned above have been thoroughly investigated and solved to public satisfaction and until it can be clearly demonstrated that this type of technology will be of long term benefit to the land, air, water and people of New Zealand, for the people and their natural environment function as one.

If there remains any doubt in the minds of the experts, then we should not enter this foreign technology. If there are two experts who differ, let us heed the one who advises caution. Nuclear power presents the prospect of a rising level of fear in New Zealand. We do not accept this as being desirable, or essential, for our future.

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Introduction

Man throughout the ages has endeavoured to use the resources of nature to advance or benefit his standard of life. Because man has tended to exploit these resources having little regard for or no knowledge of the ecological balance of nature, the Royal Forest and Bird Protection Society of New Zealand and other like organisations have been formed over recent years. The main objectives of this Society are—
“To take all reasonable steps within the power of the Society for the preservation and protection of the indigenous flora and fauna and natural features of New Zealand for the benefit of the public.

General

The utilisation of the water of the Clutha River for the benefit of man is in keeping with the optimum use of a natural resource—it recycles in nature and without pollution—not so coal, oil etc. The development of the Clutha as recommended by the Commission endeavours to use this resource of energy to best advantage and with safeguards to preserve or even improve environmental features and to minimise other effects.

Many of the features which will be affected by this development are, in fact, man-made—buildings, roads, bridges, railway, telephone, and power lines, fences, irrigation, farm employment, the planting of orchards, etc. These can be replaced in all ways except in the historical and social, or, as many prefer to term it, the “human aspects.” The Commission lays great stress on this aspect, even to the extent of making provision for an open-ended solarium and special legislation.
Undoubtedly there will be a loss of much of the grandeur of the deep or wild river gorges, but there will remain some stretches of riverbed, and the creation of lakes and recreation areas suitably landscaped will do much to provide scope for the enjoyment of our people.

The disturbance of the habitat of wading birds in particular and fish spawning grounds can to some extent be overcome by provision of secluded areas landscaped and containing flora – trees, shrubs and grasses best suited to the needs of the wildlife concerned. Gravelly shallows and the maintenance of an adequate flow in stretches of the Clutha River-bed by-passed by canals and certain tributary streams, as for instance the Lindis and the Cadrona, must be maintained.

Soil erosion and consequent siltation is undoubtedly the greatest problem facing the engineers and others in the development of this major undertaking. The Society can only stress the necessity for the adoption of land use policies best-suited to high country.

While intensive study has been made in the Shotover Catchment within the last year or so, this study should be a continuing one and embrace the interior catchment downstream to Clyde, with particular attention to vegetation of the catchment.

The harnessing of the Clutha in such a way as to provide 4620GWL with peaking capacity of 1490 MW’s and to irrigate some 45,000 acres will undoubtedly be of national benefit. Therefore, in the overall interests of New Zealand, all steps possible must be taken in an endeavour to preserve to best advantage the nature and well-being of the area and its people.
Recommendation

The Royal Forest and Bird Protection Society of New Zealand is strongly of the opinion that an independent authority, representative of interested parties, be set up to ensure that the programme established in Appendix 6 of the Impact Report and which embodies the recommendation of the Clutha Valley Development Commission is carried out to best advantage.

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