

ANALYSING THE  
IMPLEMENTATION OF  
NATURA 2000 IN SCOTLAND:

AN EVALUATION OF  
PROCESSES AND OUTCOMES  
OF STAKEHOLDER  
INVOLVEMENT  
IN MANAGEMENT PLANS

---

Juliette Claire Young

A thesis submitted for the degree of Doctor of  
Philosophy at the University of East Anglia,  
School of Environmental Sciences

September 2010

© This copy of the thesis has been supplied on condition that anyone who consults it is understood to recognise that its copyright rests with the author and that no quotation from the thesis, nor any information derived there-from may be published without the author's prior, written consent.



## ABSTRACT

The European Union's most significant response to ongoing biodiversity loss is the establishment of the Natura 2000 network of sites, which are often owned and managed by private actors. The full involvement of these and other affected stakeholders is considered a *sine qua non* for the success of the network (and environmental governance in general). However, to date there has been no systematic evaluation of whether their involvement in management plans does in fact contribute to the principal objective of Natura 2000, namely the enhancement of biodiversity conservation. This thesis aims to explore the development of Natura 2000 management plans in Scotland, testing the relationship of spatial scale (micro, meso and macro) on the processes, social and biodiversity outcomes of stakeholder involvement. The common perception in public participation research is that 'smaller is better', although why and how it is 'better' for the processes and/or outcomes of participation remains unclear. This thesis finds that for stakeholder involvement processes and social outcomes (e.g. conflict resolution) smaller was not necessarily better: key stakeholders were absent from even the smaller, local scale process. Nonetheless, spatial scale was found to have a bearing on biodiversity outcomes through the spatial framing of the underlying ecological problem and the efforts made to make the social response 'fit' that scale. Aside from the importance of achieving a good fit between the methods and scale of stakeholder involvement, this thesis shows that the presence of a clear driver at the meso-scale, specifically a ban on shooting, together with an industry-led champion, and the integration of local and scientific data were crucial factors in a successful process and social outcomes. Although it is very difficult to establish clear causal links between increased stakeholder involvement and biodiversity outcomes it appears that if the underlying policy goal is biodiversity conservation, it is not enough simply to achieve a 'good' process. These findings are of significant policy and academic relevance. If increased involvement of local actors does not necessarily lead to improved biodiversity outcomes, there is a need to re-evaluate critically the underlying rationale for involvement in management plans and, by implication, current EU biodiversity policy. So instead of focusing on increasing involvement, analysts should gather (with the help of practitioners), test, create and evaluate the processes and outcomes of wider-ranging approaches to local biodiversity policy implementation. If public participation is carried out in the context of natural resource management, future evaluations should try to encompass processes together with social *and* environmental outcomes as well as explore the myriad links between them.



## CONTENTS

Chapter 1. Introduction .....	1
1.1. Introduction .....	1
1.2. The Natura 2000 Network .....	3
1.3. Public participation .....	6
1.3.1. Participation in decision-making .....	6
1.3.2. The issue of scale in environmental participation .....	9
1.3.3. The evaluation of public participation .....	11
1.4. Aims and objectives of this thesis .....	12
1.5. Outline of the thesis .....	14
Chapter 2. Nature conservation and public participation in EU environmental governance: A literature review .....	16
2.1. Introduction .....	16
2.2. Biodiversity policy .....	17
2.2.1. International biodiversity policy .....	17
2.2.2. EU biodiversity policy .....	18
2.2.3. UK biodiversity policy .....	22
2.3. Public participation and environmental policy-making .....	24
2.3.1. Public participation in international policy-making .....	24
2.3.2. Public participation in EU policy-making .....	24
2.3.3. Public participation in UK policy-making .....	26
2.4. Natura 2000 .....	27
2.4.1. Creation and implementation of Natura 2000 .....	27
2.4.2. Current status of the Natura 2000 network .....	28
2.5. Public participation in Natura 2000 .....	31
2.6. Natura 2000 in the UK .....	33
2.6.1. Implementation of the Habitats Directive in the UK .....	33
2.6.2. Site management in the UK .....	34
2.7. Conclusion .....	35
Chapter 3: Public participation and its evaluation in natural resource management: theories and practices .....	36
3.1. Introduction .....	36
3.2. General theories of public participation .....	37
3.2.1. The Arnstein model of public engagement .....	38
3.2.2. Public participation as a distinct form of public engagement .....	39
3.3. Public engagement in three models of democracy .....	40
3.3.1. The representative democracy model .....	40
3.3.2. The deliberative democracy model .....	41
3.3.3. The direct democracy model .....	43
3.4. The evaluation of public participation .....	46
3.4.1. Process and/or outcome evaluation .....	46

3.4.2. Criteria to evaluate participatory processes .....	48
3.4.3. Criteria to evaluate the potential outcomes of participation in natural resource management.....	50
3.5. A framework for evaluating public participation in the implementation of Natura 2000 .....	52
3.5.1. Selecting the evaluation criteria.....	53
3.5.2. Adapting the evaluation framework to include a contextual factor .....	56
3.6. Conclusion .....	57
Chapter 4. Methodology.....	58
4.1. Introduction.....	58
4.2. Epistemological and ontological position .....	58
4.2.1. Brief overview of the main research paradigms in social science .....	59
4.2.2. Grounding this study in critical realism.....	61
4.3. The case study design .....	63
4.3.1. Key issues in case study design .....	63
4.3.2. Case study selection criterion .....	65
4.4. Measuring the criteria identified in the theoretical framework.....	67
4.4.1. The Beierle and Konisky evaluation methodology.....	68
4.4.2. Adapting the methodology to the aims of this study .....	69
4.5. Methods used to measure criteria.....	70
4.5.1. Documentary research .....	70
4.5.2. Semi-structured interviews .....	71
4.5.3. Delphi method .....	72
4.5.4. Counterfactual analysis.....	74
4.5.5. Triangulation .....	76
4.6. Conclusions.....	77
Chapter 5. Public participation process and outcomes at the micro-scale: the “Bladnoch River SAC Atlantic Salmon Catchment Management Plan” .....	78
5.1. Introduction.....	78
5.2 Contextual setting of the Plan .....	79
5.2.1. Scientific background .....	79
5.2.2. Initial development of the Plan.....	84
5.2.3. Dynamics of stakeholder relationships .....	86
5.2.4. Stakeholder perceptions of the situation.....	90
5.3. Evaluating the process of public participation in the Plan .....	92
5.3.1. Independence, transparency and influence .....	92
5.3.2. Representativeness, timing of involvement and cost-effectiveness.....	94
5.4. Evaluating the social outcomes of public participation in the case of the Plan .....	96
5.4.1. Decision quality .....	97
5.4.2. Relationships .....	99
5.4.3. Capacity-building .....	101

5.5. Evaluating the biodiversity outcomes emanating from the process and its social outcomes.....	103
5.5.1. The evaluation of biodiversity outcomes by interviewees and Delphi experts .	103
5.5.2. Exploring ways in which respondents perceived the Plan impact on biodiversity .....	106
5.5.3. Linking the scale of the participation process with biodiversity outcomes.....	107
5.6. Conclusions .....	109
Chapter 6. Public participation process and outcomes at the meso-scale: the Moray Firth Seal Management Plan.....	111
6.1. Introduction .....	111
6.2. Contextual setting of the Plan.....	112
6.2.1 Scientific background.....	112
6.2.2. Initial development of the Plan .....	117
6.2.3. Dynamics of stakeholder relationships.....	119
6.3. Evaluating the process of participation in developing the Moray Firth Management Plan .....	122
6.3.1. Independence, transparency and influence.....	123
6.3.2. Representativeness, timing of involvement and cost-effectiveness .....	125
6.4. Evaluating the social outcomes of participation in the development of the Plan ....	127
6.4.1. Decision quality.....	128
6.4.2. Relationships .....	130
6.4.3. Capacity building .....	132
6.5. Evaluating the biodiversity outcomes emanating from the process and social outcomes.....	134
6.5.1. The evaluation of biodiversity outcomes by interviewees and Delphi experts .	134
6.5.2. How the Plan impacted on biodiversity .....	137
6.5.3. The link between the scale of the participation process and biodiversity outcomes .....	138
6.6. Conclusion .....	140
Chapter 7. Public participation process and outcomes at the macro-scale: the Forth and Borders Moorland Management Scheme.....	142
7.1. Introduction .....	142
7.2 Contextual setting of the Scheme .....	143
7.2.1. Scientific background.....	143
7.2.2. The initial development of the Scheme .....	146
7.2.3. Dynamics of stakeholder relationships.....	148
7.3. Evaluating the process of public participation in the case of the Scheme and in individual management plans .....	152
7.3.1. Independence, influence and transparency.....	152
7.3.2. Representativeness, timing of involvement and cost-effectiveness .....	155
7.4. Evaluating the social outcomes of public participation in the Scheme and individual management plans .....	158
7.4.1. Decision quality.....	159
7.4.2. Relationships .....	161

7.4.3. Capacity-building .....	162
7.5. Evaluating the biodiversity outcomes emanating from the process and its social outcomes .....	164
7.5.1. The evaluation of biodiversity outcomes by interviewees and Delphi experts..	164
7.5.2. Exploring the ways in which respondents perceived how the plan impacted on biodiversity .....	167
7.5.3. Linking the scale of the participation process with biodiversity outcomes .....	169
7.6. Conclusion .....	170
Chapter 8. Understanding the role of public participation at different scales: a comparison of and theoretical reflection on the three cases.....	172
8.1. Introduction.....	172
8.2. Processes of participation.....	173
8.2.1. The evaluation of the processes of public participation in the three case studies .....	173
8.2.2. The role of scale on the processes of participation .....	175
8.2.3. Theoretical reflection on the process criteria.....	176
8.3. The social outcomes of participation .....	180
8.3.1. The evaluation of the social outcomes of public participation in the three case studies .....	181
8.3.2. The impact of scale on the evaluation of social outcomes.....	184
8.3.3. Theoretical reflection on the social outcome criteria.....	185
8.4. Biodiversity outcomes.....	187
8.4.1. The evaluation of biodiversity outcomes in the three case studies .....	187
8.4.2. The impact of scale on biodiversity outcomes.....	190
8.4.3. Theoretical reflection on the biodiversity outcome criteria .....	191
8.4.4. The links between process, social outcomes and biodiversity outcomes .....	192
8.5. Critical reflections on the approach and methods employed .....	194
8.5.1. The multiple case study design approach .....	194
8.5.2. The methods used .....	196
8.6. Conclusion .....	198
Chapter 9. Conclusions and future research directions .....	200
9.1. Introduction.....	200
9.2. Main findings and their academic novelty .....	201
9.2.1. Participatory processes: method adaptation, leadership and rationale.....	201
9.2.2. Linkages between processes, social and biodiversity outcomes.....	204
9.2.3. The influence of spatial scale and other contextual factors on participatory processes and outcomes .....	207
9.3. Policy recommendations .....	209
9.3.1. Policy recommendations at the EU level.....	209
9.3.2. Policy recommendations at the national level .....	213
9.4. Future research directions .....	216
References .....	218



## LIST OF FIGURES

Figure 2.1. The EU Natura 2000 network of designated areas (both SPAs and SCIs) across biogeographic regions.....	29
Figure 2.2. Sufficiency Index.....	29
Figure 3.1. A ladder of citizen engagement.....	38
Figure 3.2. Three types of public engagement.....	39
Figure 4.1. Delphi Method Flowchart.....	72
Figure 5.1. Map showing location of the Bladnoch in Scotland (bottom left) and river Bladnoch SAC.....	80
Figure 5.2. Life-cycle of the Atlantic salmon.....	81
Figure 5.3. A quantitative evaluation of the process of participation by stakeholders involved in the process of developing the Plan.....	92
Figure 5.4. A quantitative evaluation of the social outcomes of participation by stakeholders involved in the process of developing the Plan.....	97
Figure 6.1. Moray Firth location.....	113
Figure 6.2. Annual declared wild salmon and grilse catches in the Moray Firth (1952-2003).....	114
Figure 6.3. Annual declared Spring salmon rod catches in the Moray Firth (1952-2003).....	114
Figure 6.4. Trends in harbour seals in the Moray Firth 1988-2007.....	116
Figure 6.5. Context of MFSMP development.....	119
Figure 6.6. A quantitative evaluation of the process of participation by interviewees involved in the process of developing the Plan.....	123
Figure 6.7. A quantitative evaluation of the social outcomes of participation by interviewees involved in the process of developing the Plan.....	128
Figure 7.1. Forth and Borders Moorland Management Scheme sites.....	143
Figure 7.2. A quantitative evaluation of the process of participation by interviewees involved in the development of the Scheme and its associated individual management plans.....	153
Figure 7.3. A quantitative evaluation of the social outcomes of participation by stakeholders involved in the development of the Scheme and its associated individual management plans.....	158
Figure 8.1. A quantitative evaluation of processes of participation by interviewees in three case study systems.....	173
Figure 8.2. A quantitative evaluation of the social outcomes of participation by interviewees in three case study systems.....	181
Figure 8.3. A quantitative evaluation of biodiversity outcomes of participation by interviewees in three case study systems.....	188
Figure 8.4. A quantitative comparison of the evaluation of process, social outcomes and biodiversity outcomes.....	192

## LIST OF TABLES

Table 1.1. Constraints on participation .....	8
Table 2.1. Major landmarks in international biodiversity policy .....	17
Table 2.2. Major landmarks in EU biodiversity policy .....	20
Table 2.3. Major landmarks in UK biodiversity policy .....	23
Table 2.4. Formal timetable for implementing the Habitats Directive .....	27
Table 2.5. Key dates in the implementation of the Habitats Directive in the UK.....	33
Table 2.6. Classified SACs and SPAs in the UK (as at 14 <sup>th</sup> December 2009).....	34
Table 3.1. Characteristics of public engagement in three models of democracy.....	45
Table 3.2. Fairness and competence criteria in ideal speech situations .....	49
Table 3.3. Acceptance and process criteria.....	49
Table 3.4. Criteria for measuring potential outcomes of public participation in natural resource management.....	52
Table 3.5. A framework for evaluating public participation in the implementation of Natura 2000 sites .....	55
Table 4.1. Ontology, epistemology and methodology of positivism, interpretivism and realism.....	61
Table 5.1. Projections of future changes in the Spring run of Atlantic salmon in the Bladnoch based on results from a Delphi process.....	105
Table 6.1. Projections of future changes in harbour seal populations in the Moray Firth based on results from a Delphi process.....	136
Table 7.1. Projections of future changes in Forth and Borders SSSI condition based on results from a Delphi process.....	166
Table 8.1. Original framework for evaluating public participation process in the implementation of Natura 2000 sites .....	177
Table 8.2. Interviewees' views on key participatory process characteristics.....	177
Table 8.3. Modified process evaluation framework.....	180
Table 8.4. Original framework for evaluating social outcomes of participation in the implementation of Natura 2000 sites .....	181
Table 8.5. Interviewees' views on key participatory social outcome characteristics.....	186
Table 8.6. Modified social outcome evaluation framework .....	187
Table 8.7. Modified biodiversity outcome evaluation framework.....	191

## LIST OF PLATES AND APPENDICES

Plate 5.1. Afforestation in the Upper reaches of the Bladnoch.....	83
Plate 6.1. Cabin for fishermen on the bank of the Spey River and seal killed by illegal nets	120
Appendix 1. Semi-structured questionnaire.....	241
Appendix 2a. Snowballing exercises for interviews .....	243
Appendix 2b. Interviews undertaken in each case study .....	245
Appendix 3. Acronyms .....	246
Appendix 4. Delphi experts .....	248
Appendix 5. A framework for evaluating public participation in the context of Natura 2000	249

## ACKNOWLEDGEMENTS

I have been very lucky to be surrounded by many people who have assisted and encouraged me with this thesis. I am indebted to Allan Watt (CEH) for being a wonderful boss, supporting me from the outset and allowing me the time and resources to carry out this research. I also want to thank Andrew Jordan and Peter Simmons (UEA) for taking me on as a student despite my having no prior experience of social science, and being a long-distance, part-time student who took maternity leave in the middle of her thesis. My discussions with Andrew and Peter were invaluable and have helped me discover a new and fascinating discipline. My thanks also go to all the staff at CEH Banchory, and then CEH Edinburgh, especially Rehema White for initial discussions, Kate Mason for obtaining obscure papers and books, Alan Gray, Francis Daunt and Dave Carss for helping in pilot interviews and questionnaires. I also want to thank all my interviewees and Delphi experts for taking part. This thesis would not have been possible without their cooperation, knowledge and insights.

On a more personal note, thanks to Sue for her tireless encouragement over cups of tea and Mariella for assuring me I would “see the wood from the trees”. I’d also like to thank papa (for spotting all those split infinitives), maman, Isabelle and Jerome for being so supportive.

Finally, I could not have done this without the love and support of Adam Vanbergen. He looked after our daughter Zoe when I was field-working, looked after me when I couldn’t make heads or tails of social science theory, and, more importantly, helped me persevere. I am extremely grateful that you did and that you made these last few years so much fun.

This PhD was supported by CEH Science budget.



## Chapter 1. Introduction

### 1.1. Introduction

Biodiversity is an essential provider of ecosystem goods such as food, raw materials, medicines, fuel, fibre and shelter. In addition, the interactions between species, genes and ecosystems provide humans with essential and irreplaceable ecosystem services estimated to be worth in the region of US\$33 trillion every year (Costanza et al., 1997: 259). Biodiversity also contributes directly to national economies and provides employment through agriculture, forestry, fishing and hunting. Finally, in addition to direct economic values, intrinsic values are also attributed to biodiversity (Wilson, 1984: 139). Consequently, biodiversity has been referred to as ‘the insurance policy for life itself – something especially needed in this time of fast-paced global change’ (WEHAB Working Group, 2002: 7). Indeed, the rate and extent of human development has resulted in a global decline of biodiversity in recent decades (Millennium Ecosystem Assessment, 2005: 4), mostly due to anthropogenic causes such as land use change (Young et al., 2005: 1642), pollution, and climate change (Brooker et al., 2007: 15). The rapid change in structure and functioning of biodiversity has resulted in an increasing rate of species extinction (Singh, 2002: 638) throughout the world, including Europe (European Commission, 2006: 3), where an estimated 42% of native mammals, 45% of reptiles and 52% of freshwater fish are under threat (EEA, 2005: 210).

With the United Nations predicting a world population of nine billion people by 2050 (United Nations, 2009: 4), future pressures on biodiversity and its associated services are likely to be significantly more than they are at present. In light of these trends, a number of political commitments to biodiversity conservation have been made at both international and European level. During the Sixth Ordinary Meeting of the Conference of the Parties to the Convention on Biological Diversity in 2002, the Strategic Plan for the Convention on Biological Diversity (decision VI/26) was adopted, in which Parties committed themselves to achieve (by 2010) a significant reduction in the current rate of biodiversity loss. At the European level, European Union heads of state had already launched the European Union Sustainable Development Strategy in 2001, which set the more ambitious target to “halt the loss of biodiversity in the European Union by 2010” (European Commission, 2001a: 12). In order to achieve this ambitious goal, the EU relied on two main mechanisms: the integration of biodiversity concerns into sectoral policies; and strengthening existing biodiversity policy through the European Natura 2000 ecological network of protected sites that comprise high value areas for natural habitats and species. In view of the recent failure of the EU to meet its

2001 target (European Commission, 2010: 8), the Natura 2000 network is under scrutiny. In the EU's new 'vision' for 2050 and the headline target for 2020, Natura 2000 is a vital element of success with the EU Council stressing "the need to fully implement the Birds and Habitats Directives, to speed up the completion of the Natura 2000 Network [...] and effective management and restoration measures" (European Council, 2010: 6). We therefore have a situation in which the achievement of biodiversity targets in the EU relies in large part on effective protected areas.

Setting land aside for conservation dates back thousands of years (Mulongoy and Chape, 2004: 7) and is now recognised as an effective way of conserving biodiversity. As a result, protected areas, defined as "a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives" (UNEP, 1992: 147), have grown in range and extent since the creation of Yellowstone National Park in 1872. They now cover over 18 million km<sup>2</sup> (Mulongoy and Chape, 2004: 25). However, as little "untouched" land remains and most ecosystems are, to a certain extent, shaped by if not directly dependent on humans, the president of the International Union for Conservation of Nature at the time concluded that "if local people do not support protected areas then protected areas cannot last" (Ramphal 1993; cited in Warren, 2002: 196). This has resulted in mechanisms to encourage public participation in the decision-making and management of protected areas (Barber, 2004: 97). In addition to helping preserve areas where human intervention is beneficial to biodiversity, these participatory approaches to biodiversity conservation arguably allow the integration of local knowledge in conservation management, provide incentives for local people whose livelihoods depend directly on biodiversity, and help relieve the financial and time pressures on national agencies responsible for conservation (Barber, 2004: 98).

Public participation in the context of Natura 2000 protected areas is somewhat ambiguous. While the European Commission acknowledges that Natura 2000's success relies on the active involvement of those that live or depend on those areas (European Commission, 2000: 3), there is no explicit formal requirement for Member States to involve local actors in the management of these sites, in line with the subsidiarity principle. The policy problem, therefore, is that while public participation is implicitly considered a *sine qua non* for the success of a network which is the main tool to achieving EU biodiversity targets, there is no requirement for local actors to be involved. In addition to this policy problem, there is little evidence in the academic (or indeed policy) literature to indicate a link between increased participation and environmental benefits. These policy and academic issues pose important considerations in the specific context of Natura 2000: are local actors involved in Natura 2000, and if so, does their involvement help deliver the stated biodiversity objectives of the

network, and if so, in what contexts? The answers to these questions are essential if a more informed debate is to be had on whether the expansion of participation is necessarily the best option in the context of environmental policy (Rydin and Pennington, 2000: 167).

In view of these considerations, this chapter continues in Section 1.2 with an overview of Natura 2000, including the potential role of local stakeholders in its management. Section 1.3 addresses public participation and its evaluation more generally. Section 1.4 brings these two sections together to set out the aims of this thesis. Finally, Section 1.5 signposts the thesis.

## **1.2. The Natura 2000 Network**

The Natura 2000 network aims to “enable the natural habitat types and species’ habitats concerned to be maintained or, where appropriate, restored at a Favourable Conservation Status in their natural range” (Habitats Directive, Article 3(1)). In order to achieve this aim, it consists of Special Protection Areas (SPAs) set up under the auspices of the Directive on the Conservation of Wild Birds (79/419/EEC, colloquially known as the ‘Birds Directive’), and Special Areas of Conservation (SACs) to comply with requirements under the Directive on the conservation of natural and semi-natural habitats and of wild flora and fauna (92/43/EEC, the ‘Habitats Directive’). As of December 2009, 17% of the EU's territory was part of the Natura 2000 network, making it the largest network of protected areas in the world (European Commission, 2010: 4).

Natura 2000 is, in theory at least, not merely a network of strictly protected areas but rather a network of areas in which active steps are being taken to reconcile biodiversity conservation with the need to “take account of economic, social and cultural requirements and regional and local characteristics” (Article 2(3) of the Habitats Directive). While the Habitats Directive itself does not contain provisions for public participation in the selection or implementation of Natura 2000 sites (Unnerstall, 2008: 41), the relationship between Natura 2000 and public participation was emphasised by Margot Waalström, Commissioner for the Environment, in 2000. In her preface to ‘Managing Natura 2000 Sites’ she stressed that “to be successful [Natura 2000] requires, in the first instance, the active involvement of the people who live in and depend upon these areas” (European Commission, 2000: 3). The time lag between 1992 when the Directive was adopted, and this quote, may be indications that the importance of public participation in this context was not fully realised at first. Indeed, Member States later reinforced again the need for greater public involvement in the conservation and management of Natura 2000 by issuing the 2002 El Teide declaration, committing Member States to “promote the development of partnerships involving the broad

range of stakeholders in the conservation and management of Natura 2000 sites”. In other words, the areas protected under Natura 2000 should primarily be managed for the purposes of conservation but certain human activities can be allowed, and even promoted, provided they are beneficial to biodiversity. The importance of human activities for biodiversity conservation is particularly noticeable in areas such as semi-natural habitats or forests (European Commission, 2003a: 10). A total of 14% of the 198 listed habitat types of the Habitats Directive could be threatened by the abandonment of low-intensity agricultural practices (Ostermann, 1998: 968), for example through afforestation and the increased risk of forest fires (Moreira et al., 2001: 566). In North Savo in Finland for example, abandonment has resulted in a decline in open space species such as the grey partridge (*Perdix perdix*) and the corncrake (*Crex crex*) (MacDonald et al., 2000: 57).

The integration of local actors is not only important in securing their help in managing sites, but also in increasing local actor acceptance and ownership of protected areas. The top-down, scientifically-driven selection of Natura 2000 sites led to widespread resistance to the network. One extreme example was the “Groupe des 9” in France, who questioned the legitimacy of the implementation in France and ultimately caused the directive to be temporarily suspended in 1996 (Alphandery and Fortier, 2001: 317). In Finland, the network caused major conflicts between landowners and environmental authorities, leading to hunger strikes by forest owners of Karvia (Bergsens and Vatn, 2009: 148) and ultimately affecting countrywide attitudes towards biodiversity conservation (Nieminen, 2004: 2). The backlash against Natura 2000 led the participants of the “Natura 2000 and people: a partnership” Conference held in Bath (28-30<sup>th</sup> June 1998), organised by the European Commission and UK Presidency, to identify the “resistance of local people concerned that their economical and social interests might be threatened by the designation of a site” as one of the reasons for the delay in implementing the Natura 2000 network (Anon, 1998: 2). Such delays have meant that while designating sites should have been completed by the EU-15 by 1997, in 2009, only Belgium, Denmark, Germany, Italy and the Netherlands had a largely complete list of SCIs and SPAs (European Commission, 2009a). In view of the amount of land in private hands, it is essential to resolve such conflicts if conservation policy is to be effective (Doremus, 2003: 217). These conflicts and delays may have contributed to the late realisation from the EU of the potential importance of participation in this context.

While the selection of sites is scientifically-driven, involvement of the public is most likely during the management phase of Natura implementation. As soon as Member States designate certain sites as SACs, they are required to “establish the necessary conservation measures”, for example management plans, statutory, administrative or contractual measures in accordance to their ecological requirements (Article 6 (1)). A number of “important



considerations” have been set out by the Commission (European Commission, 2000: Annex II) together with the best practice of *documents d’objectifs* (or DOCOB) implemented in France. However, no guidelines or recommendations have been provided to help Member States integrate local actors into the management plan process. So, while the integration of local actors is generally regarded a ‘good thing’ in the context of Natura 2000 management, there is no requirement for Member States to do this and, as such, limited guidance as to how best do it.

While there is much information collected by the European Commission on the transposition of the directives into national laws and the status of sites selection, there has, as yet, been a distinct lack of information on the form public participation is actually taking in the development of management plans in Member States (Aulong, 2002: 70). This is in part due to delays in transposition and site selection delaying the site management phase, making it difficult to evaluate the type and level of participation taking place. By 2004, the UK and France were the most advanced Member States in establishing management plans (European Commission, 2004a: 20), making them ideal settings in which to examine and evaluate participation. While the DOCOB in France are being monitored to evaluate their success in local actor inclusion (Bruhier-Vanpeene, 2005: 77), this kind of work has not yet been undertaken for management plans in the UK. In addition to the current lack of information regarding whether or not local actors are being involved in the development of management plans, there is currently no information on whether increased involvement in management plans contributes to desired biodiversity outcomes. The latter issue is of particular interest in view of the limited funding of Natura 2000. Actual funding allocated to managing Natura 2000 sites is in the region of 1 billion Euros a year, falling very short of the estimated 2.5 to 3 billion Euros needed (Stones et al., 1999). The limited funds available for site management could mean participation being re-evaluated.

To summarise, Natura 2000 is an area where biodiversity policy and public participation should join together. However, due to lack of formal requirements for their involvement, delays in implementing the network and conflicts following the scientifically driven site selection process, there is currently limited information regarding whether local actors are involved in Natura 2000. The UK is an ideal location to explore this issue, being well advanced in terms of management plan production. To determine how to evaluate whether local actors are involved in Natura 2000, and how this involvement might benefit the policy aims of Natura 2000, the next section focuses on public participation and its evaluation from an academic perspective.

---

### 1.3. Public participation

#### 1.3.1. Participation in decision-making

The move towards increasing participation of local actors in decision-making and management is not a new phenomenon or one restricted to biodiversity management. Indeed, since the 1960s, there has been a growing recognition amongst governments, businesses and individuals of the importance of greater participation across all aspects of policy including service delivery and planning (Birch, 2002: 23). Public participation has also been stressed in a number of international statements and agreements such as Principle 10 of the 1992 UN Conference on Environment and Development and the 1998 Aarhus Convention. Public participation is increasingly thought to be a vital part of European governance, with Directive 2003/35/EC on Public Participation (European Commission, 2003b) and the recent White Paper on European Governance (European Commission, 2001b) both citing public participation as one of the five principles underpinning ‘good governance’ at EU and national level.

According to Fiorino’s widely cited paper (1990: 227-228), there are three main arguments for encouraging public participation. The first is a normative one, i.e. participation as an integral part of democracy (Webler and Renn, 1995: 17) that ensures stronger democratic processes. The second is more substantive, maintaining that participation should include additional knowledge and values into what has in the past been purely technocratic decision-making (Renn, 2006: 36). The last is instrumental, i.e. participation provides greater legitimacy (Svarstad et al., 2006: 48), can help increase trust (Munton, 2003: 114), and reduce the intensity of conflicts (Manring, 1998: 275).

Van den Hove (2000: 458-461) identifies four main characteristics of the environment that she believes justify the need for participatory approaches in this specific context. These include:

- complexity: natural systems are complex not only in themselves, due to the relationships between components of these systems, but also due to the multitude of inter-linkages among environmental phenomena;
- uncertainty: this can be due to extrinsic uncertainties (i.e. insufficient scientific knowledge) and intrinsic uncertainties inherent to the complexity and indeterminacy of environmental issues;
- large temporal and spatial scales: the large-scale (both temporal and spatial) causes and effects of environmental processes; and

- irreversibility: the nature of ecosystem and species means that once damaged, these can be impossible to retrieve.

However, despite the potential justifications for participation in environmental and other contexts, it seems that “genuine engagement of, and with, the public remains a profound challenge” (Owens, 2000: 1145). Firstly, there is no clear definition of “participation”. This lack of clarity is directly related to confusion over objectives (Guijt and Cornwall, 1995: 4). These range from participation as “forums for exchange” between government and citizens (Renn et al, 1995a: 2) to decision-making (IIED, 2003: 23). Participation can also be used to involve the public in the implementation of decisions (for example Natural Resource Management, or Community-Based Management), and even the post-implementation phase, for example monitoring (Danielsen et al., 2005: 2510). Thus, the contexts and definitions of participation are numerous, with participation applied to fields as diverse as development projects, risk assessment, resource management and conflict resolution. As such, Kavanaugh (1972: 2) remarks on “how promiscuous is the term participation; it is the mistress to many masters”.

Secondly, whilst ‘participation’ and hence its motives are unclear, who the ‘public’ is or should be is equally ambiguous. While some authors advocate the inclusion of the wider public (including stakeholders, experts and citizens) in the decision-making process (Renn et al., 1993: 190) in order to integrate all knowledges into the participatory process and thus democratise environmental decision-making (Eden, 1996: 198), this can prove complex in practice. Indeed, much of the current environmental decision-making is dominated by a scientific methodology which often excludes non-scientific contributions (Blaikie et al., 1997: 227), thus promoting discussions dominated by ‘experts’ (Eden, 1996: 183). For example, the very nature of environmental problems has led some scientists and policy-makers to argue that citizens might not have the knowledge required or the understanding of complexities to make appropriate decisions, which might in turn put sites of conservation interest at risk (Goodwin, 1998a). In addition, to include all stakeholders can lead to costly participatory processes in terms of time and extra spending associated with participation (Involve, 2005: 24), often at the personal cost of individuals participating in these exercises (Manring, 1998: 279). In practice therefore, it is often common to see specific *publics* taking part in participation, the selection of which is often determined by wider societal barriers.

Thirdly, and in addition to above challenges, a number of more practical problems such as ‘consultation fatigue’ (Richards et al., 2004: 16) and disenchantment (Mosse, 2001: 31) can develop *because* of participation and can lead to increased mistrust and suspicion amongst stakeholders (Mutamba, 2004: 110). These arguments have led certain authors to imply that

rather than acting as an empowerment tool, participation may only be a means to implementing a better project (Mahanty and Russell, 2002: 180). Worse still, some authors contend that participation can be a highly formulaic and empty process dominated by pragmatic policy interests (Mosse, 2001: 17). It is also clear that participation has sometimes been misused with individuals or groups using the labelling of “participation” to access community information quickly, or gain funding from donor agencies (Mutamba, 2004: 106). This has resulted in a reflexivity over what some authors perceive to be the ‘tyranny of participation’ (Cooke and Kothari, 2001: 15). While many of these issues have emerged from experience in less developed countries, many of the above arguments have validity in Western Europe. Indeed, many of these challenges may be related to the issue of public participation in the Natura 2000 network, a context in which while advocated as a ‘good thing’, there is a lack of a clear rationale for participation, and unclear guidelines as to how to carry it out.

To summarise, a number of arguments have been put forward to justify participation. There are also a number of challenges to public participation including the lack of definition of participation and of who the public is or should be, as well as practical problems. Putting some of these challenges together, Richards et al. (2004: 15-17) identifies six major constraints of participation (see Table 1.1).

**Table 1.1. Constraints on participation**

<b>Types of constraints</b>	<b>Symptoms</b>	<b>Possible ways forward</b>
Managing expectations	<ul style="list-style-type: none"> <li>- Raised expectations and wish-listing</li> <li>- Distrust between government and citizens.</li> <li>- Frustration for instigators</li> </ul>	<ul style="list-style-type: none"> <li>- Setting clear objectives and boundaries</li> <li>- Not attempting too much too soon.</li> </ul>
Identifying non-negotiable positions	<ul style="list-style-type: none"> <li>- Decisions can be constrained by “non-negotiables” of top-down legislation and policy</li> <li>- Possible conflict between governance of the environment and public participation on how the environment is regulated.</li> </ul>	<ul style="list-style-type: none"> <li>- Limits to decision-making should be stated early in the process</li> <li>- Bottom-up processes could help implement top-down policy</li> </ul>
Full “citizen control”	<ul style="list-style-type: none"> <li>- Organisational structures can hinder decision-making</li> <li>- Participants may feel participation was used to validate existing decision or provide legitimacy.</li> </ul>	<ul style="list-style-type: none"> <li>- Deciding whether participation is the right approach</li> </ul>
Adequate resources	<ul style="list-style-type: none"> <li>- Participation can be costly in terms of money and time</li> <li>- Difficult to determine a budget due to the iterative nature of participation</li> </ul>	<ul style="list-style-type: none"> <li>- Weigh costs of participation against likely costs of resistance without participation.</li> </ul>
Reaching consensus	<ul style="list-style-type: none"> <li>- Emphasis on consensus can prevent important, if contentious, views or criticisms to be aired</li> </ul>	<ul style="list-style-type: none"> <li>- Determine whether consensus is possible</li> </ul>

Types of constraints	Symptoms	Possible ways forward
	- Consensus may be difficult to reach due to differing agendas	
Selecting an appropriate scale	- Participation is often better at the local scale - Local participatory processes will be influenced by regional, national and global levels	- Determine the scale and methods to integrate local level processes into larger scale processes - Ensure the inclusion of all interested parties and represent diversity

Source: Adapted from Richards et al. (2004: 15-17).

### 1.3.2. The issue of scale in environmental participation

The issue of spatial scale, identified in the above table, is complex, as it raises a number of well known difficulties including determining the scale at which participation should operate; deciding how local level processes can be integrated into processes operating at larger spatial scales; and ensuring the inclusion and representativeness of all stakeholders when implementing processes at larger spatial scales (Richards et al., 2004: 17). Despite these difficulties, determining the scale at which a participatory approach should be carried out may be an important factor both in academic and policy realms, as reflected in this section.

The complexity of scale in environmental participation is perhaps best conceptualised by Meadowcroft (2002: 172-173), who perceives the scale of environmental problems as two-fold: the scale of the *physical* impacts of an activity on a natural process and the *social* phenomena, i.e. the social, political and economic context in which the problem is perceived and addressed. Participatory initiatives, i.e. the social phenomena, have mostly been undertaken at local scales, mainly for practical reasons (Munton, 2003: 116) and because “the diversity of positions, interests and values is often most visible at the local scale” (Richards et al., 2004: 17). As such, some authors have linked scale with ‘ways of knowing’, arguing that “richer personal experiences in and knowledge of a place are more likely to develop within smaller scale places than larger scale places” (Cheng and Daniels, 2003: 851). However, many social drivers of participation operate at global scales and can be in conflict with the local scales at which participatory initiatives are most commonly carried out. As such, Mohan (2001: 162) argues that “this reductionism is at odds with the increasingly globalising tendencies of many economic and social processes”. However, despite the increasing popularity of participation at a large scale (Chambers, 1995: 57), some advocates of public participation have warned against the dangers of ‘scaling up’ (IDS, 1996) identifying possible shortcomings, including the neglect of behaviour and attitudes

and a top-down approach carried out by untrained individuals more concerned by outputs than local priorities (Chambers, 1995: 58).

For biodiversity, i.e. the physical or ecological scale, 'local' may not be the most appropriate level at which to address problems. Although wildlife management in the past has operated on small spatial scales (Graf et al., 2005: 703), many conservation efforts do lend themselves to large-scale management interventions depending on the species (or habitats) to be conserved (Younge and Fowkes, 2003: 16). For example, capercaillie (*Tetrao urogallus*), the largest of the grouse family in Europe, has specialized habitat preferences and extensive spatial requirements, with home ranges averaging 550 hectares (Storch, 1995: 397). So, maintaining healthy populations of capercaillie requires relatively large areas of suitable habitat. In the case of the Iberian lynx (*Lynx pardinus*), the most endangered of the Felidae, conservation efforts depend on linking isolated populations (Ferrerias, 2001: 135). In other words, conservation efforts may not be confined to a case of 'local is best' (Millennium Ecosystem Assessment, 2005: 72).

Large-scale biodiversity conservation initiatives may, however, be somewhat remote from the very local actors that are supposed to be involved in the development of policy measures such as management plans. In other words, the ecological scale may not necessarily fit the social scale of environmental problems. Whereas conservation efforts can in many cases be more effective when carried out according to species or habitat requirements, stakeholder participation at larger spatial scales is far more complex than local level participatory initiatives (Younge and Fowkes, 2003: 17). Not only are there concerns over the costs and feasibility of working intensely over a large area (Snapp and Heong, 2003: 74) but ensuring representativeness of local actors in larger scale initiatives can represent practical difficulties (Richards et al., 2004: 17) and minimise opportunities for social learning (Borowski et al., 2008: 13). This has led some authors to view the possibility of unifying large 'eco-regions' and social interactions as "implausible" (Meadowcroft, 2002: 177).

To summarise, spatial scale is an important consideration in environmental decision-making and is starting to manifest itself in policy-making, for example in the case of the implementation of the Water Framework Directive (Borowski et al., 2008: 2). In view of these policy developments, determining the impact of scale on participation and its outcomes is becoming a policy and academic challenge. However, in order to understand the impact of scale requires an understanding of current public participation evaluation approaches, a topic explored in the next section.

### 1.3.3. *The evaluation of public participation*

The evaluation of public participation is important to ensure that public money is being used effectively; fair representation and involvement; and to increase our knowledge of human behaviour (Rowe and Frewer, 2004: 516). As such, evaluation is important for donors and policy-makers, such as the European Union, who are often remote from the processes on the ground, for those carrying out the process, and for all involved in the process. Evaluation *should* therefore constitute an essential component of participation. Taking the policy example of Natura 2000, little, if no, effort seems to have been paid so far to evaluate the effectiveness of increased participation of local actors. This is a potentially important knowledge gap in view of the limited funding towards Natura 2000. In addition, from an academic perspective, despite the important role evaluation should theoretically play, “there are relatively few cases in which the effectiveness of participation exercises has been studied in a structured (as opposed to highly subjective) manner” (Rowe and Frewer, 2004: 512). Evaluation of public participation in the context of Natura 2000 would therefore appear to be a challenge both in policy and academic realms.

Two main approaches emerge in the literature relating to evaluation, based on the definition of what constitutes ‘effectiveness’ of participation (Rowe and Frewer, 2004: 517), in turn linked to the different views on the purposes of participation itself (Beierle and Cayford, 2002: 16). The first relates to the evaluation of the *process* of participation. This common approach is favoured by those who view participation as a means to achieving greater democratic power and thus focuses on issues such as fairness, competence, dialogue and group dynamics. At present, much of the academic effort has focussed on evaluating the processes of or mechanisms for public participation (Davies, 2002: 80; Nicholson, 2005: 45), leading to the development of many generic evaluation methods (examples include Fiorino, 1990; Renn et al., 1995a, b; Rowe and Frewer, 2000). The second relates to the evaluation of *outcomes* of participation. This approach views participation as an end in itself, i.e. the means to achieving particular goals. These can be specific policy outcomes, i.e. the outcome in terms of changes in the target (in the case of Natura 2000 this would relate to biodiversity outcomes), as well as social outcomes, or the resulting institutional and societal responses to the process (Rowe and Frewer, 2004: 520). However, even if a good participatory process *is* carried out, this does not necessarily mean that it will lead to the fulfilment of desired outcomes. While the process of participation may influence social outcomes of participation such as decision quality, conflict resolution and capacity-building (Beierle and Konisky, 2001: 526), there is still little evidence to confirm a link between increased participation, social outcomes and policy outcomes.

Although the evaluation of outcomes may be essential to inform a particular policy and thereby improve future policies, outcome evaluation is not common, due to the ambiguous nature of defining a “good” outcome, the difficulty in defining an end point to participatory exercises and the influence of external factors on potential outcomes (Rowe and Frewer, 2004: 520). Taking these problems in turn, the first relates to the definition of the outcome of participation. While in some cases the outcome may be set out from the start, most evaluations are done retrospectively and evaluators in these cases need to define outcomes themselves. This is the case in Natura 2000 implementation, where no explicit mention is made of the potential outcomes of participation. So, while an implicit direct outcome of participation is the effective delivery of biodiversity objectives, participation may also produce other outcomes, such as social outcomes, that may indirectly impact on these biodiversity objectives. A second problem in evaluating the outcomes of participation relates to the difficulty in defining a suitable end-point. Indeed, while it may be relatively easy to look back on a process and evaluate its immediate outcomes, in many cases they may take many years to manifest themselves. This is particularly true in the case of biodiversity outcomes, such as those from the Habitats Directive, where species often take generations to establish themselves. A final problem is that external factors may impact on participatory outcomes and bias the results of an evaluation. One such factor (that can also impact on the process of participation) is scale, explored earlier in this section. Scale is interesting from both a policy and academic (both natural and social science) perspective as there is a potential misfit between the social scale often perceived as ‘local is best’ and the physical scale, often adapted to larger scales fitting the needs of species and habitats.

To conclude, most evaluations have focussed on the evaluation of process, in part due to the complexities associated with outcome evaluation. Of the few studies that have evaluated the outcomes of participation, there are mixed results in terms of concrete policy change (Koontz, 2005: 476) and, ultimately policy outcomes - i.e. the (non) achievement of conservation goals (Goodwin, 1998a: 16). Evaluating the outcomes of environmental policy-making and management therefore remains a challenge, and constitutes an obvious research gap (Munton, 2003: 126), as well as an important policy gap. With these considerations in mind, the next section builds on the above to set out the aims and objectives of this thesis.

#### **1.4. Aims and objectives of this thesis**

To summarise the argument thus far, biodiversity conservation has become a focus of policy-making at the global, EU and national level. One approach to conservation at the EU-level is the Natura 2000 network of protected areas, often owned and managed by local actors. Because of the importance of local actors in protected area management, identifying ways to



achieve a satisfactory coexistence between biodiversity and human activities, through, for example, increased participation is very much a holy grail of biodiversity conservation efforts in the EU and elsewhere. Public participation is, however, problematic. The processes involved can be time-consuming and expensive, and the outcomes may not be those anticipated, potentially leading to participant disenchantment and social conflict. Public participation, therefore, increasingly needs to justify its worth in the eyes of sponsors, governments and participants themselves. Very few studies have, however, evaluated the outcomes of participation in the context of environmental policy, making it difficult to have a more informed debate about the expansion of public participation in this context.

Natura 2000, being the EU's main biodiversity policy, is an ideal context in which to evaluate public participation in biodiversity management. Indeed, while the prime objective of the Natura 2000 network is one of conservation, the involvement of local actors is generally regarded as essential in achieving this objective, thereby making the network an arena where biodiversity conservation objectives and other human interests should, theoretically, meet. There is, however, no formal requirement for local actors to be involved, in line with the subsidiarity principle. Focussing on the development and implementation of Natura 2000 sites' management plans, the main aim of this thesis is to determine the ways in which affected stakeholders are currently involved, to determine the extent to which increased involvement in management plans contributes to greater biodiversity protection in designated sites, and the impact of spatial scale on the increased stakeholder involvement processes and outcomes. This aim therefore addresses directly important policy and academic challenges.

Since the relevant EU policy documents make no mention of potential outcomes of increased stakeholder involvement, this academic, rather than policy, evaluation adopts the position that "participation envisages a broader spectrum of views, visions and values in decision-making, which are not only heard, but also exert some authority and influence over decision" (Davies, 2002: 80). As such, the position in this thesis is that evaluation should use public participation theory to provide a benchmark against which to evaluate stakeholder involvement, and should encompass the process of participation as well as its social and biodiversity outcomes and the links between these different aspects. In addition, the evaluation of participation also needs to integrate a potentially important consideration in environmental management - scale - to determine the reasons why public participation works (or not) in the different environmental contexts in which it is applied.

As described earlier, the UK is an ideal setting for the evaluation of participation in Natura 2000 management plans, being one of the most advanced Member States (together with

France) in establishing management plans (European Commission, 2004a: 20). The choice of Scotland in particular is taken in view of its high levels of biodiversity and the fact that devolution and decentralisation of the political administration have led to a revision of conservation policy and management and have encouraged a closer attention to biodiversity concerns (Scottish Executive, 2004).

In this context, the specific objectives of the thesis are to:

- i) review the EU legislation underpinning a) public participation and b) the Natura 2000 network, particularly as it relates to the UK;
- ii) develop an adapted evaluation framework building on current public participation evaluation theories and practices;
- iii) determine the ways in which affected stakeholders are currently involved in the management of Natura 2000;
- iv) assess, and explore the links between, process, social outcomes and long-term biodiversity outcomes of stakeholder involvement in three Natura 2000 sites in Scotland;
- iv) assess the impact of spatial scale on the process and outcomes of stakeholder involvement in Management Plans drawn up as part of the Natura 2000 process;
- v) formulate policy recommendations for involving affected stakeholders in the development of Management Plans;
- vi) identify future research needs based on the results of this study.

### **1.5. Outline of the thesis**

In order to address the objectives outlined in the above section, the remainder of this thesis is divided in eight chapters.

Chapter 2 examines biodiversity and public participation policy at the international, EU and UK levels. The implementation of Natura 2000 is reviewed, tracing the three main steps, namely: transposition into national law; site selection; and site management. Then, Chapter 3 places these political commitments to public participation in natural resource management, and the empirical approaches to its evaluation, in a theoretical context. The chapter starts by defining public participation before putting it into the context of different models of democracy, namely representative, deliberative and direct. The remainder of the chapter focuses on the evaluation of participation in the context of natural resource management, outlining the possible goals of participation and how these goals have been evaluated using criteria drawn from empirical and theoretical sources. It ends with a theoretical framework for the evaluation of participation in the specific context of Natura 2000 implementation.

Chapter 4 sets out the methodology adopted in this study. It starts with an overview of the main epistemological and ontological positions in social science research, before justifying the grounding of this study in critical realism. A multiple case study research design is then discussed, before exploring how the criteria identified in the theoretical framework will be measured in the case study sites. Finally, a mix of qualitative and quantitative methods best suited to the research aims and objectives is presented, including the use of documentary evidence, semi-structured interviews, the Delphi method, a counterfactual analysis and triangulation. The process and outcomes of participation are critically analysed at three different scales and presented as results in Chapters 5, 6 and 7. Each chapter starts with a brief introduction to the case study setting out the local socio-economic background and biodiversity context, before presenting the analysis of the evaluation of participation processes and outcomes.

Chapter 8 critically reflects on the results of the evaluation in the three case studies, the mechanisms used for evaluating the participation process and the direct and indirect impacts of participation and spatial scale on biodiversity outcomes in the context of Natura 2000 management plans. Finally, Chapter 9 outlines the main findings, discusses how they contribute to current theories of public participation, suggests policy recommendations and outlines future research directions.

## **Chapter 2. Nature conservation and public participation in EU environmental governance: A literature review**

### **2.1. Introduction**

Due to the complex and often irreversible nature of environmental problems (see Chapter 1), governments and conservation agencies have increasingly started implementing participatory approaches to environmental issues such as biodiversity loss. These approaches are now so widespread that “it is today quite difficult to find examples of environmental decision-making where there has been no public consultation or other form of public engagement” (Munton, 2003: 109). Such approaches have a long history, enabling “local people to share, enhance and analyse their knowledge of life and conditions, to plan and to act” (Chambers, 1994: 1437). As such, these participatory approaches were often a response to the failings of the “externally imposed and expert-oriented forms of research and planning” (Cooke and Kothari, 2001: 5) and aimed to achieve more sustainable and inclusive decision-making processes. This is reflected in policy, with participation now firmly rooted in public policy and a requirement under legislation such as the Aarhus Conventions and associated EU Directive on public participation.

However, participation is not without its share of problems. Indeed public participation as a term, in the context of policy and in its evaluation, is highly complex and value-laden. The motives for participation are equally complex, ranging from legitimisation and manipulation to “deliberative and inclusionary procedures... that remain largely aspirational” (Owens, 2000: 1141). In practice, public participation is also highly sensitive to the social, economic and political context in which it is applied (De Marchi and Ravetz, 2001: 5). As such, there has been increased criticism of participatory approaches and underlying rationales as applied to rural development and environmental management (Cooke and Kothari, 2001: 5).

The implementation of Natura 2000, described in Chapter 1, is an arena where biodiversity policy and participation policy should, theoretically, coalesce. How these two policy goals meet (or not) in the case of Natura 2000 however is unclear and forms the basis for this chapter. By analysing the political context of Natura 2000, the aim of this chapter is to understand better why the implementation of Natura 2000 is proving so problematic, despite widespread public and political support for environmental conservation (European Commission, 2005a: 31). To achieve this aim, Section 2.2 describes biodiversity policy at the international, EU and UK level, charting the major landmarks in biodiversity policy since the 1950s. A brief presentation of participation policy, again at the international, EU and national level, follows in Section 2.3. Building on these two policy strains, a full overview of

Natura 2000 is presented in Section 2.4, charting: the three stages of its implementation; the current status of the network; and some of the reasons behind its slow implementation. Finally, the chapter focuses on implementation of Natura 2000 in the UK in Section 2.5 before concluding in Section 2.6.

## 2.2. Biodiversity policy

### 2.2.1. International biodiversity policy

A number of conventions have been adopted at the international level since the 1970s, which seek to curb the loss of biodiversity (see Table 2.1).

**Table 2.1. Major landmarks in international biodiversity policy**

Date	Instrument	Aims	Status
1971	Convention on Wetlands of International Importance especially as Waterfowl Habitat ("Ramsar Convention")	Wetland conservation and wise use.	Came into force 1975, 152 Parties (as of 1 July 2006)
1973	Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)	Control of international trade in specimens of wild animals and plants	Came into force 1975, 169 Parties (as of 1 July 2006)
1979	Convention on the Conservation of Migratory Species of Wild Animals ("Bonn Convention")	Conservation of terrestrial, marine and avian migratory species throughout their range.	Came into force 1983, 97 Parties (as of 1 May 2006)
1979	Convention on the Conservation of European Wildlife and Natural Habitats ("Bern Convention")	Conservation of wild flora and fauna and their natural habitats	Came into force 1982, 45 Parties (as of 1 March 2005)
1992	Convention on Biological Diversity (CBD)	Biodiversity conservation; sustainable use of biodiversity and equitable benefit sharing	Came into force 1993, 188 Parties (as of 1 July 2006)

While many conventions focus on the conservation of particular habitats and species (see Table 2.1), the development of the United Nations Environment Programme (UNEP) in 1972 was an attempt at a more comprehensively global approach to biodiversity conservation. The appointment of the World Commission on Environment and Development in 1983, and the subsequent Brundtland report (World Commission on Environment and Development, 1987) were the main triggers for the United Nations Conference on Environment and Development in 1992. During this conference, two binding agreements were ratified - one on climate change and the other on biological diversity. Over 150 governments signed the latter, referred to as the Convention on Biological Diversity (CBD), which came into force in December 1993, the main aims of which are to promote biodiversity conservation, the sustainable use of all its components and the equitable sharing of genetic resources. In 2002, signatories to the CBD agreed to achieve a significant reduction of biodiversity loss by 2010 (Decision VI/26). This marked an important turning point in international environmental

agreements, being the first time a large group of governments agreed to a quantitative target for reducing biodiversity loss (Balmford and Bond, 2005: 1218). However, despite this bold decision, the CBD has, since its creation in 1992, been criticised for its weak provisions, lack of strategic focus and slow progress (Baker, 2003: 29) as well as conflicting with other agreements such as the Trade-Related aspects of Intellectual Property Rights (TRIPS) agreement (Rosendal, 2001: 105).

In addition to the above critiques of the CBD in particular, all these international conventions “in one way or another, rely on protecting biodiversity by designating areas of special protection” (Ledoux et al., 2000: 260), which, although essential to conserve biodiversity at the global and regional scales, are deemed insufficient to conserve the full range of biodiversity (Millennium Ecosystem Assessment, 2005: 69). Despite these shortcomings, protected areas have, however, been favoured at the EU and national levels, as described in the following sections.

### *2.2.2. EU biodiversity policy*

Two major approaches have emerged in the EU regarding biodiversity policy: protected areas (Fairbrass, 2000: 6) and the integration of biodiversity concerns into sectoral policies. After a short introduction to the general environmental policy context in which EU biodiversity is embedded, both these approaches are described in this section.

Although a few minor environmental measures followed the Treaty of Rome of 1957, it was not until 1972 that Heads of State agreed on the need for a common European environmental policy, resulting in the adoption of the first Environmental Action Programme (EAP) in 1973 that aimed to “improve the setting and quality of life, and the surroundings and living conditions of the peoples of the Community”. No direct reference to environmental protection or biodiversity was made at this stage. According to Dixon, this was due to the fact that “Member States with an interest originally maintained that nature conservation was not a subject for Community competence” (Dixon, 1998: 223). This was, however, to change in the late 1970s and early 1980s when an upsurge in European environmental policy-making fuelled mainly by growing citizen concern led to the empowerment of Green Parties in many Member States (Lowe and Ward, 1998).

The Single European Act (SEA) in 1987 was the next major landmark in environmental protection, providing EU environmental policy with a more solid legal foundation (Articles 174-176). The Treaty on European Union (signed in Maastricht in 1992) and the Treaty of Amsterdam (signed in 1997) further strengthened EU environmental policy. These treaties not only set out the foundations of the EU’s internal policy development but also included a

number of basic principles including precaution, preventive action, source proximity and the “polluter pays” principle (Warren, 2002: 22). This was acknowledged again in the EU’s Biodiversity Strategy in 1998 (European Commission, 1998: 4-9), which addressed the drivers of environmental change, aiming to “anticipate, prevent and attack the causes of significant reduction or loss of biodiversity at the source” (European Commission, 1998: 3).

Public concern and NGO lobbying by voluntary organisations such as the Royal Society for the Protection of Birds (RSPB) (Dixon, 1998: 223) played a major role in developing the first step in biodiversity conservation for the European Union, namely the adoption of the Directive on the Conservation of Wild Birds (79/409/EEC) in 1979. The main aims of this Directive, referred to as the Birds Directive, are to maintain populations of naturally occurring wild birds, to regulate the trade in birds, to limit hunting to species able to sustain exploitation, and to prohibit certain methods of capture and killing by establishing Special Protection Areas (SPAs). Since its adoption, implementation of the Directive has been extremely poor, resulting in infringement proceedings being carried out against all Member States in 1983. The root causes of the problems related to the preference of Member States to adapt rather than radically change their conservation policy (Fairbrass, 2000: 14) and the relative freedom given to Member States in the identification of SPAs (Ledoux et al., 2000: 259).

Created in part to “remedy some of the deficiencies of the Birds Directive” (Ledoux et al., 2000: 259), the more contentious Directive on the Conservation of Natural and Semi-natural Habitats and of Wild Flora and Fauna (92/43/EEC), referred to as the Habitats Directive (Dixon, 1998: 223) came into force in 1992. The Habitats Directive aimed not only to cover a wider scope in terms of species and habitats, but also built on the concept of a network of protected biotopes first suggested in the Third Environmental Action Programme (European Commission, 1983) through its Natura 2000 network of SPAs and Special Areas of Conservation (SACs). The negotiations around the Habitats Directive took a number of years following the initial draft Directive submitted to the Council of Ministers in 1988. This was due to concerns regarding co-financing and the potential influence of Brussels on Member States over development in protected sites raised by the Leybucht case (C-57/89), which established that damage to a site designated under the Birds Directive could only be justified on grounds of human health and safety, i.e. not on social or economic grounds (Sharp, 1998: 38). Although a large extent of the EU is now covered by Natura 2000, the network is well behind schedule and far from achieving the aims of the Directive.

The Fifth and Sixth Environmental Action Programmes (1993 and 2002), the “Cardiff” process (1998), the EU Sustainable Development Strategy in Gothenburg (2001), and the

Biodiversity Strategy Action Plans (2001) all focussed on the need for biodiversity concerns to be integrated more effectively into sectoral policies. However “environmental integration commitments are still largely to be translated into further concrete results for the environment” (European Commission, 2004b: 31) due to a general lack of consistency, weak political commitment towards integration, poor review mechanisms, vague objectives and the absence of a strategic forward-looking approach.

It is perhaps unsurprising then that the focus in more recent years has been on effective implementation of existing biodiversity policy instruments. Stakeholders from 22 Member States endorsed the “Malahide Message” in 2004, in response to the strategic plan of the CBD, outlining 18 objectives and 97 detailed targets to meet the EU 2010 target. More recently, a Communication on “Halting the loss of biodiversity by 2010 - and beyond” acknowledged that in order to achieve the 2010 target “accelerated implementation at both Community and Member State levels” was required (European Commission, 2006: 3). Despite these efforts, the mid-term review of the Biodiversity Action Plan revealed that the EU was “highly unlikely to meet its 2010 target of halting biodiversity” (European Commission, 2008a). This was confirmed in a Communication in 2010 (European Commission, 2010: 5). Following on from this failure, the Council of the European Union agreed on a 2050 vision that biodiversity and its ecosystem services are “protected, valued and appropriately restored” and a headline target of “halting the loss of biodiversity and the degradation of ecosystem services in the EU by 2020, and restoring them in so far as feasible” (Council of the European Union, 2010: 7). The European Commission is currently consulting on the development of the new EU biodiversity strategy to enable the 2020 target to be met. This Communication, together with other landmarks, is synthesised in Table 2.2.

**Table 2.2. Major landmarks in EU biodiversity policy**

Date	Instrument	Remarks
1978	Directive on freshwaters and fish life (78/659/EEC)	The Directive aims to protect and/or improve the quality of fresh waters that support, or could support, certain species of fish.
1979	Directive on the Conservation of Wild Birds (79/409/EEC)	The Directive requires Member States to identify and manage areas of conservation for birds
1981	Council Regulation (EEC) on imports of whales, etc (348/81)	The regulation required a licence for imports of whale parts and products and prohibited the issue of such a licence for products used for commercial purposes after January 1982
1981	Convention on the conservation of Antarctic marine living resources	The convention approved the Canberra Convention to limit the harvesting of fish and other marine animals, south of 60° latitude South
1982	Convention on the conservation of migratory species of wild animals	Implementation of the Bonn Convention at Community level
1983	Council Directive on imports of seal pup skins and products (83/129/EEC)	The Directive requires Member States to prohibit the commercial import of the seal products listed in the Annex to the Directive



Date	Instrument	Remarks
1992	Directive on the conservation of natural and semi-natural habitats and of wild flora and fauna (92/43/EEC)	The Directive requires Member States to identify and manage areas of conservation for selected species and habitats
1992	Agri-environment Regulation 2078/92	Requires Member States to apply agri-environment measures where appropriate
1992	Council Regulation (EEC) on protecting forests against fire (2158/92)	The regulation establishes a Community financing scheme to identify the causes of forest fires and the means to combat them, as well as measures to set up or improve systems of prevention
1996	Council Regulation (EC) on trade in wild flora and fauna (338/97)	Implementation of the objectives, principles and provisions of CITES at Community level
1998	“Cardiff” process of environmental integration	Strategy setting out guidelines to integrate the environmental dimension into other policies. Nine sectoral strategies are presented (agriculture, transport, energy, industry, internal market, development, fisheries, economics and finance and foreign affairs)
1998	Sustainable Development Strategy	The strategy sets objectives, targets and concrete actions for seven key priority challenges for the coming period until 2010, including the better management of natural resources
1998	European Community Biodiversity Strategy	The strategy defines the framework for defining Community policies and instruments to comply with the CBD
2001	Biodiversity Action Plans in the areas of Conservation of Natural Resources, Agriculture, Fisheries, and Development and Economic Cooperation	Four Action Plans define concrete actions and measures to meet the objectives defined in the European Community Biodiversity Strategy, and specify measurable targets
2004	Malahide Message	The message contains 18 concrete objectives and associated targets to help the EU reach the 2010 target
2006	EC Communication on “Halting the loss of biodiversity by 2010 and beyond”	The Communication sets out 10 policy objectives in 4 policy areas: Biodiversity in the EU; The EU and global biodiversity; Biodiversity and climate change; and The knowledge base.
2008	A mid-term assessment of implementing the EC Biodiversity Action Plan	The assessment provides a status update of biodiversity in the EU, as well as key supporting measures needed to reach the 2010 target.
2010	Options for an EU vision and target for biodiversity beyond 2010	The Communication reflects on the failure to reach the 2010 target and presents options for development of a post-2010 EU vision and target.
2010	European Council conclusions on biodiversity post-2010	The Environment Council outline a new long-term vision (2050) and mid-term headline target (2020) for biodiversity in the EU post-2010.

Despite mixed results on an EU level for biodiversity conservation, biodiversity in the EU is greatly enhanced by national level policy-making, much of which pre-dates the EU’s involvement (Ledoux et al., 2000: 259), as demonstrated in the UK, explored in the next section.

---

### 2.2.3. UK biodiversity policy

The UK has one of the oldest and strongest nature conservation movements in the world (Dixon, 1998: 215), comprising mainly three sectors: science; the statutory agencies; and the voluntary sector (Warren, 2002: 183). As early as 1949, the UK had established the Nature Conservancy, a science-based organisation that aimed to provide scientific advice, develop research institutions and establish protected areas (Dixon, 1998: 216), and had passed the National Parks and Access to the Countryside Act (1949), providing the “key area” concept of conservation (Warren, 2002: 185) by establishing national parks in England and Wales as well as other protected areas. These included Areas of Outstanding Natural Beauty (AONBs), Sites of Special Scientific Interest (SSSIs) in England, Wales and Scotland and Areas of Special Scientific Interest (ASSIs) in Northern Ireland, National Nature reserves (NNRs) and Local Nature Reserves (LNRs).

The increasing threats to biodiversity from agricultural and forestry intensification and economic growth, as well as the politicisation of conservation issues led to the ratification of the Wildlife and Countryside Act in 1981. The Act not only marked a shift from the science-driven, monitoring focus of the Nature Conservancy to an approach more focussed on management, but also enabled the UK to establish two key concepts in UK conservation. First, scientific expertise drove the selection and development of the protected areas system. Secondly, Voluntary Management Agreements between landowners and statutory agencies were created (Fairbrass and Jordan, 2001: 510), which allowed for compensation to be paid to landowners and farmers to maintain or actively manage areas for conservation.

The next major step in British biodiversity policy was the adoption of the Birds Directive. The British Government adopted it on the basis that the Directive would “not pose a serious threat to existing British policy and practices” (Fairbrass, 2000: 9); that disagreements between conservationists and other interest groups were minor; and that the Directive would be a “flexible” instrument (Fairbrass, 2000: 10). Based on these misconceptions, the British government approved the Directive and chose to transpose it under the Wildlife and Countryside Act 1981. The Directive was challenged by the agricultural and land-owning communities and led to what some thought of as “a ‘logistical triumph’ for economic interests over environmental ones” (Fairbrass and Jordan, 2001: 510). As such, its implementation was widely criticised and suffered from serious setbacks due to delays in implementing SSSI agreements with landowners (given the opposition of the agricultural policy community), a lack of urgency from the Secretary of State for the Environment and hostility from other government departments (Fairbrass, 2000: 12).

Following on from this state-run approach, voluntary conservation organisations dominated the 1990s and set the environmental agenda to a large extent (Warren, 2002: 183). This influence was noticeable in the fact that the draft Habitats Directive was driven in part by UK conservation groups (Sharp, 1998: 36). The UK government was initially wary of the draft Habitats Directive in 1988. Concerns about the Directive included a potential loss of sovereignty and risks attached to co-financing, i.e. financial provisions for countries rich in biodiversity but economically poor (Fairbrass, 2000: 16). However, according to Sharp (ibid. 38-42), the UK attitude towards the Directive shifted over the next 4 years, until the UK gradually took on a leading position amongst Member States in pushing the Directive forward. The Habitats Directive was finally adopted in 1994, and integrated into UK legislation under the 1994 Conservation (Natural Habitats, &c) Regulations. This, together with other landmarks, are synthesised in Table 2.3.

**Table 2.3. Major landmarks in UK biodiversity policy**

<b>Date</b>	<b>Policy instrument</b>
1949	National Parks and Access to the Countryside Act
1981	Wildlife and Countryside Act
1994	Habitats Regulations
1996	UK Biodiversity Action Plan
2000	Countryside and Rights of Way Act

With the UK's long history of nature conservation, Warren comments that "on joining the EU, the British perception was that 'they had plenty to learn from us'" (Warren, 2002: 29). However, a few decades later, the British clashed with EU ideals and institutions and perceived the EU to be awkward and sceptical (Fairbrass, 2000: 6) and had itself been branded 'the Dirty Man of Europe' (Warren, 2002: 29). Despite these tensions, EU membership has none the less Europeanised British environmental policy (Fairbrass, 2000), with over 80% of its environmental policy driven by the EU (Warren, 2002: 29). In terms of biodiversity policy specifically, implementation of the two main biodiversity directives has been slow and difficult, despite the UK's extensive experience of designing agreements with landowners to encourage biodiversity. In order to determine why such approaches may not be working, it is essential to understand the wider context of participation of the public in decision-making at the international, EU and national policy level, which is the focus of the next section.

---

## 2.3. Public participation and environmental policy-making

### 2.3.1. *Public participation in international policy-making*

The involvement of the public in decision-making through the now traditional method of representative democracy, mainly voting, has existed (at least in rhetoric) for hundreds of years in various European and North American settings (Webler and Renn, 1995: 17). However, these traditional forms of political participation led citizens to feel increasingly frustrated and disconnected from political processes and institutions (Scharpf, 1999: 1), resulting in the conventional approach to representative democracy being challenged and the ‘participation explosion’ in the 1960s (Steelman and Ascher, 1997: 73).

A major international landmark for public participation occurred at the Rio Summit of 1992. Agenda 21 (UNCED, 1992a) was developed there, a central feature of which is public participation, viewed as “one of the fundamental prerequisites for the achievement of sustainable development” (Paragraph 23.2). Although the Rio Summit led to the formalisation of public participation as a non-binding policy goal, specifying in Principle 10 of the Rio declaration (UNCED, 1992b) that “environmental issues are best handled with the participation of all concerned citizens, at the relevant level”, it was not until 1998 that this was translated into a set of implementing measures with the adoption of the ‘UNECE Convention on access to information, public participation in decision-making and access to justice in environmental matters’ (the so-called Aarhus Convention). Public participation is laid out in Articles 6 to 8 of that convention. The Aarhus Convention is unique in that it goes further than simply stressing the need for participation. It sets out public participation requirements, including the timely notification of the public; reasonable timeframes for participation; free access to all information relevant to the decision-making; an obligation on the decision-making body to take due account of the outcome of the public participation; and prompt public notification of the decision (Article 6). The Convention entered into force in 2001. As with most of these conventions, it is at the regional and national levels that its implementation is looked at best.

### 2.3.2. *Public participation in EU policy-making*

Since the White Paper on European Governance in 2001 (European Commission, 2001b), and particularly following the failed ratification of the European Constitution in 2005, the European Commission has developed a number of initiatives to

“reinvigorate European democracy and help the emergence of a European public sphere, where citizens are given the information and the tools to actively participate

---

in the decision-making process and gain ownership of the European project” (European Commission, 2005b: 2-3).

These include the “Action Plan to improve Communicating Europe by the Commission” (SEC(2005)985), the White Paper on a European Communication Strategy (COM(2006)35 final), “Plan D for Democracy, Dialogue and Debate” to stimulate debate on the future of the European Union and the “Citizens for Europe” programme proposal to promote active European citizenship. These attempts at strengthening democracy in the EU rely on the achievement of both managerial and normative outcomes of participation.

Participation also appears strongly in the specific context of EU environmental governance. Indeed, while the emphasis in the First Environmental Programme is one of education and awareness, by the Second Environmental Action Programme, Chapter 5 mentions the need for “projects to promote the participation by the general public in the protection and improvement of the environment” (Council of Ministers, 1983: 42). The lack of information and knowledge is a predominant aspect of the Environmental Programmes, which highlight that “the public is considerably lacking in essential information” (Council of Ministers, 1993: 72). The underlying message was that, provided citizens of the EU had enough knowledge available, then they would take the right actions for the environment. This is very much in line with the ‘information deficit’ model of participation, perceived by some to be inadequate (Owens, 2000: 1144). Maybe because of this, first signs of public participation became more apparent in the Fifth Environmental Programme (Council of Ministers, 1993: 72) and greater still in the Sixth Environmental Action Programme, where one of the strategic approaches to meeting environmental objectives included “the collaboration and partnership with consumer groups and NGOs and a better understanding of and participation in environmental issues amongst European citizens” (Council of Ministers, 2001).

A major further step in public participation occurred when the European Commission ratified the Aarhus Convention in February 2005 (Decision 2005/370/EC). Whereas Directives 2003/4/EC and 2003/35/EC provide for access to information and public participation respectively, the latter only deals with participation in the drawing up of certain plans and programmes relating to the environment, not biodiversity conservation. There is as yet no directive on access to justice in environmental matters. Public participation is also a feature of the Framework for Community Action in the Field of Water Policy (2000/60/EC), or “Water Framework Directive”. The Directive requires an approach to planning which involves stakeholders in the production of integrated River Basin Management Plans. While this approach may improve the quality of the decisions and increase information exchange between stakeholders (van Ast and Boot, 2003), it will be some time before the impacts of

the Water Framework Directive can be properly examined, as the “Programme of Measures” to be determined in each of these plans will not enter into force until 2012.

In addition to international and EU agreements on participation, individual Member States have also in many cases made provisions for public participation at the national level. The case of the UK is explored specifically in the next section.

### *2.3.3 Public participation in UK policy-making*

“Ever since Edmund Burke’s famous speech to the electorate of Bristol in 1774, the British way of politics has been to leave decision-making to the politicians and the policy experts. The role of the public was to periodically pass judgement on their leaders at election time. This passivity has become an entrenched part of the British political culture” (Gaventa, 1998: 11)

Despite this rather pessimistic take on the involvement of the public in decision-making processes, some efforts at the national, regional and local levels in the UK have been made to improve public input into decision-making.

Following the Skeffington report on Public Participation in Planning in 1969 (Ministry of Housing and Local Government, 1969: 5), a combination of political change in the 1980s and 1990s, and the subsequent transformation of local government, combined with the implementation of local Agenda 21, led local authorities to experiment “with a variety of methods for creating new partnerships and involving the public” (Burgess et al., 1998: 1449). New Labour’s Third Way made the integration of deliberation and participation a central element of the party aims (Gaventa 1998: 9). Public participation has been emphasised in both the White Paper on the Environment (1990) and subsequent sustainable development strategies, including the most recent (DEFRA, 2005). The recent move towards the “big society” under the current government is yet another example of the political rhetoric to foster participation. And it is not only in planning and politics that participation has become a mantra.

The House of Lords Select Committee on Science and Technology recommended in their third report “that direct dialogue with the public should move from being an optional add-on to science-based policy-making [...] and should become a normal and integral part of the process” (Select Committee on Science and Technology, 2000). The Royal Commission on Environmental Pollution set deliberation and synthesis as the second step in the policy process, advocating that “better ways need to be developed for articulating people’s values and taking them into account from the earliest stage in what have been hitherto relatively technocratic procedures” (Royal Commission on Environmental Pollution, 1998: 119). It

would appear that at the national level, as with the EU and international levels, public participation is high on the political agenda. How it is put in practice, however, is often less straightforward, as the next section aims to demonstrate.

## 2.4. Natura 2000

### 2.4.1. Creation and implementation of Natura 2000

The overall goal of the Natura 2000 network is to enable natural habitat types and the species' habitats concerned to be maintained or, where appropriate, restored at a Favourable Conservation Status in their natural range in EU Member States. The contribution of each Member State is in direct proportion to the representation within its territory of the natural habitat types and the habitats of species as listed in the annexes of the directive (Article 3 (2)). In addition to selecting sites of special biodiversity interest, Member States are also required to establish a system of strict protection for animals and plants of Community interest listed in Annex IV (Articles 12 and 13). Although the specific approaches adopted to achieve those aims are left to individual Member States in accordance with the subsidiarity principle, Article 4 of Habitats Directive does set out a number of necessary and detailed steps (Sharp, 1998: 41) in the creation of the Natura 2000 network (see Table 2.4).

**Table 2.4. Formal timetable for implementing the Habitats Directive**

Requirement	Article	Legal deadline (EU-15)	Legal deadline (new Member States)
Formal transposition of Directive's provisions	23(1)	10 June 1994	By accession (1 <sup>st</sup> May 2004)
Transmission by Member States to Commission of proposed sites of Community importance (pSCIs)	4(1)	10 June 1995	By accession
Adoption of list of sites of Community importance	4(3)	10 June 1998	Within three years of accession
Designation of adopted SCIs as special areas of conservation (SACs)	4(4)	6 years at most after adoption of SCI	Within nine years of accession

Source: European Commission 2004e: 8-9.

Delays in the implementation of Natura 2000 started with the initial stages of legal transposition and site designation, resulting in a number of conflicts (see Chapter 1) and Member States having legal proceedings brought against them by the Commission. Nature conservation accounts for between a fifth and a quarter of all environmental infringements (European Commission, 2009c: 141). A few examples include Greece (European Court Judgements, 1997b), Germany (European Court Judgements, 1997a), and France (European Court Judgements, 2000). In fact, the process of transposing the Directive into national law and selecting sites has been so problematic that the Netherlands are the only Member State

not to have experienced problems with the Commission regarding the Birds or Habitats Directives (Reid and Woods, 2006: 148). Over 10 years after the approval of the Habitats Directive, certain Member States had still not adequately transposed the Directive into their national legislation. As recently as 2005 for example, the European Court of Justice ruled that the UK (C-6/04) had failed to fully transpose the Habitats Directive, particularly regarding the requirement of assessing development plans for their effects on protected sites.

While transposition in many cases is insufficient, the main problems relate to the 'bad implementation' of the directives: not only does designation of sites remain problematic, but new sites are not given sufficient protection against ongoing activities or new projects (European Commission, 2004c: 15-16). The main infringement proceedings (European Commission, 2004c: 16) refer to:

- the insufficient protection of SCIs, leading Germany to have infringement proceedings made against it having failed to comply with a prior court judgement;
- the insufficient number or area of sites (SPAs), leading to Court rulings against Finland (Case C-240/00) and Italy (Case C-378/01). For the latter, the EC has started infringement procedures. Spain and Ireland have been referred to the Court for failing to designate enough SPAs;
- unsatisfactory selections of sites causing Austria and Greece to be referred to Court;
- non-compliance with the protection scheme for species set out in Article 12 has caused Spain to be referred to Court following the use of non-selective trapping methods potentially dangerous to Iberian lynx.

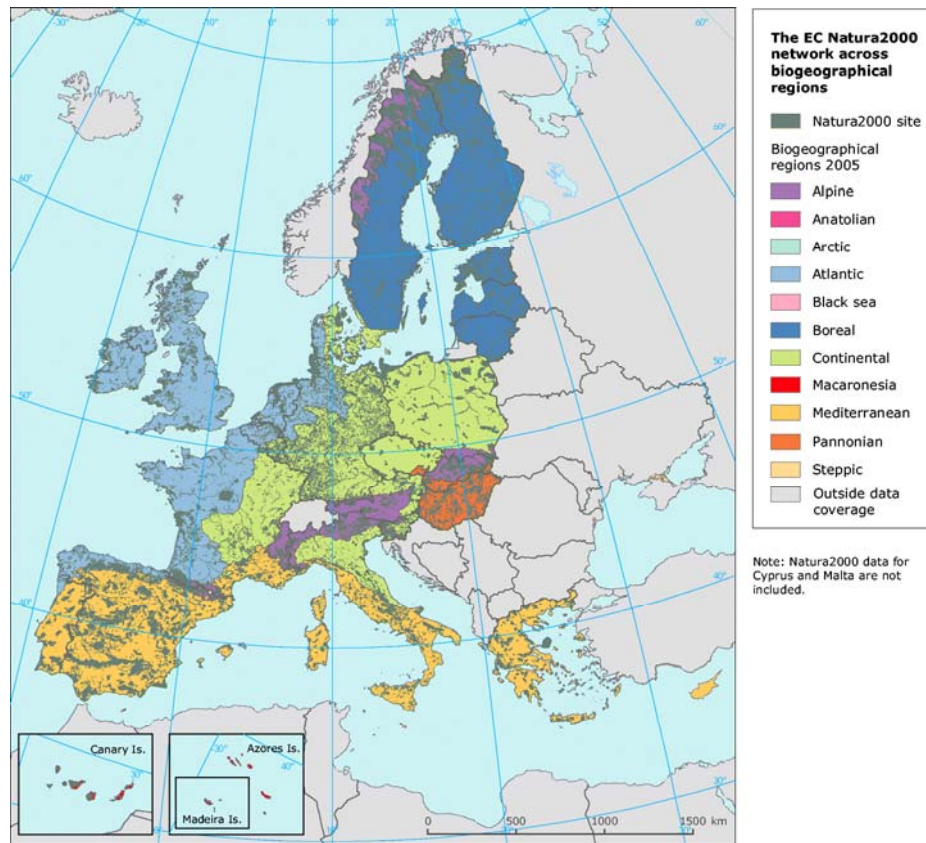
This, in turn, has caused the implementation of the directive in the EU to be delayed (European Commission, 2004a: 16). By 2009, only Belgium, Denmark, Germany, Italy and the Netherlands had a largely complete list of SCIs and SPAs (European Commission, 2009a).

#### *2.4.2. Current status of the Natura 2000 network*

By December 2009, the Natura 2000 network included 5,242 SPAs (covering over 570,000 km<sup>2</sup>) and 22,419 SCIs, or pre-approved SACs (covering over 716,000 km<sup>2</sup>) (European Commission, 2009a). This is equivalent to 17% of the EU's territory and is the largest network of protected areas in the world (European Commission, 2010: 4). At first glance, the extent of the coverage across the biogeographic regions (Figure 2.1) and Sufficiency Index (Figure 2.2) paint a very positive picture of the Natura 2000 network.

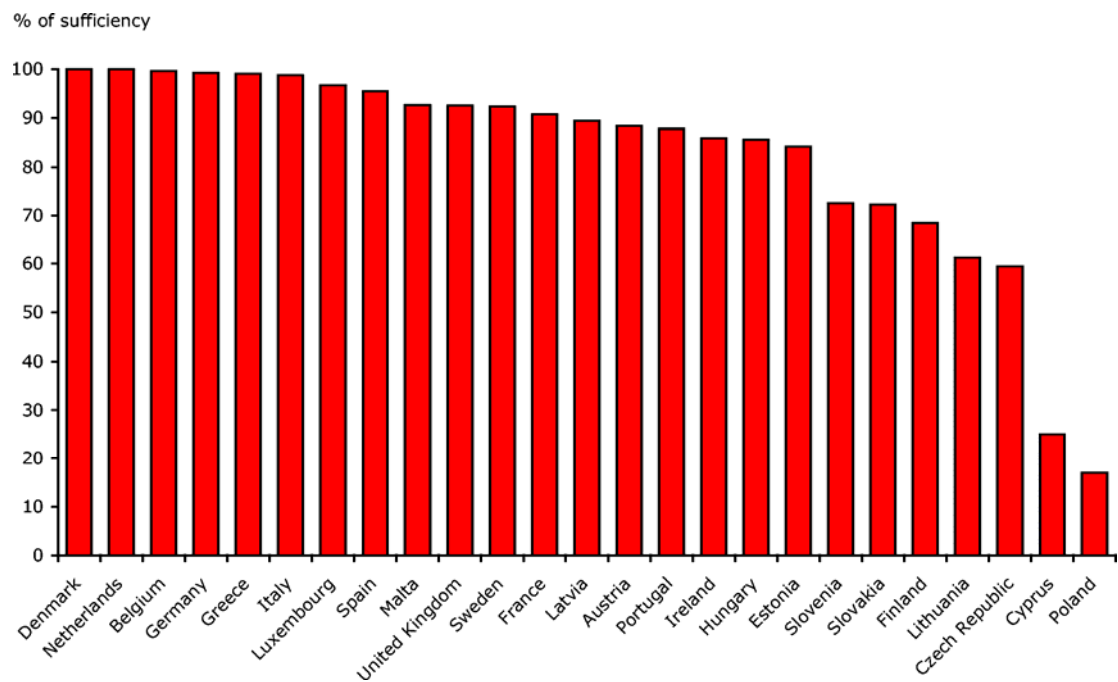


**Figure 2.1. The EU Natura 2000 network of designated areas**



Source: EEA: Natura 2000 database and Biogeographical regions, Europe 2005.

**Figure 2.2. Sufficiency Index** (or degree to which proposed sites are considered sufficient to protect the habitats and species in Habitats Directive Annex I and II)



Source: Designated areas (CSI 008) - March 2007 Assessment (EEA, 2007).

These indicators cannot, however, convey how effective the existing sites are at protecting biodiversity as they do not take into account the condition or management of the sites or of surrounding areas. Because of the delays described above, and the fact that sites are in most Member States only just starting their management phase, evidence is lacking on the effectiveness of the directive despite the requirement for Member States to monitor species and habitat trends under Article 11 of the Habitats Directive. The composite report of 2009 on the conservation status of habitat types and species as required under Article 17 of the Habitats Directive (for the period 2001-2006 across 25 Member States) showed that only 17% had a Favourable Conservation Status, with grasslands, wetlands, estuary and coastal habitats being at greatest risk (European Commission, 2009b:7). A few other studies have been carried out, mainly on the impact of the Birds Directive on bird populations, due to the Birds Directive predating the Habitats Directive, and the fact that birds probably represent the best-known vertebrate taxa (Maiorano et al., 2007: 1440). Bearing in mind that the data quality provided by Member States in the SPA and SAC database is often insufficient to allow for a thorough evaluation, most studies indicate that while some bird species have benefited from protection under the Birds Directive (Romao, 2004: 34; Donald et al., 2007: 812), a high proportion (48%) still have an Unfavourable Conservation Status in the EU-25 (BirdLife International, 2004: 8). The situation is very similar when looking at habitats and species other than birds (Walder et al., 2006: 66-67), in areas such as Crete (Dimitrakopoulos et al., 2004: 205) and Italy (Maiorano et al., 2007: 1440).

Regarding the management of Natura 2000, the legal framework is covered by Article 6 of the Habitats Directive. In terms of the establishment of necessary conservation measures, Article 6 (1) in particular reads as follows:

“For special areas of conservation, Member States shall establish the necessary conservation measures, involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans, and appropriate statutory, administrative or contractual measures [...]”.

So, according to the Directive, Member States must choose one or more of the three obligatory measures (namely statutory, administrative or contractual), and in addition can establish and implement management plans. Following questions raised inter alia by Member States, the Commission issued an “interpretation guide” in 2000, which provided guidelines on the interpretation of certain key concepts in Article 6 (European Commission, 2000). The introduction stresses that responsibility for specific measures adopted by Member States lies with each Member State, provided the measures adopted abide by the general principles of the Directive. In other words, the “interpretation of Article 6” is non-binding, and gives no site-specific guidelines to Member States regarding management of sites. The

---

management plans are, however, considered good practice, and are being adopted by Member States.

In summary, while the area covered by Natura 2000 is impressive, very little data on the sites are available and it would appear from existing studies that the quality of the sites proposed is variable. As such, it is perhaps unsurprising that the biodiversity conservation debate is now increasingly focussing on the effective management and evaluation of existing sites rather than the number and coverage of sites. Effective management is particularly needed in view of the sites being mainly owned or managed by local actors. The next section explores the role of these local actors in the implementation of Natura 2000.

### **2.5. Public participation in Natura 2000**

As mentioned in Chapter 1 and earlier in this chapter, the Habitats Directive itself does not contain provisions for public participation in the establishment or management of Natura 2000 sites. The only mention of public participation in the Habitats Directive is in Article 6(3), which relates to the assessment of plans or projects likely to have a significant impact on given protected sites. Other than in those specific cases, the decision of whether or not to adopt public participation therefore falls to Member States (Unnerstall, 2008: 41). This section explores how Member States have chosen to apply public participation in the implementation of Natura 2000.

The national lists of proposed Sites of Community Interest (pSCI) were based on an exclusively scientific assessment of the relative national importance of priority natural habitats and species listed under Annex I and II of the Habitats Directive and Annex I of the Birds Directive. Although the draft national lists of proposed SCIs were open for consultation in Denmark, Finland, France, the Netherlands, Germany, Portugal, the UK and certain parts of Spain, input into these consultations was often minimal (S. Bruhier-Vanpeene, personal observation). Some countries, such as Belgium, Greece and Sweden held more localised stakeholder events to discuss proposed sites (European Commission, 2004a). The impact of NGOs in this process was, in contrast, very important. As an example, lists of pSCIs were often verified by NGOs through inventories of species and habitats (Christophersen and Weber, 2002), thus facilitating the integration of NGO goals into the EU environmental policy system. NGOs acted very much as intermediaries between policy-makers and the public.

Member States are required to “establish the necessary conservation measures” for designated sites. A “number of important considerations” have been set out by the

Commission to provide guidance on how best to establish these measures (European Commission, 2000: Annex II). These considerations, listed in Annex II of the Article 6 guideline document, include: methodologies for developing management plans; the objectives of management plans; *how to consult landowners and other relevant stakeholders during implementation processes*; and the importance of undertaking adequate monitoring and evaluation studies.

Regarding consultation and implementation in the development of management plans, Annex II simply states that “it is an essential part of the process to establish a management plan needing a multidisciplinary and professional approach” (European Commission, 2000: Annex II). Three main questions follow this statement:

- ‘ - Have you identified all local actors?
- Have you involved them according to a bottom-up approach?
- When do you involve them?’ (European Commission, 2000: Annex II)

These considerations are based on the recommendations of participants at the Galway seminar and the Bath Conference (European Commission, 2000: 54). As such, these are recommendations, leading to “best practice”, and not legally binding. In addition to the above ‘considerations’, a best practice example of how to undertake consultation is given in the Annex: the *documents d’objectifs* (or DOCOB) implemented in France. These DOCOB operate on the premise that consultation with local actors at an early stage can lead to the development of guidance documents and long-term management contracts with local actors. In addition, contracts such as the DOCOB are thought to contribute to the legitimacy of the network, and improve effectiveness by taking local specificities into account (Palos and Bertrand, 2004: 14).

It is important to note again that the emphasis is wholly on Member States, who have flexibility in terms of whether or not they chose to adopt public participation at any stage of Natura 2000 implementation (Unnerstall, 2008: 41). This has resulted in very different implementations in Member States. Most countries (Belgium, Finland, Spain, Portugal, Sweden, Denmark and the Netherlands) have opted for a top-down approach (Aulong, 2002). France and the UK, together with Austria, Belgium, Greece and Ireland have all chosen to delegate the development of management plans to the local level, on a site-by-site basis. Regarding the development of Natura 2000 sites management plans, only France and the UK have opted for contractual agreements between local landowners and country agencies (in the UK) or the state (DOCOB, in France). The next section focuses on the implementation of Natura 2000 in the UK specifically.

## 2.6. Natura 2000 in the UK

### 2.6.1. Implementation of the Habitats Directive in the UK

In its first step towards the implementation of the Natura 2000 network, the UK started preparing the list of cSACs very closely mapped on the existing network of Sites of Special Scientific Interest (SSSI) (JNCC, 2007: 4). As in other Member States, the selection of cSACs was carried out solely on the basis of scientific criteria, following the procedure outlined in Annex III of the Habitats Directive.

Once potential sites had been identified, a consultation process was initiated. Land owners and occupiers as well as NGOs, government departments and local authorities were notified of the location of sites, the reasons for their inclusion in the network and information on the Directive and its implications. The consultation period varied from 6 weeks for terrestrial sites to 12 weeks for marine sites (Salmon, 2001: 21). Results were compiled and assessed by conservation agencies. Changes to potential sites were made according to conservation agency recommendations and resulted in the initial SAC list of 136 sites being submitted to the EC in June 1995. Another consultation took place in 1997. The latest set of sites - Tranche 34 - was submitted in 2006, and the process continues. These stages are summarised in Table 2.5. The current classified SAC and SPA site summary in the UK is presented in Table 2.6.

**Table 2.5. Key dates in the implementation of the Habitats Directive in the UK**

30 <sup>th</sup> October 1994	The Conservation (Natural Habitats, &c.) Regulations 1994 comes into force
24 <sup>th</sup> March 1995	Initial list of possible SACs formally advised to the UK government
31 <sup>st</sup> March 1995	Start of first public consultation
15 <sup>th</sup> June 1995	First set of candidate SACs submitted to EC
1 <sup>st</sup> October 1997	Start of second public consultation
October 1997- 2006	Tranches submitted to the EC
31 March 2006	Tranche 34 submitted to the EC

Source: Adapted from Salmon (2001: 18)

**Table 2.6. Classified SACs and SPAs in the UK (as at 14<sup>th</sup> December 2009)**

	Number of SPAs	SPA area (ha)	Number of SACs	SAC area (ha)
England	78	671,436	230	845,856
England/Scotland	1	43,637	3	112,478
England/Wales	2	37,748	7	95,072
Northern Ireland	16	113,998	52	65,913
Scotland	146	850,364	236	921,225
Wales	17	123,015	85	590,871
United Kingdom	260	1,840,198	613	2,631,415

Source: (JNCC, 2010)

### 2.6.2. Site management in the UK

In the UK, a total of 507 SACs have a “comprehensive management plan” (JNCC, 2007: 2). These management plans, agreed with landowners, can take a number of different forms including:

- management schemes such as “Wildlife Enhancement” schemes in England and the “Natural Care” schemes in Scotland that promote positive site management through agreements with landowners;
- agri-environment and forestry schemes that support farmers and foresters to carry out biodiversity-friendly measures;
- LIFE-Nature funded management schemes.

These management plans can be prepared and implemented by a number of organisations, including the country agencies (Natural England, Scottish Natural Heritage, Countryside Council for Wales, and DoENI), governmental departments such as the Ministry of Defence and the Forestry Commission, NGOs (in conjunction with country agencies) owning or managing land designated under the Natura 2000 network such as the Royal Society for the Protection of Birds (RSPB), Wildlife Trusts and the National Trust (NT), and local authorities (Salmon, 2001: 25).

Management plans on terrestrial sites have, for the most part, built on existing management plans from previous site designations. This has meant that work on management plans in the UK is at a relatively advanced stage compared to other Member States (European Commission, 2004a). Determining the extent and effectiveness of local actor participation in the development and implementation of management plans is, however, currently unknown. Indeed, no studies have yet been undertaken on this aspect of Natura 2000 implementation, a knowledge gap this thesis aims to address.

---

## 2.7. Conclusion

The European Union's policies on biodiversity and participation make two points clear:

- a) Member States are committed to halt the loss of biodiversity by 2010 and beyond; and
- b) as a signatory to the Aarhus Convention, the European Union is required to involve the public in environmental decision-making.

Natura 2000 should be the foremost instrument uniting these two policy strains. Indeed, Natura 2000 represents a biodiversity policy that attempts to incorporate the scientific objective of biodiversity conservation with economic, social and cultural and regional requirements. More than this, the network needs the participation of local people in managing it for the purposes of biodiversity conservation. Despite the predisposition of the network to incorporate biodiversity and participation, a closer look at Natura 2000 in this chapter makes it quite obvious that the merging of the two strands is a difficult process (Aulong, 2002).

Considering the ambiguous nature of public participation in Natura 2000, it is difficult at present to understand the reasons behind the considerations on participation in the interpretation document to Article 6 and establish whether they are in place to satisfy international agreements and gain acceptance for the directives; and whether there is in fact any scientific basis for participation in the management of natural resources, i.e. a possible link between levels of participation and increased levels of biodiversity. These matters are particularly important to consider at this stage, as most Member States are starting the process of site management and choosing the level and type of involvement to adopt. So, while one could expect the management phase to be more participatory than the site designation phase, the Commission guidelines for the participation of local actors remain vague and non-committal, stating that the practical implementation lies with Member States. In addition, the justification of local actor participation in the management of sites is likely to become increasingly necessary because of the current difficulties in funding the network (see Chapter 1). The limited funds available for site management could mean participation, a costly practice in time and effort, being re-evaluated.

In this light it is essential to examine the current thinking on participation, particularly in terms of evaluating the process and outcomes of participation. The following chapter will therefore aim to build on the present chapter, mainly focussed on the policy dimension of public participation, and explore the academic theories of public participation in natural resource decision-making and management, as well as the means of evaluating participation in environmental decision-making.

## **Chapter 3: Public participation and its evaluation in natural resource management: theories and practices**

### **3.1. Introduction**

Public participation is now firmly established in both the theory and the practice of environmental governance. It is widely advocated in a range of policy activities including decision-making (Renn, 2006: 34), policy implementation (Eden, 1996: 184), policy evaluation (Fischer, 1995: 222), adaptive co-management (Davos et al., 2002: 210), conflict resolution (Manring, 1998: 275), and human development (Chambers, 1994: 1437). It particularly gained ground in the environmental sector since the Brundtland report and Agenda 21. As a result, public participation is now seen to represent “one of *the* fundamental prerequisites for the achievement of sustainable development” (UNCED, 1992a: paragraph 23.2).

However, although participation features strongly in the rhetoric of environmental policy, rigorous attempts to test empirically the claim that participation reinforces ecological sustainability are surprisingly rare (Lélé, 1991: 616). While the basic and relatively untested assumption is that “greater participation will allow more inclusive inputs into decision-making processes, which in turn will lead to better decisions [and]... lead to better, more informed, forms of representation” (Gaventa, 2004: 9), the reality is that there is very little evidence of whether public views are taken into account in environmental governance and if so, the extent to which public views influence final outcomes (Sewell and Phillips, 1979: 357). “Outcomes” in the context of this study, and in line with the definition in policy analysis, are defined as changes ‘on the ground’ that contribute to the achievement of a particular goal. In the case of biodiversity conservation for example, the goal may be to protect a particular species - in order to achieve this goal, changes ‘on the ground’ might include a management plan containing a number of objectives including, for example, the restoration of a type of meadow the species depends on. These outcomes should not be confused with social outcomes of participation, which will be explored later in the chapter.

In order to justify the resources currently spent on participation and to learn valuable lessons for the future it is necessary to evaluate public participation in the context of natural resource management. However, evaluation of participation is fiendishly difficult, due to the fact that:



---

“the participation concept is complex and value-laden; there are no widely held criteria for judging success and failure; there are no agreed-upon evaluation methods and there are few reliable measurement tools” (Rosener, 1981: 583).

In addition to the above impediments, any evaluation of participation must pay close attention to the context in which it takes place (Burgess and Clark, 2006: 6). Context is defined here as both the local and the broader (i.e. political) setting in which participation takes place. Indeed, this context will determine, for example, what component of the ‘public’ participates, the means by which any participation is carried out, and the expected outcomes of a given participatory process. The scale, both spatial and administrative, of participation is one such contextual factor that has intrigued many researchers, but is rarely included in evaluation frameworks and is only just starting to be empirically evaluated (Rockloff and Moore, 2006: 650). In addition to these contextual factors, participation processes are also influenced by the broader political context in which they are embedded. Indeed, different models of democracy will assign different goals to participation, be they normative or more pragmatic, and apply participation through different means.

The aim of this chapter is therefore to place a) the political commitments to public participation in natural resource management, and b) the empirical approaches to its evaluation, in a theoretical context. This will enable the development of a theoretical framework that can be applied in the evaluation of participation in the specific context of multi-scalar protected area management of biodiversity. To address these aims, the rest of this chapter comprises four sections. Section 3.2 focuses on defining public participation as a distinct form of public engagement. Section 3.3 puts core notions of public participation into the broader political context by setting out the goals and means of participation in three different models of democracy. Section 3.4 focuses on the evaluation of participation in the context of natural resource management. Finally, Section 3.5 outlines the final set of criteria for the evaluation of participation in the specific context of the implementation of Natura 2000, adding scale as a key contextual factor.

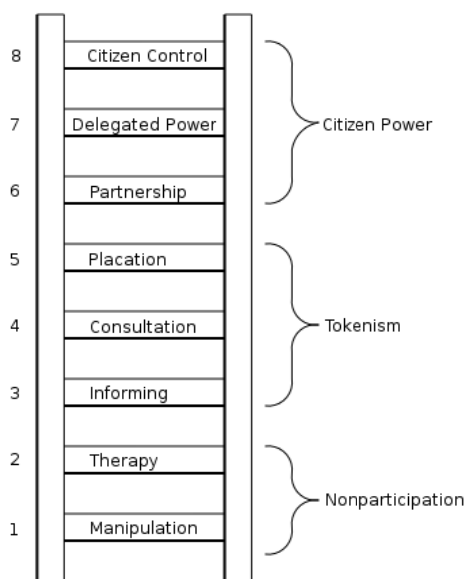
### **3.2. General theories of public participation**

It may seem contradictory that despite the calls for increased participation in most environmental policy spheres, there is still a lack of clarity over what participation actually means (Chilvers, 2009: 401) and what it is supposed to accomplish (Beierle, 1998: 2). Indeed, to this day, public participation is still “intuitively simple, yet remains poorly defined” (Richards et al., 2004: 5). The aim of this section is to present public participation as a distinct form of public engagement.

### 3.2.1. The Arnstein model of public engagement

Perhaps the best-known typology aiming to frame the potentially very different definitions of public engagement was developed by Sherry Arnstein in 1969. It focuses on the different political power dimensions of engagement. She contrasts the ‘powerful’ (i.e. those with political power) with the ‘have-nots’, highlights the differences between the two, and explains the increasing calls for effective participation from the have-nots. Arnstein’s typology is presented as a ladder of participation (Figure 3.2), where each step relates to “the extent of citizens’ power in determining the end product” (Arnstein, 1969: 217).

**Figure 3.1. A ladder of citizen engagement**



Source: Arnstein, 1969: 217

The ladder has eight rungs, starting with manipulation and therapy. Arnstein describes these as forms of non-participation where, in essence, people are told what to do. Arnstein brands the next steps (informing, consulting and placation) as tokenism, where although peoples’ voices might be heard by the powerful, the translation of those messages into decision-making is missing. Finally the last steps of the ladder, namely partnership, delegated power and citizen control, all equate to degrees of citizen power, where citizen have not only a voice, but the power to influence and make shared decisions.

Arnstein herself has pointed out a number of limitations to the ladder, including: the misleading assumption that the powerful and powerless are homogenous blocks; the use of eight simple rungs; and the absence of barriers to citizen involvement. Other criticisms voiced against the Arnstein ladder include the fallacy that the distance between rungs is

equal (Burns et al. 1994, in Smith and Beazley, 2000: 859) and the assumption that societal progress from manipulation to citizen control needs to be linear (Martin, 1999: 3). The typology has also been accused of not considering the outcomes of participation (Tritter and McCallum, 2006: 158), treating mainly the procedural aspects of participation; and of failing to incorporate the context in which participation is taking place (Burns et al. 1994 in Smith and Beazley, 2000: 859).

Despite these shortcomings, Arnstein's ladder remains a "key document that continues to shape the theoretical framework for user involvement" (Tritter and McCallum, 2006: 156). Indeed, the Arnstein ladder has been instrumental in paving the way for other social scientists to study public involvement, and to determine some key notions that set participation apart from other forms of public engagement.

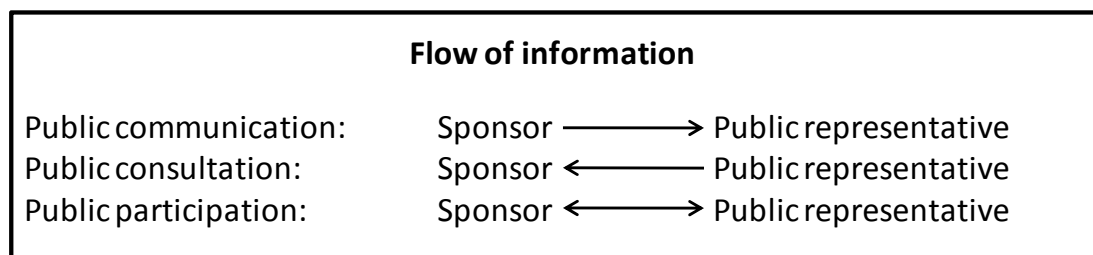
### 3.2.2. Public participation as a distinct form of public engagement

In its broadest sense, participation is defined as:

"the practice of involving members of the public in the agenda-setting, decision-making, and policy-forming activities of organisations/institutions responsible for policy development" (Rowe and Frewer, 2005: 253).

The vagueness of 'involvement' in this definition immediately highlights some of the difficulties inherent in such a broad description. As such, Rowe and Frewer (2005: 254) refine their definition by basing public engagement mechanisms on the *flow of information* between the public and what they refer to as the 'sponsors' of participatory initiatives (see Figure 3.2).

**Figure 3.2. Three types of public engagement**



Source: Rowe and Frewer, 2005: 255

Public engagement initiatives that only consult *or* inform, i.e. only promote one-way information flow, such as focus groups or consultations (where public opinion is sought) or public education exercises (where information is communicated to the public) are not

considered to be genuinely “participatory”, and would correspond to the notion of ‘tokenism’ on the Arnstein ladder. Initiatives that are considered participatory under this definition of information flow are restricted to those that encourage a two-way flow of information.

This approach to categorising public engagement in decision-making is echoed in Owens’ (2000: 1141) interpretation of public engagement, where she differentiates between the information ‘deficit’ model of public understanding and action (where the public is given information with the hope they will act on it) identified by Burgess et al. (1998: 1447) and the ‘civic’ model of “democratic engagement”, akin to two-way information flow, or public participation. This latter concept requires the active participation of the public, which is a central element in Wilcox’s definition of participation as “a process during which individuals, groups and organisations [...] have the opportunity to become actively involved in a project or programme of activity” (Wilcox, 2003: 50). As such, the public is not only heard, but has some influence over decision-making (Davies, 2002: 80).

In summary, there are many motives for public engagement, spanning from manipulation and therapy to public participation. These different motives for public engagement are closely linked to the role of public engagement in policy processes, which are themselves embedded in different models of democracy. This is the subject of the next section.

### **3.3. Public engagement in three models of democracy**

Public engagement in environmental policy-making is often viewed as an integral part of democracy (Pimbert and Wakeford, 2001: 23). However, despite earlier claims that “democracy was seen as a homogenous good, and any amount of any type of participation gave you more of it” (Laird, 1993: 342), democracy is not homogenous and not all participation is necessarily more democratic. In this section, three different models of democracy (representative, deliberative and direct) are presented, including their motives and means of public engagement.

#### *3.3.1. The representative democracy model*

The representative democratic model is one in which individual preferences are combined, and seek to influence the choice of representative or the decision-making of an elected representative or administration. As such, representative democracy is known as the ‘aggregative model’, whereby citizen preferences and interests are aggregated to reflect the majority view (Farrelly, 2004: Chapter 7, pp 5) before being translated into public policy. The small elite which represents the elected governments are in essence entrusted with

pursuing the common good by ensuring “the equal protection of interests at the individual level” (Teorell, 2006: 792). In this model of democracy, elected representatives are held accountable for their decisions through the voting process.

Public participation in representative democracy, therefore, does not determine the policy outcomes, but rather corresponds to the “conception of participation as influencing attempts” (Teorell, 2006: 789) to affect the choice of representatives or the choices made by representatives. Public opinion is seen as an essential component of representative democracy, as the needs and preferences of the public will contribute to the choice of government and the direction in which that elected government progresses. In terms of the wider involvement of the public, however, this is often restricted to the use of surveys used to collect citizen opinions and preferences on particular issues (Beierle, 1998: 2). Beyond seeking public opinion, participation is therefore often limited to including organised interest groups of professionals from industry, unions and non-governmental organisations (Primmer and Kyllonen, 2006: 840). Experts are often deemed to be the principal protagonists in complex and value-laden issues (Eden, 1996: 187), where citizens are perceived as not having the knowledge required, the understanding of complexities or the necessary judgement to make appropriate decisions (Goodwin, 1998a: 13). The direct participation of the wider public is not seen as desirable in this particular model of democracy, as it can lead to conflicts over “who speaks for whom, and with what authority, and about the appropriate relationship between the ‘governors’ and the ‘governed’” (Gaventa, 2004: 9), thereby leading “many institutions and decision-makers to perceive citizen participation as inefficient, partisan and destabilising to the democratic process” (Ravetz, 1999: 331).

Public engagement in a representative democracy model is therefore used mainly in a pragmatic instrumental capacity, used to achieve particular ends, such as legitimising certain decisions, increasing trust in institutions, and resolving conflicts over decisions (Chilvers, 2009: 402). This particular perspective on public engagement corresponds more to one-way information flow, or the information ‘deficit’ model of public engagement described by Owens (2000: 1141). As such ‘participation’ in this model represents a passive process of awareness raising and education corresponding to tokenism on Arnstein’s ladder (Arnstein, 1969: 217), rather than citizen power characterised by active participation in decision-making and implementation (Burgess et al., 1998: 1447).

### *3.3.2. The deliberative democracy model*

Opponents of the representative model argue that expressing preferences through voting represents too narrow a conception of democratic participation. Instead they argue for a deliberative (or pluralist) model of democracy. The main argument for participation in the

deliberative model is “the legitimacy of the democratic system itself” (Teorell, 2006: 792), alleviating the instability and arbitrariness of preference aggregation in voting (Teorell, 2006: 796). In such a model, the possibilities for discussion are broadened and rely on “the actions of organised voluntary action groups” (Teorell, 2006: 343). Advocates of this model claim that such a perspective can “increase the quality of democratic judgements” (Warren, 1996: 46) and has ‘transformative potential’, as the process of discussing issues with people with often conflicting views can enable people to gain new information and rethink their own positions (Young, 2000: 26). Such deliberative processes can also allow “those with no or a weak voice to exert influence on decision-making outcomes” (Collins and Burgess, 1999: 1-2). As opposed to the individual interest-based approach of the representative model, the deliberative democracy model advocates a “relative common good arising out of the free deliberation and negotiation among organised interested groups” (Beierle, 1998: 2). Professionals have an important role to play in this model, potentially acting as “teachers and interpreters” (Fischer, 2004: 21), enabling citizens to better understand complex issues and make informed political decisions. This model of democracy has gained ground, leading Dryzek (2000: 1) to assert that:

“the essence of democracy itself is now widely taken to be deliberation [...]. The deliberative turn represents a renewed concern with the authenticity of democracy: the degree to which democratic control is substantive rather than symbolic and engaged by competent citizens”

To achieve this ‘deliberative turn’, a number of approaches (broadly defined as Deliberative and Inclusionary Processes (DIPs)) have been developed. These processes range from the more conventional approaches of public hearings and Citizen Advisory Committees (CACs) to fully deliberative methods such as consensus conferences, citizen juries and focus groups. Most participation methods in this model “commonly rely on a small sample of self-selecting participants” (Hailey, 2001: 94) who are interested in particular topics and act on a voluntary basis (Laird, 1993: 343). This has led to criticism that participation in this model is a “minority sport” (Taylor, 2003: 184). Women (Svarstad et al., 2006: 51), children and disadvantaged people can be perceived to be given few opportunities to engage fully in participation processes, or, crucially, see no value in participating. Although defining communities in this uni-dimensional manner may make consensus easier to reach, Kapoor warns that “it is often done by simplifying, imposing or coercing consensus” (2001: 275). In addition, these ‘self-selecting groups’ can have the undesired effect of serving to “reinforce the status and power of existing cliques within a community” (Hailey, 2001: 94). As such, certain sectors of society may feel un-represented by locally elected leaders, who, in turn may feel accountable only to certain sectors of the population (Gaventa, 2004: 13).

In addition to the fact that participation in the deliberative model runs the danger of being unrepresentative, Bollens (2000: 175) argues that “taken to its extreme, an over-reliance on citizen consultation and consensus is contrary to the notion of representative government, wherein elected officials are delegated the tasks of policy-making and implementation by the citizenry”. The very concept of consensus in deliberative democracy models has prompted Farrelly (2004: Chapter 7, pp 23) to argue that:

“if we have to wait till a consensus emerges before decisions can be deemed legitimate then we will never be able to make justified decisions about the pressing policy issues that face us in everyday politics”.

In light of the shortcomings of participation in this model, O’Riordan (1999: 5) claims that participatory approaches, such as DIPs, are processes that “democracy as it is currently practised [i.e. representative democracy] is not ready to embrace wholeheartedly”.

To sum up, participation in deliberative democracy model acts mainly in a substantive capacity, i.e. leading to better ends by adding a variety of different perspectives and improving the quality the science and the decisions (Chilvers, 2009: 402). However, it also has normative aspects, with a strong focus on the process of deliberation and dialogue. Participation is therefore important in the deliberative democracy model in terms of process and in terms of the outcomes that can be expected. This particular model corresponds closely to the “civic” model of public engagement mentioned earlier, i.e. promoting the democratic engagement of the public “in the formation and articulation of values, and in policy formulation and implementation” (Owens, 2000: 1144). As such, deliberative democracy corresponds closely to the “partnership” rung of the Arnstein ladder, in which “power is redistributed through negotiation between citizens and powerholders” (Arnstein, 1969: 221).

### *3.3.3. The direct democracy model*

Advocates of the direct (or participatory) democracy model argue that representative and deliberative democracy gives citizens a very limited say in the detailed substance of political decisions. Participation in the direct model of democracy, however, reflects the notion of popular sovereignty, i.e. the principle that the state is created by and subject to the will of its people, by allowing members of the public to influence directly the decisions that most affect them (Webler and Renn, 1995: 22). As such, participation in the direct democracy model equates to the notion of “citizen control” in Arnstein’s model, whereby citizens have the power to influence and make shared decisions (Arnstein, 1969: 217). As with the deliberative model, participation in this model also has a certain transformative power, by allowing those who participate to become “more public-spirited, knowledgeable, and self-reflective than they would otherwise be” (Fischer, 1995: 210).

While sharing many commonalities with the deliberative model, such as the belief that existing democratic institutions should be improved and supplemented by novel institutions (Papadopoulos and Warin, 2007: 451), a number of differences exist between the deliberative and the direct models. The first is that the former is mainly concerned with groups, arguing that individuals have little or no influence on decisions, while the latter is more concerned with individuals. Also, while the deliberative democratic model requires a democratic setting, the direct democracy model claims to create a democratic society through increased participation. Perhaps the most important difference between the two is that the direct democracy model implies that decisions made by the public directly influence the policy process, while the deliberative model allows for groups to discuss issues and come to decisions, which are not necessarily then taken up. As such, there are far more examples of approaches used in deliberative democracy models than in direct democracy models.

The main instruments of direct democracy, used mainly in countries such as Switzerland, and certain US states, are referenda, initiatives and recalls. Referenda are probably the oldest and most widespread instrument of direct democracy. Referenda are direct votes in which an entire electorate is asked to either accept or reject legislative acts. In Switzerland, for example, referenda are required on all constitutional matters. Forty-one referenda have been carried out on various aspects of European integration since 1972 (Hobolt, 2006: 154). Initiatives are votes in which the electorate is asked to vote for or against legislation initiated or proposed by someone other than the legislature. One example would be a petition brought forward by a sufficient number of citizens, which would then be voted on by the whole electorate. Finally, recalls allow citizen to force a public official out of office, i.e. call for new elections.

This model of democracy has certain limitations. Hobolt (2006: 162) highlights three general controversial aspects of direct participation in referenda. The first is whether citizens have the knowledge required to vote on complex issues, the second is the degree to which élites use referenda for strategic manipulation, and the third relates to the threat of direct participation to representative institutions. In addition, direct democracy has been criticised for being costly in terms of time and resources. Having referenda on all proposals and acts takes time to set up and organise. The real costs involved, however, are not always as high as expected. Kendall and Louw (1989: 135), for example, found that the costs of a national initiative combined with a federal counterproposal, estimated by the Swiss Federal chancellery, only equated to about 1 Swiss franc per voter.



To sum up, participation in the direct democracy model acts mainly in a normative capacity, allowing citizens to exercise direct influence on issues that affect them, thereby legitimising the democratic process itself. As such, direct democracy corresponds closely to the “citizen control” rung of the Arnstein ladder, in which citizens have the power to influence and make shared decisions (Arnstein, 1969: 217). Instruments used in direct democracy include initiatives, referenda and recalls, which have been criticised for being costly, potentially manipulated by political élites, threatening to representative institutions and on issues often too complex for citizens to make informed decisions on.

This section has briefly outlined the positions of the representative, deliberative and direct models of democracy on public engagement, a summary of which is presented in Table 3.1.

**Table 3.1. Characteristics of public engagement in three models of democracy**

<b>Characteristic of participation/democratic model</b>	<b>Representative</b>	<b>Deliberative</b>	<b>Direct</b>
<b>Definition</b>	Gathering citizen opinions	Political discussion	Direct decision-making
<b>Instruments</b>	Votes, surveys, polls	DIPs	Initiatives, referenda, recalls
<b>Level of participation</b>	Electorate	Self-selected interest groups	Individuals
<b>Corresponding rung (Arnstein ladder)</b>	Consultation	Partnership	Citizen control

Table 3.1 suggests that there are three, clearly-defined models. The reality, however, is that the models may in fact be wholly compatible with one another. Indeed, whereas most Western democracy models are representative, and while the participation of all citizens in all matters in a representative democracy model would be “as impossible as it is undesirable” (Fischer, 1995: 224), this does not mean to say that the representative democracy model is incapable of changing, or indeed that active efforts should not be made to change this current model. The bottom line is that “participation and deliberation are pervasive values” (Fischer, 1995: 223). Consequently, direct and deliberative democracy models should not be seen as replacements for representative democracy, but rather that increased participation through deliberative or direct instruments has the potential to “widen the opportunities for direct participation by providing new arenas outside the traditional representative system, mostly in small-scale settings” (Teorell, 2006: 790). In the case of Natura 2000 for example, whereas the Habitats Directive was created through the activities of the European Parliament (i.e. within a representative setting), its implementation on the ground, at more local scales, may need to allow for a more deliberative approach in order to avoid social conflicts and result in expected policy outcomes, i.e. increased biodiversity.

The crucial point that remains, however, is whether or not “is it possible to establish a participatory community capable of engendering a political conversation between the ruler and the ruled” (Fischer, 1995: 224) within the current representative model. To determine whether this is achievable, it is necessary to evaluate current ‘participatory’ exercises.

### **3.4. The evaluation of public participation**

The selection of criteria to evaluate participatory processes is lagging behind the current widespread application of ‘public participation’ exercises (Burgess and Clark, 2006: 3). Valid evaluation mechanisms are, however, essential to determine a) whether current public engagement processes are indeed participatory, and/or b) what can be gained from increased participation (i.e. the potential outcomes of participation). These two approaches to evaluation, referred to from now on as process and outcome evaluations, are explored in more detail in this section; together with the criteria used in each of these types of evaluation; including criteria in the context of natural resource management.

#### *3.4.1. Process and/or outcome evaluation*

Much of the existing analysis of public participation focuses on evaluations of participatory processes, in which the success of participation is defined by the “characteristic of the means - rather than the results - used in public participation exercises” (Chess and Purcell, 1999: 2685). This approach stems from the criticism that decision-making is insufficiently democratic in the representative democracy model. As such, many of these evaluations focus on the normative aspects of participation (Beierle and Konisky, 2001: 515). Process evaluations based on normative grounds have the advantage of being generic enough to be applied theoretically to participation in a range of different contexts. A number of criticisms have, however, been voiced against these types of evaluations. The first is the implicit assumption that a good process is more likely to lead to a good outcome than no (or badly undertaken) participation (Rowe and Frewer, 2004: 520). The second criticism attributed to this approach is the fact that process-based criteria cannot be applied in the same way for different participatory methods. For example “reaching consensus” as a procedural criterion may be suitable for citizen’s juries (Petts, 2001: 219), but it might be limiting in the case of public meetings (Chess and Purcell, 1999: 2690). Finally, process criteria may fail to capture all the important contextual factors affecting a participatory process, such as “community conditions, existing relationships among stakeholders, and the institutional capacity of agencies” (Beierle, 1998: 13). These contextual factors, it is argued, can, however, be captured by more outcome-oriented evaluations.

In outcome evaluations, “the results determine whether the participatory means are successful” (Chess and Purcell, 1999: 2685). As such, outcome evaluations are far more closely linked to the substantive and instrumental objectives of the representative democracy model. In many regards, evaluating outcomes is “preferable because these will correspond directly to the desired aims of the exercise” (Rowe and Frewer, 2004: 520), i.e. the aims set by the sponsors or funders of the participatory exercise, for whom the justification of continued financial support for initiatives who fail to provide proof of progress can prove problematic (Mog, 2004: 2155). Evaluating outcomes may also be important as a way of providing feedback to stakeholders who may want evidence that their participation made a difference. In addition to helping particular policy actors determine what is being gained by participation, Beierle (1998: 4-5) argues that evaluation of participation based on outcome criteria can also determine the wider societal benefits, or social outcomes, of participation such as educating and informing the public or increasing trust in institutions.

However, as with process-oriented evaluation, there are a number of complications associated with outcome evaluations, including for example, the difficulty of determining the end point of a participatory exercise. Indeed, many environmental policies may take decades to affect the environment, making it difficult to evaluate the role of participation in developing the policy, and the policy itself (Irvin and Stansbury, 2004: 63). Also, the concept of outcome evaluation highlights the problems of competing definitions of success – while the sponsors may be quite satisfied with the outcomes of a participatory exercise, the public may not (Beierle, 1998: 14). In addition to the above, participation outcomes can be difficult to separate from other external factors “such as simultaneous events (e.g. local elections), the social context in which the activities take place (e.g. the composition of the community and the history of controversy), and/or the nature of the environmental problem” (Chess and Purcell, 1999: 2685).

In view of some of the disadvantages associated with process *or* outcome evaluation approaches, using a mixture of both process *and* outcome evaluation can help alleviate some of the problems of using a single approach. The decision of whether to adopt process and/or outcome approach to evaluation will, however, be dependent ultimately on the context of the study. In the context of participation in the implementation of Natura 2000, the only guidelines on participation (see Chapter 2) relate to procedural aspects (the identification of local actors, their involvement in a bottom-up approach; and the timing of their involvement) (European Commission, 2000: Annex II). However, a twin approach to evaluation in the context of Natura 2000 implementation may be the most appropriate since both the procedural and outcome aspects of participation in this context are currently poorly understood. The outcomes of participation may, in this context, be just as important to

evaluate as procedural aspects, considering that Natura 2000 is the main European instrument in place to halt the loss of biodiversity in Europe. In addition to process evaluation, both the policy outcomes, i.e. the outcome in terms of changes in the target and social outcomes of participation, or the resulting institutional and societal responses to the process, should be an integral part of evaluation. The selection of criteria associated with both these aspects of evaluation is the topic of the rest of this section.

#### *3.4.2. Criteria to evaluate participatory processes*

According to the literature on public participation evaluation, criteria for the evaluation of participation processes are derived from three main sources: from participants themselves; from democratic theory; and from the analyses of cases (Chase et al., 2004: 630). These three different approaches to choosing criteria for the evaluation of participation processes will be explored in turn, before choosing the most relevant set for the purposes of this study.

A number of authors (see, for example, Rosener (1981: 588), Tuler and Webler (1999: 440), McCool and Guthrie (2001: 314) and Moore (1996: 155)) base their evaluation criteria on participant perceptions of what “good” public participation should consist of, or their interpretations of participation success. While this participant-based approach to deriving evaluation criteria can be particularly useful in drawing out contextual concerns (Chase et al., 2004: 631), and help make significant progress on a theory of public participation (Tuler and Webler, 1999: 438), using solely participant-based criteria may fail to take into account the differences in interpretation of effectiveness or success, thereby potentially causing frustration, particularly to the parties funding the participatory exercise (Chess, 2000: 780).

With this in mind, perhaps the most widely applicable criteria to evaluate participatory processes are those derived from theory. The use of theory has been described by some authors as “our key for unlocking the puzzle of public participation”, capable of building upon and integrating practitioner knowledge, highlighting aspects likely to affect participation processes, evaluating intermediary as well as direct outcomes, and matching participation processes to different contexts (Webler and Tuler, 2002: 180). Fiorino (1990: 227), suggests four main criteria for evaluating institutional mechanisms as democratic processes. Laird (1993: 343) also develops criteria on normative grounds by including criteria based on pluralism (or deliberative democratic theory). Following on from this initial work on deliberative democratic process criteria, Webler and his colleagues (Webler, 1995: 38; Webler and Tuler, 2002: 182) developed what is perhaps the most comprehensive attempt to develop an overall evaluation framework (Table 3.2). This describes a procedural-normative model of participation that uses fairness and competence as metacriteria against which to evaluate deliberative participation.

**Table 3.2. Fairness and competence criteria in ideal speech situations**

Fairness		Competence	
Needs	Activities	Needs	Activities
Attend	Agenda and rule making	Access to knowledge	Explicative discourse
Initiate	Moderation and rule enforcement	Best procedures	Theoretical discourse
Debate	Discussion		Practical discourse
Decide			Therapeutic discourse

Source: Adapted from Webler, 1995: 63

The meta-criteria identified by Webler are evaluated against the standards or “rules of discourse” (White, 1989: 55) of the “ideal speech situation”, developed by Habermas in 1973. This occurs when all the participants have an equal opportunity to participate and have the right to assert, defend or question any factual or normative claim. Fairness means that all those affected by certain decisions are represented and that procedures are in place for them to have a say in the way in which discussions are carried out. Competence means that participants are provided with the tools and knowledge required to participate as meaningfully as possible. A number of subsequent evaluation models, for example Petts (2001: 209) and Abelson et al. (2003: 244) have built on the meta-criteria developed by Webler to inform their own criteria. Also based on the fairness and competence model is the set of criteria developed by Rowe and Frewer (Table 3.3).

**Table 3.3. Acceptance and process criteria**

Acceptance criteria	Process criteria
Representativeness (the participants should be representative of the affected public)	Resource accessibility (participants should have resources necessary to fulfil their remit)
Independence (the process should be carried out in an independent, unbiased way)	Task definition (the scope and nature of participation should be clearly defined)
Early involvement (the public should be involved as early as possible)	Structured decision-making (appropriate mechanisms should be in place to structure and display the decision-making process)
Influence (participant input to participation should have a genuine impact on policy)	Cost-effectiveness (the process should be cost effective)
Transparency (The public should be able to see what is happening and how decisions are being made)	

Source: Adapted from Rowe and Frewer, 2000, 12-17

These criteria are derived from the exhaustive review of practical experiences from researchers and practitioners and from normative theories of democracy and communication identified by Fiorino, Laird and Webler. Their more general framework is based on a combination of *acceptance* criteria related to the potential public acceptance of a procedure, and *process* criteria related to the effective construction and implementation of a procedure

(Rowe and Frewer, 2000: 12). In addition to these criteria to measure participatory processes, evaluation must also pay close attention to context (Burgess and Clark, 2006: 4). In order to gain a fuller picture of participation in the specific context of Natura 2000, the following section explores criteria to evaluate the potential outcomes of participation.

#### 3.4.3. *Criteria to evaluate the potential outcomes of participation in natural resource management*

The main potential outcomes of participation in natural resource management are two-fold: the first are substantive and instrumental social outcomes such as improving the quality of decisions and improving relationships between actors, while the second are environmental outcomes, or the measurement of specific, on-the-ground results in terms of environmental quality (Kenney, 1999: 33). These are explored in turn here, before deriving a set of criteria to evaluate them in the context of Natura 2000.

A recurring theme in participation exercises in natural resource management is the instrumental argument that participation should aim to *improve the quality of decisions* (Parkins and Mitchell, 2005: 531). Participation has been shown to add to the technical quality of decisions (Beierle and Konisky, 2001: 518) by adding new or different types of knowledges in the decision-making process (Huntington, 2000: 1273). Decisions can also be improved by including local actor values (Beierle and Konisky, 2001: 520) and interests (Primmer and Kyllonen, 2006: 842) in the decision-making process. In turn, decisions that are agreed upon collectively and acknowledge local concerns and knowledge have a higher chance of being better socially and politically accepted (Harrison and Burgess, 2000: 1116; McCool et al., 2000: 316).

Participation can also help *improve relationship building* between participants, not only between managers and the public, but also between experts and the public (McCool et al., 2000: 320). The process of bringing people together can lead to a deeper understanding of different perspectives and viewpoints thus increasing trust between participants (Parkins and Mitchell, 2005: 535). Decision modelling, for example, was used in the conflict between Hen Harrier (*Circus cyaneus*) conservation and the management of Red Grouse (*Lagopus lagopus scoticus*) for commercial hunting (Redpath et al., 2004: 352). Although consensus on Hen Harrier management was not reached, the participatory exercise did promote dialogue between conservationists and estate managers, and allowed them to understand their different perspectives and values better (ibid: 358). A strong instrumental argument for participation in natural resource management is conflict resolution, with many participatory initiatives stemming from conflict (Griffin, 1999: 509). Studies have shown that participation can help minimise interpersonal conflicts, conflicts over particular interests, and conflicts

---

over more fundamental values (Beierle and Konisky, 2001: 521; Griffin, 1999: 509; Tuler and Webler, 1999: 444).

Participation can also *build capacity*. This can be done through learning, which in analytic-deliberative processes implies an interactive process involving not only learning about the issue at hand, but also the process of communicating with each other (McCool et al., 2000: 317). This is echoed in a number of studies, where learning constitutes an important part of building capacity for managing environmental problems (Beierle and Konisky, 2001: 518). Another aspect of capacity building is the creation of groups or organisations that can carry out future activities in the field of natural resource management. This is particularly important in cases where the environmental problem at hand is either too complex to be resolved by a single agency through traditional regulatory programs (Beierle and Konisky, 2001: 523) or requires a long-term response.

In addition to these social goals, another important measure of success of participation in natural resource management relates to environmental outcomes of public participation. Evaluation of such environmental outcomes typically consists of criteria such as habitat improvement, water quality improvement, extent and level of protection of habitats, changes in land management practices, biodiversity conservation, and soil and water conservation (Conley and Moote, 2003: 376). Only a few empirical studies have focussed on the link between public participation and improved environmental outcomes. From their evaluation of 43 Remedial Action Plan processes, Beierle and Konisky, using a comprehensive list of evaluation criteria specific to the potential outcomes of participation in natural resource management (see Table 3.4), found that although participation had helped improve the quality of decisions and improved the relationships amongst stakeholders, there was no obvious link between participation and improved environmental quality (Beierle and Konisky, 2001: 526). Sultana and Abeyasekara (2008) evaluated the impact of participatory action plan development in community-based management of fisheries and found social cohesion was slightly stronger and that participation had led to a faster uptake of community actions for natural resources management (*ibid*: 207-208). Again, however, no direct links were made between participation and improved environmental conditions. A meta-analysis of 47 case studies by Newig and Fritsch (2009) explored the links between multi-level governance and the ability of participatory decision-making to deliver environmental policy output, compliance and implementation. Again, no direct links emerged, indicating this is an aspect of evaluation generally which remains challenging and requires further work (Burgess and Chilvers, 2006: 724).

**Table 3.4. Criteria for measuring potential outcomes of public participation in natural resource management**

A. Outcomes of interest	B. Criteria measured
Increasing the quality of decisions	1. Were <i>public values</i> incorporated into decision making?
	2. Was the <i>technical quality</i> of decisions improved?
Improving relationships among important players in the decision process	3. Was <i>conflict</i> resolved among stakeholders?
	4. Was <i>trust</i> increased between stakeholders and government?
Building capacity for managing environmental problems	5. Did the public become better <i>educated and informed</i> ?
	6. Were <i>organisations</i> established to implement decisions?
	7. Did the process <i>influence</i> relevant decision-makers?
Leading to real improvements in environmental quality	8. How much of the plan has been <i>implemented</i> ?

Source: Beierle and Konisky (2001: 518)

To summarise, the selection of criteria is lagging when it comes to the evaluation of participation processes and the potential outcomes of increased participation. Most of the work so far has focussed on process criteria, the most comprehensive set of which was developed by Rowe and Frewer (2000: 12-17). Participation outcomes in the context of natural resource management include social outcomes such as improved decision quality, improved relationships, and capacity-building; as well as environmental outcomes. A set of criteria corresponding to these outcome-oriented goals has recently been developed by Beierle and Konisky (2001: 518) and tested in the context of restoring the quality of contaminated natural areas. These two sets of criteria will be further examined in the next section, in which the framework for the evaluation of public participation exercises in the specific context of the implementation of Natura 2000 is presented.

### 3.5. A framework for evaluating public participation in the implementation of Natura 2000

There is widespread support that one crucial means of increasing the long-term success and efficiency of European public policies is further research on the role of participation in the implementation of regulatory policies, especially in the case of contentious policies leading to conflicts, such as the Habitats Directive and the associated Natura 2000 network (Sauer, 2005: 186). There is, however, no evidence to support the hypothesis that local actor views are indeed currently being taken into account in the management of sites, and if so, what sort of influence local actors are having on long-term environmental outcomes. In order to evaluate these two aspects of participation in the management of Natura 2000 sites, and



---

building on the previous sections, this section presents the overall evaluation framework used in this study.

### *3.5.1. Selecting the evaluation criteria*

In order to justify the criteria used in this study of the evaluation of public participation in Natura 2000 implementation, it seems essential as a first step to look at the justification for public participation in the Habitats Directive. Although not explicitly stated in the Habitats Directive itself (see Chapters 1 and 2), the involvement of local actors is discussed briefly in the guidance document issued by the CEC, *eight years* after the adoption of the Habitats Directive. It is important to reflect on the elements that may have prompted the Commission to issue this guidance document. As noted in Chapter 2, the first phase after the adoption of the Habitats Directive was the relatively top-down selection of proposed Sites of Community Interest (pSCI) in all Member States which provoked widespread conflicts between land users and the authorities across Europe, most notably in Finland and Germany, and a subsequent delay in the implementation of Natura 2000. In addition, the guidance document was published two years after the adoption of the Aarhus Convention that lays down a number of public participation requirements. As such, the vague mention of stakeholder involvement in the guidance document has a number of possible justifications including procedural aspects such as increasing legitimisation and democratisation (which also tie in to the recent EU White papers on governance and subsequent efforts to further democratise the EU), as well as more pragmatic, or outcome-related arguments such as the minimisation of conflicts. The difficulty in capturing the justifications for public participation in the Habitats Directive is not unusual in this sense: Chapter 2 repeatedly showed the complex relationship between public participation and environmental policy. Because of the range of different possible aims of public participation in the context of Natura 2000 implementation, it is essential to not only evaluate public participation according to the three, rather vague, procedural aspects presented in the guidance document, but also to explore other potential process and outcome criteria that might be highly relevant to the different potential aims of participation in this context.

As discussed in Section 3.4, perhaps the most comprehensive set of procedural criteria identified in the existing literature is that developed by Rowe and Frewer (2000: 12-17) (see Table 3.3). These criteria have the advantage of combining both theory-based criteria and more general criteria, allowing it to be adapted to a wide range of contexts, including the implementation of Natura 2000. As such, in addition, the set of criteria developed by Rowe and Frewer also includes a few contextual variables such as cost-effectiveness and early involvement, which can potentially impact on many of the generic criteria. Finally, this set of criteria also allows for more flexibility as to when the evaluation takes place, being part of a

growing group of evaluation approaches that can be applied *ex post*, as opposed to most process evaluations that usually rely on *ex ante* assessments (Burgess and Clark, 2006:4- 5). Based on these characteristics, this comprehensive set of criteria will be adopted in the context of this study, on the basis that it perhaps less prone to differences in interpretation of effectiveness or success than participant-based criteria, more general than the models derived from democratic theory, yet capable of allowing for comparability and development of theory. In addition, four of the criteria identified by Rowe and Frewer are explicitly mentioned in the guidance document on interpreting Article 6 of the Habitats Directive. Going back to this document, Annex II states that “it is an essential part of the process to establish a management plan needing a multidisciplinary and professional approach” (European Commission, 2000: Annex II) and follows this statement with three questions:

- ‘- Have you identified all local actors?
- Have you involved them according to a bottom-up approach?
- When do you involve them?’ (European Commission, 2000: Annex II)

The first aspect relates, broadly, to Rowe and Frewer’s ‘representativeness’ criterion, although the latter is perhaps more specific, making it clear that participation may not need the identification of all local actors, but rather that participants be representative of the affected population. The second aspect – the bottom-up approach - is even broader, and cannot be captured by a single criterion. As such, in order to capture fully the essence of a ‘bottom-up approach’, the best option is to use a combination of Rowe and Frewer’s ‘transparency’, ‘independence’ and ‘influence’ criteria. The ‘influence’ criterion is slightly adapted in our framework, in order to make it more relevant to participation in this context. Finally, the last aspect of ‘when do you involve them’ can best be captured by the ‘early involvement’ criterion. In addition to these five criteria, it may be relevant in the context of Natura 2000 implementation to add the procedural criterion of ‘cost-effectiveness’. Indeed, experience with the DOCOB in France has shown that the availability of adequate financing may limit participation, where the main funding for the development of DOCOB fell by 40% in 2003, leaving less than was needed to complete the DOCOB.

In addition to these procedural aspects, criteria relating to possible policy outcomes, as well as social outcomes, may be more relevant to some of the justifications for public participation in the context of Natura 2000 implementation, namely the improvement of environmental quality and the minimisation of conflicts. To address these possible outcomes, and potentially to understand better the links between process and outcome, an area which is acknowledged as requiring more research (Chess and Purcell, 1999: 2690-2691), the set of criteria developed by Beierle and Konisky (2001: 518) (see Table 3.4) provides a good starting point for the evaluation of participation in natural resource management. Their

evaluation measures focus on improving the quality of decisions, improving relationships between stakeholders, building capacity and improving environmental outcomes. The only criterion that needs to be adapted in the specific context of the implementation of Natura 2000 is their eighth criterion, namely “How much of the plan has been implemented?”. In the case of Natura 2000 implementation, the criterion to evaluate this measure of success would be the ability of a SAC management plan to contribute to the objective of the Habitats Directive and associated Natura 2000 network, namely to maintain or restore habitats and species at a Favourable Conservation Status. The criterion therefore should be adapted to read “How successful was the plan in ensuring the long-term conservation of the target species/habitats?”. Putting all these changes together, the evaluation framework used in this study is presented in Table 3.5.

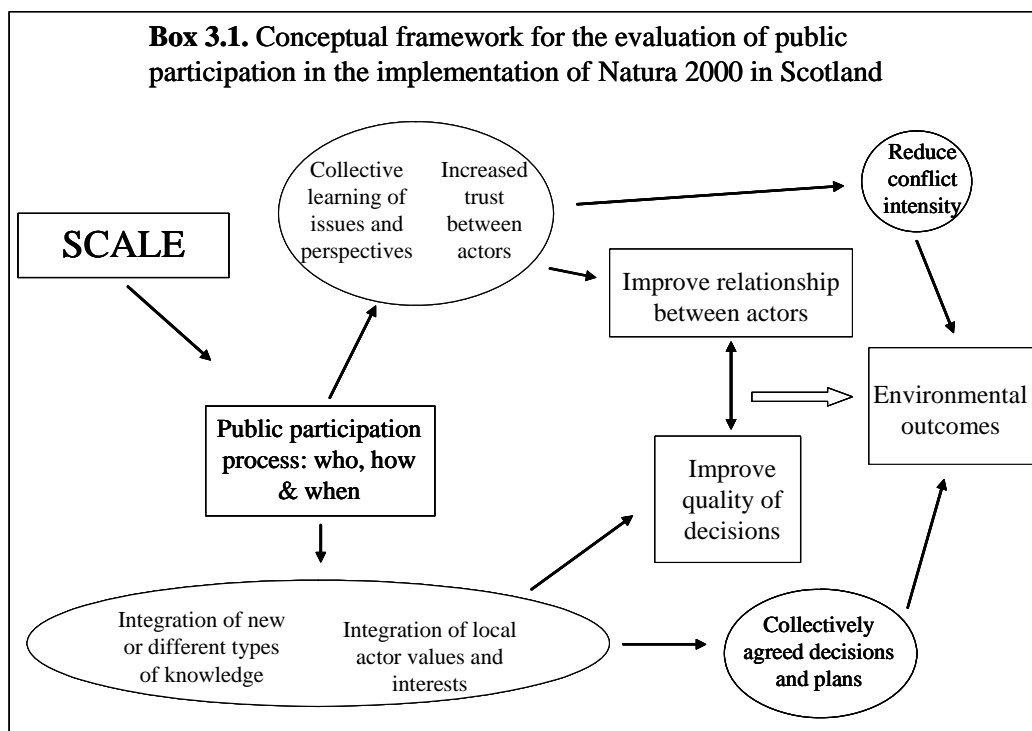
**Table 3.5. A framework for evaluating public participation in the implementation of Natura 2000 sites**

Evaluation focus	Criteria measured
<i>Procedural evaluation</i>	
Representativeness	1. Were the participants <i>representative</i> of the affected public?
Independence	2. Was the process carried out in an <i>independent, unbiased way</i> ?
Transparency	3. Was the public able to <i>see</i> what was happening and how decisions were being made?
Influence	4. Did participant input have a genuine <i>impact</i> on the management plan?
Early involvement	5. Was the public involved as <i>early</i> as possible?
Cost-effectiveness	6. Was the process <i>cost-effective</i> ?
<i>Outcome evaluation</i>	
Decision quality	7. Were <i>public values</i> incorporated into decision making?
	8. Was the <i>technical quality</i> of decisions improved?
Relationships	9. Was <i>conflict</i> resolved among stakeholders?
	10. Was <i>trust</i> increased between stakeholders and SNH?
Capacity-building	11. Did the public become better <i>educated and informed</i> ?
	12. Were <i>organisations</i> established to implement decisions?
Environmental outcomes	13. How <i>successful</i> was the plan in ensuring the long-term conservation of the target species/habitats?

Source: Adapted from Rowe and Frewer, 2000 (12-17) and Beierle and Konisky, 2001 (518).

### 3.5.2. Adapting the evaluation framework to include a contextual factor

Existing literature suggests that one contextual factor that could influence participation in the context of natural resource management is spatial scale (see Chapter 1). While initial research suggests that scale can impact on certain procedural aspects, such as representativeness (Richards et al., 2004: 17), whether scale impacts on other procedural or outcome-related aspects is still poorly understood. In addition, while in most of the sustainability literature “smaller and local have been advocated as ‘better’” (Rockloff and Moore, 2006: 667), there is a real need to evaluate this critically in terms of environmental management in multi-scalar systems such as the EU. Finally, different scales may impact on the different framings of public participation in the context of Natura 2000 implementation. For example, public participation at the national scale may be driven by normative values or legitimacy, whereas more local public participation may be more driven by the practical aspects of improving the quality of decisions. Again, these differences may impact heavily on the evaluation of participation, hence the need to capture both procedural and outcome aspects within the evaluation. In order to evaluate the impact of scale on participation in the context of the implementation of Natura 2000, participation processes and outcomes will be evaluated at three different spatial scales, i.e. in a single Special Area of Conservation (SAC) (referred to as the micro-scale); in a local catchment situation (the meso-scale); and in a regional multiple-site situation (the macro-scale). The conceptual framework, including the potential impact of scale, is shown in Box 3.1.



In summary, the evaluation of public participation in the specific context of the implementation of the Natura 2000 network will include the evaluation of both process and outcomes. The criteria used in this study are adapted in this context from generic theory-based criteria developed by Rowe and Frewer and outcome criteria specific to the context of natural resource management developed by Beierle and Konisky. In addition to the twin approach used in this evaluation framework, the possible impacts of scale on process and, in turn, on the outcomes of participation will be evaluated.

### **3.6. Conclusion**

This chapter has highlighted some of the complexities inherent in the evaluation of public participation in environmental policy-making. For a start, public participation means different things to different people. So, while public participation in theory implies a two-way flow of information in which the deliberation and active participation of the public is encouraged, other forms of public engagement potentially exist with motives ranging from manipulation, therapy, consultation or communication. The different motives behind public engagement are closely linked to the role of public engagement in the policy processes which are themselves embedded in different models of democracy. Although the notions of public engagement in these three models may at first sight seem incompatible, a key conclusion to draw is that deliberative and direct participation instruments may have the potential to widen the opportunities for participation by providing new arenas outside the traditional representative system.

Establishing whether it is actually possible to engender such opportunities for participation is the aim of many evaluations of 'participatory' processes. In addition to evaluating participatory processes, evaluations can also focus on the outcomes of participation. The choice of criteria for such evaluations, however, is complicated by the necessity to consider context. In the evaluation of participation in the implementation of Natura 2000, criteria include theory-based process criteria as well as outcomes criteria based on the potential outcomes of increased participation in natural resource management. To conclude, this chapter has, through the identification and exploration of relevant areas of theory, explored the complexities of, and current approaches to, the evaluation of participation in natural resource management. This has led to the development of a theoretical framework for evaluating the role of participation in the implementation of Natura 2000, and the selection of related process and outcome criteria derived from Rowe and Frewer and Beierle and Konisky. The following chapter takes this framework forward by presenting the research strategy for the thesis, detailing the ways in which the criteria identified in this chapter are measured, the use of scale in case selection, and the methods used to collect and analyse the empirical data from these case studies (Yin, 2002: 29).

## Chapter 4. Methodology

### 4.1. Introduction

Despite the continuing calls for public participation in different policy arenas, Chapters 1 and 3 highlighted the limited evidence that local actor involvement benefits policy implementation substantively in terms of delivering policy and environmental outcomes. Taking the example of the implementation of Natura 2000, the main aim of this study is to evaluate the processes and outcomes of public participation at three different spatial scales. The theoretical step towards achieving this aim was addressed in Chapter 3, which identified a number of criteria that needed to be evaluated to achieve a comprehensive overview of public participation in the specific context of the implementation of Natura 2000.

The purpose of this chapter is to outline the methodological steps required to evaluate those criteria. In order to achieve this aim, Section 4.2 focuses on establishing the epistemological and ontological position of this study. The section starts with a brief overview of the importance of epistemology and ontology in the social sciences, before discussing the ontology, epistemology and methodology used in each of the main research paradigms (namely positivism, interpretivism and realism), concluding with a justification for grounding this study in critical realism. Section 4.3 starts with a broad description of the main research methods available within the critical realist position, before establishing the case study as the preferred research design. The selection of case studies using scale as the main parameter is described later in this section, before finishing with a description of the three cases selected for the purposes of this study. The ways in which the criteria identified in the theoretical framework are evaluated in each case study is the focus of Section 4.4. Finally, Section 4.5 outlines the methods used to collect and analyse the empirical data.

### 4.2. Epistemological and ontological position

As Colin Hay (2002: 63) argues, “ontology relates to the nature of the social and political world, epistemology to what we can know about it and methodology to how we might go about acquiring that knowledge”. As such, ontology and epistemology have important methodological implications, which, although not deterministic, will ultimately influence how we go about knowing the objects we are interested in studying. As such, these considerations need to be addressed as a first step in developing any methodology.

---

*4.2.1. Brief overview of the main research paradigms in social science*

Although a range of classifications exists to describe the different approaches to ontology and epistemology in social sciences, perhaps the most common classification is the separation of positions into positivism, interpretivism and realism. Each of these will be explored in turn in this section, including a description of their main paradigms, the types of methodologies most associated with each approach and criticisms voiced against them.

### Positivism

Positivism is based on a foundationalist ontology, whereby the world is seen as having a “real” existence, independent of our knowledge of it (Marsh and Furlong, 1995: 22). For positivists, this reality can and should “be studied according to the same principles, procedures, and ethos as the natural sciences” (Bryman, 2004: 11) and should lead to the establishment of causal relationships between social phenomena. Knowledge, or truth, in positivism is determined only by phenomena confirmed by the senses (Bryman, 2004: 11). Theories can then lead to hypotheses that are tested in order to falsify them (Marsh and Furlong, 1995: 23). Positivists argue that observation can, therefore, be used as an independent test of the validity of a theory and can uncover even deep structures (Marsh and Furlong, 1995: 22). In addition, observations in the positivist traditions are carried out objectively, with researchers playing the role of the “disinterested scientist” (Guba and Lincoln, 2005: 193). Objectivism, and hence value-free science, is therefore possible in the positivist approach because they argue that empirical, or “positive” questions (questions about what is) can be separated from normative questions (questions about what should be). Based on this foundationalist ontology, positivism is more often associated with quantitative research (Punch, 2005: 28), relying mainly on ‘hard’ data and making use of experimental, quasi-experimental, survey and rigorously defined methodologies (Denzin and Lincoln, 2005: 24).

A number of criticisms have been levelled at positivism, including the argument voiced by Quine (1961) that any knowledge derived from the senses is necessarily mediated by the theories used to analyse that knowledge, and hence requires some level of interpretation or subjectivity (Marsh and Furlong, 1995: 23). Quine goes on to argue against the positivist view that observation alone can serve to falsify a theory by contending that theory impacts both on what we study and the interpretation of the study object, thereby potentially affecting the conclusions drawn, i.e. if the facts don’t appear to fit with the theory, it may be the facts that are wrong rather than the theory (Marsh and Furlong, 1995: 23-24). Finally, positivism has been criticised by those who maintain that social structures are so different from the natural world that they cannot be studied in the same way.

---

## Interpretivism

In direct contrast to positivism, interpretivism is anti-foundationalist, rejecting the claim that the world exists independently of our knowledge of it. Instead, interpretivists view social phenomena and their meaning as being continually and actively accomplished or constructed by social actors (Bryman, 2004: 17). This implies that different actors hold different realities and that these can change over time. This paradigm therefore assumes a relativist ontology that acknowledges that there are no absolute criteria for judging reality. Instead, interpretivists follow the hermeneutic position whereby, in order to understand fully reality, it should be interpreted from the point of view of those within that reality. As such, interpretivists argue that understanding is inherently part of human nature and should therefore incorporate aspects that impact on our understanding as humans, including traditions, prejudices and biases (Schwandt, 2000: 195). Interpretivists thereby reject the objectivity of the positivist tradition, assuming a subjective epistemology, where realities and understandings are co-created by knower and respondent (Denzin and Lincoln, 2005: 24). In this regard, researchers act as “passionate participants” or facilitators of multi-voice reconstruction (Guba and Lincoln, 2005: 196), who “always presents a specific version of social reality, rather than one that can be regarded as specific” (Bryman, 2004: 17). To achieve this, interpretivists tend to favour the use of qualitative methods such as focus groups and interviews.

The gulf between positivism and interpretivism is so significant that it is hardly surprising that the main criticisms against interpretivism stem from positivists, who claim that interpretist research merely produces opinions or subjective judgements, rather than a basis on which to judge the validity of knowledge claims (Marsh and Furlong, 1995: 27). Although many interpretivists have argued that generalisation is possible, to some extent, within this tradition, the gulf between positivism and interpretivism makes it difficult for interpretivists to answer the criticisms made by positivists.

## Realism

Realism adopts a number of positivist tenets. For example, the foundationalist ontology of positivism is also found in realism, which argues that the world exists independently of our knowledge of it. In addition, realists also believe that it is possible to make causal statements on relationships between social phenomena and that natural and social sciences can and should share the same approaches to data collection and analysis. However, realism and positivism differ greatly in terms of their epistemological positions, with critical realists contesting the notion that all phenomena are observable. Indeed, critical realists believe that



deep structures exist that cannot be observed, and that, in turn, the observable structures may not in fact reflect ‘reality’ (Marsh and Furlong, 1995: 30-31). In this position, “science, then, is the systematic attempt to express in thought the structures and ways of acting of things that exist and act independently of thought” (Bhaskar, 1975: 250). Because of the distinction between the objects of enquiry and the terms used to describe, account for and understand these objects, critical realists emphasise the use of theory as a “sensitising device to reveal the structured reality beneath the surface” (Hay, 2002: 122). In methodological terms, this is often reflected in the use of both qualitative and quantitative methods to capture both the explanation and understanding of phenomena.

This attempt to incorporate both empirical and interpretist positions is often seen by opponents at best difficult, if not impossible in view of the fundamental ontological and epistemological differences that exist between the two positions. As such, realism is criticised both by positivists, who deny the critical realist claim that unobservable structures exist, and by interpretivists, who contend that structures are independent of social action and that there might be an ‘objective’ basis on which to observe actions or infer deep structures (Marsh and Furlong, 1995: 31). For a summary of the ontology, epistemology and methodology of these three positions, see Table 4.1.

**Table 4.1. Ontology, epistemology and methodology of positivism, interpretivism and realism**

<i>Approaches</i>	Ontology	Epistemology	Methodology
<i>Positivism</i>	Foundationalist	Reality is ‘real’ and apprehensible and can be captured through natural science approaches	Quantitative methods (experiments)
<i>Interpretivism</i>	Anti-foundationalist	Relativist and constructionist: multiple realities are constantly co-constructed	Qualitative methods (focus groups, interviews etc)
<i>Realism</i>	Foundationalist	Reality exists but cannot be fully captured	Quantitative and qualitative methods

#### 4.2.2. Grounding this study in critical realism

Having briefly described the three main schools of thought in terms of epistemology and ontology, it is essential to relate to the aims and objectives of this study in order to justify the critical realist ontology adopted here. To do this, this section begins with an overview of how evaluation research is shifting from positivism towards a more realist approach. The links between the evaluation of public participation and critical realism will then be explored, before justifying the grounds on which critical realism is adopted in the specific context of this study.

---

Evaluation research has, historically, been rooted in positivism and, more recently, post-positivism. This positivist approach focuses mainly on outcome evaluation, with the aim of responding to the question of whether or not a particular intervention has achieved its stated aims (Bryman, 2004: 39). As such, evaluation research is often carried out using experimental and quasi-experimental designs that are primarily designed to respond to the specific interests and needs of policy-makers and funding bodies, and usually entail comparing a control group with a group exposed to a particular intervention, for example a policy change or institutional initiative (Bryman, 2004: 39).

In terms of the evaluation of public participation specifically, however, such experimental evaluation designs have been criticised, and are increasingly seen to be “relevant only to factors that can be manipulated directly or through the assignments of subjects” (Chess, 2000: 777). As such, in the evaluation of public participation in the implementation of Natura 2000, experimental manipulation would be near impossible, due to the high number of contextual factors (including scale) that could potentially impact on what aspects of participation are evaluated and how the evaluation takes place. Using a crudely positivist approach in this study could proceed on the basis of the false assumption that nothing apart from the intervention (in this case public participation) can impact on groups (Vedung, 2005: 189).

In light of these considerations, a number of alternative approaches to evaluation have since emerged. These more novel approaches are rooted in the critical realist position and focus on eliciting the views of stakeholders close to the process and gaining an in-depth understanding of the context in which an intervention occurs (Greene, 2000: 984). This approach corresponds far better to the aims of this study, providing the opportunity to include scale as an important factor potentially affecting participation, and allowing the inclusion of stakeholder views on the process of participation as well as its possible outcomes. In doing so, this follows the critical realist approach adopted by Pawson and Tilley (1997), whereby the outcomes of participation are known to vary depending on how and in which context it is applied, and where the main aim is to understand better those causal factors that influence participation and the context in which it is applied. This approach has the added benefit of providing policy-makers and environmental managers with the necessary knowledge to understand the reasons underlying *how* and *why* public participation in the context of biodiversity conservation works, or not, in different contexts, as opposed to the more limited (and often misleading) approach of simply determining whether or not public participation achieves its stated objectives of biodiversity conservation.

In summary, this section has outlined the ontology and epistemology of positivism, interpretivism and realism. The latter is adopted in the frame of this study as it corresponds best to the aims and objectives identified earlier in this thesis, namely to understand better the causal factors that affect public participation and the context in which it is applied, as opposed to simply evaluating public participation in terms of whether or not it achieves a stated outcome. The research design best suited to the critical realist position and the aims of this study will be explored in the following section.

### **4.3. The case study design**

A number of social science research strategies exist, including experimental, cross-sectional, longitudinal, case study and comparative designs, each with its own paradigms and associated set of methods. Although Devine (1995: 201) warns that “the distinction between the choice of methods and epistemological positions should not be overdrawn”, epistemological and ontological considerations are, as outlined in the previous section, nonetheless linked to the formulation of research questions and the way in which research is carried out (Bryman, 2004: 19). So, while positivists generally adopt quantitative approaches such as experimental, cross-sectional and longitudinal designs, case study and comparative designs are most often associated with more realist or interpretist positions. With this in mind, the section starts with a brief description of the key characteristics of the case study approach, including the strengths and weaknesses of case studies in general, ‘theoretical’ terms. The more practical difficulties of carrying out case studies and a justification of this approach in relation to the ontological and epistemological position of this thesis and current approaches to evaluation research will also be outlined here. This will lead to a discussion of the comparative multiple-case study approach used in this study and a justification of cases used.

#### *4.3.1. Key issues in case study design*

The case study design is used widely across the social sciences. The ‘case’ is a choice of object to be studied (Stake, 2005: 444) and can be an individual, a family, or a single event, although it is usually associated with a location, such as a community or organisation (Bryman, 2004: 49). Whatever the choice of object, case studies are a “bounded system” with a ‘holistic’ focus, implying that the wholeness, unity and integrity of a case study should be maintained (Punch, 2005: 145).

The main strength of the case study approach is that it allows the researcher to explore a phenomenon in its real-life context, to interact with participants and to discover important

properties of complex social processes (Cheng and Daniels, 2003: 851). The case study is therefore seen as a “complex historical and contextual entity” (Denzin and Lincoln, 2005: 380), with a number of dimensions, all of which need to be understood in order to make sense of the relationships between them (Stake, 2005: 449). One important aspect of the case study is the fact that it relies on multiple sources of data and methods (Yin, 2002: 14) in order to capture fully the nature of the case, its background, context and components (Stake, 2005: 447). The case study also requires a strong theoretical dimension, whether this is the development or testing of a theory (Yin, 2002: 28).

The main criticism against case studies is that the data generated from a single case study cannot provide a basis for generalisation, as it focuses on a unique, unrepresentative sample. This has led some critics to advocate case study research only for the purpose of generating hypotheses and theories that can then be tested and generalised using other research designs (Burnham et al., 2004: 53). To counter this argument, advocates of the case study design have argued that it can uncover in-depth aspects of particular cases that other methods cannot hope to achieve (Punch, 2005: 147-148). In addition, the generalisation argument can, to some extent, be overcome methodologically, through the use of multiple cases. This approach is one in which the instrumental case study, undertaken to provide insight into an issue or to draw a generalisation, is extended to several cases to investigate a phenomenon, population or general condition, hence more of a nomothetic research design. Focusing on one single case would, in any case, be impossible for the aim of this study, as it could not incorporate spatially differing contexts, which this study aims to evaluate. However, using each Natura 2000 unit (micro-, meso- and macro-scale) as an individual case study, this thesis can adopt a multiple case design.

Furthermore, the case study design is suited to the goals of this study for the following reasons. Firstly, a case study design is particularly well suited to evaluation research. Indeed, case studies can allow for policy objectives and implementation to be studied in great detail (Fischer, 1995: 78), to uncover the reasons of why certain decisions were taken, how they were implemented, and with what outcomes (Schramm, 1971 in Yin 2003: 12). These qualities have led Starling (in Fischer, 1995: 78) to claim that “probably no evaluation methodology has greater strengths than the case study”. Secondly, the case study design fits in well with the critical realism position adopted in this study as it allows for a more in-depth understanding of phenomena, including difficult-to-observe structures such as the context in which an intervention takes place, and the diverse viewpoints of the stakeholders (Bryman, 2004: 40). Perhaps because of this, the case study design is the dominant approach in public participation literature (Beierle and Konisky, 2001: 517). Finally, the case study design is particularly apt in the context of this research, where the main aim is to explain the causal

relationships between public participation and policy outcomes, namely the long-term conservation of biodiversity, taking into account the fact that the outcomes of public participation intervention may not be immediately obvious or direct. Not only can the case study help to explore the situation better (thereby capturing details and nuances that could provide a better understanding of the causal processes at work) but it can also explore situations where no clear outcome is visible (Yin, 2002: 15).

#### *4.3.2. Case study selection criterion*

As mentioned above, the multiple-case study design has recently gained ground, particularly due to its potential to improve theory building through a larger collection of cases (Stake, 2005: 446) and its “ability to allow the distinguishing characteristics of two or more cases to act as a springboard for theoretical reflections about contrasting findings” (Bryman, 2004: 55). As such, the multiple case design acts as a response to the common criticism of the case study design that it offers little, or no, basis for generalisation. Yin (2002: 53) also advocates the use of multiple-case studies over single-case studies, not only because it reduces the risk of putting all your eggs in one basket, but also because “the analytical benefits from having two (or more) cases can be substantial”. He claims multiple-case studies can provide the opportunity to apply direct replication and strengthen the conclusions more than with a single case. To ensure that each case within the multiple-case design still follows the rationale of the case study, Yin suggests “to consider multiple cases as one would consider multiple experiments – that is to follow a ‘replication’ logic” (2002: 47). Replication logic in the case of multiple-case study design requires the selection of case studies so that they either predict similar results (literal replication) or contrasting results (theoretical replication).

With respect to the aims of this study, the main prediction is that process and outcomes of public participation would be different at different scales, hence the suitability of theoretical replication. In addition, the aim or predictions of the aim also sets the choice of case selection, namely the scale at which public participation is implemented. As seen in the previous chapters, the scale at which participation is implemented may affect both the process and outcomes of participation, and the causal links between them. Indeed, while the scale at which the protected area is managed may be appropriate in terms of species range and conservation, it may not be the best scale at which to promote effective participation, which may, in turn, indirectly affect conservation. Scale will therefore be the contextual factor tested out in this study, and therefore acts as our parameter for the selection of cases, which are described in more detail in the following section.

---

*4.3.3. Description and justification of the three cases used in this study*

The three case studies selected for this study were all located in Scotland. The UK generally is an appropriate setting for the evaluation of participation in Natura 2000 management plans (see Chapter 1), being one of the most advanced Member States (together with France) in terms of establishing management plans (European Commission, 2004a: 20). The choice of Scotland in particular was taken in view of recent changes in Scotland, where high levels of biodiversity occur and where devolution and decentralisation of the political administration have led to a revision of conservation policy and management and have encouraged a closer attention to biodiversity concerns (Scottish Executive, 2004).

The two main aspects that were considered to be essential in the selection of our case studies were that they had a) a management plan that required, at some stage of its development and/or implementation, the active involvement of a range of local stakeholders; and b) the potential to reflect different contexts of participation, namely different scales. Based on these initial considerations, documentary evidence and discussions with SNH representatives and scientific colleagues provided the ground work for the selection of case studies.

Section 2.6.2 highlighted the range of management plans currently in place in the UK, namely management schemes such as the “Natural Care” schemes in Scotland, agri-environment and forestry schemes that support farmers and foresters to carry out biodiversity-friendly measures; and LIFE-Nature funded management schemes. An initial compilation of management plans in Scotland was made based on internet searches on websites including SNH, Web of Science, LIFE-Nature, Scottish Government, Forestry Commission Scotland, and Scottish Agricultural College.

A total of ten Natural Care management plans, under the auspices of SNH, were studied and explored as possible options. Many of these Natural Care Schemes were either too recent or too old to be relevant in terms of the evaluation both of the process and outcomes of stakeholder involvement. In addition, many of these Plans were simply groupings of individual management plans signed with individual owners or managers, rather than plans or schemes requiring input from a wider group of stakeholders. The Natural Care approach was, however, novel in terms of the emphasis on positive management and theme-based plans. The Forth and Borders Moorland Management Scheme was particularly interesting as it spanned a large number of sites, had a relevant timescale to enable the evaluation of process and outcomes, and, while the individual management plans were restricted to individual land owners and managers, the Scheme was developed with a wider number of organisations and local area officers.

The Scottish Government website, together with informal discussions with scientific colleagues at St Andrews University, provided insights into the Moray Firth Seal Management Plan. The approach adopted in this management plan indicated that the catchment-based approach, combined with a conflict-centred focus, had led to the involvement of a wide range of actors both in the development and implementation of the management plan. This management plan was also the best documented, with a long history of seal monitoring in the Moray Firth Area, and two scientific publications on the Moray Firth Seal Management Plan itself.

Finally, much documentary evidence existed for the LIFE-Nature funded Conservation of Atlantic Salmon in Scotland (CASS) project. While the entire project was too broad to act as a single case study for the purposes of this these, the River Bladnoch SAC Atlantic Salmon Catchment Management Plan, which arose as a result of the LIFE-Nature funding suited this study both in terms of its scale (one SAC) and in terms of the lack of previous designation or management plan. In addition, the fact that so many actors potentially impacted on the quality of the water and the salmon in the river made it an interesting case study to focus on for the evaluation of stakeholder involvement. Confirmation for the suitability of the site as a case study was given by a number of scientific colleagues at the Centre for Ecology and Hydrology, who had experience of the site due to prior research on acid deposition in the Dumfries and Galloway region.

With these considerations in mind, three spatially different sites and their associated management plans were selected:

1. Micro-scale: The River Bladnoch SAC Atlantic Salmon Catchment Management Plan (ASCMP).
2. Meso-scale: The Moray Firth Seal Management Plan (MFSMP).
3. Macro-scale: The Forth and Borders Moorland Management Scheme (FBMMS).

To summarise, the case study design was adopted for this study, and more precisely the multiple-case nomothetic design following theoretical replication logic. Three case study sites suited to address the main aims of this study were selected on this basis. The next section explores how the evaluation criteria identified in the theoretical framework (Chapter 3) are translated into ‘on-the-ground’ measurements in each of the three case study sites.

#### **4.4. Measuring the criteria identified in the theoretical framework**

In order to measure the criteria identified in Chapter 3 effectively in the case study sites, an existing methodology (devised by Beierle and Konisky (2001) and applied in the evaluation

of participation in the development of Remedial Action Plans in the Great Lakes) is described in this section. After identifying the strengths and weaknesses of their methodology, an adapted methodology more closely related to the aims, objectives and research design of this study is presented.

#### 4.4.1. *The Beierle and Konisky evaluation methodology*

Beierle and Konisky devised their methodology for the purposes of doing a case survey (2001: 517). Working from a theoretical framework in which they identified possible outcomes of participation and an associated list of criteria for measuring these outcomes, they assigned each criterion in each case:

- a score (low, medium or high). For example, the scores and categories for their criterion used to ascertain the input of public values were:

- a) *low score*: participants' input had little impact on decisions

- b) *medium score*: participants' input was used to inform or review analyses or decisions, but was not part of final decisions.

- c) *high score*: participants felt they had an impact on decisions.

- a descriptive entry of supporting evidence that justified the score and

- a measure of weight-of-evidence to give some idea of the quality of evidence and to eliminate evidence that was of poor quality and might impact on the results (Beierle and Konisky, 2001: 518).

An important strength of this approach is the potential to turn a large quantity of qualitative data into quantitative aggregate data that could be subjected subsequently to statistical analysis. As such, Beierle and Konisky managed in this way to use qualitative data to produce generalisations with a high level of certainty. In addition, their approach was cost-effective, enabling them to process lots of information and condense it.

Their method does however suffer from the analyst acting both as judge and jury. Indeed, not only does the reader-analyst devise the theoretical questions that act as criteria, but he is also solely responsible for applying and measuring them. In addition, and as with all analysis of documentary data (as we shall see in more detail in the next section), there is always the issue of bias. For example, the project reports and case studies used by Beierle and Konisky as a basis for their evaluation may have been written by project officers interpreting the outcomes of participation in a positive manner, which could bias their analysis. The combination of the scores being assigned solely by themselves (as opposed to participants applying them for example), and the non-triangulation of the data, i.e. the fact that the data was not compared with other sources of information such as interviews, makes their approach significantly weaker.



In view of these issues, the following section aims to counter the limitations of their methodology and build on the strengths of their approach by adapting the methodology to the specificities of the aims, objectives and research design of this study.

#### *4.4.2. Adapting the methodology to the aims of this study*

In addition to the above weaknesses, there are a number of differences between the study conducted by Beierle and Konisky and this one, which makes some adaptation of their methodology necessary. The biggest difference lies in the research design: while Beierle and Konisky adopt a *case survey design* in which they evaluated public participation using solely written evidence such as project reports and other materials gathered from 43 cases, this study adopts a *multiple case study design*. So, while Beierle and Konisky were able to examine a great many cases and compile statistical data sets from their analysis, our study only aims to explore three sites, with the aim of gaining in-depth, mainly qualitative knowledge, in each case. Despite these differences, the possibility of translating some of that qualitative knowledge into quantitative data is appealing.

One way to address the limitations of the Beierle and Konisky methodology is to ask participants of the participatory process to assign scores to the process and its outcomes, hence reducing the level of evaluator bias. The added flexibility and in-depth nature of the case study approach also enables other criteria to be added to the list, depending on whether participants think criteria are missing from the framework in the first place. Finally, participants can be encouraged to rank the criteria (ranking would only need to focus on their top three most important criteria), in order to determine what aspects of the participation process and its outcomes were most relevant to them. The results of the scoring and ranking exercises can then be analysed to ascertain the participants' views on criteria scores and the relative importance of each of these criteria in relation to other criteria. To ensure robustness of results relating to the last evaluative criterion (which addresses the long-term biodiversity benefits of participation), the scores assigned by participants will be triangulated with the Delphi method described later in this chapter.

To summarise, the methodology developed by Beierle and Konisky provides a good starting point for the measurement of evaluation criteria. However, there are fundamental differences in research design between their study and this one, as well as potential weaknesses to their approach, which makes some adaptation necessary. While retaining the underlying approach of a qualitative measurement of the evaluation criteria, the scores for each criterion will be assigned by participants. In addition, participants will be encouraged to rank criteria in order of importance. In the case of our last criterion, the findings will be cross-checked through

---

triangulation with the results from a Delphi approach. The methods used to measure these criteria are explored in more detail in the next section.

#### **4.5. Methods used to measure criteria**

Having determined and justified how the criteria identified in Chapter 3 will be measured, it is now essential to explore the best suited methods. Although case studies are most often associated with qualitative methods such as interviews and direct observations, a mix of both qualitative and quantitative methods can also be carried out in case study research (Bryman, 2004: 49). With this in mind, this section aims to present and justify the use of the qualitative and quantitative methods that best address the aims of this study, namely documentary research, semi-structured interviews, the Delphi method, a counterfactual analysis and triangulation.

##### *4.5.1. Documentary research*

Documentary research has a long history in social sciences (Punch, 2005: 184). Documentary research encompasses a huge and heterogeneous range of potential ‘documents’, including personal documents, official ‘state’ documents, official ‘private’ documents, mass media outputs and virtual outputs, such as Internet resources (Bryman, 2004: 380). What they have in common is the fact that they are not created for the purpose of the researcher, but rather are documents that already exist and are waiting to be collated and analysed. Documentary data can be used in conjunction with other methods (such as interviews) and in triangulation with other data (Punch, 2005: 184).

Yin (2002: 87) highlights a number of potential benefits of documentary analysis in case study research. There are, however, potential weaknesses, mainly relating to the fact that documents may not always be accurate, and that they may often be biased. As such, George and Bennett (2005: 100) recommend the use of archival documents as “a type of purposeful communication” whose interpretation needs to consider the circumstances in which documentary evidence was produced and how accurate the information is. In addition, there might be a bias in the interpretation of documents by the researcher. Taking these weaknesses into consideration, documentary evidence was used mainly to provide background material that may shed light on certain aspects of the case study (particularly the participatory process and the biodiversity status and trends of the case study areas), and to triangulate with other sources of information (Yin, 2002: 87).

---

#### 4.5.2. *Semi-structured interviews*

Interviews are probably the most widely used method in qualitative research (Bryman, 2004: 319), and can be an important source of case study information (Yin, 2002: 89). Qualitative interviewing is very different from the structured interviews used in quantitative research, the latter tending to have a set of questions that the researcher wants answered, while the former's focus is far more on the interviewee's point of view (Bryman, 2004: 320). One of the weaknesses of the less structured approach to interviewing is that collecting the data, transcribing interviews and analysing transcripts can be very time-consuming (Bryman, 2004: 319). In addition, interviewers carrying out qualitative interviews need to have good communication and listening skills, in order to gain as much information from interviewees as possible, whilst still steering the discussions in the direction of the research (Bryman, 2004: 325). Therefore, bias due to poorly constructed questions, and the response bias is a common criticism of qualitative interviews (Yin, 2002:86). However, qualitative interviewing also has many strengths notably the flexibility to highlight issues that the interviewer might not have thought of, and the potential to gain a better insight into interviewee knowledge. With these issues in mind, the questionnaire devised for the purposes of this study included both qualitative and quantitative aspects (for a full version of the questionnaire, see Appendix 1) and all interviews were digitally recorded, verbatim transcribed and coded.

As with the selection of case studies, the selection of initial interviewees also followed purposive sampling (as opposed to random sampling) as this approach was seen to be best suited both in terms of representativeness and practicality (i.e. keeping the numbers of the sample small) (Chess, 2000: 777). The "policy stakeholders" (Fischer, 1995: 80) in this study included:

- representatives of the Scottish Government or government departments in Scotland, including Scottish Natural Heritage (SNH), Forestry Commission Scotland (FCS) and the Scottish Environment Protection Agency (SEPA)
- land owners and land managers either directly or indirectly affected by the Natura 2000 designation
- scientific and technical advisers (e.g. Farming and Wildlife Advisory Group (FWAG), Scottish Agricultural College (SAC))
- members of local or national conservation or animal welfare NGOs.

The evidence gathered from the documentary data was instrumental in selecting the initial interviewees. Initial discussions enabled the identification of other interviewees, thereby creating a snowballing system (see Appendix 2a for the snowballing exercise in each case study). In addition to those policy stakeholders who took part in the elaboration of

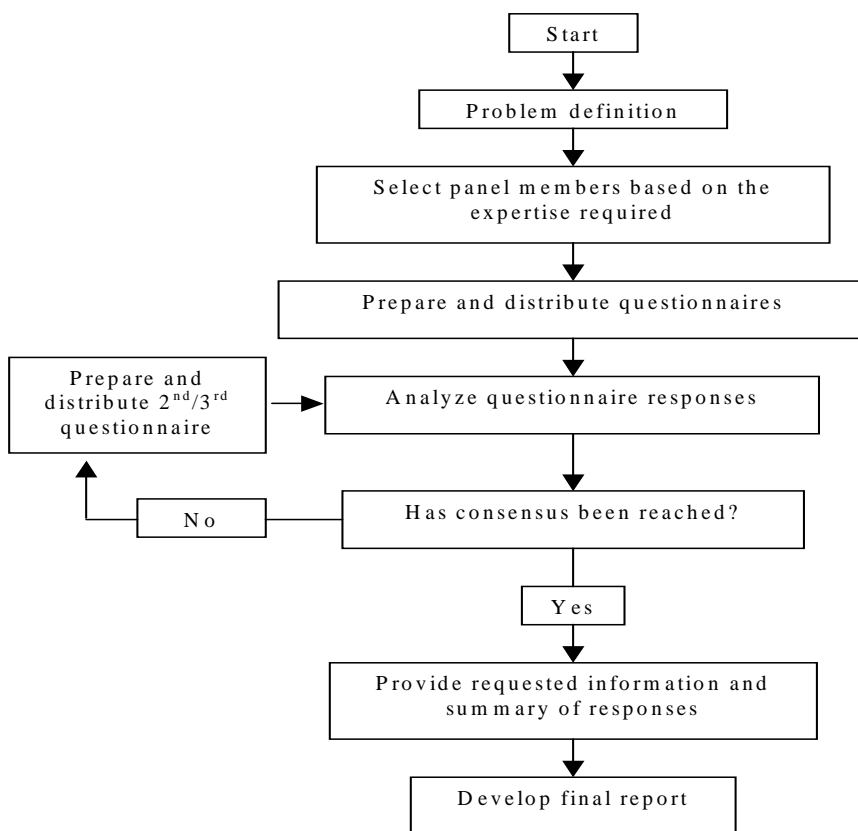
management plan, a couple of interviews were undertaken in each case with stakeholders who either chose not to participate in the process or were unable to for a given reason. In these instances, Rosener (1981: 595) argues that it is important to gather information on why and when people did not participate, especially if support of the participation process translates into support of the decision. For a summary of interviews carried out in each case study, see Appendix 2b.

#### 4.5.3. Delphi method

Although interviews provide many valuable insights, a quantitative method (the Delphi method) was also used to expand, and corroborate, interviewee views on the impact of public participation on long-term biodiversity status, a key aim of the study (see Chapters 1 and 3). This section starts with a brief description of the Delphi method before focusing on the selection of biodiversity experts and the formulation of the questionnaire.

The Delphi method was first developed in the 1950s as a by-product of defence research (Lindstone and Turoff, 1975: 10). For a flowchart of a typical Delphi, see Figure 4.1.

**Figure 4.1. Delphi Method Flowchart**



Source: Slocum (2003: 77)

Since then, it has been applied to a number of fields including marketing, sales forecasting and environmental policy, including the evaluation of national parks (Gulez, 1992: 815), species protection (Clark et al., 2006: 420) and the identification of priority species for conservation (Hess and King, 2002: 28). The Delphi method is particularly useful for determining the likelihood of certain events occurring, particularly in situations “in which detailed empirical data are lacking, uncertainty is large and the primary source of information is informed judgement” (Hess and King, 2002: 28). The main aim of the method is to reach consensus on a complex problem, through an iterative process that depends on the anonymity of experts (Rowe et al., 1991: 237).

A number of criticisms have been voiced against the Delphi method, including:

- The choice of experts: results from one study indicate that the higher the relative expertise, the lower the propensity to change predictions over rounds and the higher the likelihood of responding to feedback (Rowe et al., 2005: 396)
- The ambiguous nature of “consensus”: i.e. the extent to which panellists alter their estimates to conform to the wider group opinion, without actually changing their own opinion (Rowe and Wright, 1999: 363)
- The complex relationship between expertise, panellist personality and accuracy measures (Rowe et al., 2005: 397).

In terms of the first criticism, it is undeniable that the successful application of the Delphi method depends largely on the careful selection of experts (Slocum, 2003: 85). One way to sample experts is to use a “reputation approach”, whereby experts in the area who are well-known for their knowledge of the issue are approached, and asked to suggest others who they feel would make good panellists (Hess and King, 2002). In this study, the panellists consisted of biodiversity experts working on the species mentioned in the management plans and included zoologists, community and population ecologists, and plant ecologists (see Appendix 4). In effect, this amounted to a snowballing approach. This kind of sampling was applied in this case, as the aim was not to have a random or representative sample of population, but rather a highly targeted group of individuals within a wider population.

Regarding the nature of consensus, the Delphi method is broadly viewed as being capable of capturing individual expert opinions as opposed to group ones, thus minimising peer pressure on responses and gaining both subjective and objective perspectives on the problem (Gulez, 1992: 815). In addition, the Delphi method does not require participants to meet face-to-face, thereby reducing costs. This has practical advantages when, as was the case of this study, resources are limited.

Many of the above shortcomings can be overcome by following the Delphi method accurately, and selecting the right experts. As such, the Delphi method remains a useful forecasting tool, especially in cases, such as this one, in which no clear outcome is apparent, and was therefore used to measure criteria 13 of the theoretical framework. It was applied to determine the likelihood that management plans developed with the participation of a wide range of stakeholders would lead to the long-term conservation of the species and/or habitats in the Natura 2000 sites. As such, the Delphi questionnaire was structured according to the different problems facing the species and/or habitats and in relation to the measures identified in the management plan. The consensus was reached when experts agreed on whether or not the conservation measures identified through the participatory process were likely to outweigh the threats posed to species and/or habitats in the long-term. These results were triangulated with the scores assigned by participants in the interviews. To strengthen the results from the Delphi method and the interviews, a counterfactual analysis was used within the Delphi method to determine the specific role of participation in this process.

#### *4.5.4. Counterfactual analysis*

Counterfactual analysis in policy evaluation provides an estimate of what would have happened had a new policy or policy change not been introduced. Counterfactual analysis works by comparing the counterfactual outcomes with observed policy outcomes (in our case, the results of the interviews and Delphi method), with the aim of knowing more about possible causal relationships (Vedung, 2005: 166). The reason why this kind of analysis is so important is that it can help establish whether a new policy, or change in policy, is making a difference, i.e. if that policy is producing the outcomes that it is supposed to be achieving.

Here lies the first major problem in counterfactual analysis, as future states cannot by definition be known with any degree of certainty. In order to address this limitation, two schools of thought have emerged (Vedung, 2005: 195). The first is concerned with the development of approximate approaches using randomized experiments or quasi-experiments. The second adopts a more naturalistic approach. Both approaches are described below, before justifying the use of the shadow controls design in this study.

#### Randomised experiments and quasi-experiments

In randomised experimentation, two groups are randomly selected (Fischer, 1995: 171). The value of the dependent variable is measured in both groups, after which one of the groups (referred to as the experimental group) is exposed to the programme, while the other group (or control group) is not. Again measurements of the dependent variable are taken, and any changes that have occurred before and after the programme exposure are attributed to it.

Quasi-experimental designs are different in that the experimental and control group are carefully selected to match each other as closely as possible. Both approaches function on the premise that the programme must not be put in place before the inception of the evaluative work (Vedung, 2005: 172). So, while it may work for a pilot of a policy or policy change, which could be put in place permanently should the counterfactual produce the expected results, in the case of our study, it is too late to apply the randomised experiment approach, as the implementation of Natura 2000 (including public participation) is already well under way.

#### Naturalistic alternatives

Because experiments may be impossible to carry out, more naturalistic approaches have emerged using weaker designs such as generic, statistical, reflexive or shadow controls.

*Generic controls designs* are only possible in cases where interventions only concern a part of the wider population. Here the counterfactual analysis is compared to the equivalent group in a larger population that has not been exposed to the intervention. So, while similar to experimental approach where two groups are compared, in the generic controls approach the groups are neither randomly selected nor matched (Vedung, 2005: 197). In *statistical controls designs*, the units of a single time series are partitioned into subgroups to minimise the impact of external confounding factors. In *reflexive control designs*, only one group (or more likely a sample of a group) is evaluated, with the dependent variable being measured before and after an intervention. This is common in the evaluation of situations where a programme has been implemented nationally, and where a control group would be impossible to find (Vedung, 2005: 198).

Finally, *shadow controls designs* require the impact of an intervention to be estimated (as opposed to being measured) by people who have special insights in the issue. These people can be experts, or participants, and are asked to estimate what the intervention actually achieved and what would have happened without the intervention. Although criticised by advocates of experimental approaches, shadow controls are often the only feasible alternative in policy evaluation, and as such are used frequently to provide counterfactual knowledge. This approach requires the right choice of experts and sufficient knowledge available to make accurate estimates.

Both in terms of practicality and in relation to the aims of this study, the shadow controls design was selected. Indeed, experts will already have been called upon in our Delphi method to estimate the long-term effects of participation on biodiversity. Therefore a group

---

of experts will already be available to answer additional questions relating to the counterfactual, namely their view of whether the long-term outcomes on biodiversity would have been different without the management plan in place, i.e. in a ‘business as usual’ situation without a management plan and the input of public participation. In addition, a counterfactual element can also be added to the semi-structured interviews, by asking participants their views on how outcomes might have been different had the management plan not been in place. The shadow controls design therefore incorporates both expert and participant counterfactuals which can be used as a triangulation exercise to corroborate estimations of outcomes.

#### 4.5.5. Triangulation

Triangulation is a method used primarily to check and establish the validity of empirical results. The main premise of triangulation is that the findings of a case study will be strengthened if these findings are corroborated by several sources of information as opposed to a single source. Triangulation, however, is not restricted to cross-checking data from different data sources (*data triangulation*), but also includes the triangulation among different evaluators (*investigator triangulation*) and of perspectives to the same data (*theoretical triangulation*) (Burgess, 1982: 163). In addition, triangulation is increasingly being used to cross-check the results emerging from different methods (referred to as *methodological triangulation*), including triangulating between qualitative and quantitative methods (Bryman, 2004: 454). A common criticism against triangulation or the use of multiple strategies is a practical one relating to the time and money costs involved in collecting data from different sources (Burgess, 1982: 166). In addition, in the case of methodological triangulation the researcher is required to have the training and expertise necessary to carry out data collection using different methods (Yin, 2002: 100). Despite these shortcomings, the collection of data from multiple sources of evidence is a major characteristic and strength of the case study, and is essential to establish greater confidence in its findings (Bryman, 2004: 275).

In this study, triangulation was used widely as a method to validate the findings, specifically drawing on data and methodological triangulation. In terms of data triangulation, the results of the interviews were triangulated to determine those aspects of the process and outcomes of participation that were agreed upon by the representatives of different stakeholder groups interviewed. The thinking behind this was that if stakeholders from different points of view all agreed on certain aspects of the participation process and its outcomes, then this added to the weight of evidence.



In terms of methodological triangulation, documentary data relating to the process of participation was triangulated against the findings from the semi-structured interviews. In addition, the evaluations of the outcome criteria relating to the long-term biodiversity benefits of participation were triangulated by comparing the scores assigned by participants during the semi-structured interviews with the results of the Delphi method. Finally, the Delphi counterfactual was triangulated with the counterfactual element of the semi-structured interviews. This triangulation exercise served to corroborate estimations of the process and outcomes of participation. This, together with the choice of the case study approach and other methods, is reflected upon critically in Chapter 8.

#### **4.6. Conclusions**

The aim of this chapter was to build on the review of the literature on public participation in biodiversity policy (Chapter 2) and the theoretical framework (Chapter 3) and devise a methodology adapted to the aims and objectives of this study.

The chapter started with an initial exploration of epistemological and ontological positions before adopting critical realism. This is a position best suited to the generic evaluation of public participation, and particularly well suited to the specific aims of the study, allowing stakeholder views on process and outcomes of participation as well as its contextual setting. Grounding the study in critical realism in turn influenced the choice of the multiple-case study design, to generate an in-depth understanding of participatory processes, allow causal relationships to be drawn and allow for comparisons to be made between cases set in difference contextual settings. Using scale as the main selection criteria, three spatially different sites in Scotland were identified as case study sites.

The chapter went on to explore how to measure the evaluation criteria outlined in the theoretical framework. An existing methodology developed and tested by Beierle and Konisky was described, and adapted to fit the research design and aims of this study. In addition to in-depth interviews in which participants rank and score the evaluative criteria, a multiple strategy approach to validate findings was described, drawing on the collection of both qualitative and quantitative data. Other research methods selected within this strategy included the use of documentary evidence, a Delphi method to determine the long-term biodiversity status in the sites and a counterfactual approach to explore what might have happened had management plans not been developed. Triangulation was adopted finally to ensure the validation of our data by comparing findings from these different types of data and methods. The next step is to apply this methodology to data collection in the three case studies across Scotland, the results of which are described in the following chapters.

## **Chapter 5. Public participation process and outcomes at the micro-scale: the “Bladnoch River SAC Atlantic Salmon Catchment Management Plan”**

### **5.1. Introduction**

As noted in Chapter 3, the context in which public participation is carried out can have potentially important repercussions on how the process is managed, who participates and what the outcomes of participation are (Burgess and Clark, 2006: 6). Scale is one of these factors. To test the impact of scale on public participation processes and outcomes, three different public participation processes were explored in this thesis, which differed in relation to the spatial scale at which they were carried out. In this chapter, the focus is on the micro-scale, testing the theoretical framework outlined in Chapter 3, and applying the methodology outlined in Chapter 4 to data collection and analysis. The geographic focus chosen is a single site (SAC) unit covering an area of 300 hectares: the river Bladnoch and its tributaries. The evaluation of public participation in this micro-scale case study focused specifically on the development and outcomes (both social and ecological) of the River Bladnoch SAC Atlantic Salmon Catchment Management Plan, henceforth referred to as the Plan.

The Plan was commissioned by SNH in 2004 and contracted out to the Galloway Fishery Trust. As a result, the Plan was produced in 2007, with its objectives being:

- to identify potential or actual negative impacts on the SAC;
- to assess existing management; and
- to identify and prioritise further measures required (Scottish Natural Heritage, 2007: 8).

One key aspect of the Plan was that it focused only on one species, the Atlantic salmon, at the micro-scale. In view of the fact that “the diversity of positions, interests and values is often most visible at the local scale” (Richards et al., 2004: 17), this micro-scale approach could realistically involve all local stakeholders more effectively, thereby impacting on the process of participation. Working at this scale could also impact positively on social outcomes, namely the resolution of the conflict between forestry and salmon conservation in the Bladnoch. Indeed, the success of conflict management has often been linked to smaller scales, with fewer people likely to make consensus easier, often indirectly through the way in which processes are led (Bingham, 1986: 99). Local stakeholders’ sense of “place” can

also potentially increase their commitment to reaching a resolution and implementing decisions taken (Rockloff and Moore, 2006: 650), thereby impacting on capacity-building. In addition, evidence has shown that locally based and locally 'owned' decisions are "often the most effective in the long-term" (Richards et al., 2004: 11). All these aspects, in turn, could indirectly affect the biodiversity outcomes on the Bladnoch catchment. As such, working at the micro-scale could involve a better process, and potentially greater social outcomes such as conflict resolution and capacity-building and, in turn, biodiversity outcomes.

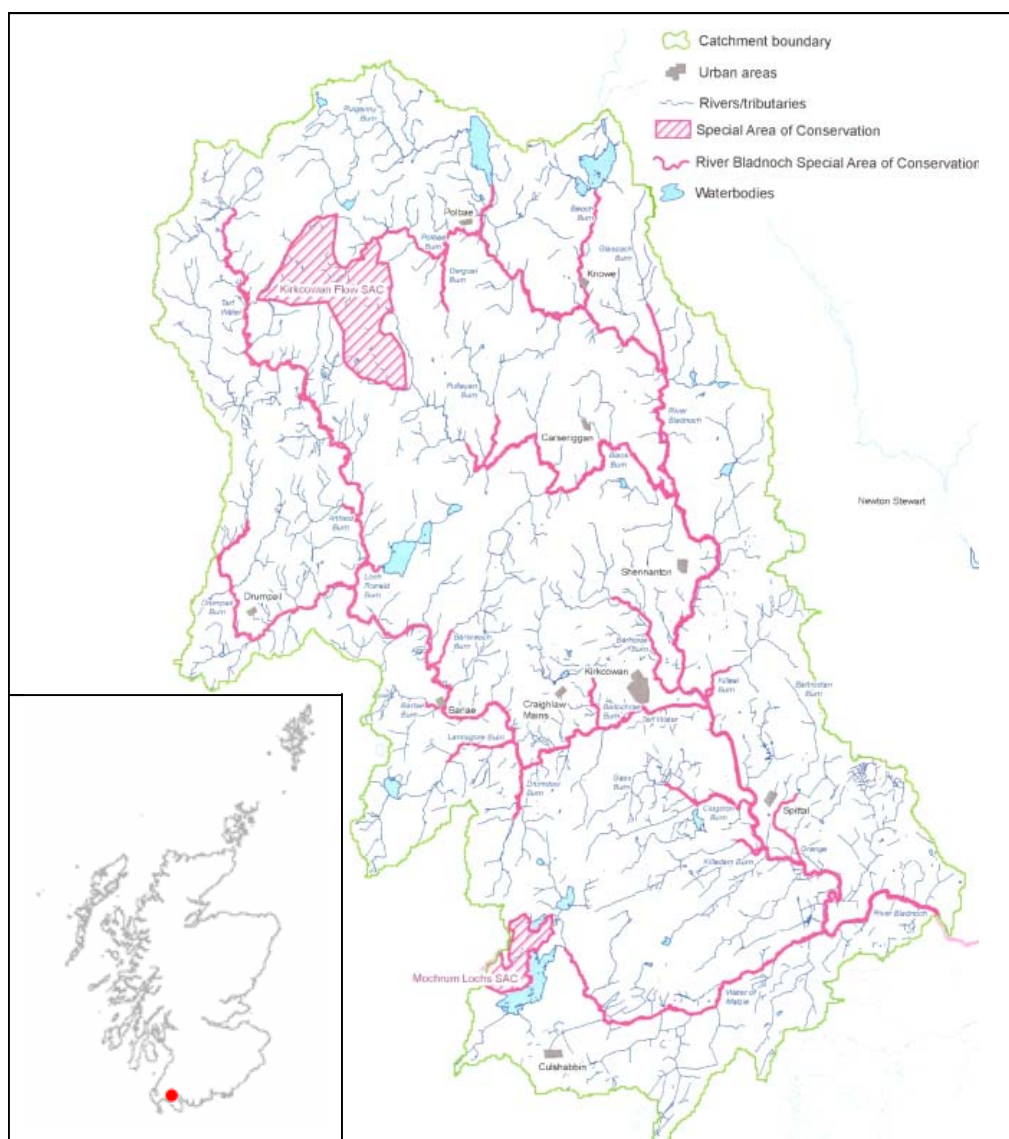
Of course, scale is not the only consideration that can impact on biodiversity outcomes and other factors need to be considered. This is the focus of Section 5.2, which explores the scientific background, the initial development of the Plan, the dynamics of stakeholder relationships and their perceptions of the situation. Section 5.3 focuses on the evaluation of the process of participation in developing the Plan, building on the results from the semi-structured interviews. The interviews also form the basis for Section 5.4, in which the evaluation of the social outcomes of participation in the development of the Plan is presented. Section 5.5 then explores the last criteria for the evaluation of public participation in this case study, namely the direct and indirect biodiversity outcomes emanating from the Plan. The chapter finishes with a short conclusion in Section 5.6.

## **5.2 Contextual setting of the Plan**

### *5.2.1. Scientific background*

The river Bladnoch is situated in Dumfries and Galloway, on the South West coast of Scotland (see Figure 5.1). The river Bladnoch and its tributaries were designated as an SAC in 2005 for their population of Atlantic salmon (*Salmo salar*), listed under Annex II of the Habitats Directive. The Bladnoch was considered of particular importance due to its 'spring run' or 'early running' salmon, which run from January onwards, an uncommon characteristic for rivers in this part of Scotland (JNCC, 2009).

**Figure 5.1. Map showing location of the Bladnoch in Scotland (bottom left) and river Bladnoch SAC**

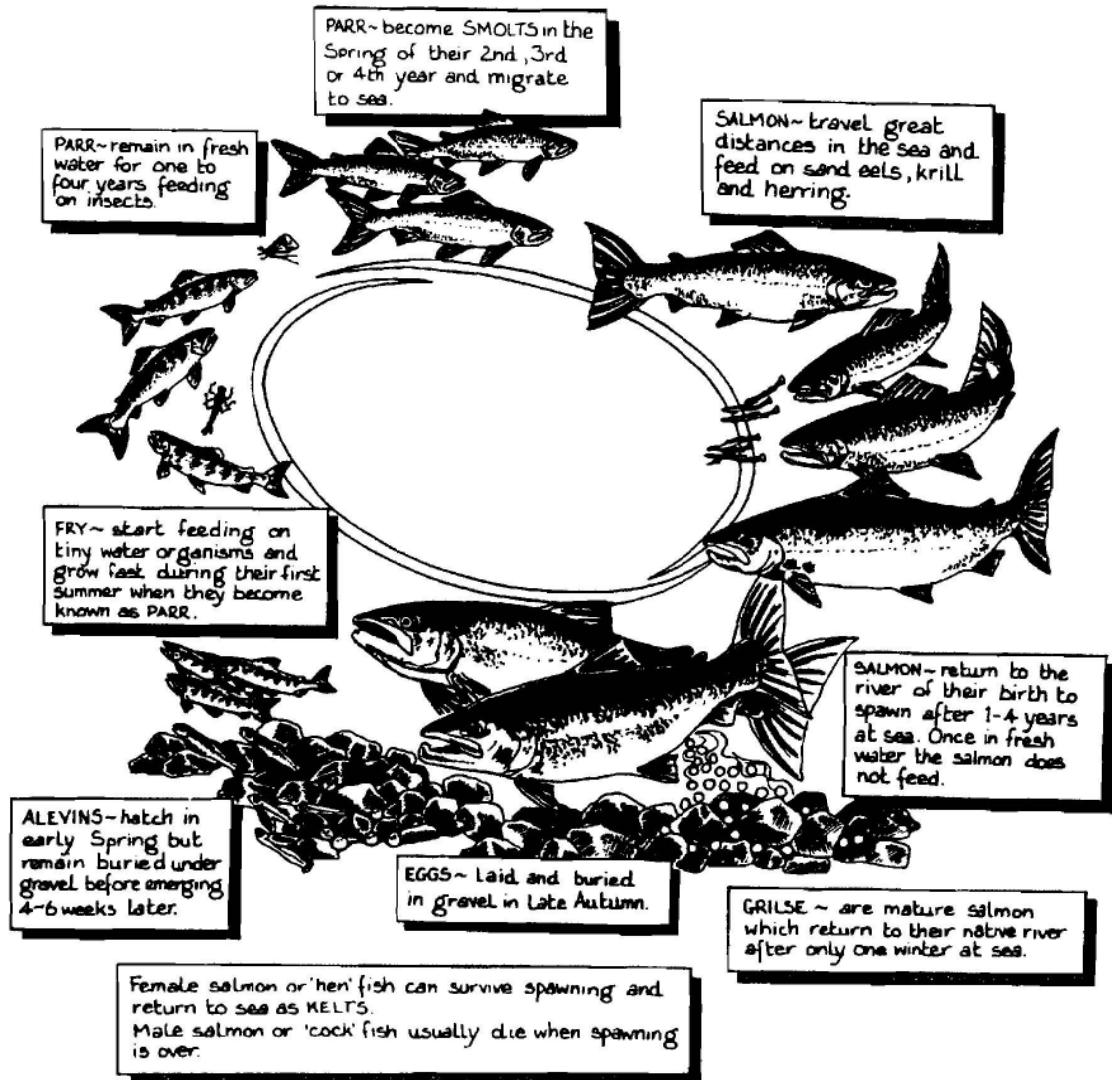


Source: JNCC & River Bladnoch Atlantic Salmon Catchment management Plan (2007: 12)

Atlantic salmon is mainly an anadromous species, i.e. spending the reproductive and nursery phases of its life cycle in the freshwater environment, and the feeding and growth phase in the marine environment (Mills, 1991: 9). Salmon eggs are laid in 'redds', or shallow excavations in gravelly areas. The hatchlings that emerge are referred to as alevins, who, once they emerge from the redds, are referred to as fry. By the end of the first year they develop into parr. They can remain at this stage for a period of one to four years before undergoing smoltification and migrating to sea. After feeding and growing in the marine environment for one to four years, they return to the river in which they hatched to spawn. Unlike most species of Pacific salmon, the Atlantic salmon is iteroparous, i.e. spawns repeatedly (Klemetsen et al., 2003: 3), so while the male usually dies after spawning, some

females can return to spawn, referred to then as kelts. The life-cycle of the Atlantic salmon is summarised in Figure 5.2.

Figure 5.2. Life-cycle of the Atlantic salmon



Source: River Bladnoch Atlantic Salmon Catchment management Plan (2007: 14)

Concern is increasing amongst scientists and fishermen over the continued decline of Atlantic salmon populations (Jonsson and Jonsson, 2004: 2369). Indeed, the nominal catch in the North Atlantic has consistently declined since 1973 from approximately 12,000 tonnes to 2,000 tonnes in 2006 (Anonymous, 2007: 34). Some factors affecting salmon occur in the marine environment (Klemetsen et al., 2003: 9). These factors include changing ocean conditions (Parrish et al., 1998: 282), pollution (Scott, 2001: 495) and predation and parasites (Jonsson and Jonsson, 2004: 2372). A number of studies have also acknowledged factors occurring in the freshwater habitat, including pollution from pesticides (e.g. Fairchild et al., 1999: 353) and acid deposition (Parrish et al., 1998: 284), physical barriers to

migration, such as the construction of dams (Parrish et al., 1998: 282) and dewatering of streams (Parrish et al., 1998: 284). Despite continued data gathering, the reasons for the continued decline of Atlantic salmon are, however, not yet entirely clear (Klemetsen et al., 2003: 10) but are most likely due to a combination of factors rather than unifactorial (Scott, 2001: 495).

Acid pollution from industrial emissions often far from the area or deposition is also an important issue affecting salmon in northern Europe and North America (Parrish et al., 1998: 284). Salmon are affected by acidification at each stage of their life cycle. The proportion of eggs hatching successfully has been found to be inversely related to the pH of the spawning site, with total failure to hatch in rivers with a pH lower than 4.1 (North, 1991: 12). A pH of less than 5.5 for prolonged periods has been shown to lead to long-term damage to salmon populations (Scottish Natural Heritage, 2007: 29). Acidification has also been found to affect heavily the survival of fry, the smoltification process and the viability of returning females' eggs (North, 1991: 12). This is reflected in the Bladnoch, where salmon populations have died out in the more acidified parts of the upper Bladnoch catchment (Scottish Natural Heritage, 2007: 19).

Protocols such as the Protocol on Further Reductions of Sulphur Emissions (1994) are expected to help recovery of acidified areas compared to a 'business as usual' scenario (Jenkins et al., 1998: 316). The reversibility in surface water acidification, however, depends to a large extent on differences in deposition inputs, catchment characteristics and land use. In the case of the Galloway region, high rates of acidic deposition, acid sensitive soils with a poor buffering capacity combined with the geology of the area have contributed to a very acidic environment (Helliwell et al., 2001: 451). Galloway is also an area in which forestry plays a major role, with large-scale coniferous afforestation (mainly spruce) covering an area of 58,000 hectares (60% of the total area) within the Galloway forest district (Forestry Commission, 2007: 19). In the upper reaches of the Bladnoch, 80% of the area is afforested (Scottish Natural Heritage, 2007: 31, see Plate 5.1). Because these acid-sensitive areas, by their very nature, are generally poor in agricultural terms, they are often areas that are most suitable for silviculture and, coincidentally often correspond to catchments which provide spawning habitats for Atlantic salmon (North, 1991: 14).

The links between land use, specifically conifer afforestation, and surface water acidification have been the subject of a number of studies (e.g. Ormerod et al., 1989: 47; Rees and Ribbens, 1995: 305), which suggest a decline in streamwater pH with increasing percentage of forest cover. A number of explanations have been put forward to explain this association, including the trapping of atmospheric pollutants by forest canopies, alterations in soil

hydrology and changes in natural rates of soil acidification (Miller, 1985: 28). In order to address these issues and concerns over afforestation in acid-sensitive areas, an expert workshop was held in 1990, which concluded that afforestation could contribute to increased acidification in high acid deposition areas (Nisbet, 2001: 223). Subsequent to this, the Forest Authority recommended the use of the 'critical load' concept to determine suitable sites for coniferous afforestation. The concept, developed in 1988 to determine a European-wide strategy for acid gas emission reductions, provides a quantitative estimate of pollutant load below which significant harmful effects on specified sensitive elements of the environment do not occur. There have, however, been a number of concerns over the sensitivity of the critical load approach in acid-sensitive catchment areas (e.g. Tervet et al., 1995: 2490). The use of the Henriksen model, used in the UK for quantifying critical loads for surface waters, for rivers, as opposed to lakes for which it was initially developed, has also been questioned (Cresser, 2000: 57).

**Plate 5.1. Afforestation in the Upper reaches of the Bladnoch**



The critical load approach is a key element of catchment planning in the Forests and Water Guidelines (FWG), which sets out standards for private and public forest management practices (Forestry Commission, 2003: 1). In the case of a SAC, like the Bladnoch, the Forestry Commission for Scotland, as a competent authority, must ensure that any planned forestry operation, including afforestation, complies with the FWG and does not affect adversely the SAC. The FWG recommends using site-specific data in SACs to assess acidification risks and for forest authorities to determine the need for more detailed catchment-based assessments (Forestry Commission, 2003: 22). In the Bladnoch SAC for example, such site-specific data has led to an amended forest design plan for the Polbae Burn

(Scottish Natural Heritage, 2007: 31). It is perhaps important to note however that such arrangements are largely voluntary, the FWG having no legal status. In the event of a prosecution, however, failure to comply “is likely to affect adversely the position of the forest owner, contractor and sub-contractor” (Forestry Commission, 2003: 1).

To summarise, Atlantic salmon have been declining due to a combination of threats both in the freshwater and the marine environment. Acidification of surface water has been identified as a key threat affecting Atlantic salmon in areas of Galloway, such as the Bladnoch catchment. With the links between surface water acidification and afforestation well established, one mechanism to guide future management of forests is the critical load approach. This approach, however, has been questioned, particularly in acid-sensitive areas such as the Bladnoch, which represent an important habitat for sensitive species such as the Atlantic salmon. In view of these and other threats, the Plan was developed to raise awareness and establish a framework for the sustainable management of the SAC (Scottish Natural Heritage, 2007: 8). The way in which the Plan was developed is the subject of the following section.

### *5.2.2. Initial development of the Plan*

Unlike many SACs that are underpinned by a SSSI<sup>1</sup> designation (see Chapter 2), the Bladnoch had no designation before becoming a SAC in March 2005. The designation was instrumental in allowing access to funding. Indeed, from 2004, the Bladnoch received funding through the Conservation of Atlantic Salmon in Scotland (CASS) LIFE-funded project to carry out a number of activities on the Bladnoch. The CASS project supported capacity-building by enabling the development of a working group or Local Operation Planning Team (LOPT). This group consisted of key groups in the area including representatives of the Galloway Fisheries Trust, SNH, Forestry Commission Scotland, Forest Enterprise (FE), Scottish Environmental Protection Agency (SEPA), the Bladnoch District Salmon Fishery Board (DSFB) and CASS team. This group was, to a large extent, retained for the purposes of the Plan, forming the basis of its steering group.

While the increased access to funding was valued by most interviewees, views on the SAC designation varied. Among the fishermen in particular, hopes were high in terms of what the SAC designation might achieve for salmon populations, particularly in terms of adding political leverage to address the issue of acidification. Farmers were also in favour of the SAC, which they saw as an advantage in terms of applications to the new source of funding, the Scottish Rural Development Programme (SRDP). Apart from the private forestry

---

<sup>1</sup> For a full list of acronyms, please refer to Appendix 3.



representative, the designation had resulted in minimal, if any, changes to their management practices.

SNH procured funding for a two-year project to produce the management plan in February 2004. The Board was consulted on specifications for the tender. The Galloway Fisheries Trust was the only applicant and was subsequently awarded the tender in October 2004. An initial document, including proposed actions, was drafted by the Galloway Fisheries Trust and SNH, with input from the fishery board. An email consultation and meetings then ensued with the representatives of other bodies, including the Scottish Environment Protection Agency, Forestry Commission Scotland, the National Farmers Union, Dumfries and Galloway Council, Forest Enterprise, the Farming and Wildlife Advisory Group, private forest interests, SEERAD, SRPBA and Scottish Water. The Plan was not publicly consulted upon. There was, however, a questionnaire developed by the Galloway Fisheries Trust aimed at land owners within the Bladnoch catchment. Copies of the completed Plan were subsequently distributed to all land owners in the catchment. The Plan is reviewed by the steering group on a yearly basis with a full review expected after 5 years.

In this case study, the Habitats Directive and the SAC designation were a direct driver of the creation of the Plan, particularly in view of the lack of any previous designation: *“There was no real obligation to do it but in this area [...] one of the key drivers to that was that, unlike quite a lot of Natura designated sites, it is not underpinned by an SSSI”* [BGA1]<sup>2</sup>. As such the Plan acted as a basis for justifying actions being taken to maintain the Favourable Conservation Status of Atlantic salmon in the Bladnoch. Regardless of whether or not biodiversity outcomes ensued, the Plan was described by one government adviser as *“something you can present to Europe [...] because if we’re failing miserably, and we’re not doing anything, then we can be criticised”* [BGA4]. As such, the goal of the Plan for government advisers was to provide a *“reference document basically for anyone who needed to do any work in the catchment, whether it’s a land owner or a council official dealing with planning”* [BGA1]. Acknowledging that there were no *“specific powers in the Bladnoch to oblige private owners to do anything”* [BGA3], representatives of statutory bodies in the area saw the Plan as a useful information tool detailing the issues affecting the catchment and measures that could be undertaken.

To sum up, the Bladnoch SAC was slightly unusual in that it had no designation prior to the SAC designation and its designation was focused on maintaining the Favourable Conservation Status of only one species. The Plan resulting directly from the designation reflected these two aspects: being previously undesignated, the Plan represented a tool for

---

<sup>2</sup> For an explanation of interviewee codes, please refer to Appendix 2b.

the statutory bodies and competent authorities to fulfil the requirements of the Habitats Directive in terms of maintaining the Favourable Conservation Status of Atlantic salmon. The Plan was therefore aimed at all stakeholders in the catchment likely to impact on the species designated in the SAC. These stakeholders are introduced in more detail in the next section.

### 5.2.3. Dynamics of stakeholder relationships

Interviewees were broadly defined as government department representatives (SNH, Forestry Commission Scotland and the Scottish Environment Protection Agency), independent scientific advisers (Galloway Fisheries Trust and the Scottish Agricultural College) and biodiversity users (farmers, foresters and fishermen). In this section, the three groups are introduced, and the relationships between them explored.

#### 5.2.3.1. Government department representatives

The three main government departments involved in the development of the Plan were SNH, Forestry Commission Scotland and the Scottish Environment Protection Agency. In this case study, most biodiversity users interviewed had a very low opinion of all three government departments, for reasons explained here.

SNH was perceived by biodiversity users as very unaware of local issues and rarely taking on board local knowledge. As such, one land owner remarked on the fact that: “*we’ve got [...] a lot of local knowledge, we know what works, but somebody behind a desk at SNH will say ‘well this should work and that’s what should be done’*” [BBU7]. This reflected the common disconnect between people in remote rural areas and decision-makers in urban settings (Warren, 2002: 208) and resulted in biodiversity users using derogatory terms about SNH such as “*bureaucratic*” [BBU8], “*unhelpful*” [BBU8], “*intransigent*” [BSA2] and “*negative*” [BBU5], adding that SNH often had “*a vested interest*” [BBU8], and were “*out of focus*” [BBU3]. This opinion was linked both to direct experience of SNH management of the Bladnoch, and hearsay regarding SNH management of the nearby Cairnsmore of Fleet National Nature Reserve (NNR). SNH were also seen to be advocating ‘naturalness’. This was interpreted as highly inappropriate by biodiversity users, especially in an area such as the Bladnoch, which they perceived as being managed intensively, especially on the upper reaches. Their view coincided with the findings of Fischer and Young (2007), where participants interviewed in the Cairngorms concurred on the fact that wilderness no longer existed in Scotland (ibid: 279).

As mentioned earlier, forestry is a major land-use in the Bladnoch area. In light of the association between forestry, surface water chemistry and salmon populations (Section 5.2.1), it is perhaps unsurprising that the views on forestry from those with salmon conservation interests were, for the most part, negative. However, there were important differences in their views of public forest interests (represented by the Forestry Commission Scotland) and private forest interests. Indeed, a number of interviewees acknowledged the wide-ranging role of the Forestry Commission Scotland, appreciated the integration of biodiversity issues in their management practices, and the Commission's receptiveness to other points of view. However, this was often down to individuals, rather than the organisation as a whole. As such, one interviewee acknowledged they were lucky, in the Bladnoch area, to have a pro-active forest manager with an ecology background who could "*internally get a lot of agreement and sway to get finances directed into doing some sexy stuff on the ground*" [BGA4]. At the organisational level though, a number of biodiversity users in particular felt that the Forestry Commission Scotland were not doing as much as they could to change forestry practices in the Bladnoch. In addition, some expressed doubts as to the appropriateness of the Forestry Commission Scotland being a competent authority in an area in which forestry was seen to be a contentious issue.

While it was clear that Forestry Commission Scotland was responsible for granting the application and the licences to plant, fell and replant, the Scottish Environment Protection Agency's role as a statutory consultee was less well understood by interviewees. The general consensus among the five biodiversity users who mentioned the Scottish Environment Protection Agency directly was that their current role had to change, particularly in terms of addressing acidification. The Agency's past performance in addressing water quality on the Bladnoch was described by one land owner as "*absolutely deplorable*" [BBU2]. As such, one scientific adviser emphasised the need for the Agency to "*be looking at these forestry operations definitely more with a stick than a carrot*" [BSA2] referring to them as "*the ones who have really got to be draconian*" [BBU1].

To summarise, the three government departments involved in the Plan were seen in a negative light by the biodiversity users in the catchment. Perhaps more worrying was the perceived close-knit relationship between the above organisations, leading one interviewee to comment on the fact that it was "*very political - the same people run the Forestry, SNH and SEPA*" [BBU2]. As such, even if any of the statutory bodies had wanted to act on the Bladnoch, one interviewee predicted that "*maybe if they stick their neck out they'll be given a kick up the arse and told to shut up*" [BBU4]. This resulted in a situation perceived as one in which "*SEPA and SNH are dragging their feet, simple as that*" [BBU4]. This reflected a broader perception of expertise as biased (Woodhouse and Nieuwsma, 2007: 80).

### 5.2.3.2. Scientific advisers

The main independent source of fisheries expertise on the Bladnoch was the Galloway Fisheries Trust, a charity established in 1988 by four local District Salmon Fishery Boards in the Galloway area. The perceptions of the Galloway Fisheries Trust were in stark contrast with those of SNH above, the former described as “*unquestionably dedicated*” [BBU5], “*experienced*” [BBU5], “*respectful*” [BBU3] and “*pro-active*” [BGA4]. Perhaps one explanation was the fact that every interviewee knew personally the senior researcher of the Galloway Fisheries Trust. Each felt they could approach the Galloway Fisheries Trust easily and vice-versa, work could be carried out on their land straightforwardly. The Galloway Fisheries Trust was not only commended for its scientific work, but also for its efforts to educate people more widely and for its work on the ground. Interviewees also mentioned that, in part due to the good relationship between the Galloway Fisheries Trust and statutory bodies, the Galloway Fisheries Trust had been “*been quite instrumental in getting the Forestry Commission to change [...] all sorts of practices that should benefit the river*” [BBU1]. For fishermen in particular, however, the Galloway Fisheries Trust was “*getting the point over as much as they can [...] there’s only so much they can do*” [BBU8]. Indeed, providing scientific advice to government advisers and others was insufficient for some interviewees, who questioned whether “*it’s political enough. I don’t think the GFT’s political enough. I mean it’s bankrupt*” [BBU4]. The fact that the Galloway Fisheries Trust functioned on a small budget while adding to their merit for some, was for others a source of worry. A small number of fishermen in particular perceived a potential loss of independence associated with remuneration from statutory bodies: “*there’s got to be funding in there to pay the wages and pay the rates and put fuel in the vehicles [...] but there’s an inevitable problem of its success that some of the independence has gone*” [BBU2].

### 5.2.3.3. Biodiversity users

A total of twelve biodiversity users were interviewed in this case study (see Appendix 2b), including a private forest owner, a private forest manager, fishermen, land owners and tenant farmers. These groups invariably overlapped, for example with land owners often having fishery interests.

A number of forests around the Bladnoch were privately owned. These owners were usually not locally-based, but had their forests managed by a local company. This physical distance created a chasm with local stakeholders, who perceived them as a group who “*don’t live very close, certainly never come here, so the environmental, they couldn’t give a toss*” [BBU2]. The underlying feeling was that because the private forest owners were physically distant

from the Bladnoch, they could have no real interest in local issues. This related very closely to the idea that the sense of “place” at the more local scale potentially increases commitment to reaching a resolution and implementing decisions taken (Rockloff and Moore, 2006: 650). In this case study it also highlighted the fact that despite undertaking local-scale approaches, all stakeholders might not be local, thereby impacting on both the process and outcomes of such approaches. Private forest owners were seen as being opposed to salmon conservation due to the potential restriction on their economic activities: *“these people want best possible returns you know and whether there are salmon or not at the top of the Bladnoch is not a great concern”* [BBU2]. As such, what governed their actions was perceived to be solely economic profits, leading them to adhere to the bare minimum set out in the Forest and Water Guidelines. This coincided strongly with existing literature, which highlights strong opposition from private forest owners to nature conservation due to restrictions to their economic activities and their rights to make decisions on their own land (Paloniemi and Tikka, 2008: 336-337). Indeed this group perceived the SAC and the Plan as an imposition over which they had absolutely no control. One forest manager commented on how *“ these things are being imposed on us and there’s nothing we can do to stop them [...] there’s very little inputs we can have to influence them [...] it’s just going to be steamrolled through in some shape or form and that’s it, we’ll be left with it”* [BBU6]. He went on to comment on the need for compensation for conservation efforts, a position widely held amongst private land-owners who may object to having to carry the financial burden of what should be the responsibility of society as a whole (Doremus, 2003: 217).

The other group with a potential influence on the Plan were land owners and land managers, mainly farmers in the lower reaches of the Bladnoch. Five were interviewed as part of this study. Of these, none was involved directly in the development of the Plan (see Section 5.3.2). The rights of access to salmon fishing in Scotland are a key aspect to explaining this situation. Salmon fishing rights in Scotland do not necessarily belong to adjoining land, but are a separate heritable estate that can be bought (Shearer, 1992: 85). Although these rights are privately owned, fishermen can rent or buy permits from owners in order to fish on a river (Butler et al., 2009: 260), which, again is the case in the Bladnoch. This resulted in a situation where *“in Scotland you have a farmer with a river or a burn going through his land, who has not got the salmon rights for that particular area. So to them they’ve got no interests in preserving or exploiting, or doing anything with it”* [BBU8]. This situation, combined with the time constraints faced by farmers, and high levels of trust with the Galloway Fisheries Trust, led land owners and managers to be *“quite content to see what happened and a lot of farmers would be because it’s a case that it was going to be aimed at fish”* [BBU3].

The last group of biodiversity users were those with fishery interests, primarily recreational. Not all stakeholders with fishery interests were members of the Fishery Board. In addition, few interviewees mentioned the Fishery Board directly. As such, the focus here was mainly on fishermen, rather than the Fishery Board. A number of criticisms were voiced against this group, mainly from representatives of the statutory bodies, who highlighted their tendency to “*jump to the very overly simplistic view which is “if you chop down all the trees tomorrow, we’d have loads of salmon back in here”*” [BGA5]. There was a clear perception that fishermen misunderstood certain forestry issues, including the potential negative impacts of large-scale deforestation. The same representative went on to say that “*people who’ve got an interest in fisheries aren’t really bothered about those other things because it doesn’t really interest them*” [BGA5]. One fisherman admitted himself that he was “*very much blinkered*” [BBU8] in terms of wanting the Plan to deliver positive benefits to the salmon population. Another aspect stressed by one interviewee was the difficulty to manage expectations of fishermen, in light of the fact that “*fishermen out there want it done next month!*” [BGA4].

To sum up, while government department representatives and independent scientific advisers were involved heavily in the Plan, many biodiversity users (more notably the private forest owners and the farming community) were largely absent during its development. Although the relationship between biodiversity users and scientific advisers was generally positive, the relationship between biodiversity users and statutory bodies was often difficult, an issue impacting on those groups’ perceptions of the situation in the Bladnoch, explored in the next section.

#### 5.2.4. Stakeholder perceptions of the situation

All interviewees acknowledged that acidification was the key issue affecting the upper reaches of the Bladnoch. There was some debate, however, especially between those with forestry and fishery interests, regarding the precise contribution of forestry to continued acidification and possible measures to counteract it. These are explored in this section.

According to the scientists and government advisers, forestry, while an issue in the Bladnoch, was not the only issue affecting salmon. As seen in Section 5.2.1, a combination of geology, pollution and forestry were responsible for acidification in the Galloway area. As such, interviewees with forestry interests referred to forests as “*a vehicle for acidification to occur*” [BGA5], acting as “*filters filtering out sulphates and nitrates from the atmosphere*” [BBU6]. Following on from this standpoint, the main issue for government advisers was the need to determine how significant forestry was in contributing to acidification. For interviewees with fishery interests, forestry was seen as a major contributing factor to acidification and, as such, forests needed to be cut back significantly from the Bladnoch,

particularly in the acidified upper reaches of the catchment. Forestry representatives and other government advisers, however, stressed that removing trees from the catchment needed to be backed by scientific justification, which was currently lacking.

In this case study, knowledge or perception of the past state of the Bladnoch may have impacted on interviewees' perception of naturalness or wilderness, thereby making them more in favour of changing the current landscape (Hanley et al., 2009: 1412). Indeed, all land owners interviewed referred to changes on the Bladnoch in terms of land-use change and biodiversity (not only salmon), either from experience or anecdotally. Land owners mentioned "*stories where you could go and get salmon out of that river by the tonne*" [BBU3] and that salmon were so plentiful that people had taken "*the salmon out and fed them to the dogs*" [BBU2]. Interviewees also referred to the changes due to forestry, highlighting that since planting in the 1960s onwards there had been "*unbelievable change*" [BBU2], leading to a "*disaster*" for local biodiversity. This could explain why interviewees with fishing interests advocated the need to return to a historical state with less afforestation, and to consider liming in particularly acidified parts of the Bladnoch.

Liming was historically carried out in the Bladnoch following a UK subsidy on agricultural liming in the 1930s, which lasted until 1976 (Helliwell et al., 2001: 457). Liming neutralizes acidic water, adds calcium, and reduces toxic inorganic aluminium (Hindar et al., 1996: 985). As such, liming, either through direct application to the river, or through spreading onto adjacent land, is one of the most common mitigation measures against acidification (Shearer, 1992: 198). Perhaps the most obvious impact of liming has been the success in restoring or increasing the density of salmon populations in many acidified areas (e.g. Hesthagen and Larsen, 2003: 94), resulting in its adoption as a national strategy in countries such as Sweden and Norway (Henriksson et al., 1995: 131). In addition to the high cost of liming, however, some adverse ecological effects of liming have been documented, including the death of *Sphagnum* mosses in bog habitats (Clair and Hindar, 2005: 112) and possible alterations of bog structure and function in the long-term (Henriksson et al., 1995: 136). Perhaps because of these risks, SNH was perceived in the Bladnoch area to be against liming. SNH's push for 'naturalness', already mentioned above, was outlined by biodiversity users as the reason why SNH was against liming as an intervention in the catchment. As one land owner explained, "*SNH's line [on liming] is always "well it's not natural" [...] I would counter that by saying that mass monocultures of conifer plantations are not natural. Man-made problems need man-made solutions. Simple as that*" [BBU4].

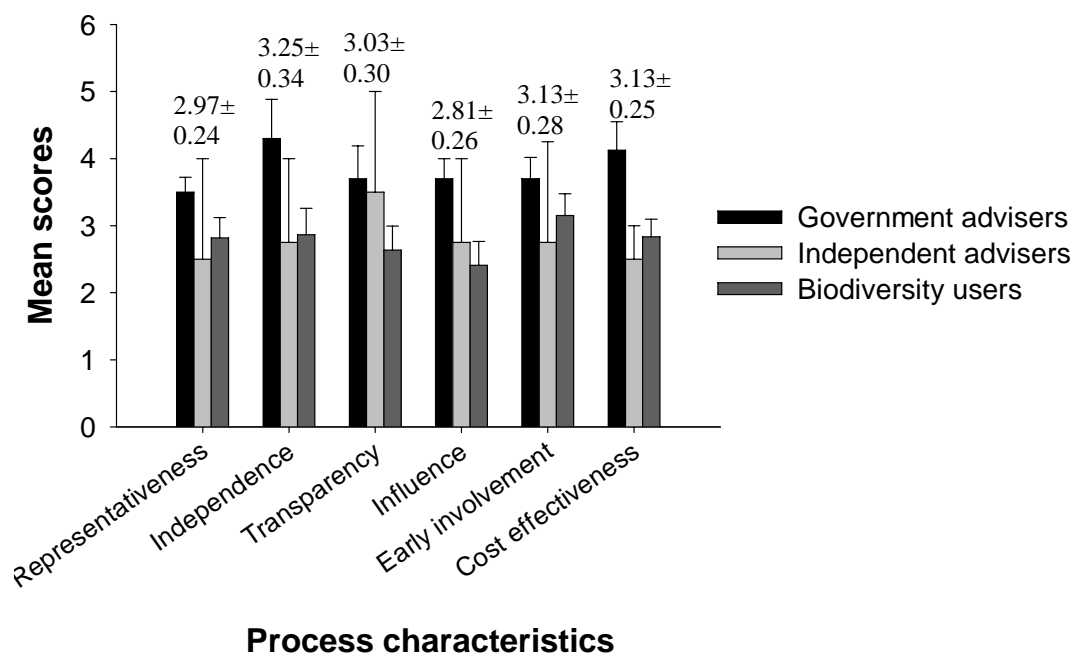
To summarise, the Plan was developed to maintain the Favourable Conservation Status of Atlantic salmon, a fish species declining globally. The main stakeholders and their dynamics

were identified in this section as well as their views on the situation in the Bladnoch. The contribution of forestry to continued acidification was a cause of conflict amongst stakeholders. Before exploring this conflict closer, it is essential to understand how the process of developing the Plan was carried out and evaluated, explored in the next section.

### 5.3. Evaluating the process of public participation in the Plan

This section describes the results of the evaluation of the process of participation in the development of the Plan, using the evaluation criteria presented in Chapter 3, namely independence, transparency, influence, representativeness, early involvement and cost-effectiveness. The results build on both the quantitative (see Figure 5.3) and qualitative data collected through semi-structured interviews (see Chapter 4).

**Figure 5.3. A quantitative evaluation of the process of participation by stakeholders involved in the process of developing the Plan**



N.B. Numbers above grouped bars indicate total mean score ± standard error of the mean across stakeholder groups.

#### 5.3.1. Independence, transparency and influence

When asked to score the process in terms of its independence, interviewees scored this highest of all process characteristics (3.25±0.34, see Figure 5.3). For the reasons explained in Section 5.2.2, three biodiversity users perceived the development of the Plan as biased, with



SNH “*pushing [...] a lot really about what should go in and what shouldn’t go in*” [BBU4]. This could explain the marked difference between the very positive scores to this characteristic allocated by the government advisers ( $4.3\pm 0.58$ ), and the less positive scores of the scientific advisers ( $2.75\pm 1.25$ ) and biodiversity users ( $2.86\pm 0.39$ ).

The goals of the Plan were not clear to all interviewees, impacting on the scores allocated to the transparency of the process ( $3.03\pm 0.30$ , see Figure 5.3). Indeed, according to one scientific adviser, even *within* the steering group “*they weren’t too sure what they wanted*” [BSA1]. This situation resulted, on the one hand, in the biodiversity users with fishery interests viewing the goals of the Plan as the restoration of salmon in the Bladnoch. On the other hand, the government advisers viewed the goal of the process broadly as the development of a reference document “*for anyone who needed to do any work in the catchment*” [BGA1]. This difference in perceptions of different stakeholders regarding the scope and goals of participatory processes is a feature of other studies (Mostert et al., 2007: 6) and highlights the importance of the delimitation of goals when designing effective conservation programmes (Doremus, 2003: 228), helping participants understand the boundaries of such processes (Richards et al., 2004: 15).

This lack of clarity in turn impacted on the potential influence of stakeholders on the Plan with one private forestry manager asking “*how can you argue something or have an input if you don’t understand what’s being proposed?*” [BBU6]. The factor most impacting on the very low score given to this characteristic ( $2.81\pm 0.26$ ), however, was the perceived “clout” of the statutory bodies (see Section 5.2.3.1), reflecting political power structures (Richards et al., 2004: 20). For some biodiversity users, this resulted in a situation in which “*these power-that-be have their own opinion and they’re not really interested in other peoples’ opinions on how it should be run*” [BBU7]. This was exacerbated by the way in which the Plan was developed, i.e. with preliminary actions being written by SNH and the Galloway Fisheries Trust before any wider consultation had taken place. One SNH representative explained why such a process had been adopted by stating:

*we thought if we left a blank plan [...] you wouldn’t get any response because everybody’s so busy, whereas if you give them something and say “it looks as if this is an important issue and we think this organisation should be doing something about it” then if it wasn’t right then they would come back and say “that’s actually somebody else’s business” or “this is routine, ongoing work for us, it’s not really an action* [BGA1].

In addition to this more ‘practical approach’, the government advisers also commented on the non-negotiables of the process: “*a lot of this is driven by regulations, legislation, those sorts of things where it doesn’t really matter what somebody might want, it’s what you can*

*actually do*” [BGA5]. While the influence of stakeholders on the Plan may indeed have been constrained by the ‘non-negotiables’ of top-down legislation and policy (Richards et al., 2004: 15), it resulted in a situation whereby stakeholders doubted whether their input could actually make any difference (Mostert et al., 2007: 8).

To conclude, the goals of the Plan were unclear among interviewees, resulting in very different perceptions of the management Plan itself and the level of influence stakeholders could have on the process. A concern for many biodiversity users was the perceived relationship between government departments, impacting on the independence of the process, its transparency and other stakeholders’ influence on the Plan. As we will see in the next section, these aspects also had a marked effect on other aspects of the process.

### 5.3.2. Representativeness, timing of involvement and cost-effectiveness

The way in which the process was carried out (see Section 5.2.2) impacted heavily on who took part in the process and how, with interviewees acknowledging that important stakeholders were missing from the process. The reasons behind this lack of involvement are explored in this section, as are the potential repercussions on the Plan and other process characteristics including the timing of involvement and cost-effectiveness.

Representativeness was scored relatively low ( $2.97 \pm 0.24$ , see Figure 5.3). As described in Section 5.2.2, the initial Plan drafted by SNH and the Galloway Fisheries Trust was sent to a relatively small number of representatives for comments, including “*the formal sort of groups*” [BGA5], such as the Bladnoch Fishery Board. This was, according to one government adviser, because the Plan was very much for the purposes of “*the people that are involved in the actual running of the area as opposed to members of the general public*” [BGA5]. Even without taking into account the wider public, many individuals that were “involved in the actual running of the area” were, however, seen to be missing from the process, in particular the local farmers and the private forest owners. This perhaps accounted for interviewees giving this characteristic the second lowest score of all process characteristics.

While all farmers interviewed had received the Plan, none of them could recall being invited to a meeting to discuss the Plan, or mentioned the questionnaire. According to an SNH representative the land owners “*had their chance to make comments on certain aspects [...] but nobody’s really come forward subsequent to that*” [BGA1]. Perhaps one of the reasons they didn’t come forward was the fact that the Plan was “*not particularly accessible documents, you need to be quite knowledgeable to get a reasonable understanding of it, it tends to use a lot of jargon*” [BGA5]. All farmers interviewed commented on the fact they

could not afford the unpaid time to participate regularly and comment on the drafts, particularly on an issue that was perhaps unlikely to affect strongly their livelihoods or values (Irvin and Stansbury, 2004: 59). While not averse to being consulted upon and contributing to the implementation of the Plan, they commented on the need for face-to-face discussions rather than lengthy management plans, newsletters and other non-personal communications. In addition, there was no clear farming body representative during the development of the Plan. One such potential body, working for an agricultural consultancy, confirmed they had not been invited to comment on the Plan. On receiving it though, they realised they had been allocated a number of actions within the Plan without having been involved in the process of drawing up the Plan or its actions:

*Interviewer: So you're having to do things for the management plan that you never agreed to?*

*BSA2: Yeah. They're all very sensible things and they are related to our organisation, but had we been involved in the drawing up of that document it might have been slightly different.*

This pointed to predetermined decision-making, the lower rungs of the Arnstein ladder (1969: 217) and Rowe and Frewer's one-way "public communication" model (2005: 254). It also emphasised a technocratic approach, which runs the risk of making the wrong decisions by ignoring problems, issues and solutions suggested by non-experts (Fiorino, 1990: 227).

The private forest owners, who were a significant part of land ownership in the Bladnoch, were also missing from the process. Although they were given the draft documents they were not directly represented in the process. This was perhaps due to a number of barriers. The first was the lack of a "*representative voice that would have acted for them in an effective way*" [BGA5]. In part this was constrained by the diversity of owners, ranging from local individual owners to investment owners to companies. Another barrier was linked to communication with government departments. This referred back to the need for participants to participate on an equal footing with agency officials (Fiorino, 1990: 230). To overcome this barrier, one private forestry company representative suggested having a forest "consultant" who could have gathered the views of private forest owners and managers and reported this information back into the process.

The last two process characteristics, namely early involvement and cost-effectiveness were scored relatively highly ( $3.13 \pm 0.28$  and  $3.13 \pm 0.25$ , respectively) although neither elicited a great deal of discussion. When asked whether stakeholders were involved early enough, the responses were very wide ranging and could reflect a difficulty in understanding the

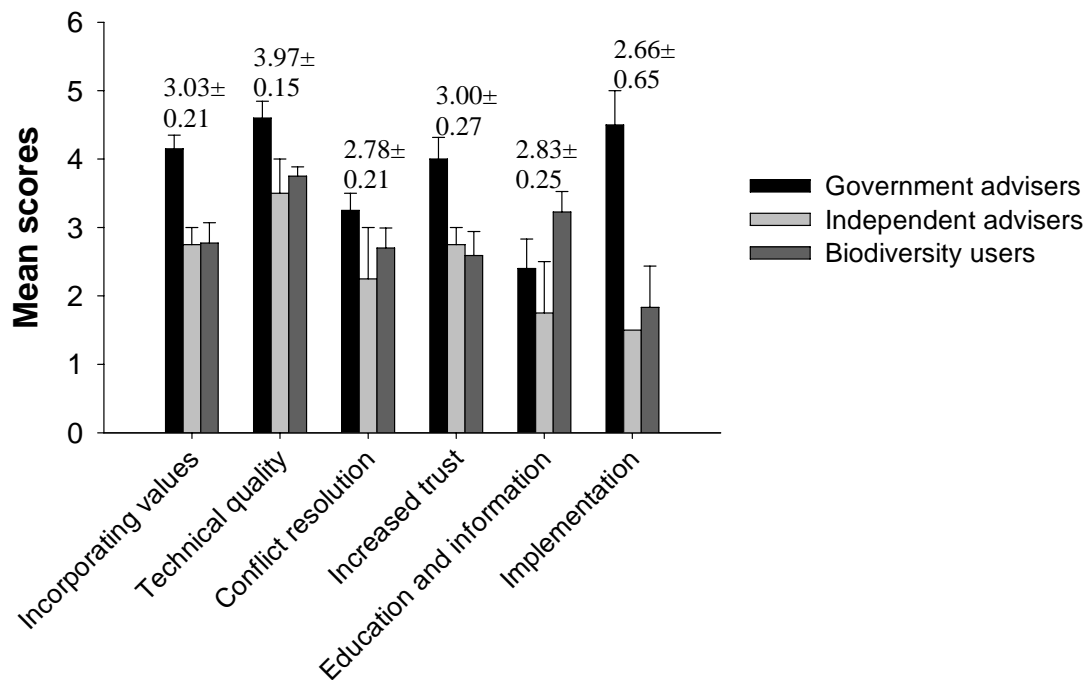
question, particularly as some interviewees commented on the time lag between the designation and the development of the Plan. Others could not recall whether they had received invitations to comment on the draft before the Plan was sent out to them and were therefore unable to comment on this characteristic. This raised again the more important issue in this case study of ‘how’ local stakeholders were involved rather than ‘when’, and the importance of adapting involvement to different groups. As one interviewee said, “*you generally find with these sorts of things that the door’s been open but whether it was open in a way that was actually effective is another matter*” [BGA5]. Some were more critical of the timing of involvement with the feeling of having being asked to comment on the final decision rather than to joining in earlier discussions (Chess and Purcell, 1999: 2691). Finally, on the issue of cost-effectiveness, most interviewees did not know how much the Plan had cost or what its effectiveness would be, and were therefore unsure of how to answer. Government representatives felt the development of the Plan had not been a great pressure on their time. As for SNH, the Plan was relatively inexpensive, or as one interviewee suggested, it embodied “*the typical SNH ‘cheap and dirty’ kind of approach to things*” [BGA1]. For others, particularly land owners with fishery interests, the money spent on the Plan “*would probably have been best spent buying some of that forestry and physically chopping it down*” [BBU4].

To conclude, the way in which the Plan was developed impacted heavily on who was involved. As a result, important affected stakeholders, including the farmers and private forest owners, were missing from the process. This was a particularly important consideration however in this case study, in which these omitted groups owned and/or managed a significant part of the catchment.

#### **5.4. Evaluating the social outcomes of public participation in the case of the Plan**

Following on from the process evaluation, a number of social outcomes were evaluated by interviewees. As described in Chapter 3, these were decision quality, relationships and capacity-building. These three social outcomes were evaluated in turn in this section building on qualitative (see Figure 5.4) and qualitative elements collected through semi-structured interviews.

**Figure 5.4. A quantitative evaluation of the social outcomes of participation by stakeholders involved in the process of developing the Plan**



### Social outcomes characteristics

N.B. Numbers above grouped bars indicate total mean score  $\pm$  standard error of the mean across stakeholder groups.

#### 5.4.1. Decision quality

There was a marked contrast in terms of decision quality as regards the incorporation of stakeholders' values ( $3.03 \pm 0.21$ ) and improving the technical quality of decisions ( $3.97 \pm 0.15$ , see Figure 5.4). Overall, however, decision quality was the highest scoring of all process and social outcome characteristics ( $3.49 \pm 0.15$ ). The reasons for this are explored in more detail in this section.

In terms of incorporating stakeholders' values into decision-making, a critical consideration in this case study was "whose values" were being addressed (Beierle and Konisky, 2001: 520). In this aspect, this characteristic was very closely linked to the perceived level of influence of government departments (see Section 5.3.1). So, while the values of SNH, the Scottish Environment Protection Agency, the Forestry Commission and the Fishery Boards were to a large extent incorporated into the Plan, as reflected in their high score for this characteristic ( $4.15 \pm 0.2$ ), the scientific advisers and biodiversity users scored this characteristic very low ( $2.75 \pm 0.25$  and  $2.77 \pm 0.30$  respectively). This led one farmer to comment on the fact that "it was more a case of the values of those with the money rather

*than the values of the people on the ground*” [BBU3]. There was little evidence from biodiversity users to suggest that they had shaped the process and final decisions to reflect their priorities (Beierle and Konisky, 2001: 520). So, while the priority for many biodiversity users was to address the issue of acidification, this was perceived as poorly addressed in the Plan. So, while one Fishery Board member stated that “*we understand the problems on the river [...] I could have written it on a side of A4*” [BBU4], because of a perceived lack of prioritisation, the Plan had become “*insipid*” and “*an exercise rather than a weapon*” [BBU9]. This was perhaps the main cause of frustration for biodiversity users with fishing interests, who failed to see how the Plan had addressed what they perceived as the main issue affecting Atlantic salmon in the Bladnoch.

There was also a marked difference between the concept of incorporating values and taking values into account, with one government adviser stressing that the process had ensured that “*any ideas that came forward, no matter how extreme they were, they were accepted or not accepted, they were welcomed*” [BGA4]. This resulted in a situation where:

*In trying to satisfy peoples’ aspirations and what they want to see out of this, you can end up with something which in a big way doesn’t satisfy anybody [...] It’s a compromise, but any kind of complex land management type issue is always a compromise* [BGA5].

In addition to incorporating public values, participation can increase the technical quality decision by incorporating different knowledges (Beierle and Konisky, 2001: 520). As explored in Section 5.2.3.2, the Galloway Fisheries Trust had a very good reputation in the Bladnoch area. This was reflected in the responses given by interviewees when asked about the technical quality of decisions, with interviewees claiming that “*nobody else could have done it [...] their technical analysis of the situation is spot on*” [BBU4]. Contributions from the forestry sector and on water quality were also acknowledged by interviewees. However, some interviewees commented on the lack of integration of their local knowledge into the Plan. This was reflected in the comments of one biodiversity user, who claimed that despite the fact he was “*familiar with the area, you know what goes on year after year [...] what we think should be done [...] we’re told “no, you just don’t”*” [BBU7]. There was, however, evidence that biodiversity users had fed information into the process indirectly, through the Galloway Fisheries Trust. Whether it was taken into account was another matter, with one forester pointing out “*there was an exchange, whether we were listened to or not is another issue*” [BBU6]. Lastly, perhaps the most intense discussions revolved around the perceived scientifically “*flawed*” basis of the Plan, the critical load approach. This approach, described briefly in Section 5.2.1, was a source of concern particularly for those with fishery interests. This was seen as a completely separate issue from the more locally-based approach of the

Plan, but rather was viewed as a national-scale policy on which local stakeholders had very little control. This ‘non-negotiable’ top-down policy contributed to the frustration of many biodiversity users (Richards et al., 2004: 15).

One aspect on which all interviewees agreed was the pressing need for more data and research on acidification and forestry in the Bladnoch area, particularly in terms of acceptable levels of afforestation for the survival of species such as the Atlantic salmon. For one interviewee, however, carrying out such research could prove difficult, with some government departments not wanting “*any further advancement [...] for fear that it’s going to bring out information that is politically unwelcome*” [BBU2]. This biodiversity user seemed to be expressing intense mistrust not only of the government department in question but of the entire political system.

To conclude, interviewees scored the technical quality of decisions highly. There was, however, little evidence to suggest that interviewees had been able to “shape the process and decisions to reflect their values” (Beierle and Konisky, 2001: 520). This, in turn, impacted on the relationships between stakeholders, as discussed in the next section.

#### 5.4.2. Relationships

Improving relationships between stakeholders by increasing trust and reducing conflict were potentially very important social outcomes of the Plan in view of the conflict present. This characteristic, however, scored very low ( $2.89 \pm 0.17$ ). The way in which the process was developed (see Section 5.2.1), combined with a perceived influence of government departments (Section 5.3.1) and a number of ‘non-negotiables’ (Sections 5.3.1 and 5.4.1) may have contributed to this low score. These and other parameters affecting trust between stakeholders and conflict resolution in this case study are explored in this section.

When discussing the issue of trust, it was important to differentiate between different groups. Indeed, levels of trust that were good prior to the Plan remained so during the process of developing the Plan and in its implementation. This was particularly true of those organisations, mainly the Galloway Fisheries Trust, the Scottish Environment Protection Agency and the Forestry Commission, that had worked together before. One key issue potentially acting upon this was the stability of staff in this area. For these groups, the Plan had not so much increased trust as enabled the development of a “*more structured format [...] a framework for engagement [...] helpful in terms of building a greater degree of transparency between the parties concerned*” [BGA5]. This situation could, however, have led to a certain degree of complacency, leading one scientific adviser to acknowledge that “*sometimes trying to change things with the same people isn’t the easiest thing to do*”

[BSA1]. The Plan also led to increased confidence in the Galloway Fisheries Trust. Perhaps the most notable change was between a private forestry manager and the Galloway Fisheries Trust, the former commenting enthusiastically that *“our relationship is fantastic, that’s been a positive”* [BBU6].

For most biodiversity users interviewed, the Plan had made very little difference to their trust in government departments. The process of developing the Plan had, however, been helpful in enabling them to understand different perspectives better, a key aspect of learning (McCool and Guthrie, 2001: 321). Unfortunately, for some interviewees, this increased awareness of the workings of government departments emphasised their failings. For one biodiversity user, it stressed the large gap between himself and SNH:

*it just makes your heart sink a bit when you get this sort of stuff because you know the people whose job it is to sit in an office and produce all this and it’s a very different world from [...] people who are actually out in the real world actually doing things* [BBU1].

As such, the Plan and the knowledge of government departments gained from the process *“just drew the lines a bit more starkly”* [BBU3]. For five biodiversity users, the Plan had actually decreased their trust in government departments, resulting in intense frustration. This was perhaps because a compromise had been reached rather than a broader consensus. In these cases where processes fail to lead to the delivery of agreed objectives, original distrust in government can increase (Richards et al., 2004: 14).

Trust is a key aspect of conflict resolution in natural resource management, with decreasing trust reducing the ability to resolve complex environmental problems (Beierle and Cayford, 2002: 15). In this case study, the process of developing the Plan had done little to reduce the conflict, resulting in this characteristic scoring second lowest of all process and outcome characteristics ( $2.78 \pm 0.21$ , see Figure 5.4). While a more participatory process might have helped in terms of reducing conflict, one government adviser did not perceive the Bladnoch catchment to be a situation contentious enough to require such a participatory management plan. So, while in the nearby Luce Bay and Sands SAC it was *“very important to get people on board when you’re drafting something [...] where there are lots of opposing bodies and issues and they’ve all got to be onboard right from the start”* [BGA1], this did not apply to the Bladnoch. Indeed, none of the government advisers perceived there were any major conflicts on the Bladnoch. Instead, there were *“challenges”* [BGA3] and *“tensions in terms of pace of change, those sorts of things”* [BGA5]. Two of the government advisers interpreted ‘conflicts’ as inter-personal conflicts and stressed the absence of such conflicts within the steering group.



For many biodiversity users, however, conflicts were very present, especially the conflict between afforestation and acidification, or as one interviewee described it, the conflict between “*the fishery boys [...] trying to improve the river and the forestry just want to get on with the forestry*” [BBU3]. A general feeling among biodiversity users and scientific advisers was that the Plan had achieved little in terms of conflict resolution and resulted in the situation having “*not moved forward, either from the catchment plan side of it or from the people that have issues with it*” [BSA2]. As such, the process was seen as ineffectual, leading to frustration, scepticism and distrust concerning the drive behind the Plan (Rowe and Frewer, 2000: 15). For three biodiversity users, the Plan had actually exacerbated the conflict. The Plan itself was perceived as one of “*inaction - it’s of consideration speak*” [BBU9]. This perception may have been linked to the organisational structure of the government departments involved and the need to involve parties having the authority to make and implement decisions rather than simply advising on recommendations (Bingham, 1986: 104).

Some interviewees did perceive the Plan as a basis for conflict resolution, as long as implementation switched from ‘consideration speak’ to action, “*in other words they took their own advice and “where we are able” becomes “we will”*” [BBU9]. Others believed that the basic conflict of forestry in the landscape could not be resolved unless other measures, such as a change in legislation, compensation or mitigation measures such as liming, were put in place.

To conclude, levels of trust that were high before the process remained so during and subsequent to the Plan being developed. For many biodiversity users, trust in government departments had decreased during the process of developing the Plan. This, in turn, led many to comment on the failure of the Plan in addressing the main conflict in the Bladnoch.

#### 5.4.3. Capacity-building

Capacity-building is a key normative justification for more participation (Fiorino, 1990: 227). From this perspective, providing the opportunity to participate, as described in Section 5.3.1, is insufficient if participants are not given the capacity to engage meaningfully in technical debates (Richards et al., 2004). Capacity building, however, not only means education and information, it also requires the creation of structures or organisations capable of implementing decisions taken through the participatory process (see Chapter 3) (Beierle and Konisky, 2001: 523). These two aspects are evaluated in this section.

Providing the required knowledge on complex environmental problems is essential to allow lay people to take an informed part in environmental management (Chase et al., 2004: 638; Reed, 2008: 2422). In this case study, among the representatives that had taken an active role in the process, information had been exchanged and had resulted in a better understanding for all both in terms of ecological and institutional contexts. Most of the awareness-raising for those outwith the process was achieved by sending out the Plan to all land owners and managers of the catchment. For land owners and managers, receiving the Plan through the post, while providing information, had not been an appropriate way of educating them about the salmon and the river. The consensus was that “*it was so bloody long and complex that a lot of people didn’t bother reading it anyhow*” [BBU2]. For some land owners and managers, the Plan only reinforced the chasm between them and SNH, with interviewees referring to them as naïve for expecting land owners to read it. Instead, farmers recommended one-to-one conversations with the Galloway Fisheries Trust or SNH as a more practical approach to educate and involve them. Interestingly, the government advisers themselves admitted that the Plan was “*effectively a technical document for people who already understand the issues*” [BGA5], which raised a number of questions as to why this document was sent, in this form, to lay people in the Bladnoch catchment. This characteristic, however, was scored relatively highly by biodiversity users who instead referred to successful education initiatives carried out by the Galloway Fisheries Trust outwith the Plan, for example in schools and at local cattle shows.

While a plan was produced, existing literature suggests that implementation, often reflected in the creation of organisations or structures that can institutionalise the arrangements that are needed to carry out future activities (Beierle and Konisky, 2001: 523), is a critically important dimension of success (McCool and Guthrie, 2001: 315): “*unless something’s physically done on the ground, documents and monitoring will not actually solve the problem*” [BBU4]. This characteristic scored lowest of all process and outcome characteristics ( $2.66 \pm 0.65$ ), with a very big difference between government advisers and other interviewees (see Figure 5.4). A caveat was that only six interviewees scored this characteristic, because many did not know how the Plan was being implemented, i.e. were unaware of the establishment of a steering group. This did not, however, stop them from expressing very serious doubts over implementation. The causes cited by interviewees for limited implementation were the intransigence of certain government departments, lack of clear or appropriate leadership, lack of prioritisation of actions, lack of time-bound deliverables and a dependence on voluntary agreements from government departments rather than legally-binding commitments. Accountability was a key aspect in discussions, with one interviewee musing that “*it would be very nice if I thought there could ever be a body that could sit there and say “fishery trust, you said you’d do this, you haven’t done it, why not?*”

*Get it done” - there isn’t and there never will be”* [BBU9]. Approaches suggested to overcome these challenges included an external review of implementation, an industry-led steering group, more locally-based flexibility in terms of current ‘non-negotiables’, and better communication of actions being carried out.

To conclude the section, the social outcomes of the Plan were perceived very differently by those directly involved in the process, namely the government advisers in the steering group, for whom the process had helped to give greater cohesion and increased understanding to an already good relationship; and the biodiversity users, for whom the lack of involvement and perceived power imbalance had acted to decrease trust further leading to frustration and disappointment over an unresolved conflict. This was felt particularly strongly in the implementation of the Plan, with little if no progress perceived by many interviewees.

### **5.5. Evaluating the biodiversity outcomes emanating from the process and its social outcomes**

As explained in Chapter 4, biodiversity outcomes were evaluated both in interviews (through the scoring exercise, discussions and a counterfactual exercise) and through a Delphi process involving five experts (see Appendix 4). The results from these two methods are explored in this section, which also explores the ways in which respondents perceived how the plan impacted on biodiversity and the links between the scale of the Plan and biodiversity outcomes.

#### *5.5.1. The evaluation of biodiversity outcomes by interviewees and Delphi experts*

##### 5.5.1.1. The evaluation of biodiversity outcomes by interviewees

When asked how successful the Plan was in ensuring the long-term conservation of biodiversity in the Bladnoch catchment, interviewees scored this characteristic relatively high compared to other process and social outcome characteristics ( $3.15 \pm 0.34$ ). There was a general hope amongst interviewees that Atlantic salmon, particularly the Spring run, would return in greater number to the Bladnoch. Nine of the interviewees had already either witnessed or heard of minor improvements in salmon numbers on the river. There were questions raised, however, over whether this improvement was the beginning of a long-term trend or a one-off situation, particularly in view of the life-cycle of the Atlantic salmon (see Section 5.2.1). In addition, interviewees highlighted the difficulties in linking this very slight improvement directly to the Plan. As such interviewees mentioned the positive impact of actions outwith the Plan, through the LIFE project funding, the on-the-ground activities of

the Galloway Fisheries Trust and voluntary agreements (e.g. fishermen returning all caught Spring salmon to the river). They also mentioned external parameters including climate change and reduced levels of pollution as potentially impacting positively on salmon numbers. Despite these reservations, bar two interviewees, who voiced that the situation for salmon would be the same without the Plan, all other interviewees acknowledged that biodiversity outcomes were greater with the Plan in place than without. Again the time scale was highlighted in this context, with one government adviser stating that biodiversity declines would be more apparent in the long-term without the Plan in place.

While few direct biodiversity impacts of the Plan were mentioned, the Plan was seen to have the potential to deliver long-term biodiversity benefits. For biodiversity users, however, this depended heavily on whether the Plan was *implemented* effectively. So, while the Plan was a starting point, it needed to deliver actions that could positively change the situation in the Bladnoch. This was seen as the crux of the issue by biodiversity users, who scored this characteristic lowest of all groups ( $2.95 \pm 0.38$ ). Four biodiversity users and one scientific adviser, however, failed to see how any biodiversity outcomes could emerge with the implementation process, for the reasons already described in Section 5.4.3.

Although implementation was seen as crucial for biodiversity users, a distinction was made by government advisers between perceived lack of implementation and the slow nature of change. This was particularly acute for the foresters, who stressed the differences in time perception held by foresters compared to other stakeholders: “*10 years, for some people it’s incredibly long-term, for foresters, 10 years is nothing*” [BGA3]. This echoed the findings of a study on mental constructs of biodiversity, which found that foresters often viewed changes as an evolution of nature (Fischer and Young, 2007: 279). Following on from this premise, managing the expectations of those stakeholders addressing the issue in the short-term was seen as a challenge:

*Fishermen out there want it done next month! Their expectation isn’t as lengthy as ours, they don’t see the river basin plan lasting until 2027, they want fish back in now, they want to be able to lease out their land for fishermen, £500 a week income and a holiday let. They want a quicker response time for improvement* [BGA4]

So, although government advisers felt the Plan was promoting salmon restoration in the Bladnoch, they voiced the concern that other stakeholders might not acknowledge the benefits of the Plan and its implementation, mainly because of their inability to envision long-term changes.

To conclude this section, biodiversity outcomes were scored relatively high. This could have been in part because of slight recent improvements or because of the potential of the Plan. The complexity and uncertainty surrounding the Atlantic salmon did, however, preclude interviewees from associating the slight improvement directly with the Plan directly. While interviewees were more optimistic about biodiversity outcomes with the Plan in place rather than none, a key to success was very much in the implementation phase.

#### 5.5.1.2. The evaluation of biodiversity outcomes by Delphi experts

In addition to the responses from interviewees, a panel of five experts (see Appendix 4) were asked to evaluate the biodiversity outcomes of the Plan. Their comments on the Plan and its effectiveness in terms of improving the Spring run of the Bladnoch are presented in this section. The experts took part in two rounds carried out in June and August 2009. The results of the Delphi are outlined in Table 5.1.

**Table 5.1. Projections of future changes in the Spring run of Atlantic salmon in the Bladnoch based on results from a Delphi process**

	Years from start of plan	Increase	No change or stabilisation	Decrease	No prediction
<b>With</b>	4 years	20%	60%	0	20%
Management Plan	8 years	40%	40%	0	20%
	16 years	40%	40%	0	20%
<b>Without</b>	4 years	0	60%	20%	20%
Management Plan	8 years	20%	0	60%	20%
	16 years	20%	0	60%	20%

Delphi experts were asked what changes in the Bladnoch river Spring run they would expect to see over the next 4, 8, 16 years provided the aims outlined in the Plan were implemented fully. They were also asked the counterfactual, namely what changes in the Bladnoch river Spring run they would expect to see in the next 4, 8, 16 years in a ‘business as usual’ situation, i.e. without the current Plan in place.

As with the government advisers and scientists interviewed, the majority of Delphi experts predicted a stabilisation in the Spring run or slight increase with the Plan in place, compared to a potential decrease if the Plan had not been implemented (see Table 5.1). All experts agreed that it was unlikely for the Spring run to decrease further as a result of the Plan. This triangulated well with the interview counterfactual. Only one expert predicted a slight improvement for the Spring without the Plan in place based on catchment changes linked to the Water Framework Directive. One expert did not wish to offer any predictions. As with government advisers, the Delphi experts perceived positive change in the long term, with

60% predicting very little change within the next 8 years. Of the experts who did provide predictions, all emphasised the difficulty in doing so in light of lack of data on Spring run catches in the Bladnoch since 1985 and, very importantly, lack of knowledge of factors relating to salmon populations at sea. As such, the Delphi experts stressed the need for further research on the Bladnoch, a point also made by interviewees (Section 5.4.1). Delphi experts also matched the views of many interviewees on the failure of the Plan to resolve what they perceived as the main conflict on the Bladnoch, namely acidification (see Section 5.4.2). One Delphi expert commented that

*Although the acidification of the upper Bladnoch is referred to, no attempt has been made to address the problem. This is a serious omission. [...]. Until the major problems like acidification are identified and addressed it is unlikely that the Bladnoch salmon population will change significantly [BDE1].*

Another expert expressed the same concern, highlighting that “*More effort should be put into resolving this problem [acidification] which hasn’t been mentioned in the plan [BDE2]*”

In conclusion, both interviewees and Delphi experts acknowledged the potential of the Plan to deliver positive biodiversity outcomes. This was particularly apparent in the interviews and Delphi counterfactual, which highlighted the greater likelihood of positive biodiversity outcomes with the Plan than without. Many interviewees and Delphi experts, however, criticised the Plan for not addressing the issue of acidification, and emphasised the ensuing risks to salmon populations in the Bladnoch.

### *5.5.2. Exploring ways in which respondents perceived the Plan impact on biodiversity*

As seen in the two previous sections, biodiversity outcomes were scored relatively highly by interviewees and Delphi experts. This was in contrast with the relatively low perception of the process of developing the Plan and its social outcomes. Although one would expect an association between negative process and negative outcomes (Chess and Purcell, 1999: 2690), this case study highlighted the lack of this systematic relationship (Beierle and Konisky, 2001: 524). This is explored further in this section, which focuses on the indirect links between the development of the Plan and potential biodiversity outcomes.

The main *indirect* ways in which the Plan contributed to biodiversity outcomes were suggested by government advisers. They highlighted benefits which included bringing stakeholders together, identifying the important issues affecting Atlantic salmon in the SAC and coordinating efforts to address these issues. The government advisers stressed the benefits of improved communication amongst the group, with one interviewee commenting that “*different organisations use English as their main language but actually it’s not true. We use the same words for different things. Actually the meetings are so important to share*

*the understanding of what we're actually meaning by that bit of paper*" [BGA3]. This highlighted one of the more common problems associated with bringing together people from different institutions and backgrounds speaking different 'languages' (Bruce et al., 2004: 467). In this case study the increased meetings between members of the steering group had helped in breaking down some of these communication barriers. The greater contact had also contributed to organisations being more focussed on work in the Bladnoch, in particular in terms of increasing understanding of the system. This had no doubt helped in improving coordination of monitoring efforts among the different government departments, which in turn had led to targeting resources better and minimising duplication of work.

For many interviewees, including biodiversity users and scientific advisers, the Plan contributed indirectly to biodiversity outcomes by providing a basis upon which to build on. As such, the Plan was described as a worthwhile exercise, providing "*groundwork for the future*" [BBU10]. The reason why it had not yet contributed *directly* to biodiversity outcomes for many interviewees was the perceived lack of actions on the ground. In its present state one biodiversity user described the Plan as "*more of a paperwork exercise than a management plan*" [BBU3]. This was remarked upon cynically by another interviewee who called for the need to "*make more plans and we can chop up more trees!*" [BBU4]. This highlighted a problem common to many natural resources situations, in which stakeholders become frustrated with what they see as unresolved problems with funds being funnelled into a process that ensures compliance rather than change (McCool et al., 2000: 1). It is important however to emphasise a point made by government advisers regarding the flexibility or "dynamic nature" of the Plan. Indeed, the fact that the actions in the Plan were reviewed in full by the steering group on a yearly basis could provide future opportunities to integrate new aspects into the Plan, prioritise actions and address some of the other implementation issues highlighted in this chapter.

To conclude, the Plan was perceived as indirectly contributing to biodiversity outcomes by bringing stakeholders together to identify the important issues affecting Atlantic salmon in the SAC and coordinating some efforts, such as monitoring. As such, the Plan provided the groundwork on which to base future work. However, according to many biodiversity users and scientific advisers, the reason why the Plan had not directly contributed to biodiversity benefits was because of the current chasm between the facts laid out in the Plan and targeted actions arising from it.

### 5.5.3. *Linking the scale of the participation process with biodiversity outcomes*

As mentioned in Chapter 1 and in the introduction to this chapter, the scale at which management plans are developed could impact heavily on who participates and how. The

expectation was that the micro-scale would capture all affected stakeholders more readily than larger scale approaches. This improved representativeness combined with a “sense of place” was, in turn, expected to impact positively on decision-making and implementation of decisions leading to better biodiversity outcomes. The way in which the micro-scale actually affected biodiversity is explored in this section.

One argument supporting smaller-scale initiatives is that it is easier to involve all affected stakeholders and better understand their values and positions than at larger scales (Cheng and Daniels, 2003: 851). In view of the importance of representativeness in participatory processes (e.g. Rowe and Frewer, 2000: 12), this is potentially an argument in favour of smaller scale initiatives. In this case study, however, some of the main affected land owners of the catchment, namely the private forest owners, were not involved, despite the localised nature of the process. This could be in part linked to the increasing difficulty of small-scale processes to incorporate the “globalising tendencies” of certain economic pressures (Mohan, 2001: 162), with forest owners often not local, viewing their forest ownership as a financial investment. As such, localised methods of participation, as used in this case study, were largely inadequate to involve effectively this group of stakeholders. Even the local stakeholders were not involved actively (see Section 5.3.2) in this case study. This may be due to the unclear goals of the Plan, or the way in which the process was carried out, i.e. with questionnaires rather than one-to-one contact. Either way, the micro-scale at which this public participation exercise was approached did not facilitate the integration of all affected stakeholders. This was perceived to have an indirect effect on biodiversity outcomes by impacting on the quality of decisions, with farmers and one scientific adviser both commenting that the Plan and its implementation might have been different had their knowledge and values been incorporated.

Decision quality was, however, influenced not only by the incorporation of public values into decision-making but also through the integration of scientific and local knowledge (Beierle and Konisky, 2001: 520). These two characteristics are not always linked, as was the case in this case study. So, although interviewees may not have been influential in shaping the process and final decisions to reflect their values, the micro-scale approach did potentially influence the technical quality of decisions. As such, the fact that the Galloway Fisheries Trust were heavily involved added a great deal of locally-based scientific knowledge to the process. This also impacted on other characteristics of the process, such as cost-effectiveness. This led one government adviser to comment on the fact that “*the good thing about the Bladnoch one is the fact that the fisheries trust wrote it and knew the science very well and knew the issues from the outset so there wasn’t a huge data collection exercise*” [BGA2].



One of the arguments for increased participation, particularly in situations of high conflict, is relationship building, not only between institutions and individuals but also between scientists and the public. The micro-scale nature of this case study meant that many interviewees knew each other well prior to the process starting. This increased inter-personal contact was perceived by one interviewee, negatively: “*The problem is we all know each other - we all get on with each other very well*” [BBU4]. The reason why this lack of inter-personal conflict was seen to be a problem was because “*sometimes trying to change things with the same people isn’t the easiest thing to do*” [BSA1]. In this case study, the lack of inter-personal conflict at the local scale may have actually *limited* opportunities for learning and creative solutions (McCool and Guthrie, 2001: 312).

To sum up, the micro-scale approach adopted in this case study mainly impacted negatively on representativeness, which in turn impacted on the quality of decisions and, indirectly on biodiversity outcomes. While the small scale did not necessarily enable all local stakeholders to shape the process and final decisions to reflect their values, the micro-scale approach did potentially impact positively on the technical quality of decisions. The micro-scale approach may also have indirectly impacted negatively on biodiversity outcomes by minimising the opportunities for learning and creative solutions.

## **5.6. Conclusions**

The way in which the Plan was produced, with an initial draft with actions created by the Galloway Fisheries Trust and SNH and subsequent email consultation and questionnaires, missed out key affected stakeholders, including private forest owners and local land owners and managers. In addition, there was a clear lack of commonly agreed objectives. While the Plan was perceived as a high-quality reference document by SNH, who or what it was intended for was unclear amongst interviewees both within and outwith the steering group. The lack of focus on the underlying causes of continued acidification and perceived lack of action only contributed to the frustration of biodiversity users and scientific advisers and increased distrust of government departments. There were also indications that scientific advisers, local land owners and managers perceived a close-knit relationship between the government departments on the steering group. Because of this relationship, stakeholders perceived the Plan was a reflection of compliance rather than change. As such, while the public participation process and its outcomes were scored positively by government advisers, this was not the case for scientific advisers and biodiversity users.

Causal links between the process and outcomes of participation in this case study were difficult to reveal, but would not appear to follow the assumption that a poor process leads to

poor outcomes. Indeed, although the process was scored relatively poorly, interviewees remained optimistic about long-term biodiversity benefits. So, while biodiversity outcomes were currently expected to be minor at best, most interviewees agreed that provided actions listed in the Plan were prioritised and tackled effectively, conflict could be minimised and biodiversity benefits could be reached. This was particularly achievable in this case study, in which the Plan was described by government advisers as a dynamic, regularly reviewed document.

The micro-scale approach adopted in this case study did not appear to have made the most of its possibilities. Indeed, not all stakeholders were involved, thereby impacting indirectly on biodiversity outcomes. In addition, while improving the technical quality of decision, interestingly the micro-scale may have impacted negatively on strengthening relationships, potentially curbing the possibility of increased learning and novel solutions. Another relevant scale in this case study was the temporal scale, with government advisers emphasising the difficulties for other stakeholders to understand the long processes involved in forestry management and the impact of these timescales on perceptions of change.

In the next chapter, the process and outcomes of participation were tested at the meso-scale, with the Moray Firth Seal Management Plan case study.

## **Chapter 6. Public participation process and outcomes at the meso-scale: the Moray Firth Seal Management Plan**

### **6.1. Introduction**

Following on from the analysis of public participation process and outcomes at the micro-scale in the preceding chapter (Chapter 5), this chapter focuses on the meso-scale, with the example of the Moray Firth Seal Management Plan in the North-East of Scotland.

The Moray Firth is a complex setting, home to SACs covering three species, both predator and prey, and a wide range of interests including fisheries (both rod and net fishery interests), recreation, wildlife tourism, and wildlife conservation. In view of this complexity, the Moray Firth Seal Management Plan, henceforth referred to as the ‘Plan’, was developed in 2005 to:

- contribute to the fulfilment of the conservation objectives for the SACs in the Moray Firth;
- reduce the impact of shooting by District Salmon Fishery Boards on the common seal population;
- reduce the impact of common and grey seal predation on depleted adult spring salmon stocks, smolts, and on rod and net fisheries;
- monitor and research the status of common and grey seal populations, salmon stocks and interactions between them through a Seal and Salmon Research Programme;
- develop non-lethal methods of reducing seal-salmon conflict, and training for fishery managers (Butler, 2005: 22).

The scale at which the Plan was developed reflected an understanding of the ecological requirements of the species in the Moray Firth and an understanding of the conflict situation. Indeed, the Plan had much wider aims than, for example, the Bladnoch management plan described in Chapter 5, acting instead as a pilot scheme for managing a widespread and often polarised conflict: that of fishery interests and seal conservation. However, although the spatial scale may have been the most appropriate in terms of the species requirements and conflict context, as highlighted in Chapter 1, there may be a mismatch in terms of the scale of public participation. Indeed, stakeholder participation at a larger spatial scale is far more complex than local level participatory initiatives (Younge and Fowkes, 2003: 17), with issues of cost and the feasibility of working intensely over a large area (Snapp and Heong, 2003: 74), especially in terms of ensuring representativeness of local actors (Richards et al.,

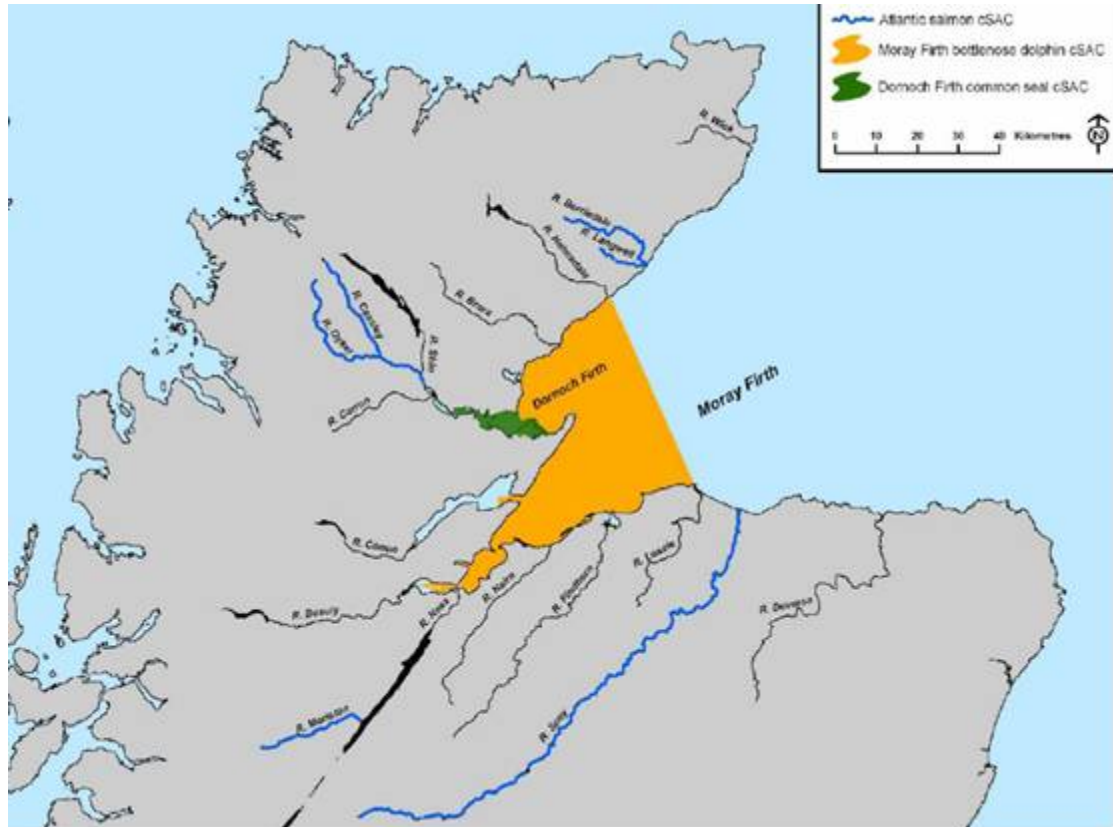
2004: 17). This last issue however did have the potential to be addressed in the case of the Moray Firth by building on existing stakeholder fora, such as the Moray Firth Partnership.

To understand the relationship between the ecological and public participation scales in the Moray Firth, this chapter starts with an exploration of the contextual setting in Section 6.2. Section 6.3 then focuses on the evaluation of the process of participation in developing the Plan, building on the results from the semi-structured interviews. The interviews also form the basis for Section 6.4, which evaluates the social outcomes of participation in the development of the Plan. Section 6.5 then focuses on the last criteria for the evaluation of public participation in this case study, namely the biodiversity outcomes emanating from the process and social outcomes, including how scale impacted on these outcomes. The chapter finishes with a short conclusion in Section 6.6.

## **6.2. Contextual setting of the Plan**

### *6.2.1 Scientific background*

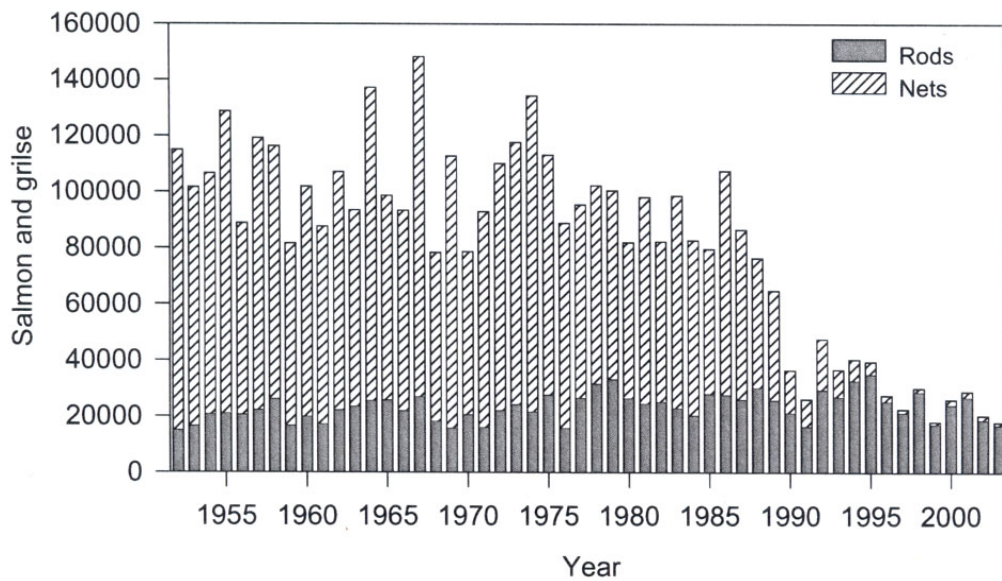
The Moray Firth is a large inlet of the North Sea, located in the North-East of Scotland, covering approximately 5230 km<sup>2</sup> (Butler, 2008: 1027) (see Figure 6.1). The Moray Firth was proposed for SAC designation in 1996 due to its important resident population of bottlenose dolphin (*Tursiops truncatus*) listed in Annex II of the Habitats Directive. The Moray Firth also includes a number of smaller firths and bays, including the Cromarty Firth and the Dornoch Firth, which support a significant proportion of the inner Moray Firth population of the common or harbour seal (*Phoca vitulina*), also a species protected under Annex II of the Habitats Directive, which led to the Dornoch Firth being designated as an SAC in 2000. Eighteen rivers flow into the Moray Firth, many of which (the Spey, Moriston, Oykel, Cassley, Langwell and Berriedale) are SACs for Atlantic salmon (*Salmo salar*), listed under Annex II of the Habitats Directive (see Figure 6.1). In this section we explore the scientific evidence on the decline of harbour seals and Atlantic salmon, and the interactions between these two protected species.

**Figure 6.1. Moray Firth location**

Source: Moray Firth Seal Management Plan (2005)

Atlantic salmon populations have been declining since the mid 1980s, due to a number of pressures, including climatic changes in the marine environment (Jonsson and Jonsson, 2004: 2378), pollution, the introduction of non-native salmon stocks, physical barriers to migration, exploitation from netting and angling, physical degradation of spawning and nursery habitat, and increased marine mortality (JNCC, 2008). In the Moray Firth specifically, Atlantic salmon numbers have also declined (See Figure 6.2), starting in the mid 1970s onwards, with a marked decline from the mid to late 1980s. This coincided with a decrease in the size of the netting industry, due to falling market prices for salmon linked with aquaculture, changes in salmon abundance and buyouts of netting stations by District Salmon Fishery Boards (Fisheries Research Services, 2008: 18).

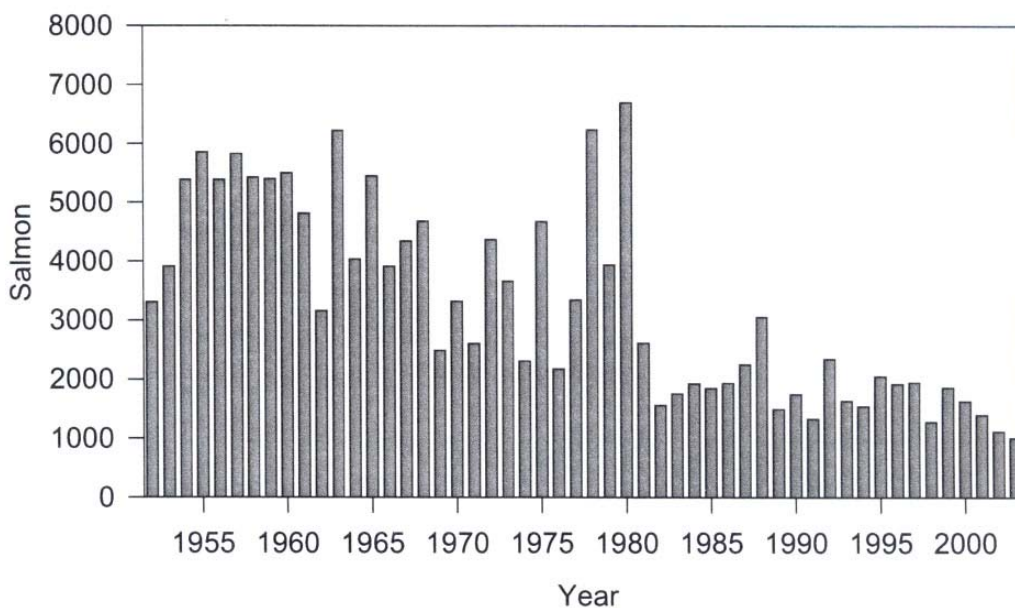
**Figure 6.2. Annual declared wild salmon and grise catches in the Moray Firth (1952-2003)**



Source: Moray Firth Seal Management Plan 2005 (page 12), based on FRS data.

Whereas the total annual rod catches are relatively stable (Fisheries Research Services, 2008: 19), certain salmon stock components are declining, namely the Spring salmon, or ‘early running’ salmon, which run from January onwards (Youngson et al., 2002: 836). This trend is also evident in the Moray Firth (see Figure 6.3).

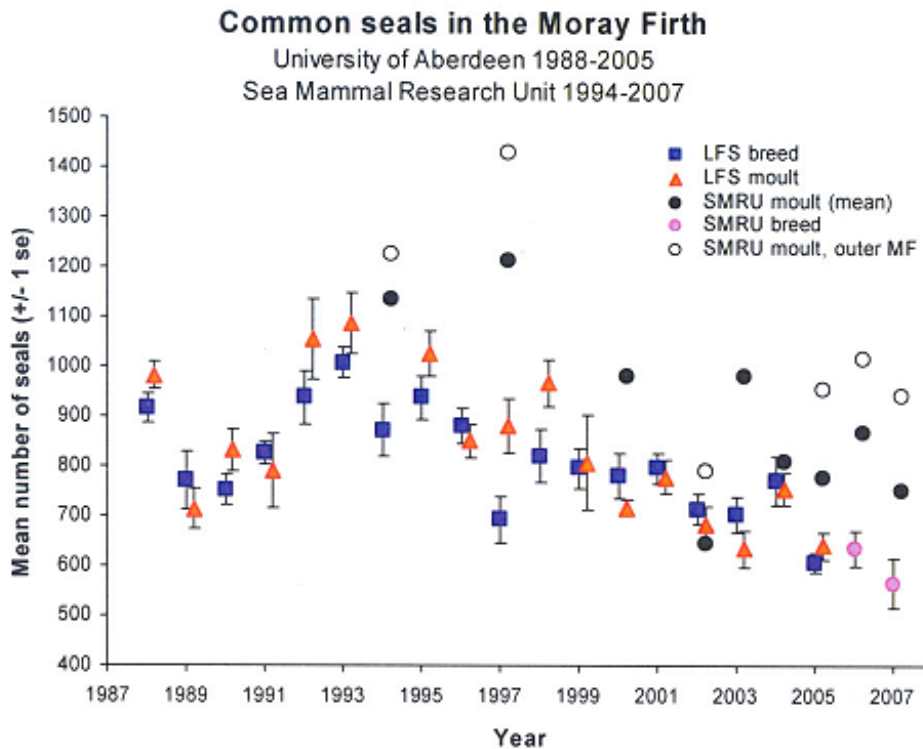
**Figure 6.3. Annual declared Spring salmon rod catches in the Moray Firth (1952-2003)**



Source: Moray Firth Seal Management Plan 2005 (page 14), based on FRS data.

Britain holds approximately 40% of the European harbour seal population (Lonergan et al., 2007: 261), with 20,035 (86%) of the total British population of 23,242 located in Scotland (Special Commission on Seals, 2008: 9). The Conservation of Seals Act 1970 requires the Natural Environment Research Council (NERC) to provide scientific advice to government on matters related to the management of seal populations. This is done through the appointment of a Special Committee on Seals who, based on scientific information provided by the Sea Mammal Research Unit (SMRU, based at the University of St Andrews), provide formal advice annually on the status of grey and harbour seals in British waters and their management. In addition to data collected by SMRU, systematic counts of harbour seals have been carried out in the Inner Moray Firth since 1988 by Dr Paul Thompson of the University of Aberdeen. The Moray Firth is somewhat unusual therefore in having a relatively long history of monitoring and research.

This monitoring and research effort has resulted in demonstrating a decline in harbour seals in the Inner Moray Firth from a mean count of about 950 in 1988 to approximately 750 individuals in 1989, following the 1988 Phocine Distemper Virus (PDV) epidemic. Annual mean counts then increased from 1989 to about 1000 seals in 1992, representing an estimated population size of 1650 (Special Committee on Seals, 2004: 16). Since the peak in 1992-1993, harbour seals have since decreased in number with between 485 and 670 harbour seals recorded in the Inner Moray Firth in 2007 (Special Commission on Seals, 2008: 23) (see Figure 6.4). In the Dornoch Firth specifically the number was as low as 200 individuals in 2002 (Butler, 2008: 1029). The Special Committee on Seals in 2004 estimated that harbour seal numbers in the Inner Moray Firth had declined by about 36% since 1994 and concluded that much of the decline was probably the result of the deliberate removal of seals (Special Committee on Seals, 2004: 17). It is important to stress, however, that factors other than shooting pressure, such as changes in food availability and quality (Thompson et al., 2007: 55), and increased predation from aquatic predators (Thompson et al., 2001: 122) can also impact heavily on harbour seal populations and could have been contributing to reduction in the local abundance of harbour seal declines in the Moray Firth.

**Figure 6.4. Trends in harbour seals in the Moray Firth 1988-2007**

Source: Special Committee on Seals 2004: 69.

Seals are opportunistic feeders, preying on a range of species depending on their seasonal availability and abundance (Butler, 2005: 17). They have long been considered by fisheries to be a major threat to Atlantic salmon and sea trout (*Salmon trutta*) through reduction of catch and damage to fishing gear (Bonner, 1989: 55; Hewer, 1974: 201). While predation by species such as seals could have an impact, quantifying this impact on salmon stocks is difficult. A number of different methods have been used to determine the amount of salmon consumed by seals, including analysis of stomach contents of seals shot near salmon nets (e.g. Rae, 1968), the identification of otoliths in faecal samples collected at haul-out sites (e.g. Hammond et al., 1994) and more recently quantitative PCR assay approaches (e.g. Matejusova et al., 2008). Although differences exist between these methods, it would appear that while harbour seals are indeed a predator of salmon, salmonids form only a small part of their diets (Carter et al., 2001: 222; Matejusova et al., 2008: 639), with sandeels, gadoids, flatfish and cephalopods comprising most of their diet (Thompson et al., 1996: 1580-1581). However, the actual effect of seal predation on salmonid fisheries remains unclear (Butler et al., 2006: 286), especially in terms of declining salmon stocks, such as the Spring salmon, or smolts.



To summarise, the Moray Firth is home to the Dornoch Firth SAC for harbour seals and six river SACs for Atlantic salmon. Although there is uncertainty about the extent of both predation by seals on salmon and shooting on the conservation of harbour seals (Thompson et al., 2007: 48), research suggest that the harbour seal population and spring run of salmon are both declining in the Moray Firth SACs. In response to these declines and other drivers, a Moray Firth Seal Management Plan was developed, described in the following section.

### *6.2.2. Initial development of the Plan*

A number of drivers were identified through documentary evidence and interviews that explained the development of the Plan. These are explored further in this section.

As highlighted in Chapter 2, while management plans are not a formal requirement for Natura 2000 sites, they are considered to be best practice in order to maintain the features in the designated sites in favourable condition. In the case of the Moray Firth, although the Habitats Directive and SAC designations were mentioned by some interviewees, these were not seen as *direct* drivers for the development of the Plan. However, there was definite top-down pressure for a change in the way in which seals in particular were being managed in the Moray Firth.

At the time of the Plan, harbour seals were protected in the UK by the 1970 Conservation of Seals Act. The Act provided protection for seals during the breeding periods (and moulting in the case of the harbour seals), also called closed season. Although seals could still be shot during the breeding period, ministers concerned needed to issue licences to kill seals, for example to protect fishery interests (Lister-Kay, 1979: 37). Returns were required under the Act for seals shot under licence. Outwith the breeding or closed season however, seals could be legally shot and did not need to be reported. In addition, one key exception under the Act was the ‘netsmen’s defence’, which stated that the killing or attempted killing of any seal to prevent it from causing damage to a fishing net or fishing tackle in his possession was legal “provided that at the time the seal was in the vicinity of such net or tackle” (Section 9(1)(c)). There was no definition for what the “vicinity” might be and, again, returns were not required in such cases. These factors made the gathering of information on the number of seals shot each year extremely difficult (Thompson et al., 2007: 48), and any scientific advice on licensing even more so. Because of these potential weaknesses of the Act, and a declining population of seals in the Dornoch Firth SAC, there were worries that the European Commission might view the Act as insufficient in terms of conserving seals in the Dornoch Firth SAC, or indeed nationally. As one government adviser remarked “*Europe was beginning to sniff around at the Conservation of Seals Act and asking “does this really do*

*what it says on the tin?” And it doesn’t - all the Conservation of Seals Act does is say how to control seals. It doesn’t conserve seals” [MGA2]<sup>3</sup>.*

In addition, the Conservation of Seals Act and its “netmen’s defence” were seen by some interviewees as partly responsible for the bounty scheme in place from the late 1990s, sponsored by three fishery boards collaborating with netmen to reduce seal numbers in the Moray Firth. While the exact number of seals shot was unknown at that time, the estimates, based on the number of seal tails handed in by bounty hunters to the fishery boards for payment, were sufficiently high to cause the Scottish Executive and SNH to worry, particularly in view of the continuing decline of seals in the area. This led one government adviser to remark that “*the numbers were going down, this bounty was in place, they were shooting hundreds of seals*” [MGA1].

With this in mind and the potential impact of a new Phocine Distemper Virus outbreak, a Conservation Order under Section 2(1) of the Conservation of Seals Act, was introduced on 4<sup>th</sup> September 2002 prohibiting the killing, injuring or taking of harbour seals in Scotland and adjacent territorial waters (Article 3) and the killing, injuring or taking of grey seals in a defined area within the Moray Firth (Article 4) until 3<sup>rd</sup> September 2004 (Anon, 2002). Although the Phocine Distemper Virus outbreak of 2002 had a limited impact in Britain (Special Commission on Seals, 2005: 4), a new Conservation Order was introduced in the Moray Firth on the back of the 2002 Order, to protect further the harbour seal population, making the killing, injuring or taking of harbour and grey seals an offence all-year round (Anon, 2004), unless damage to fisheries could be proved, in which case licences could be issued to DSFBs to shoot problem animals. The big question remained in terms of what would happen after the Conservation Order came to an end on 3 September 2004, and how to balance some form of control of seals while maintaining the Favourable Conservation Status of the Moray Firth area. The threat of a new Conservation Order, potentially boosted by public pressure, was felt keenly by the fishing industry:

*The seal people, the European people, had seen that to be shooting any seals was going to jeopardise their SAC for seals so that’s why we were getting more and more frustrated: we were getting more and more rules and less and less chance of shooting a seal so we had to come up with some kind of arrangement so that we could target some kind of seals or get some kind of a licence [MBU10].*

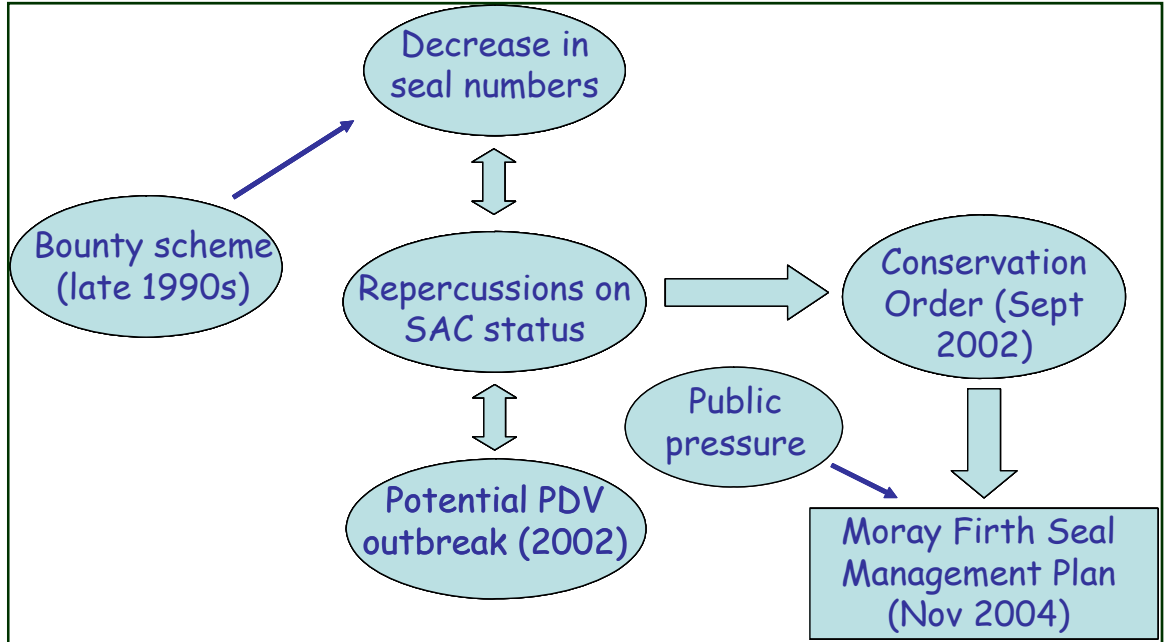
This combination of top-down and bottom-up pressures resulted in the Moray Firth Partnership requesting Dr James Butler of the Spey DSFB to develop a draft management plan for seals in the Moray Firth. The role of the Plan was therefore to “*try and bring the*

---

<sup>3</sup> For an explanation of interviewee codes, please refer back to Chapter 4.

boards together to get them to accept that they [regulations] were going to be tighter, or they'd need to do something in a coordinated way to get a new licence and then do the divvying up" [MSA3]. The drivers influencing the development of the Plan are summarised in Figure 6.5.

**Figure 6.5. Context of MFSMP development**



### 6.2.3. Dynamics of stakeholder relationships

Work on the Plan started in 2002, following initial consultations between the District Salmon Fishery Boards (DSFBs), the Scottish Government, SNH, the Sea Mammal Research Unit (SMRU), the Fisheries Research Services and the Moray Firth Partnership. Discussions on the Plan also included input from the Salmon Net Fishing Association of Scotland, local netsmen, anglers, wildlife tourism operators and conservation organisations. In addition to those stakeholders directly affected, the Plan was also presented for comments at the Scottish Seal Forum, a group set up by the Scottish Government in 2002 that meet annually to “exchange information and develop a co-ordinated approach to the management of Scottish seal populations”. Membership included the Scottish Government and its departments, research bodies, conservation and animal welfare interests, salmon and freshwater fisheries, sea fisheries, fish farming industry and tourist forums. In this section, the perceptions of seals held by these groups and perceptions about each other are explored.

6.2.3.1. Perceptions of seals

**Plate 6.1. Cabin for fishermen on the bank of the Spey River and seal killed by illegal nets in the Moray Firth**



Sources: J. Young and A. Duffus

Among the netmen, the broad view of seals was that of a “*lazy [... but...] clever enough*” [MBU9] predator, who if not solely responsible for the decline in salmon, was certainly a major factor in the demise of net fishing and the loss of their livelihood. Whilst tallying with the results of Butler et al. (Submitted: 11), this was in direct contrast with findings from Brennan and Rodwell (2008: 1074) in their study on seal perception in Ireland, where consensus amongst respondents, including netmen, was that seal predation had contributed little to wild salmon stock decline. On the issue of culling, only one fisherman was in favour. The netmen, despite the perceived negative impact of seals on their livelihoods, did not advocate a complete cull of seals. Perhaps because seals had always been a large part of their working life, netmen placed a large emphasis on the notion of balance and responsibility, advocating that “*as humans beings we have to look after the seals as well as looking after the salmon, that’s part of our remit, but we need to find a balance for humankind as well as for the animals*” [MBU3]. In addition, one netsman embedded seal management within a much broader societal change, which had seen seal management being transformed from a harvest with “*...seals in my grandfather’s and my great-grandfather’s day... they would use the oil and the skins and that...It was a natural resource for the people of that time*” [MBU3] to the killing of seals simply to maintain salmon stocks. However, despite their efforts to redress the balance, they felt powerless to curb the high seal numbers claiming there were simply too

many seals, that *“the seal population has taken over what used to be caught and eaten by man”* [MBU3].

Only one member of a DSFB expressed his own direct views on seals, referring to seals as *“vermin”* [MBU7]. Other interviewees, mainly scientific advisers and government advisers, provided their views on perception of seals by fishermen. When describing anglers and netsmen, they referred to the fact that certain individuals still believed that *“all seals need to be shot”* [MSA1], that *“a good seal is a dead seal”* [MSA2] and alluded to the fact that the permeating psychology amongst anglers remained that *“if there’s a problem with the fish then it must be the seals”* [MBU8]. When discussing their own views on seals, scientific and government advisers referred to seals as *“scapegoats”*, falsely held responsible for high salmon mortality, particularly compared to other cetaceans, such as bottlenose dolphin, that were a known predator of salmon. One scientist described this phenomenon as *“this strange public perception that has nothing to do with biology and everything to do with what’s cuddly”* [MSA4]. The subjective nature of this adjective was particularly apparent in this case, with bottlenose dolphin considered more ‘cuddly’ to anglers than seals, while the public perception was that seals were in turn more ‘cuddly’ than salmon. One of the reasons given for this focus on seals as a nuisance was their visibility compared to other known predators of salmon, such as birds and other fish (Yodzis, 2001: 78).

#### 6.2.3.2. Perceptions of different stakeholders

With such strongly held perceptions about seals, it is perhaps unsurprising that interviewees also had strong views about other stakeholders within (and outwith) the process. These relationships are explored in more detail below, particularly those between anglers and netsmen; fishermen, scientists and the Government.

The conflict between netsmen and rod fishermen was very apparent in discussions, and was often referred to as an ongoing conflict, closely tied to the historical context of netting in Scotland, including the buy-out of netting stations by DSFBs since the 1980s, and the general demise of the Atlantic salmon population and their industry, with netsmen being accused of destroying salmon stocks. Levels of trust were obviously low, with netsmen referred to by one scientific adviser as *“a fairly desperate lot and some of them are fairly dodgy folk, there’s a fair amount of suspicion about what they do”* [MSA1]. The reasons for their involvement in the Plan were given by one respondent as the recognition that *“the longer that they were shady and not telling anyone what they were doing [...] the more likely it was that the seals legislation would be tightened to force them to comply”* [MSA1].

Whether this involvement has made any difference in the long-term is debatable, with the ‘netmen’s defence’ no longer a feature in the draft Marine Bill.

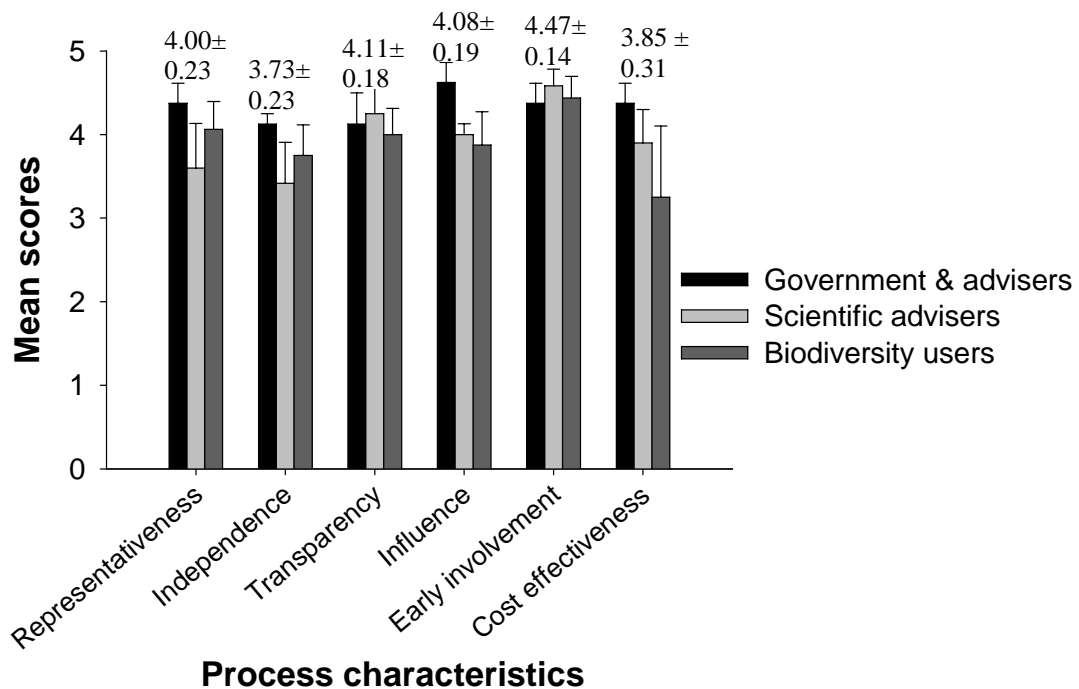
Distrust between the fishery bodies and the government and scientists (and vice-versa) prior to the process starting was also apparent in many discussions with interviewees. There was a general feeling amongst fishermen and netmen of a real disconnect between what was happening on the ground and what was decided at Government level, with one fisherman remarking that members of the Government, also referred to as “*do-gooders*” were “*in Edinburgh going “oh yeah, this is a great plan” but needed to “come up to the real world and see what it’s like”* [MBU7]. These comments reflected the findings from Brennan and Rodwell (ibid: 1076), who also found a disconnect between stakeholder groups and the “powers-that-be”. A number of fishermen also remarked on the general pro-seal bias in political decision-making processes. Distrust was also felt by some scientists, who didn’t “*believe that they’re reporting everything that’s being shot - I hope they are but I think you’d be a little bit naïve*” [MSA6].

To summarise, the Plan was developed to maintain the favourable status of harbour seals and Atlantic salmon – both of which were declining – in rivers and Firths designated as SACs within the Moray Firth catchment. The main stakeholder groups within the process were briefly identified. The way in which these stakeholders were involved in the development of the Plan is evaluated in the next section.

### **6.3. Evaluating the process of participation in developing the Moray Firth Management Plan**

This section describes the results of the evaluation of the process of participation in the development of the Plan, using the evaluation criteria presented in Chapter 3, namely independence, transparency, representativeness, influence, early involvement and cost-effectiveness. The results build on both the quantitative (see Figure 6.6) and qualitative data collected through semi-structured interviews.

**Figure 6.6. A quantitative evaluation of the process of participation by interviewees involved in the process of developing the Plan**



N.B. Numbers above grouped bars indicate total mean score  $\pm$  standard error of the mean across stakeholder groups.

### 6.3.1. Independence, transparency and influence

The process was carried out mainly by Dr James Butler, a biologist on the Spey DSFB with a background in wildlife conflicts and work experience of DSFBs. A combination of good timing, his background and his enthusiasm made him, for most of the interviewees involved, the ideal person to lead the process. As such, he was described as “*the lynchpin in the project*” [MBU1], “*conscientious*” [MBU6], and putting in “*a lot of time, blood, sweat and tears*” [MBU6] into the process. One interviewee went so far as to say that “*had it not been for his drive [...] it would probably not have got off the ground*” [MSA6].

The fact that the process was led by one person, from the fishing industry, was in theory at least far from the ‘good process’ criteria of independence described by Rowe and Frewer (2000: 13). This was very much reflected in the score allocated to the characteristic of ‘independence’ by participants ( $3.73 \pm 0.23$ , see Figure 6.6), the lowest in fact of all the process characteristics. The independence of the process was scored particularly low by the netmen ( $2.5 \pm 0.76$ ) and those from the animal welfare and tourism industry ( $2.08 \pm 0.49$ ) who believed it to have been heavily biased. Perhaps a more important process criteria in this

case, however, was the fact that Dr Butler was *trusted* by those involved in the process, and seen very much as a ‘champion’. The reasons behind this trust related broadly to knowledge and empathy, more specifically the fact he knew and acknowledged concerns from all involved. As such, he fulfilled the role of successful facilitator described by Reed (2008) as “being perceived as impartial, open to multiple perspectives and approachable” (ibid: 2425). So, while acknowledged by participants as not being independent, it is perhaps unsurprising that one interviewee described the process as “*fair*” [MGA2], thereby linking to the fairness meta-criteria highlighted by Webler (1995: 38), which emphasises the importance of everyone taking part on an equal footing (1995: 38). This meant that the anglers and netmen may have felt less imposed upon, instead having a sense of “*being in control and [...] in the lead*” [MGA2], thereby potentially making their willingness to participate greater. In addition, much of Dr Butler’s success stemmed from the fact he worked for a DSFB, and could bridge different communities including the fishing community, as well as the scientific and government departments, thereby acting as “*an informed and trusted honest broker*” [MGA2] who could “*cross scales [...] in terms of knowledge systems and also spatial scales*” [MSA1]. He made use of a number of techniques, including meetings, one-to-ones, telephone conversations and visits in order to engage more widely with the different communities (Chess and Purcell, 1999: 2691) and potentially overcome power inequalities amongst the different groups of stakeholders (Reed, 2008: 2422).

The fact that interviewees trusted Dr Butler influenced interviewees’ views on the transparency and clarity of the process, leading them to score this aspect highly (4.11±0.18, see Figure 6.6) with only three (all outwith the process) expressing negative views on this characteristic. The trust towards Dr Butler manifested itself in that whilst interviewees felt it was “*not necessarily clear who it was he [Dr Butler] was going to talk to or what he was doing*” [MSA2] they trusted Dr Butler enough to know they “*wouldn’t be kept in the dark - there wouldn’t be things happening cloak and dagger*” [MBU3]. In addition, documents were regularly being exchanged between participants and meetings were organised to keep participants updated. If participants needed further information, they felt comfortable approaching Dr Butler directly.

What was seen as important by some interviewees in terms of gaining greater transparency was the need to clarify the limits of participation. As one government adviser remarked:

*... the key was getting that transparency and clarity both in terms of the fishery boards understanding what was tying our hands, and also us understanding what was driving them and what they saw as being the problem and then coming to an understanding [MGA2].*



As seen in the previous chapter, ‘non-negotiables’ can be a common challenge in participation processes (Richards et al., 2004: 15). In this case, these limits were well understood by interviewees within the process: “*you had to stick to the rules - that was made quite clear and there was no grumbling about it*” [MBU10]. In addition, having the decision-makers (i.e. the Scottish Government) on board ensured that the scope of the Plan was delimited, and that agreements reached could be implemented (Bingham, 1986: 121).

Although one scientist voiced the concern that there was “*so little room for manoeuvring here [...] there’s very little influence they could have*” [MSA1], interviewees that were involved in the process felt that within these narrow confines they were broadly able to have an impact on the Plan, voicing their views and concerns, resulting in a relatively high score for this characteristic ( $4.08 \pm 0.19$ , see Figure 6.6). They did however highlight the importance of maximising one-to-one contacts to gather these views and concerns, with one netsman pointing out that they were “*not used to public speaking, I would find that any of these guys are just fishermen, they’re not going to stand up and tell people from the Scottish Executive things*” [MBU3]. This highlights the benefits in this case study of using a broad range of methods to gather views and opinions, based on the context and types of participants (Reed, 2008: 2424).

In summary, the process was led by one key individual, who, while not independent, was trusted by participants. This trust impacted strongly on the evaluation of transparency and clarity of the process by interviewees and on the issue of whether they were able to have some influence on the Plan. However, to those outwith the process it was perceived as “*a closed shop discussion among the people who were the most affected working out how they could best get through this problem*” [MSA3]. This issue of representativeness is explored in more detail in the following section.

### 6.3.2. Representativeness, timing of involvement and cost-effectiveness

Representativeness was scored relatively highly by those involved in the process (see Figure 6.6), with a mean score of 4 ( $\pm 0.23$ ). However, a number of groups were acknowledged as potentially missing from the process, including stakeholders in the wider Moray Firth, represented within the Moray Firth Partnership, white fish fishermen and animal welfare groups.

Although the Scottish Society for the Prevention of Cruelty to Animals and Advocates for Animals were both on the Seals Forum, they were not directly involved in the development of the Plan, nor were any other animal welfare NGOs. The animal welfare interviewees stressed their exclusion from the process, saw the Plan as a legitimisation of seal killing by

the Government, and perceived a bias towards salmon and the strong links between the Government and the fishing industry. For them, the process failed to represent the pro-seal interests, corresponding to Arnstein's non-participation (1969: 217) (see Chapter 3). One animal welfare spokesman remarked cynically on the fact that "*it keeps it simpler when you have a smaller group of people with all similar views - why risk rocking the boat when you don't need to?*" [MBU4]. Participation of known environmental activists is often blocked in environmental decision-making (Irvin and Stansbury, 2004: 59).

Although acknowledged as missing, the majority of interviewees within the process felt that the involvement of animal welfare groups was outwith the goals of the Plan. With the goal being perceived as "*a process of agreement and negotiation between statutory bodies*" [MSA1], involving the animal welfare groups was seen by some as having been a "*big faux-pas because [...] if you did antagonise some of the DSFB people then [...] you've sunk without trace before you've even started*" [MSA6]. One scientist went so far as to suggest that the process was carried out to avoid actively the involvement of the animal welfare groups at all costs, suggesting it was "*all sewn up*" [MSA3]. However, while the goals of the Plan were clear to those involved in the process, namely the members of the DSFB, the Government and their scientific advisers, other groups, particularly the netmen and animal welfare organisations, wanted these goals to be much broader, seeing the Plan as an opportunity for a wider debate on the management of seals. As such, the goals of the process were not accepted in the same way by different stakeholders, and, in turn, were difficult to reconcile (Chess and Purcell, 1999: 2691).

Early involvement of stakeholders is often seen as a key aspect of the participation process (Chess and Purcell, 1999: 2176; Kusel et al., 1996: 618; Reed, 2008: 2422), as was reflected in this case study, in which early involvement was considered "*a large part of the success of the project*" [MSA4]. As such, this characteristic was scored highest ( $4.47 \pm 0.14$ , see Figure 6.6), with the perception that Dr Butler had "*talked to everybody, other than the NGOs, right from the very beginning*" [MSA6]. He was also seen as taking a step by step approach, initially prioritising one-to-one interactions with stakeholders, "*phoned around to people, did a lot of homework, got all the answers he wanted back*" [MBU7] prior to holding meetings, thereby enabling more flexibility in terms of the timing of stakeholder involvement into the process. Interviewees particularly appreciated the fact he had not rushed the process, allowing it to go at "*its own speed - you couldn't take people on board too quick and [...] the way he went about that, feeding information in and that, he was exceptionally good at that*" [MBU10]. This process of slowly integrating more interests also had the added benefit of creating a snowball effect, encouraging other stakeholders to *want* to be involved in the process. So, not only was the timing of involvement appreciated by interviewees involved in

the process, but as important was the way in which he led the process through time, taking in information from various key individuals, and bringing in stakeholders if and when necessary, all the while exchanging information throughout the process.

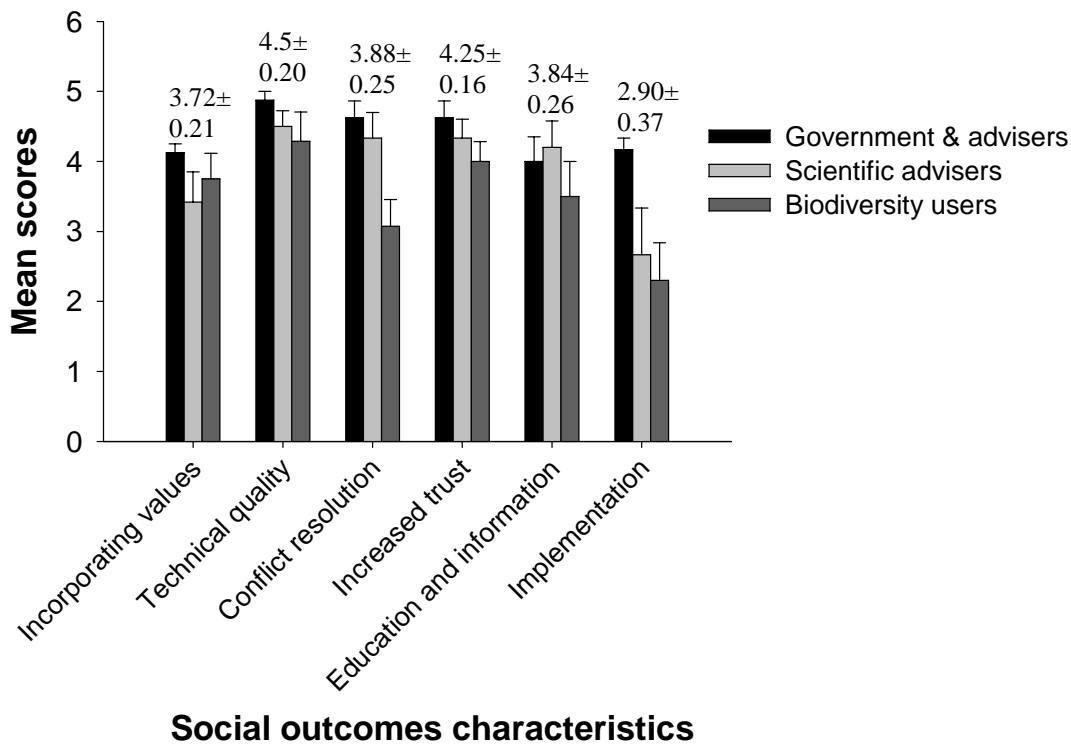
The approach adopted in this case study also impacted on the cost-effectiveness of the process, with one scientist arguing that “*while not the most cost-effective [...] going round and talking to people was a good way of doing the process*” [MSA2]. Indeed, the process relied on people investing a lot of time on a voluntary basis, being “*very dependent on a bunch of people doing things for nothing*” [MSA3]. The Plan, as opposed to the process, was perceived as cost-effective, particularly by Government and government departments, in that it resulted in a single licensing procedure for a large area rather than developing and approving licence applications from 12 DSFBs. As such the Plan was seen to be “*cost-saving and much more effective in delivering everything*” [MGA2]. This explained the motivation of participants, who saw the process as being time-consuming but the incentive of a longer term gain was sufficient to ensure their continued involvement throughout. Apart from the government advisers and scientists, many interviewees felt they couldn’t answer this question resulting in 35% not scoring this characteristic. In general, cost-effectiveness was perceived as a relatively unimportant process characteristic by interviewees, a finding very much in line with the study carried out by Chase et al. (2004) on stakeholder evaluation of process and outcome characteristics (ibid: 638).

In summary, representativeness was very much linked to what interviewees perceived as being the goals of the process. So, while scored highly by those who agreed with the goals and were involved in the process, this characteristic was scored particularly low by those who wished for broader goals or were not involved in the process. In terms of early involvement and cost-effectiveness, interviewees grounded this within the broader context of how the process was carried out, namely through a step by step approach maximising one-to-one contact with various stakeholders.

#### **6.4. Evaluating the social outcomes of participation in the development of the Plan**

A number of social outcomes are evaluated by interviewees in this section. As described in Chapter 3, these were decision quality, relationships and capacity-building. The results build on both the quantitative (see Figure 6.7) and qualitative data collected through semi-structured interviews (see Chapter 4).

**Figure 6.7. A quantitative evaluation of the social outcomes of participation by interviewees involved in the process of developing the Plan**



N.B. Numbers above grouped bars indicate total mean score  $\pm$  standard error of the mean across stakeholder groups.

#### 6.4.1. Decision quality

While the process of developing the Plan was very much dominated by a ‘champion’, the social outcomes were strongly influenced by the integration of scientific and local knowledge, particularly due to the close involvement of SMRU during and after the process. This involvement is the main focus on this section.

Before the process started there were important gaps in knowledge regarding the populations of seals and salmon in the Moray Firth, seal behaviour and the intensity of shooting, which in turn engendered misperceptions and conflict. One government adviser explained that “*all these questions were being bandied around and all these myths were being bandied around and there was absolutely no evidence to support or knock down any of these beliefs*” [MGA2]. Grounding the Plan in the best available scientific evidence was seen as a very important aspect of the process, one needed to narrow the “*real disconnect between the science and the punter on the ground*” [MGA2] and to create “*less opportunity for confusion and speculation on what the situation actually was*” [MBU1]. While scientists are often insulated from direct interaction with the public (McCool and Guthrie, 2001: 317) and

mistrusted by stakeholders (Callon, 1999: 81), bringing in scientists from SMRU established an information-driven decision-making process that helped the DSFBs “*see the use in research and the use in data*” [MBU8]. This increased understanding of how the scientific process worked, and how it linked up with the practicalities of managing seal and salmon populations was seen by interviewees as a big step forward in improving the technical quality of decisions ( $4.5 \pm 0.20$ , see Figure 6.7) and increasing trust between the DSFBs and SMRU.

Another important aspect in such processes is the need to demonstrate that the source of scientific information is independent and accurate (Brennan and Rodwell, 2008: 1077). In this case study, this was largely achieved through the incorporation of local knowledge and values. This is perhaps the main ‘raison d’être’ of many participatory processes that thrive to move away from the information ‘deficit’ model (Burgess et al., 1998: 1446) into more inclusive civic models (Owens, 2000: 1141), thereby leading to “more robust solutions to environmental problems” (Reed, 2008: 2425). Having an industry-led approach allowed local knowledge to be collected and integrated into the process. As one scientist put it, “*One of the really exciting things that James [Dr Butler] managed to do was to get all the DSFBs to say how many seals they’d been shooting over the year, and normally nobody will say anything about that, they won’t tell*” [MSA6]. As such, a situation was reached in which “*it was the salmon guys working directly with the scientists and actually getting some robust data back*” [MBU1], thereby augmenting scientific knowledge (Kusel et al., 1996: 619) and strengthening the acceptance of the data by the DSFBs, who could “*see that the figures that are coming out are not just from conservationists who want to stop everyone taking salmon*” [MBU1]. In turn, this dispelled certain beliefs, so that “*preconceived ideas of what was happening have changed enormously*” [MSA6], and helped to clarify certain issues. For example one DSFB member acknowledged that “*one of the bits of research which I accept as probably being correct is that certain seals predate salmon and others don’t*” [MBU2]. The gathering and acceptance of scientific and local knowledge was instrumental in enabling management to focus on those seals causing the most damage.

However, one member of the DSFB in particular still felt very withdrawn from the data gathering process, asserting that although he knew “*they fly over and check seal numbers and everything else, [...] realistically do they go on the ground and speak to the likes of us and say “what’s your problems?”*” [MBU7]. In addition, the process of data collection and analysis generated more questions to be answered and more data to be gathered, with one DSFB member remarking that “*it’s the usual research stuff that it opens up more questions than it answers but at least we’re beginning to ask the other questions now*” [MBU8]. More research was deemed necessary specifically on the need to justify the Potential Biological

Removal (PBR) on which the licensing system was based. One scientist argued that much of the information was currently *“based on models and sadly [...] these models are very far distant from actually what’s happening on the ground because of lack of data”* [MSA5]. Perhaps linked to this perceived lack of data, some interviewees were still unconvinced by the course of action taken in the Plan. The groups that were most sceptical were the netsmen and the animal welfare representatives, although for opposing reasons. So while it was felt that it was still *“extremely difficult to impress upon a netsman that if he sees a seal, that seal will not necessarily be feeding on salmon”* [MSA5], animal welfare representatives felt there was still no *“scientific evidence [...] to justify the plan in the first place, to show that the seals were to blame for the reduced numbers of salmon”* [MBU4].

To summarise, the Plan was novel in the way it integrated scientists as stakeholders in the process, contributing their knowledge to that of local fishing communities. This integration of knowledges dispelled certain strongly held beliefs and enabled decisions to be of a better quality and to be, broadly, better accepted by stakeholders. As mentioned briefly earlier, this also impacted on trust and relationships, which is the focus of the next section.

#### 6.4.2. Relationships

Placing the case study in the context of conflict, namely the conflict between seal conservation and fisheries, improving relationships was a fundamental aspect of the process, and one which was scored highly by interviewees ( $4.07 \pm 0.15$ ).

The process of integrating more science, exchanging information and organising training courses for the marksmen, had a number of positive results, particularly in terms of increasing trust between certain stakeholders, such as the DSFBs and SMRU ( $4.25 \pm 0.16$ , see Figure 6.7). One DSFB member highlighted the fact that while sceptical initially, he now had *“a good working relationship with SMRU and [...] [not] a bad thing to say about them”* [MBU6]. Trust was also seen to have increased from the point of view of the Scottish Government and government department representatives who perceived that this trust came from *“getting to know where they’re coming from, that they’re not all mad axe-men and vice-versa, knowing that we’re not green-wellied mad men”* [MGA2]. This was not due only to the Plan, but also to the Seal Forum, often referred to as an important forum for dialogue and trust building. The effects of this increased trust between stakeholders were reflected in a change in attitudes, so that *“it wasn’t a case now that they were going out and saying “there’s a seal, let me shoot it”, they were going out and saying “there’s a seal in the river but is it actually causing a problem?”* [MGA3]. This change in attitudes was also highlighted by an animal welfare group representative, who commented on how *“some of the bailiffs I*

*found had learned from it and were educating others so there was definitely improvement there” [MBU5].*

However a number of interviewees from the fishery boards and many netmen were a little more cautious in their views on trust. To explain this, one netman referred to the fact that they could not be completely open during the process because *“there could be SNH folk there that would take offence because it’s not everybody’s thing at all [shooting seals]”* [MBU3]. Others placed a strong emphasis on the fact that the Plan worked only if all DSFBs respected the arrangement, relying on the fact that no-one wanted to be responsible for letting it fall through. Although some interpreted this as ‘trust’ between all stakeholders, others perceived it more as a ‘threat’ from Government. One fisherman concluded by saying that although the process *“did increase the trust [...] it depends on if you say “did you trust them?” - you didn’t fully trust them”* [MBU10].

Conflict resolution was scored relatively highly overall ( $3.88 \pm 0.25$ , see Figure 6.7), despite a big difference between the scores of biodiversity users ( $3.07 \pm 0.38$ ) and those of Government and government departments ( $4.62 \pm 0.24$ ). This may have been linked to different meanings of ‘conflict’ by different interviewees. The Government and government department representatives referred to inter-personal conflicts, i.e. *“a conflict between salmon fisheries, both the rod angler and the netmen and seal conservation interests”* [MGA2]. Conflict resolution was viewed by the scientists in terms of the role of increased data in leading to fewer misperceptions about seals, with one scientist explaining that *“the conflicts with the DSFB and the problems with seals that were in the estuaries have been resolved - they don’t shoot seals in the estuaries anymore. Huge conflict resolved. That’s gone, that’s massive”* [MSA6]. Whether the right perceived conflicts were addressed was, according to one scientist, still up for debate. The netmen, and DSFB members to a lesser degree, perceived ‘conflict’ as being intrinsically linked to the issue of declining salmon stocks, and were, accordingly, disappointed with the process, which although a step in the right direction in terms of bringing stakeholders *“together finding common ground, agreeing common ground [...] had not...] made a dent on what needs to be done”* [MBU9] in terms of controlling seal populations. Finally, for those stakeholders outwith the process, namely animal welfare representatives, the ‘conflict’ related to the numbers of seals shot. From their perspective, conflict resolution in the Plan was *“an improvement on the current situation but only because you’re starting from a completely unacceptable situation”* [MBU4].

Despite different views on the effectiveness of the process for conflict resolution, all interviewees agreed that the Plan was an improvement on the previous situation: *“people now who are looking at this thinking there are still conflicts don’t have a clue what it was*

*like 25 years ago and how entrenched people were then*” [MSA3]. The differences in opinion related to the degree of improvement. Indeed, many interviewees stressed the huge effect of the Plan in resolving important perceived conflicts between stakeholders, mainly through sharing views and perspectives. For some groups however, such as the netsmen and the animal welfare groups, the conflict was still perceived as very acute.

#### 6.4.3. Capacity building

One of the arguments for participation is that managing complex environmental problems requires coordinated and collaborative action from a range of different actors and institutions in order to make changes happen (Beierle and Konisky, 2001: 522). Capacity building therefore requires a combination of learning (in terms of all stakeholders being better educated and informed) and institution building (See Chapter 3). Both these aspects are seen as particularly important in enabling the effective co-management of fisheries (Jentoft, 2005: 4). However, despite the importance of this characteristic, interviewees scored this characteristic the lowest of all social outcomes ( $3.46 \pm 0.23$ ).

There is a strong emphasis in the literature on participation providing the required knowledge for people to take an active part in environmental management (Chase et al., 2004: 638; Reed, 2008: 2422). In this case study, the Government representatives, government department advisers and the scientific advisers felt they had learned a great deal about fisheries management, and that, in turn, the DSFBs had learned about personal and institutional constraints, resulting in a situation in which *“everyone that was involved is now wiser about a wider range of things”* [MGA2]. Members of the DSFB and netsmen also emphasised the knowledge they had gained about seals and salmon ecology and the fact that other participants had learned from them, with one netsman suggesting that the process had *“educated the people in the SNH sector about the misconceptions over the number of seals killed”* [MBU3].

As with many participatory processes however, this education did not extend to the wider public (Beierle and Konisky, 2001: 523), with education being *“relatively constrained to those that have been involved with it”* [MGA1]. So, while interviewees acknowledged that *“Joe Public that lives in Inverness is probably blissfully unaware that there is such a thing as the Moray Firth Seal Management Plan”* [MSA6], the bigger issue was whether or not wider education was a desirable goal of this exercise, with consensus pointing to it being *“not necessarily relevant”* [MSA6]. The reasons given were varied ranging from public apathy (*“Nobody cares, nobody cares, the general public do not care. And the sooner people realise that the better”* [MBU8]), to the potential unleashing of public disapproval not linked directly to lack of knowledge of the Plan itself, but its role in publicising the current legal



protection of seals. Indeed, all interviewees agreed on the fact that if the public knew seals could be shot legally, they might “*be pretty outraged the more they found out about this plan*” [MBU4]. As such, while records regarding seal returns and the Plan itself were in the public domain, one member of the DSFB acknowledged that “*nobody’s trumpeting this stuff particularly - it’s seen as rather sensitive*” [MBU6].

In addition to education, and very closely linked to it, is the issue of implementation. This is often reflected in the creation of organisations or structures that can institutionalise the arrangements that are needed to carry out future activities (Beierle and Konisky, 2001: 523). In this case study, this was mainly carried out within the already existing, national-level Seals Working Group. One real positive of this existing structure was the fact that this group included decision makers capable of implementing agreements in site-specific disputes (Bingham, 1986: 121). Although the Seal Working Group was a positive feature, there was a strong emphasis from interviewees on the need for a more local coordination group, capable of forging stronger links with Moray Firth stakeholders and taking a key role in integrating science into management, acting as a gateway for the input and feeding back of information to stakeholders. The lack of such a structure may have impacted on the particularly low score given to this characteristic ( $2.90 \pm 0.37$ , see Figure 6.7). One interviewee concluded that “*until that group is formed I think that the acceptance of science will still be difficult*” [MSA1]. In addition to the potential lack of acceptance of science, another major risk arising from the lack of local structure was seen to be the lack of continued feedback. One member of the DSFB commented on the fact that he had “*heard nothing [...] they send me a licence and that’s it. Good set up isn’t it?*” [MBU7]. Indeed, one scientist commented on how the emphasis had shifted notably from the local and regional scale in the Plan’s development phase to a situation post-Plan in which the “*major decisions and actually the research related to and the reporting back about the plan has moved away from the regional stakeholders*” [MSA3].

To conclude, social outcomes were broadly positively evaluated by interviewees. High quality decisions that integrated local values were seen as an extremely important outcome, which promoted buy-in from a range of different stakeholders. This cooperation improved relationships and reduced conflict by promoting learning of how different stakeholders framed the problems affecting them, what the personal and institutional constraints were and a broader understanding of the social and political context in which this conflict was embedded. Less well evaluated was the long-term implementation of the Plan.

## **6.5. Evaluating the biodiversity outcomes emanating from the process and social outcomes**

Biodiversity outcomes were evaluated both through interviews (with discussions, the scoring exercise and a counterfactual) and through a Delphi process involving five experts (see Appendix 4). The results from these two methods are explored in this section, which also explores the ways in which respondents perceived how the Plan impacted on biodiversity and the links between the scale of the process and biodiversity outcomes.

### *6.5.1. The evaluation of biodiversity outcomes by interviewees and Delphi experts*

#### *6.5.1.1. The evaluation of biodiversity outcomes by the interviewees*

Considering the relatively high scores given to the process and its social outcomes, it was perhaps surprising that interviewees scored biodiversity outcomes second lowest of all characteristics ( $3.11 \pm 0.24$ ). However, as with a number of evaluation characteristics explored earlier in this chapter, the evaluation of biodiversity outcomes was very dependent on interviewees' views on the goals of the process, and their interpretation of "biodiversity".

The Government and government department representatives scored this highest of the three groups ( $3.62 \pm 0.47$ ) and focussed mainly on seals when asked about biodiversity outcomes, with one adviser stating that "*we weren't going into this for a conservation benefit for salmon and so that's not been part of any of our consideration*" [MGA4]. In addition, their focus was mainly on "*protecting the interests of the SAC*" [MGA1]. Their main problem in this respect was that the Dornoch Firth SAC seal population was not "*bouncing back in health since the Plan was put in place*" [MGA4]. As such, they took a much more long-term view, pointing out that "*it's probably too early to say it's made a real difference*" [MGA2] and also emphasised the difficulty to predict trends due to the limited amount of data on harbour seals. In addition, they stressed the importance of other factors affecting seals. They were more confident about the benefits of the Plan when asked the counterfactual, stressing that without it "*seal numbers would have gone down further in that area*" [MGA2].

The scientists scored this characteristic less highly ( $3.2 \pm 0.21$ ) and were much more narrow in their interpretation of the goals of the Plan with one scientist pointing out that "*the plan was only ever meant to cut off the effects of shooting – to have biodiversity benefits beyond that would be too much*" [MSA1]. While the number of seals shot in the Moray Firth has dropped by 60% as a result of the Plan (Butler et al., Submitted), this group often referred to factors other than shooting that could be affecting seal populations, including changes in levels of predations by other aquatic predators and changes in local food availability due to

climate change of over-fishing (Thompson et al., 2001: 122). As such, the scores given by scientists could reflect the impossibility of such a management plan to encompass the complexity of the natural system and the uncertainty inherent to it (van den Hove, 2000: 458-461). The scientists also expressed doubt that the Plan would help salmon populations, again due to the difficulty of separating the effects of seal predation from a number of other factors potentially affecting salmon both in rivers and at sea. Another aspect outlined by one scientist was the lack of review or evaluation of the likely effects of the Plan. This lack of assessment was seen as a major obstacle in rolling the Plan across Scotland as a result of the Marine (Scotland) Bill (2009), particularly in terms of convincing fishery managers in other areas of the value of such a Plan.

Biodiversity users focused their responses mainly on salmon numbers perhaps due to the economic importance of Atlantic salmon in the Moray Firth (Butler et al., 2009: 263) and the role of Atlantic salmon for their livelihoods. Perhaps because they expected healthier salmon stocks to emerge from the Plan, they scored this characteristic lowest ( $3.07 \pm 0.49$ ). Most DSFB members interviewed expressed a neutral to slightly positive take on how the Plan had impacted on salmon stocks within the Moray Firth, referring often to the potential of the Plan to help salmon populations, particularly the Spring run. The most negative views came from the netsmen and one member of the DSFB, who having also been negative in terms of the process and social outcomes, remarked on the fact that the Plan was “*not doing anything near enough to prevent a collapse of the [Atlantic salmon] stock*” [MBU9]. In addition to the perceived continued decline in salmon, these interviewees had also perceived an increase in the number of seals. In the eyes of one netsman, the Plan was actually a direct threat to seals, which he felt were now growing in number, depleting the salmon stock and therefore competing for a smaller prey population, which in turn would impact on their long-term survival. As such, he struggled with the fact that the Plan had been “*so engrossed in the destruction side of things that we haven’t really looked at the right values of the seals themselves*” [MBU3]. The animal welfare representative also discussed the long-term survival of seals, commenting on how, while beneficial in the short-term “*it [the Plan] legitimises the killing of seals, so in the long-term I don’t think seals have benefited*” [MBU4]. As with other characteristics evaluated by interviewees, there are strong links between the arguments presented by the netsmen and the animal welfare representatives.

To conclude this section, biodiversity outcomes were scored lowest of all process and outcome characteristics by interviewees: for the government advisers, the Plan did not deliver a “favourable” population of harbour seals in the SAC; for scientists the Plan had reduced shooting pressure, but could do little else in terms of other factors affecting seals;

and for the DSFB and netmen, although the potential of Plan was mentioned, salmon stocks had not improved to the level they would have hoped.

#### 6.5.1.2. The evaluation of biodiversity outcomes by Delphi experts

In addition to the responses from interviewees, biodiversity outcomes were also evaluated by a panel of Delphi experts, whose results are presented in this section. A total of 5 experts (see Appendix 4) were asked to take part in the Delphi process, all of whom took part in two rounds carried out in June and August 2009. The results are outlined in Table 6.1.

**Table 6.1. Projections of future changes in harbour seal populations in the Moray Firth based on results from a Delphi process**

	<b>Years from start of plan</b>	<b>Increase</b>	<b>No change</b>	<b>Decrease</b>	<b>No prediction</b>
<b>With</b> Management Plan	5 years	40%	40%	0	20%
	10 years	40%	20%	0	40%
	25 years	0	40%	0	60%
<b>Without</b> Management Plan	5 years	0	0	100%	0
	10 years	0	20%	40%	40%
	25 years	0	20%	20%	60%

Delphi experts were asked what changes in the harbour seal population they would expect to see over the next 5, 10, 25 years provided the aims outlined in the Plan were implemented fully; and what changes in the harbour seal population they would expect to see in the next 5, 10, 25 years without the current plan in place. As with the government advisers and scientists interviewed, the majority of Delphi experts predicted a stabilisation in numbers of harbour seals or slight increase with the Plan in place, compared to a potential decrease without (see Table 6.1). Consensus was reached on the fact that numbers of harbour seals in the Moray Firth would have decreased within 5 years without the Plan in place. In addition, all experts agreed that it was unlikely for harbour seals to decrease in the Moray Firth as a result of the Plan. A third of experts on average, however, were unwilling to give an estimate based on lack of data on top down (e.g. shooting) and bottom up (e.g. food availability) drivers of change in harbour seal populations, and the nature and extent of their interactions with salmonid fisheries (Table 6.1) – a finding converging with the views of the scientists interviewed. This unwillingness to give a prediction increased as the time frame they were asked to work with increased. The need for increased research, already highlighted by interviewees, was emphasised by all Delphi experts, who stressed the need for increased research on seal population dynamics, and the actual impact of seal predation on the numbers of salmon or sea trout that spawn or on the numbers of smolts that return into the sea.

In conclusion, the biodiversity outcomes of the Plan were seen by both interviewees and Delphi experts as having been minimal. The counterfactual, both in interviews and the Delphi process, did however emphasise that seal populations in the Moray Firth would have fared less well without the Plan in place. Another aspect to emerge strongly particularly from the Delphi process was the need for continued monitoring and research to better understand seal and salmon ecology and the interactions between the two species.

### 6.5.2. *How the Plan impacted on biodiversity*

As seen in the last sections, biodiversity outcomes were scored poorly by interviewees. However, these same interviewees scored the other process and outcome characteristics relatively highly (see Sections 6.3 and 6.4). The links between these two aspects is explored in this section.

An explanation to the low score given to this characteristic, together with the complexity of the system and the different understandings of biodiversity (see Section 6.5.1.1), could be that interviewees and Delphi experts scored the biodiversity outcomes in terms of direct outcomes of the Plan, rather than of the indirect, and more long-term, biodiversity outcomes of the participatory process, in which of course the Delphi experts did not take part. The latter indirect outcomes of the participatory process on biodiversity were discussed much more by interviewees, one of whom concluded that while it was currently too difficult to say whether the Plan had “*made a real difference to the actual biodiversity, it’s certainly made a difference to the way things are managed and handled*” [MGA2], which in turn could have an impact on biodiversity outcomes in the Moray Firth.

The most frequently cited indirect benefits to biodiversity were the collaboration of all relevant stakeholders, increased trust between stakeholders and the improved quality of decisions through the integration of scientific and local knowledge. Six interviewees commented on how important it had been to get all relevant stakeholders “*trying to get to the same end together and [...] very committed to making it work*” [MSA6]. Here, the fact that it was an industry-led approach no doubt contributed to the involvement of the DSFBs and netsmen, thereby reshuffling power and responsibility in the fisheries management chain by “*bringing previously excluded, disenfranchised and sometimes alienated user groups and stakeholders into the management decision-making process*” (Jentoft, 2005: 1). This acceptance of responsibility by all relevant stakeholders to work together towards a common goal is in many respects the requirement of any empowerment or co-management (Brennan and Rodwell, 2008: 1078), and one which is often difficult to achieve. However, this was very much a success of this case study, which in turn helped “*generate some trust between*

*the different parties that [...] would have carried on their own way*” [MSA5]. The need to develop trust between stakeholders is particularly important in such complex predator-prey conflict situations, in which value judgements and emotions are often entrenched (Brennan and Rodwell, 2008: 1079). Finally, and closely related both to the issue of bringing all parties together and increasing trust, interviewees highlighted the importance given during the process to *“gathering the scientific evidence to support the policy”* [MSA4]. This integration of science into management was an innovative aspect of the process, and one which could not have happened without an element of trust between the DSFBs and scientific advisers. As such, trust enabled stakeholders more readily to contribute to and accept scientific evidence.

To conclude, the low score given to biodiversity outcomes reflects the complexity of the natural system in question and associated constraints of the Plan in terms of the factors it could feasibly address, and the fact that scores (from interviewees) and predictions (from Delphi experts) were made on the direct biodiversity outcomes of the Plan. However, a number of indirect outcomes, namely bringing stakeholders together, increasing trust and improving the quality of decisions, may have all contributed to longer-term biodiversity outcomes in the Moray Firth.

### *6.5.3. The link between the scale of the participation process and biodiversity outcomes*

As mentioned in the introduction to this chapter, the scale at which the Plan was developed potentially reflected a better understanding of the ecological requirements of the species in the Moray Firth, linking the scale of the process with the scale of the conflict between common seals and Atlantic salmon. In this section the benefits and drawbacks of adopting this scale in terms of achieving direct and indirect biodiversity outcomes are explored.

The scale at which the Plan was developed was highlighted by respondents as one of the most novel aspects of the Plan. It was deemed to benefit directly biodiversity by focussing the scale to the ecology of the species targeted. This led one scientist to emphasise the aim was to be *“managing harbour seals across the Moray Firth and that’s the way it needs to be done as geographically speaking it’s their population range. I think for the salmon especially for coastal issues, you have to manage them across the Moray Firth you can’t manage it river by river”* [MSA1]. So, both for the harbour seals and the Atlantic salmon, the scale adopted in the process was seen to be the appropriate one in terms of addressing the conflict between seals and salmon in the area. In addition, it enabled a certain streamlining from the point of view of the national government. Indeed, the scale at which the Plan operated helped the Government representatives, who, as a result of the process, only received and processed one licence application a year as opposed to 12 licence applications

from individual DSFBs. Equally, DSFBs also benefited from this arrangement, by contributing to one licence agreement as opposed to individual DSFBs applying. In this respect, the scale of the process made its implementation more cost-effective, which for those funding the process is an important consideration (Rowe and Frewer, 2000: 17).

However, although the scale may have been the most appropriate in terms of the species requirements and implementation, stakeholder participation at a larger spatial scale is far more complex than in local level participatory initiatives (Younge and Fowkes, 2003: 17), especially in terms of ensuring the representativeness of local actors (Richards et al., 2004: 17). Potentially, the scale of participation could in theory have impacted negatively on biodiversity outcomes by withdrawing certain stakeholders from the process. This, however, was only mentioned by one scientist, who observed that “*even the Moray Firth scale is tough. [...] We can have meetings that’ll take two and half hours to drive to, for some people that’s five hours. It’s really constraining the kind of people that can get involved*” [MSA3]. The same scientist went on to describe the impact of scale on his personal involvement in the following way:

*although you’re looking for grassroots up you’re still tending to get a lot of professionals that have to be there and then the downside of that is, if there are several things happening you’ve got the same poor sod whose meant to be involved in all of them. It becomes impossible* [MSA3].

This pointed to a common problem with participation, in which certain groups are called upon to take part in large numbers of initiatives, often in their own time and at their own expense (Richards et al., 2004: 12). However, for most local interviewees the scale at which the process was carried out did not impact adversely on their involvement, mainly due to the methods for involvement being adapted to the socio-cultural context. This was reflected in a minority of interviewees mentioning scale during discussions. So, in this case study, the complexities inherent in larger scale participation initiatives were addressed through one key individual ensuring adequate representativeness of all relevant actors.

In terms of making the most of the meso-scale in which the Plan was carried out, one criticism of the process was that it had not drawn sufficiently on existing catchment scale initiatives such as the Moray Firth Partnership. Despite making contact with them, involvement did not materialise in practice. This was blamed on the fact that the Partnership “*weren’t particularly effective, at that time, in representing their own constituents*” [MSA1]. Although recognised as a weakness of the Plan, contact with the Partnership did, however, result in increased links with the tourism sector in the development of the Plan. Again, the issue of capacity building, this time in terms of the Moray Firth Partnership, was seen as an obstacle to improved links between the Plan and other catchment scale initiatives. The way

in which the Plan perhaps benefited most from the meso-scale approach was the direct involvement of decision makers who could help decide on and more importantly implement agreements (Bingham, 1986: 121). This was closely linked to the novel conclusions of a study focussing on management planning that argued that “while the broad representation of stakeholders in the planning process does not necessarily lead to stronger plans, the presence of specific stakeholders does in fact significantly increase ecosystem plan quality” (Brody, 2003: 415).

To conclude, the meso-scale at which the participatory process was carried out was beneficial in terms of addressing the appropriate ecological scale for the species targeted by the Plan, and in terms of cost-effectiveness in the implementation phase. Although larger scales often make participation difficult in terms of ensuring representativeness of local actors, in this case study this was true only for one local expert, due to increasing demands on his time.

## **6.6. Conclusion**

In this case study, the perception of whether or not this was a “good” process depended on the desired outcomes of the Plan as defined by different interviewees. For those interviewees within the DSFBs, the desired outcome was very much to gain an easier licensing system. For those in the Government and government departments, the aim was to target seals causing the most damage and to gain a more accurate picture of the numbers of seals shot in the area. For these two groups, which consisted of the majority of interviewees, the process was therefore seen for the most part in a very positive light. Although for opposing reasons, the netsmen and animal welfare groups, who wanted the Plan to act as a real turning point in the way seals were managed, perceived the process and outcomes more negatively, with the outcomes particularly coming short of their expectations.

Important aspects of the process of developing the Plan included the role of scientists as key stakeholders and the integration of a wide range of knowledges. This integration of knowledges dispelled certain strongly held beliefs and enabled decisions to be of a better quality and to be, broadly, better accepted by stakeholders. This approach greatly improved trust between stakeholders and reduced the intensity of the conflict between seal conservation and fisheries. Considering the broadly positive views on the Plan, it was perhaps surprising that biodiversity outcomes were considered minimal both by the interviewees and experts in the Delphi process. In this case study, this was very much linked to the inherent nature of environmental problems, including complexity and uncertainty (van den Hove, 2000: 458-461), putting constraints on the Plan in terms of the environmental



factors it could realistically address. In addition, biodiversity outcomes were scored by interviewees as direct biodiversity outcomes from the Plan, rather than indirect, longer-term, biodiversity outcomes stemming from the participatory process. When the latter was explored, a number of outcomes of the process, including the collaboration of all relevant stakeholders, increased trust between stakeholders and the improved quality of decisions through the integration of scientific and local knowledge were seen leading to the potential for improved, long-term biodiversity benefits.

As with a number of participation processes (Burgess and Clark, 2006: 6), the context in which the Plan was developed dictated how the process was conducted, who the main actors were and the outcomes, both social and environmental, that emerged. The spatial scale of the process was perceived to be particularly appropriate, not only in terms of the ecological requirements of the species but also in terms of the conflict area and the process. Indeed, while still maintaining one-to-one contact with stakeholders, the development of the Plan benefited from the direct involvement of national decision-makers thereby helping in the implementation of decisions taken.

A cautionary aspect to consider in this case study was that of implementation. Indeed, if the main aim of having stakeholder collaboration is the improvement of seal management through coordinated action, one of the main results of this case study was the uncertain relationship between participation and implementation (Beierle and Konisky, 2001: 526). Indeed, feedback from interviewees indicated that the lack of a local coordination group capable of continuing the work done during the process of developing the Plan put at risk all previous accomplishments.

In the next chapter, the process and outcomes of participation were tested at the macro-scale, with the Forth and Borders Moorland Management Scheme case study.

## **Chapter 7. Public participation process and outcomes at the macro-scale: the Forth and Borders Moorland Management Scheme**

### **7.1. Introduction**

In this chapter, the theoretical framework outlined in Chapter 3 and the methodology outlined in Chapter 4 are tested at the macro-scale, using the example of the Forth and Borders Moorland Management Scheme, hereby referred to as the ‘Scheme’. Moorlands are habitats of international and European importance, home to diverse animal assemblages (Thompson et al., 1995: 166-167). They have a considerable economic value (Scotland's Moorland Forum, 2003: 2), providing regulating services such as carbon storage and sequestration, water purification and flood regulation (Reed et al., 2009: 5206) and recreational benefits (Holden et al., 2007: 77). Moorlands are very sensitive to changes in the local environment and have been severely degraded since the 1940s, resulting in major losses in the extent of moorland habitat (BRIG, 2008: 86) and a decline in the quality of the remaining moorland (Bardgett et al., 1995: 160). In view of the threats to moorland conservation and their decline, the Scheme aimed to “maintain and improve the habitats and species for which the SSSIs are notified” (Scottish Natural Heritage, 2004: 2). In order to achieve this aim, a number of prescriptions were available to land owners and managers under the Scheme to promote good moorland management practices.

The designated sites under the Scheme represented a distinctive ‘non-natural’ European habitat, both created and threatened by a range of human activities. To ensure the support of local stakeholders in the maintenance of the commercial and natural values of moorlands within the Scheme, participation was carried out on two separate sub-scales: the management *Scheme* was developed for moorland habitats on a regional basis by SNH with input from the Moorland Forum; then, localised individual management *plans* were devised between landowners or managers, SNH area officers and consultants. This double-tiered approach could realistically have encompassed the ‘best of both worlds’ in terms of scale, being in essence able to capture the values of local stakeholders while optimising long-term conservation results by focussing on large scale requirements of species and habitat (see Chapter 1).

The aim of this chapter is to determine the ways in which this large scale, locally-based, double-tiered approach impacted on both the process and outcomes of public participation,

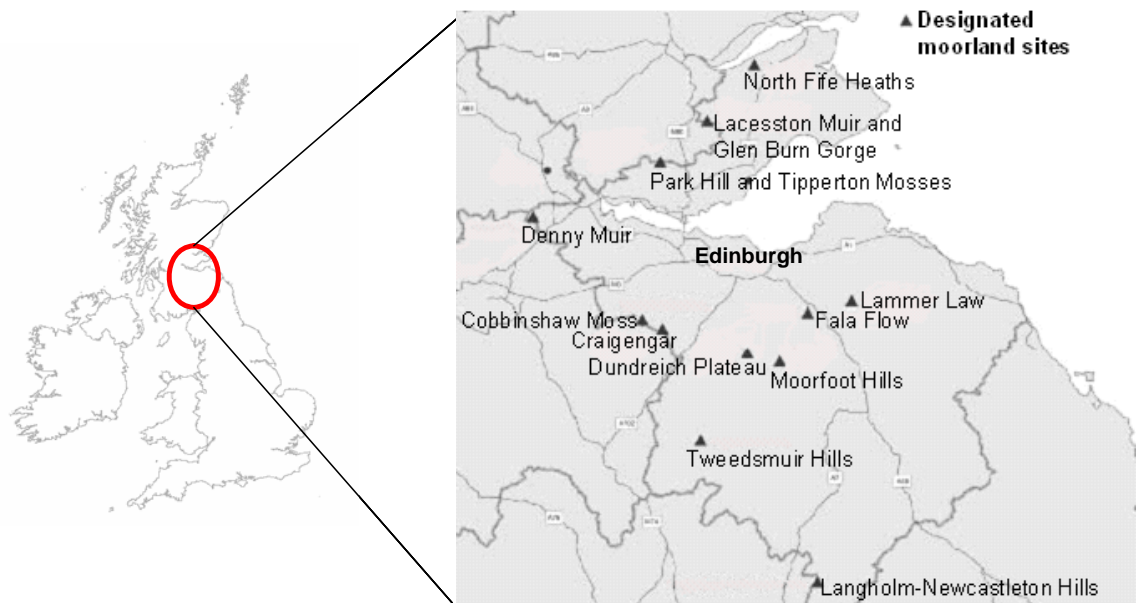
with a particular focus on biodiversity outcomes (See Chapter 3). In order to achieve the above aim, the remainder of this chapter comprises four sections. Section 7.2 focuses on an introduction to the Scheme, including the scientific background, initial development of the Scheme and stakeholder dynamics. Section 7.3 goes on to present the results of the evaluation of the process of development of the Scheme, before looking at the evaluation of the Scheme in terms of social outcomes in Section 7.4. Section 7.5 then builds on the results of the semi-structured interviews and a Delphi process to evaluate the direct and indirect biodiversity outcomes of the Scheme. This is followed by a brief conclusion in Section 7.6.

## 7.2 Contextual setting of the Scheme

### 7.2.1. Scientific background

The Forth and Borders designated moorlands cover an area of 28,000 hectares. All twelve sites within the Scheme are SSSIs. In addition to their SSSI designation, two of the sites (Langholm-Newcastleton Hills and Fala Flow) are Special Protection Areas (SPAs). The Moorfoot Hills and Craigengar are Special Areas of Conservation (SACs). For a detailed map showing the designated sites see Figure 7.1.

**Figure 7.1. Forth and Borders Moorland Management Scheme sites**



Sources: JNCC and SNH

Moorlands can be defined broadly as open, semi-natural habitats with dwarf shrub heaths. These habitats are found in the uplands of the temperate zone, and are usually characterised by acid or base-deficient soils (Holden et al., 2007: 76). In Scotland, moorlands encompass

such habitats as dry and wet heaths, blanket bogs, rough grasslands, and cover approximately 38% of the country, equivalent to 3 million hectares (Holden et al., 2007: 76).

Moorlands are very distinctive and important habitats for biodiversity. A total of 19 plant communities are associated with the British uplands, 13 of which are specifically listed under the Habitats Directive (Evans et al., 2006: 500). Moorlands also support high diversities of ground-dwelling invertebrates, especially ground beetles and spiders (Gardner et al., 1997: 276). Finally, moorlands constitute a primary habitat for red grouse (*Lagopus lagopus scotica*) and are a key habitat for internationally important bird species. Eight bird species including golden eagle (*Aquila chrysaetos*), hen harrier (*Circus cyaneus*), golden plover (*Pluvialis apricaria*) and dunlin (*Calidris alpina*) are listed as Annex I species of the Birds Directive (Thompson et al., 1995: 168). In addition to their important contribution to biodiversity, moorlands also provide essential regulating services including water purification, climate regulation and flood regulation (Reed et al., 2009: 5206).

Moorlands are not 'natural' environments but cultural landscapes (Dodgshon and Olsson, 2006: 21), cleared and maintained through active human management (Holden et al., 2007: 78) such as burning (or muirburn) and grazing. Most moorlands are privately owned (Warren, 2002: 171) and used for extensive sheep farming, game management (for red grouse (*Lagopus lagopus*) and red deer (*Cervus elephus*)) and forestry. While multi-functional land use and diversified management of moorlands is viewed positively (Gimingham, 1995: 18; Warren, 2002: 170), moorlands are sensitive habitats requiring management adapted to geology, ecology and drainage (Scotland Moorland Forum, 2003: 5). Because of this sensitivity, certain land management practices, atmospheric deposition and climate change (Holden et al., 2007: 75) have all contributed to a severe change in moorland vegetation. This has resulted in an estimated 18% loss of heather moorland in Scotland between the 1940s and 1970s, followed by a continued loss of 5% in the 1980s (BRIG, 2008: 86). As such, while farming, forestry and game management are integral to the maintenance of moorlands, they can also pose threats.

Agriculture is the main land use in the uplands, although with uplands being largely unproductive areas, farming is very much reliant on EU subsidies (Holden et al., 2007: 79). After the Second World War, the Common Agricultural Policy (CAP) and subsidies for Less Favoured Areas (LFA) encouraged upland farmers to intensify production of moorlands. Land drainage and conversion to grasslands through ploughing, reseeded, liming and fertilisation and all led to significant changes in the chemical and physical conditions of soils and their associated vegetation (Reed et al., 2009: 5206). Nitrogen deposition through fertilisers and pollution have also contributed to changes in plant species assemblages, soil

community and ecosystem services, with certain plant communities such as *Racomitrium* heath being particularly at risk from nutrient enrichment (Milne and Hartley, 2001: 337). In addition, Hill Livestock Compensatory Allowances (HFLA) since the 1940s led to an increase in the number of sheep in upland farms (Thompson et al., 1995: 171) – up to 30% between the 1970s and 1990s (Holden et al., 2007: 79). Grazing, by sheep and deer, is regarded broadly as the principal controlling factor over vegetation change (Milne and Hartley, 2001: 335) with overgrazing linked to the erosion of upland soils and changes in moorland plant composition (Ross et al., 2003: 40; Thompson et al., 1995: 168). Recent changes to the CAP, as well as EU funding is, however, moving the emphasis away from agricultural development toward rural development encompassing social, environmental and economic needs (Holden et al., 2007: 80).

Afforestation, mainly by non-native conifer species, has been the main cause of net moorland loss in the 20<sup>th</sup> century (Holden et al., 2007: 92). Planting and fertilisation of large areas of moorland have led to severe disturbance of ground vegetation and associated animal communities (Peterken, 2001: 36) and to conflicts between foresters and conservationists (Evans et al., 2006: 500). In the 1970s and early 1980s, a combination of declining grouse populations and fiscal incentives to plant trees, led to a number of grouse moors being sold for forestry (Warren, 2002: 163). Following realisation of the conservation value of peatlands in the late 1980s (Forestry Commission, 2000: 2) and the introduction of the forest design planning process in the early 1990s environmental concerns have gradually been integrated into forest management (Farmer and Nisbet, 2004: 280). However, it is estimated that forest cover in Scotland will increase from 17.1% (in 2006) to 25% by the second half of the 21<sup>st</sup> century (Forestry Commission, 2006: 15). In response to this strategy, the Moorland Forum expressed concern over the resulting net loss of “moorland” habitats, estimating that two thirds of the extra 650,000 hectares of new planting would take place in upland areas (Scotland's Moorland Forum, 2008: 2), thereby potentially endangering these habitats.

Finally, moorlands are also home to one of the most contentious conflicts between biodiversity conservation and human activities, namely between raptor conservation and grouse management (Thirgood et al., 2000: 96). It is estimated that between 50% and 60% of heather moorland in Scotland are managed as grouse moors (Warren, 2002: 154). While the contribution of grouse moor management to biodiversity is inconclusive, it is accepted that grouse management leads to the conservation of heather moorlands (Robertson et al., 2001: 41). Some aspects of grouse management can, however, come into conflict with the objectives of biodiversity conservation. Rotational burning is seen as an important management tool to maintain a diversity of heather cover (Scotland's Moorland Forum, 2003: 9). If improperly carried out, muirburn can cause severe and permanent damage to

habitats (Yallop et al., 2009: 178), leading to calls for a ban on burning in sensitive habitats such as blanket bogs (Holden et al., 2007: 89). Furthermore, birds of prey such as hen harriers (*Circus cyaneus*) are known to be persecuted on grouse moors due to perceived economic losses they cause to game managers (Green and Etheridge, 1999: 473; Whitfield et al., 2003: 160). Although raptors are legally protected (e.g. under the Birds Directive and the CROW Act), continued illegal persecution is seen as one of the main threats to species such as hen harriers, peregrine falcons and golden eagles (Redpath et al., 2004).

To summarise, moorlands are an important and distinctive natural, economic and cultural habitat. The three land uses associated with the uplands, namely sheep farming, game management and afforestation can all potentially conflict with the biodiversity objectives of moorlands. In view of their continued decline, there has been increasing concern for the future of moorlands and associated changes in policy. Key to continued survival of moorlands is public support for their conservation in view of the fact that most moorland areas are privately owned and managed (Warren, 2002: 171). This is the focus of the next section, which explores the development of the Scheme.

### 7.2.2. *The initial development of the Scheme*

The Scheme is part of the wider SNH Natural Care initiative. This initiative is described in this section followed by the description of the drivers identified through documentary evidence and interviews to explain the development of the Scheme.

SNH's Natural Care initiative is an illustration of the general move in environmental governance from the more common approach of a centralized government using regulations as a 'stick' towards positive management of participatory approaches with incentives as a 'carrot' (Hilborn, 2004: 276). The Natural Care initiative was seen by all SNH representatives and some scientific advisers as a positive move away from a historic situation in which "*large sums of money being paid to landowners [...] to not plant a tree in a blanket bog, which is wrong*" [FBGA5]. The Scheme was "*basically rewarding land owners and occupiers who practice good moorland management*" [FBGA5], coinciding with the concept of positive incentives, i.e. payments for positive conservation actions (Doremus, 2003: 219).

Inherent to this shift towards the Natural Care initiative was the revelation from monitoring in SSSIs that a number of designated sites were not in 'Favourable Condition', often as a result of poor management. Site condition monitoring revealed that only 71.5% of natural features were found to be in favourable condition by the end of March 2005 and 78.4% by March 2009. As a result, the Scottish Government established a National Indicator in 2009 to increase to 95% the proportion of protected nature sites in favourable condition

(Anonymous, 2009). According to one senior SNH representative, *“that’s the real raison d’être of having this scheme in place it’s to make sure that we meet our biodiversity targets and a lot of our sites, a lot of features failing you know because inadequate incentives were put in place”* [FBGA6]. In this regard, the Scheme was very closely related to Article 6(1) of the Habitats Directive, which requires Member States to *“Establish the necessary conservation measures, involving, if need be, appropriate management plans specifically designed for the sites or integrated into other development plans [...]”* (European Commission, 1992). The wider Natural Care Initiative also corresponds well with the need for *“positive measures [...] which aim to achieve the general objective of the directive”* (European Commission, 2000: 17) emphasised in the EC guidance document provided by the EC on interpreting Article 6 of the Habitats Directive (see Chapter 3).

The way SNH developed Natural Care was to *“theme them into according habitat types so that you could then have a set of prescriptions there effectively that covered that habitat type that could be applied generically across the board”* [FBGA1]. There seemed to be a strong level of collaboration between the Natural Care team and SNH area officers in selecting these broad themes, which then became schemes, such as the East Scotland Grassland Management Scheme, the South Scotland Bog Scheme, and of course the Forth and Borders Moorland Management Scheme. This led one SNH representative to describe the Natural Care approach as *“open, it’s very open to meet area needs [...] it was up to the areas to identify which schemes might help in their patch”* [FBGA4]. This input of area officers not only helped in identifying the group of features and sites that particularly needed management, it also helped identify what type of management would be required, leading to the development of management prescriptions. According to another SNH representative, the direct and early input of SNH area officers prevented the schemes from being *“monumentally impractical”* and promoted uptake of the schemes by ensuring that they weren’t *“going to put a whole load of provisions in there that nobody’s ever going to go for, it’s just a pointless waste of everybody’s time and paper!”* [FBGA1]. In the case of the Scheme, consultation then involved *“generic, representative organisations who let you know what you were planning to send out might be nonsense in some respects and then you could change that”* [FBGA1]. In addition, the Scheme and its prescriptions were discussed by members of Scotland’s Moorland Forum (see Section 7.3.2).

The Scheme *“wasn’t down to the individual landowners who were going to be affected”* [FBGA1]. As such, the development of the Scheme reflected the “participation-limited adaptive management” approach described by Kusel et al., i.e. a collaborative effort by scientists and statutory agencies responsible for managing resources (ibid, 1996: 615). However, voluntary individual management plans were drawn up to reflect variation for each

individual site. Most landowners and managers interviewed had heard of the Scheme through a leaflet in the post, or through discussions with their local SNH area officer. If they decided to join the Scheme, each land owner or manager of a designated site needed to develop an individual management plan, often with the help of a specialist independent consultant (e.g. the Farming and Wildlife Advisory Group). The management plans were then reviewed by SNH, agreed by all and approved as management agreements between SNH and all concerned parties.

To summarise, the Scheme was part of a wider SNH Natural Care Initiative. The Scheme was developed using a habitat-focussed regional scale scheme with input from SNH area officers and representatives from various organisations. Individual management plans were then drawn up with interested landowners and managers to reflect localised variations. As highlighted in Section 7.2.1, moorlands are very much a managed landscape, therefore the impact of human activities was critical to maintain and improve moorlands in favourable condition. The dynamics between the different actors involved in this management process are the focus of the next section.

### 7.2.3. Dynamics of stakeholder relationships

Three main groups were important in this case study, namely SNH, individuals with farming interests and those with grouse shooting interests. In this section, the three groups are introduced, and the perceptions between them explored.

#### 7.2.3.1. Perceptions of SNH

Perception of SNH as an organisation was generally low amongst biodiversity users. A couple of interviewees used the term “*bureaucrats*” to describe SNH staff, while others expressed doubt about the ability of SNH to understand their concerns. One grouse moor manager explained that, while from a conservation point of view SNH’s knowledge was adequate, there was a “*lack of knowledge as to why a grouse moor is managed the way it is, why the keepers do the job they do and you know why there are such strong feelings out there*” [FBBU4]. Perhaps because of this lack of understanding, one gamekeeper argued that “*there are a lot of guys at SNH that want to get rid of grouse shooting. They want to get rid of private estates [...] they want to re-wild it. And it’s crap, it’s bullshit. Re-wilding means re-verminising it*” [FBBU8]. The latter point emphasised a key aspect in the current conflicts linked to designated species and areas, namely conflicting perceptions of raptors by conservationists and game keepers (Warren, 2002: 209). On this particular issue of the raptor-grouse conflict, resentment was not only against SNH, but also against the RSPB with one grouse moor manager explaining that “*the biggest issue we have in Scotland I’m afraid*



*is with the bird side of it, with the RSPB, who seem to have a very different agenda [...] it creates very strong feelings” [FBBU4].*

To describe the attitude of farmers towards SNH, an independent adviser highlighted that *“sometimes they might have an idea about SNH in their head and it might be different because obviously it depends on who you work with” [FBSA2].* In the case of the Borders local area, land owners and managers interviewed were very positive about their local area officer. They described the area officer as being *“really helpful” [FBBU6], “perfectly open and encouraging” [FBBU3]* and the relationship with her as *“flexible” [FBBU1].* One independent adviser described her as *“really great [...] had a good reputation and a good relationship with the farmers” [FBSA2].* This particular area officer had obviously spent time and effort cultivating these relationships. According to one SNH representative, this was perhaps not the norm: *“communication between area staff and the managers is time well spent but there are so many calls on an area officer’s time that you won’t often get that to a huge degree” [FBGA3].*

The recent restructuring of SNH was also cause for concern, with one farmer describing how the move to offices in Inverness had resulted in a situation where *“most of the employees are in local offices anyway and moving the head office from Edinburgh to Inverness achieved nothing other than losing a lot of expertise” [FBBU3].* In view of the decision in 2001 by the Scottish Executive to transfer its headquarters in Edinburgh and 250 employees to Inverness, the argument was that SNH was already dispersed, with local level decision-making being carried out in local area offices across Scotland (Lloyd and Peel, 2006: 846). The dispersal of SNH may have affected the uptake of the Scheme with one SNH representative explaining that the low take up in certain areas could be linked to the fact that *“the area officers didn’t know the sites particularly well so that made it a bit more difficult and not so much confidence that what you were putting forward was going to be picked up” [FBGA3].* Linked to this was the fact that remaining staff often had heavy workloads, which meant less developed relationships with land owners and managers. This was felt mainly by SNH representatives, with one regretting the fact that *“you get to the point here you’re spread so wide that you’re dipping into everything and in terms of fostering relationships, just dipping into that is quite, not the ideal way to do it I suppose” [FBGA1].* Another aspect impacting negatively on relationships was the perceived high turn-over of staff: *“locally with SNH there’s a lot of movement in and out, a lot of people find that tricky” [FBSA1].*

Despite the negative views of SNH as an organisation, perceptions of the Borders local area officer were positive. This was a reflection of the time and effort invested in fostering these

relationships, an aspect affected potentially in other areas by high staff turn-over, heavy workloads and the recent restructuring of SNH.

### 7.2.3.2. Perceptions of farming interests

Perceptions of farmers by those with non-farming interests were mainly negative. One interviewee argued that *“all the farmers worry about is money”* [FBBU8], while another bemoaned that farmers tended to be individuals that *“just tend to go with whatever they’re encouraged to do”* [FBBU5]. In addition, they were perceived to be uninterested in conservation, resulting in a situation in which *“they will put minimal areas in and they’re not good schemes and it doesn’t really fire anyone’s imagination up”* [FBBU5]. One SNH representative implied that farmers were a law unto themselves: *“nothing in agricultural practices are entirely by the book”* [FBGA1].

A recurrent issue in discussions was that of subsidies. One independent consultant explained that there was a *“culture of subsidy in this country, it’s been 30, 40, 50 years of subsidy that farmers generally don’t move without compensation”* [FBSA4]. For one conservationist this ‘culture of subsidy’ could be used beneficially, particularly for conservation: *“we know that land managers follow incentives so you can incentivise these things”* [FBBU9]. Farmers themselves admitted relying heavily on subsidies, including incentives to promote conservation. For one tenant farmer, having the extra funding from SNH was essential as *“it tops up a very empty bank account that is hovering on an abyss of overdraft limit”* [FBBU1]. The current economic climate and the move towards the Scotland Rural Development Programme (SRDP) was a real concern for many, especially those with smaller farms. Perhaps in view of this, schemes such as the Forth and Borders Moorland Management Scheme were perceived by farmers as an integral component to sustaining their livelihoods and reflected the current re-thinking on the future role of farming in relatively unproductive areas such as the uplands, with the need to balance food production with environmental concerns (Warren, 2002: 105). However, there was a hint that farmers were uncomfortable with this constant chasing of subsidies. One farmer commented that *“hill farming at the moment is producing so little that one is actually living on these schemes rather than being there to put money into a pot to perpetuate good things”* [FBBU3]. This reflected very much Stephenson’s views on subsidies based on his experience of subsidy removal in New Zealand in the mid 1980s. He concluded that in some cases *“grants may actually work against conservation. With grants, things are only done if there is money in it. Without grants, it is done because of a belief “it is the right thing to do””* (Stephenson, 1997: 26).

To summarise, upland farmers were perceived to be very driven by financial incentives. For some, this tendency was seen as a positive, as long as incentives were geared toward conservation. For others current incentives prevented new approaches for agriculture and biodiversity conservation.

#### 7.2.3.3. Perception of grouse shooting interests

Grouse moors tend to be large estates, which employ gamekeepers to manage the heather moorland habitat which red grouse depend on, manage grouse predators such as foxes, crows and stoats, and manage grouse themselves (Hudson and Newborn, 1995: 6-7). As with farming in the uplands, grouse-shooting moors often operate at a loss (Warren, 2002: 153). To explain the continued management of moorland for grouse shooting despite the financial costs involved, one independent consultant stressed that they were “*run as a hobby [...] it's not a business you know, it's a passion*” [FBSA4].

It was clear in interviews, as reflected in the literature, that this ‘passion’ for grouse shooting had contributed to the maintenance of moorlands in many areas in the uplands. However, the financial autonomy of grouse moor estates was a concern for one independent adviser, who commented that “*moorlands are almost an unique entity that because of the nature of the beast where they're owned by wealthy people they can do pretty much what they want with them [...] they can afford to run them in the way they want to run them*” [FBSA4]. In view of this management situation, the same individual resented the fact that public funding was supporting management practices that were already being carried out by wealthy landowners. This view was, however, perceived by some interviewees with grouse shooting interests as “*anti-landownerism*”, misguided in view of the fact that “*all we're trying to do is make it better for the next generation but we don't get a credence for it*” [FBBU8]. In view of this fact, one SNH representative acknowledged that the Scheme and its prescriptions were a direct response to the “*general feeling amongst land owning fraternities that a lot of this was being done through their great management input and at their expense as well and perhaps wasn't fully recognised or appreciated in wider circles*” [FBGA5].

Despite the common goal of moorland conservation, the relationship between grouse moor managers and conservationists was a fragile one. The issue of birds of prey was mentioned by most interviewees. Grouse moor managers often felt they were vilified and made to be scapegoats. One interviewee gave the example that “*there's farmers that burn the heather every year [...] But if a gamekeeper shoots a buzzard, ooh, bloody huge raids and everyone's on us*” [FBBU8]. From the conservationist point of view, the relationship with certain organisations and individuals, although improved in many respects, was still difficult.

One conservationist concluded that “*whilst illegal raptor persecution continues then that’s [conservation of raptors] unlikely to improve very quickly, although recognising that not all game keepers are involved with this*” [FBBU9]. As such, the perception of grouse moor interests was mixed. On the one hand, and although the issue of public funding was mentioned, it was acknowledged that managing moorland for grouse had helped maintain moorland habitats. On the other hand, tensions between grouse moor managers and conservationists were evident, particularly on the issue of birds of prey conservation.

To conclude, the Scheme was developed to maintain the favourable condition of moorlands in the Forth and Borders area. The main stakeholder groups involved in the development of the Scheme and the implementation of the individual management plans were SNH, farmers and those with grouse management interests. In this next section, the evaluation of public participation in the development of the Scheme and plans is described, starting with an evaluation of the process of developing these.

### **7.3. Evaluating the process of public participation in the case of the Scheme and in individual management plans**

This section describes the results of the evaluation of the process of participation in the development of the Scheme and individual management plans, using the evaluation criteria presented in Chapter 3. The results built on both the quantitative (see Figure 7.2) and qualitative data collected through semi-structured interviews.

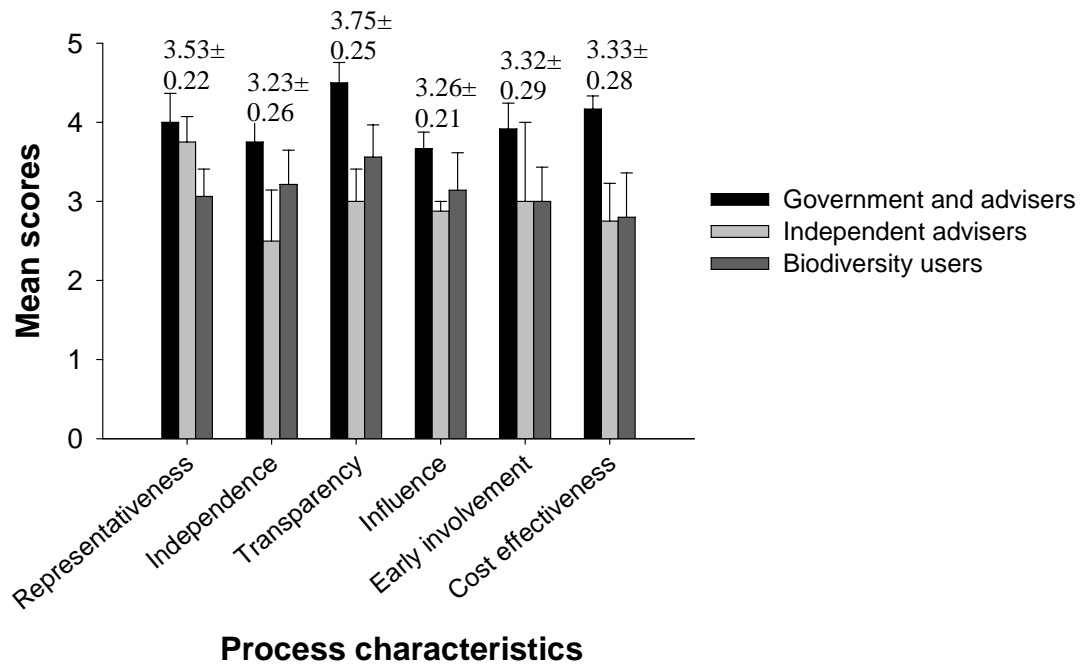
#### *7.3.1. Independence, influence and transparency*

The criteria of independence, influence and transparency are key acceptance criteria, relating to the effective development of a process (Rowe and Frewer, 2000: 11). In this section, results on these criteria from semi-structured interviews are presented.

As described in Section 7.2.2, the Scheme was developed by SNH, with subsequent individual management plans needing to be approved by SNH. Perhaps because of this heavy involvement of SNH, the characteristic of ‘independence’ scored lowest of all process characteristics ( $3.23 \pm 0.26$ , see Figure 7.2). This was, however, very much acknowledged by SNH, who admitted that the Scheme was “*not independent, we were very much in the driver’s seat*” [FBGA4]. Key to the way in which the process was carried out was the aim of the Scheme. Indeed, bearing in mind that the Scheme was put in place to achieve favourable condition of designated sites, a SNH representative argued that “*the baseline is that we’re*

trying to manage sites and get them into favourable condition, so there's obviously going to be a bias there" [FBGA1].

**Figure 7.2. A quantitative evaluation of the process of participation by interviewees involved in the development of the Scheme and its associated individual management plans**



N.B. Numbers above grouped bars indicate mean score  $\pm$  standard error of the mean across stakeholder groups.

One issue which was perhaps more worrying was the perceived bias not towards conservation objectives, but towards certain stakeholder groups, particularly in terms of the prescriptions listed in the Scheme. While one SNH representative stressed that “*we didn’t have an agenda in terms of pleasing some people and not others*” [FBGA4], this was not a perception held by all interviewees, impacting on the score allocated to the level of influence interviewees felt they had ( $3.26 \pm 0.21$ , see Figure 7.2). The fact that SNH needed the support of landowners to help them manage moorlands for biodiversity was seen by some as biased towards grouse management rather than conservation per se. Indeed, one of the farmers in particular commented that “*the emphasis of the scheme is on red grouse and shooting*” [FBB6]. Following on from this, one independent adviser criticised the way in which the funding for the Scheme was being diverted for the conservation of one species only: “*I can’t see how a government body can home in on one species, which is basically farmed, like the sheep is. The grouse are being farmed*” [FBSA4]. There were some links here with perceptions of the Moorland Forum, the independence of which was called into question by one adviser, who stressed that within it “*some will be stronger than others - the landowners*

*will be very strong*” [FBSA4], potentially biasing the prescriptions towards those most beneficial to grouse moors. This was echoed by a SNH representative, who described the Moorland Forum as a group *“that just tends to be big land owners who are keen on hanging on to their grouse moors”* [FBGA2]. This was contested by gamekeepers though, who asked *“where does it say on that form “increase grouse numbers”? Where does it say “increase curlew chicks”? It’s all run by raptorphiles I call them”* [FBBU8]. Other prescriptions were directly allocated to certain stakeholder groups, with one SNH representative acknowledging that the *“legal predator control option was lobbied for by deer management interests”* [FBGA5].

Despite this perceived bias by some interviewees, independence was generally achieved in individual management plans, albeit within the limits set in the Scheme. This scope for flexibility was fiercely advocated by one land owner, who admitted that this element was crucial in influencing his decision to sign up to the Scheme, saying *“you’ll always go for a grant where you customise your own management plan”* [FBBU7]. This was perhaps particularly important in terms of grouse moor owners, given their unusual financial situation (see Section 7.2.3.3). The input of independent consultants who ensured that the management plans were unbiased may have contributed to the perception of independence. As one adviser stressed: *“when we went in we were dealing with the farmer and making sure that the plan that we came up with was benefiting biodiversity but also working with the farmer”* [FBSA2].

In terms of transparency of the process, most biodiversity users interviewed evaluated transparency in terms of the process of developing their individual management plans and scored this characteristic highest of all process and outcome characteristics ( $3.75 \pm 0.25$ , see Figure 7.2). This was in part influenced by the contrast between the comparatively straightforward process of applying for the Scheme and the more difficult process of applying for the SRDP. Again, a lot of this was down to local area officers. For one adviser, *“the pro-activity [of the area officer] made it very easy to do. Not easy to do, it made it possible”* [FBSA3]. This pro-activity of certain local area officers ensured that those eligible for the Scheme knew about it, and were helped in developing individual management plans. The help of independent advisers was also seen as a beneficial aspect in this regard. One land owner scored this characteristic highly but explained that *“the reason for that was that the bits that I call contentious we could put to the middle man who could go “well actually guys I think there is some common ground and this is where it is””* [FBBU4]. A few aspects of the process were, however, unclear, in particular the issue of timescales for developing management plans (some took as long as 2 years to be developed) and lack of guidance to those taking up the Scheme in terms of its objectives and what they were expected to do in

order to reach those objectives. This finding closely matched the general view in participation literature of the need for clarity in the objectives of such processes (Conley and Moote, 2003: 378; Milligan et al., 2009: 211).

To summarise, the Scheme and plans were very much driven by SNH, with the aim of getting designated sites into favourable condition to implement the Habitats Directive and the Scottish National Indicator, thereby impacting on the independence of the Scheme and the level of influence of stakeholders. While individual management plans allowed for a certain amount of flexibility and enjoyed a transparent process, this was highly dependent on the input of local area officers and independent advisers.

### 7.3.2. Representativeness, timing of involvement and cost-effectiveness

Representativeness is an important characteristic of public participation. However, issues of representation can be very complex (Richards et al., 2004: 13) and can result in compromises in terms of the need to balance fairness and practicalities (Rowe and Frewer, 2000: 13). This characteristic, together with the timing of stakeholder involvement and the cost-effectiveness of the process, are evaluated in this section.

Representativeness was scored relatively highly by interviewees ( $3.53 \pm 0.22$ , see Figure 7.2), despite a big difference between the score allocated by government advisers ( $4 \pm 0.36$ ), and biodiversity users ( $3.06 \pm 0.35$ ). To explain the high score given by the former, two key aspects are worth noting. The first is that wide consultation was not seen as a necessity in this Scheme due to past initiatives: *“by the time we had the Forth and Borders moorland scheme we had about 5 or 6 other moorland schemes already running so we felt fairly confident with the management prescriptions that were required”* [FBGA4]. The second is that in terms of representation in the development of the Scheme, multiple options were suggested by SNH as to how the public affected were represented: indirect representation via the Moorland Forum and local area officers.

The Moorland Forum has 30 member organisations, including nature conservation interest, land owning interests, farming interests and game shooting interests. Although its members represent a broad range of interests, a few interviewees implied that it suffered from the common criticism against deliberative democracy models of participation, namely the risk that it could be an unrepresentative “minority sport” (Taylor, 2003: 184). One land owner highlighted that while *“it’s probably better than it ever used to be, more representative, but I think at the time the scheme was developed I’m not so sure”* [FBBU4]. It also suffered from a potential disconnect between people on the ground and their “representatives” in distant urban areas (Warren, 2002: 208). Indeed, a member of the Forum agreed that *“there are*

*people in the Borders that would say “most of these organisations are based in Edinburgh or Perthshire, what do they know about the situation in the Borders?”* [FBBU10]. This resulted in land owners and managers being unclear about how the Scheme had been devised or whether they had been represented on the Moorland Forum, implying limited indirect representation of land owners and managers through the Moorland Forum. One scientific adviser suggested that the poor representation of certain groups was deliberate, arguing that *“if there was a huge input at the early stage and you got everybody consulted, [...] it would get too complicated for them [SNH] to handle and they would lose control”* [FBSA4]. This comment pointed very much to a perception of the Scheme as non-participation according to Arnstein’s ladder of citizen engagement (Arnstein, 1969: 217) avoiding controversy by minimising public involvement (Blahna and Yonts-Shepard, 1989: 223).

The other avenue for representation cited by SNH was indirectly via local area officers, who, as mentioned in Section 7.2.2, inputted directly into the Scheme. According to one SNH representative, *“when you get an area officer engaged with an owner, they can use this system to do a good job of representing [them]”* [FBGA1]. As such, while the Moorland Forum provided some input, one member of the Forum argued that *“it’s important to get the buy-in from organisations such as ours, NFU, RSPB, the whole range of them, but you can’t use that as an alternative to discussions with the people who have been affected on the ground”* [FBBU10]. While the local area officer’s role in suggesting habitats and prescriptions and then letting land owners and managers know of the finished Scheme was acknowledged, the perception amongst land managers, farmers and their advisers was that they had not been directly represented at the Scheme level. As one farmer said *“There was absolutely no coming along and saying “we’re making this”. I don’t say that [...] when they’ve been out here about something that they don’t ask questions with the scheme in the back of their minds, but not directly”* [FBBU3].

Representation of land owners and managers was interlinked with the issue of early involvement, an often important characteristic of public participation exercises (Chess and Purcell, 1999: 2691). This was another characteristic which was scored much more positively by government advisers ( $3.92 \pm 0.33$ ) than by biodiversity users ( $3 \pm 0.43$ ). Timing of involvement of local area officers and of representatives of the Moorland Forum into the Scheme was perceived generally positively by SNH representatives and members of the Moorland Forum. Equally, land owners and managers felt their local area officer had informed them about the Scheme when it had come out. The main criticisms leading to low scores came from perceived lack of involvement from land owners and managers in the drawing up of the Scheme (see above). Many received it in the post as a *fait accompli*, placing participants in a reactive position (Chess and Purcell, 1999: 2691). Indeed, one land



owner remarked that during *“the development stage of the scheme there was no input at all from our side, none whatsoever”* [FBBU4]. This late involvement was directly linked by one SNH representative to low uptake of the scheme in smaller sites. The late involvement also impacted on the wider level of support towards the Scheme, an issue highlighted by a scientific adviser who pointed out that *“it would give farmers more enthusiasm to support the scheme if they felt that they had been asked initially [...] so they understand the process and don't think they're being told “you're doing this””* [FBSA2]. Suggestions were made by a few interviewees as to how this could have been better managed, including one-to-one discussions or small group meetings with farmers, keepers and owners to discuss draft prescriptions. This reflected findings of other studies, which highlighted personal contact as an effective way of raising awareness amongst land owners and managers (Pinto-Correia et al., 2006: 342). Another suggestion in this case study was to get independent advisers with knowledge of farming and conservation issues to run these meetings, with a focus on encouraging a few key individuals to get involved and take it up, thereby relying on ‘word of mouth’ to encourage uptake.

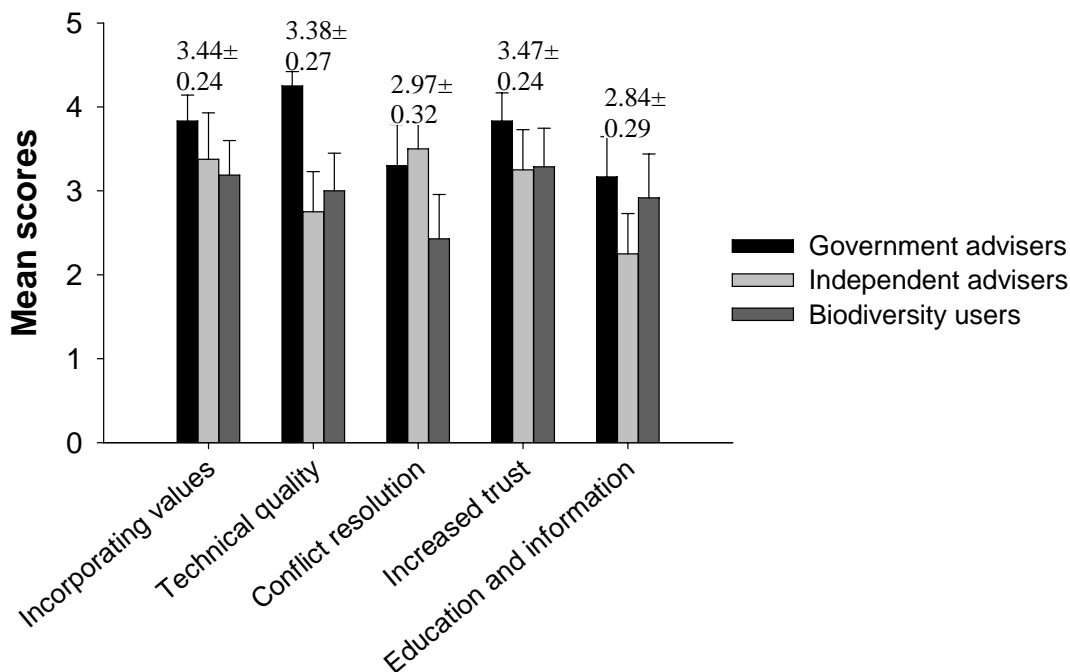
Cost-effectiveness was interpreted differently by interviewees, in part due to their priorities. This resulted in the land owners, farmers and independent advisers often focussing on the cost-effectiveness of individual management plans in terms of the payments they received. Only one land owner commented that the *process* had been *“hard work and expensive”* [FBBU5]. The time it took to draw up plans was also flagged up by an independent adviser as impacting on cost. The government advisers compared the cost-effectiveness of the Scheme with existing and new funding streams, with one adviser commenting on the fact that *“the Natural Care scheme was much more cost-effective simply because it didn't have quite so many hoops to jump through”* [FBGA1]. Advisers on the ground highlighted the time spent in drawing up individual management plans as cost-effective in terms of building and strengthening relationships with land owners and managers: *“other knock-on benefits in that you are building up more of a relationship with the land owner, you can often discuss other things at the same time that may not be immediately part of this”* [FBGA2]. Independent advisers linked this characteristic with early involvement, thinking it would have been *“more cost-effective to involve farmers and agents at an earlier stage and they would have had a better uptake so you wouldn't have had to spend as much money on officers and everything trying to badger them and negotiate”* [FBSA1]. Overall, while the cost-effectiveness of prescriptions was important in gaining the support of individual land owners and managers, the cost-effectiveness of the process was not perceived as a key process characteristic, a finding very much in line with the study carried out by Chase et al. (2004) on stakeholder evaluation of process and outcome characteristics (ibid: 638).

To summarise, while representation in the individual management plans was perceived as being good, representation in the Scheme was largely dependent on the input of local area officers and on representation within the Moorland Forum. While land owners and managers may have been represented through these two avenues, many interviewees felt this was not the case, highlighting a perceived gap between those on the ground and those making decisions. This issue impacted heavily on perceptions of early involvement and cost-effectiveness, with independent advisers and land owners and managers advocating the need for earlier and greater opportunities to influence the Scheme.

#### 7.4. Evaluating the social outcomes of public participation in the Scheme and individual management plans

A number of social outcomes were evaluated by interviewees. As described in Chapter 3, these included decision quality, relationships, and capacity-building. These three social outcomes are evaluated in turn in this section.

**Figure 7.3. A quantitative evaluation of the social outcomes of participation by interviewees involved in the development of the Scheme and its associated individual management plans**



#### Social outcomes characteristics

N.B. Numbers above grouped bars indicate mean score ± standard error of the mean across stakeholder groups.

---

#### 7.4.1. Decision quality

Improving the quality of decisions has been advocated as a substantive argument for public participation, requiring the integration of stakeholder values into the decision-making process and the integration of scientific and local knowledges to improve the technical quality of decisions (Beierle and Konisky, 2001: 520). These two aspects are evaluated in this section.

In terms of the technical quality of decisions, one SNH representative stressed that *“the technical quality of SNH decisions should be of the highest and should be based on the best information”* [FBGA2]. As such, the input of the Moorland Forum was perceived as a positive by SNH and members of the Moorland Forum, particularly *“in these specific technical areas, each organisation probably brings something quite significant”* [FBBU10]. The importance of high quality decisions was perceived as particularly important in order to maximise uptake of such schemes, because *“when people look at these things and see inconsistencies, then they immediately put the whole scheme, which is human nature”* [FBBU10]. While most prescriptions and payment rates were consistent with existing schemes, being *“quite well researched and then just copied into here”* [FBSA1], new management prescriptions were more contentious among land owners and managers and led them to doubt the quality of these prescriptions. This led to an important contrast, the biggest amongst all characteristics, between the perceptions of government advisers ( $4.25 \pm 0.17$ ), independent scientific advisers ( $2.75 \pm 0.48$ ) and biodiversity users ( $3 \pm 0.45$ ) over the quality of decisions. One such prescription was ‘diversionary feeding of hen harriers’. This was seen as impractical from a farming perspective, with one independent adviser dismissing it as *“very tenuous [...] I think most farmers thought it was a bit laughable, they were just like “no, there’s no way I’m going to go out and put some rats out on a stick for some hen harriers” because they’d get the mick taken out something rotten by the neighbours”* [FBSA1]. Following on from this, one farming consultant emphasised that it *“was seen like hen harriers were more protected and more worthwhile than actual farmers and I’ve always said that farmers are pretty much an endangered species and we need to protect them as well”* [FBSA1]. This prescription was also unpalatable for some grouse moor managers and keepers, one of whom questioned the scientific basis for this prescription, highlighting that the benefit of the approach *“hadn’t even been proved at that time. And it was in the plan and nobody wanted to even see a hen harrier at the time because they were so worried after what happened at Langholm, that had been destroyed”* [FBBU8]. This reflected a common issue in participation, namely the impact of ‘prehistory’, or knowledge of past management and frustration accumulated over many years (Stenseke, 2009: 220) potentially impacting on trust and involvement. The other ‘novel’ prescription was ‘predator control’, also questioned

in terms of its scientific basis, with one SNH representative admitting that “*it was predicated on a very patchy information base so we didn’t have a lot of evidence to go on*” [FBGA6].

In terms of improving the Scheme’s technical quality of decisions through the input of local knowledge, a number of land managers and owners perceived this had not been a feature of this process and had resulted in a substantively weaker Scheme. One farmer remarked that “*practical knowledge certainly would definitely have helped [...] Of course farmers don’t know everything but maybe small things that could have added to the scheme*” [FBBU2]. The implication was that for those drawing up the Scheme, local knowledge gained from experience was not on a par with scientific knowledge (Stenseke, 2009: 216). This lack of integration of local knowledge also affected the acceptability of the Scheme. Indeed, other studies focussing on public participation, in which policies are exclusively based on scientific knowledge, have led to local stakeholders having difficulties identifying with these decisions (Bogaert et al., 2009: 885). The lack of integration of local knowledge and values was particularly apparent for the more novel prescriptions, with one consultant stressing that “*it’s the new things that could have come from the grass-roots a bit more*” [FBSA1].

The degree to which local values could be integrated into individual management plans was higher ( $3.44 \pm 0.24$ , see Figure 7.3). One independent adviser praised the system, explaining that “*the whole point of it was that it should have taken account of all these things because ultimately that’s his business and that’s his land and his livelihood and it has to be supporting him*” [FBSA2]. As such, the fact that land owners and managers could choose whether or not to take up the Scheme enabled them to cater the plans to reflect their values. This led one farmer to explain he’d taken up the Scheme because he could “*get money for doing absolutely nothing that I wasn’t doing already. I didn’t really have to change my management at all because it was designed to encourage traditional hill grazing rather than changes. So the traditional hill grazing suited it fine*” [FBBU3]. In this respect, the plan reflected his values perfectly.

To conclude, the input of SNH and other members of the Moorland Forum into the Scheme contributed to improved decision quality in terms of prescriptions and their payment rates. There was, however, some contention regarding the scientific basis of the more novel prescriptions: predator control and diversionary feeding. The inclusion of local knowledge in the Scheme was seen as lacking, resulting in perceived substantively weaker decisions. Stakeholder values were, however, well reflected in individual management plans, due to the voluntary nature of the Scheme and the associated flexibility of the plans to facilitate ongoing management practices.

#### 7.4.2. Relationships

Improving relationships between stakeholders by increasing trust and reducing conflict are important in complex environmental situations (Beierle and Cayford, 2002: 15). In light of the conflicts between conservation and other land uses in moorlands (see Section 7.2.1), this characteristic was potentially an important social outcome of the Scheme and its associated individual management plans.

In terms of conflict resolution, an SNH representative stressed the importance of identifying *“what the conflicts are - it also depends on what’s perceived conflicts and whether there are ways around it in terms of compromise on both sides”* [FBGA1]. Many of the conflicts referred to by interviewees were conflicts between SNH and land owners and managers during and subsequent to the development of individual management plans. These conflicts can be useful tools to identify problems, increase collaboration and understanding and lead to sustainable solutions (Young et al., 2005: 1656). Indeed, one consultant argued that *“you’re always going to get conflict but you couldn’t get into the scheme unless you dealt with issues, with landowners and farmers working together”* [FBSA1]. The resolution of these conflicts was, however, highly dependent on personalities. As such, the local area officer and her knowledge of the area and its stakeholders was key to addressing any potential conflicts and reaching acceptable solutions.

The main unresolved conflict at the Scheme level was that of raptor conservation and grouse management. This was reflected in ‘conflict resolution’ being scored second lowest of all process and outcome characteristics ( $2.97\pm 0.32$ , see Figure 7.3). For one manager, the Scheme had done little, if anything, to address this conflict, stating that *“they buried the predatory bird thing”* [FBBU8]. The low uptake of the supplementary feeding prescription was hindering efforts to resolve the conflict in the eyes of one SNH representative, who stated that *“where there’s conflict and they’re not convinced that it’s the right way forward then there isn’t uptake and it’s very difficult to know if it’s the right way forward”* [FBGA4]. For the RSPB, although progress had been made in addressing the conflict, mainly through the working groups of the Moorland Forum *“ultimately the issue of wildlife crime hasn’t gone away and there will be a need for land owners and their employees to take this more seriously and stop the illegal killing of birds of prey because that ain’t part of modern day land management practice”* [FBBU9]. This led another member of the Moorland Forum to conclude that *“they haven’t been resolved and there’s no real evidence that a scheme like this has really helped resolve conflicts at all”* [FBBU10].

When asked whether the process had helped to increase trust, however, interviewees scored this characteristic highest of all social outcomes ( $3.47\pm 0.24$ , see Figure 7.3). In the Borders

area, levels of trust with the SNH local area officer were described by land owners and managers as “good” [FBBU7] and “fine” [FBBU6], with interviewees commenting there had “never been a problem” [FBBU1]. This high level of trust helped to account for the high take-up rate of the Scheme in the area. In addition, the fact that individual management plans involved one-to-ones between SNH and land owners and managers meant that there was a high potential for increasing trust between individuals. For one SNH local area officer, the Scheme had increased levels of trust within her area, resulting in a situation where “*in some cases, like one particular, I’m almost like a family member*” [FBGA2]. However, increasing trust between land owners, managers and SNH was seen to be dependent on who was implementing the plans, resulting in a consultant commenting that “*some area officer just don’t know their farmers, they don’t have the time and the history with them to then go and say “this is Natural Care, this is what we do” and build a relationship with them*” [FBSA1].

To conclude, individual management plans, which sought to increase contact between SNH and land owners and managers, resulted in a situation in which conflicts were addressed, compromises were reached and trust was increased between individuals. This, however, was seen by independent advisers as highly dependent on who the area officers were, stability in their post and the time they invested in getting to know land owners and managers. The Scheme was perceived as having been largely unsuccessful in addressing the more contentious conflict of raptor conservation and grouse management.

#### 7.4.3. Capacity-building

Capacity-building is regarded as a key normative justification for more participation (Fiorino, 1990: 227). This entails not only participants being given the capacity to meaningfully engage in technical debates (Richards et al., 2004: 14) but also creating structures or organisations capable of implementing decisions taken through the participatory process (see Chapter 3) (Beierle and Konisky, 2001: 523). The latter aspect was not evaluated in this case study, in view of the nature of the individual management plans associated with the Scheme. However, important aspects relating to monitoring were closely related to this characteristic and are explored.

While learning is an important quality attribute of participatory processes (Chase et al., 2004: 638), this characteristic scored lowest of all characteristics ( $2.84 \pm 0.29$ , see Figure 7.3). In view of the fact that the Scheme was aimed at specific land owners and managers, one consultant explained that learning had not been maximised, resulting in a situation in which farmers “*won’t have really known where the options came from, what they were trying to achieve*” [FBSA1]. This last point was also mentioned by a local area officer who commented that the Scheme could have been more explicit in what it was trying to achieve.

This led one member of the Moorland Forum to comment that “*what land managers really need is more at the practical level and you could argue that some of that isn’t as good as it should be*” [FBBU9].

Very closely linked to this was the perception by many land owners and managers that they were themselves poorly understood by SNH and other organisation. One grouse manager commented on the fact that it was important that “*the guys on the ground are actually listened to and I think keepers per se in Scotland feel that they’re not*” [FBBU4]. Learning had, however, taken place from an SNH perspective. Indeed, one local area officer commented on the fact that the Scheme had been a useful tool to “*get to know the owner a lot better, you get to know the issues that are involved, you get to know the site a lot better*” [FBGA2]. It had also helped SNH communicate its aims, with one SNH representative emphasising that “*any scheme that actively involves us going out there and talking to people [...] telling them where we’re coming from always benefits relationships with owners*” [FBGA1].

Whilst some learning had taken place from a SNH perspective, wider education was perceived to be “*non-existent*” [FBBU7]. One SNH representative explained that “*in terms of the scheme it [wider education] wasn’t our main aim. Not as a by-product either*” [FBGA2]. A number of interviewees, however, including SNH employees, land owners and managers and scientific advisers disputed this. One consultant thought that SNH had “*missed a trick*” [FBGA2] by not involving the public. Another consultant emphasised the potential role of communication in alleviating a number of “*misunderstanding about moorlands, misunderstandings about how they’re managed and why they’re managed for that*” [FBSA4]. This lack of wider communication impacted heavily on the low score given to this characteristic.

As mentioned earlier in this section, no new organisation was put in place to implement decisions, with responsibility over the implementation of the plan handed over directly to land owners and managers. A major issue here was lack of a carefully designed monitoring programme to determine the effectiveness of the Scheme, a common issue in such processes (Conley and Moote, 2003: 380). Indeed, monitoring was the responsibility of land owners and managers, one of whom remarked that “*through my annual report I do let them know my thoughts on how the habitat is looking and changes through reduced stocking*” [FBBU1]. While in-built monitoring was seen as a positive by one SNH representative, one land owner perceived this as a lack of recognition of his work, with SNH not showing “*any real enthusiasm [...] nobody’s come off their back and come and have a look at what’s*

*happening*” [FBBU5]. A number of consultants also perceived the lack of monitoring as a weakness of the Scheme.

To summarise, discussions with interviewees highlighted that learning had not been maximised in the development of the Scheme and its individual management plans. Responsibility for implementing the Scheme was very much on the land owners and managers. The in-built monitoring mechanism was criticised by a number of interviewees, who perceived the lack of monitoring as a major omission of the Scheme.

## **7.5. Evaluating the biodiversity outcomes emanating from the process and its social outcomes**

Biodiversity outcomes were evaluated both through interviews (through the scoring exercise and the development of a counterfactual) and through a Delphi process involving six experts. The results from these two methods are explored in this section, which also explores the ways in which respondents perceived how the process had impacted on biodiversity and the links between the scale of the Scheme and biodiversity outcomes.

### *7.5.1. The evaluation of biodiversity outcomes by interviewees and Delphi experts*

#### 7.5.1.1. The evaluation of biodiversity outcomes by interviewees

When asked how successful the Scheme was in ensuring the long-term conservation of moorlands, interviewees scored this fifth highest of all evaluation characteristics ( $3.27 \pm 0.29$ ). Slight improvements in terms of biodiversity had already been noticed by land owners and managers: *“we’re seeing heather where we’ve never seen heather before, it’s really, in the first few years! I would imagine in 10 years it’ll be a fantastic place”* [FBBU5]. Other biodiversity benefits had also been noticed, with one farmer noticing that he had seen *“40 or 50 wild orchids growing in a place I’d never seen them before and the cotton grass last year was amazing- it was like there had been a snow storm”* [FBBU1].

Whether these improvements were a direct outcome of the Scheme, however, was more difficult to determine. Indeed, particularly in grouse moors, where many prescriptions were being followed prior to the Scheme being made available, one grouse manager commented that *“the heather is starting to recover, which it would have done anyway”* [FBBU7]. This led on consultant to state that the Scheme was *“meeting the status quo, you’re not shoving it along to that next level, which it needs to go to”* [FBSA4]. The counterfactual supported these results. Although one SNH representative perceived that without the Scheme *“one of*



*the things would have been a continuing loss of heather structure and cover, the extent of it* [FBGA2], only one land owner remarked that the plan had made a major direct difference. Farmers interviewed mainly remarked on the fact that removing bracken and reducing sheep numbers as part of their plans might have impacted positively on heather. Grouse moor managers, however, stated that the lack of the individual management plan “*wouldn’t have made a lot of difference*” [FBBU7]. This reflected the view of Doremus (2003: 223) that “no voluntary or market-based measures can guarantee any particular level of conservation”. As such, the result from one consultant’s perspective was that “*if it [the moorland] was in poor condition it’ll be maintained at poor condition, if it was good condition it would be maintained in good condition*” [FBSA4], thereby not contributing to the government aim of getting 95% of all SSSIs in favourable condition.

Importantly, most interviewees found it difficult to evaluate the long-term benefits of the Scheme in view of short length of time that plans had been in place, the perceived lack of monitoring and the five-year nature of the individual management plans. The short-term nature of the plans was a key aspect of discussions, with more than one interviewee questioning the effectiveness of such approaches. One land owner remarked that one couldn’t “*take on a place in 5 years and wave a magic wand at it. You need a long-term approach and a very deep purse*” [FBBU1]. As such, a number of interviewees stressed the need to see moorland management as long-term, with interviewees suggesting that “*for moorlands, you really need a 15 or 20 year scheme to turn it around, especially heather management*” [FBSA1]. One SNH representative mentioned the fact that “*political systems tend to be fairly short-term*” [FBGA1] to explain the short-term nature of the Scheme, a widespread criticism of contemporary politics (Meadowcroft, 2002: 169). While this is understandable, there was, however, clear concern from all interviewees about the lack of continuity from one (short-term) scheme to another. In terms of direct risks to biodiversity, one SNH area officer explained the risks involved if farmers did not have their SRDP application approved: “*if they don’t continue it for another 5 years in some way, they will have put a huge amount of effort in something and the whole thing will be scrapped and go back to god knows what*” [FBGA2]. In addition, the system of “*dipping in, dipping out, these stop-start schemes*” [FBBU7] was also likely to have more deep-seated repercussions. One consultant warned that farmers would “*have the feeling they’ve been let down by the system because they can see how it’s benefitted and somebody’s then saying “well, no we’re not going to give you any more” [...] it’s almost like you’ve given them that cherry and then you’re taking it away*” [FBSA1]. The consequences of this were long-term, with the consultant remarking that farmers would be less likely to be conservation-inclined in the future, thereby potentially impacting negatively on biodiversity in the long-term. Finally, one consultant questioned the effectiveness of the short-term approach in terms of public

funding, commenting that “*the taxpayer pays for 5 years [...] and then suddenly the scheme finishes and you can’t get in and you think ‘you’ve paid for 5 years for that and it’s kind of wasted’*” [FBSA4].

To summarise, many land owners and managers had seen minor improvements to biodiversity in the short-term. Whether these changes were necessarily linked to their individual managements was unclear, however, due to the fact that much of this management was already taking place prior to any of these sites being designated. Many interviewees found it difficult to evaluate the long-term benefits of the Scheme due to voluntary nature of the Scheme, the five-year duration of plans, lack of monitoring and the uncertainties of future management funding. This resulted in a situation where potentially few lessons were likely to be learned, with a negative effect on any potential future improvement of voluntary incentives to help towards conservation goals (Doremus, 2003: 223).

#### 7.5.1.2. The evaluation of biodiversity outcomes by the Delphi panel of experts

In addition to the responses from interviewees, a panel of six experts (see Appendix 4) were asked to evaluate the biodiversity outcomes of the Plan. Their comments on the Scheme and its effectiveness in terms of improving moorland biodiversity are presented in this section. The experts took part in two rounds carried out in June-July and August 2009. The results of the Delphi exercise are outlined in Table 7.1.

**Table 7.1. Projections of future changes in Forth and Borders SSSI condition based on results from a Delphi process**

	SSSI condition improved	SSSI condition maintained and possibly improved	SSSI condition declined
With Scheme	67%	33%	0
Without Scheme	0	33%	67%

A Delphi panel of experts were asked whether they expected the condition of SSSIs in the Forth and Borders to have been maintained, recovered or declined as a result of the implementation of the Scheme. They were also asked the counterfactual, namely whether they would expect the condition of SSSIs to decline uniformly without the Scheme in place. It was important to note the inherent difficulties with the Delphi approach adopted in this case study. The lack of information on the existing state of each site or existing management made predictions difficult. As such, the main caveat stated by all Delphi experts, was that their comments were dependent on management prescriptions being site specific, and being applied judiciously. Another major difficulty within this Delphi was the five-year duration of the Scheme. As with the scientific advisers, land owners and managers interviewed, the

majority of Delphi experts highlighted the fact that many prescriptions within the Scheme, including muirburn and bracken control, would show positive results only in the long-term, a common issue with the evaluation of trends in natural resources (Conley and Moote, 2003: 380). With these caveats in place, however, most Delphi experts perceived that the SSSIs would benefit from having such a Scheme in place, with SSSI condition potentially declining without the Scheme (see Table 7.1).

The importance of monitoring, emphasised by interviewees (see Section 7.4.3), was also highlighted by Delphi experts. One Delphi expert emphasised the importance of ‘fit for purpose’ monitoring, particularly in view of the current emphasis on applying management techniques. Indeed, experts warned against the assumption that management would be necessarily well carried out and/or effective. As such, while experts perceived most prescriptions to be worthwhile, they did emphasise the proviso that the effect of these prescriptions would depend on whether the correct features were identified in the first place, management practices were applied judiciously, and then monitored for success and guidance in the future.

As with the interviewees, while most prescriptions were accepted provided they were applied in a site-specific and correct manner, the ‘new’ prescriptions such as ‘diversionary feeding’ provoked strong responses from half the experts (see Section 7.4.1). Indeed, one expert stressed the fact that this prescription was “*very specific to harriers [...] it may allow grouse numbers to increase – but this is not a conservation objective*” [FBDE1]. Another expert went on to emphasise the potential bias of the prescription, saying that “*the public should not be subsidising grouse shooting*” [FBDE2], a view which was shared by many interviewees, including consultants and farmers (see Section 7.3.1).

To conclude, while Delphi experts highlighted the difficulties involved in predicting the impacts of the Scheme over a short time period and limited knowledge of the condition of the sites, most Delphi experts agreed that the condition of SSSIs was more likely to improve with the Scheme in place. This was, however, under the important provisos that the prescriptions were applied in a site specific way and that the management practices and their outcomes were well carried out and monitored.

#### *7.5.2. Exploring the ways in which respondents perceived how the plan impacted on biodiversity*

There were some direct links between the implementation of the Scheme’s prescriptions and impacts on biodiversity. This was particularly noticeable when speaking to the farmers and their advisers, and was most apparent in the counterfactual. Receiving help to control

bracken, for example, was seen as a major help for another land owner who had “*eliminated bracken for one, which is a most invasive material. Again to get on top of that is a huge benefit for anything*” [FBBU7]. A consultant went on to say that “*If they’d continued burning at the rate they had been going, there were lots of areas where the heather was down so small that any grazing was going to have an impact*” [FBSA2]. This was confirmed by another farmer who agreed that “*reducing the stocking density through the winter [...] it’s going to benefit the flora and fauna on the farm*” [FBBU2]. In addition, the Scheme was seen to have directly benefited biodiversity by guaranteeing financial support to land owners and managers of eligible SSSIs. As such, one SNH representative enthused that having “*a scheme that guarantees that owners would get in if you can get them interested, that’s like the golden goose. It’s the perfect way to run the system*” [FBGA1]. The biggest issue, however, was whether the Scheme had added any benefits, in view of the fact that many of these sites were being well managed regardless of the Scheme. This led one consultant to question ask “*are you getting that added value, extra benefits if they’re going to be doing it anyway?*” [FBSA4].

There were also a number of indirect biodiversity benefits of the Scheme and its individual management plans, although these were mainly highlighted by SNH representatives. One key issue impacting on biodiversity in the long-term were improved relationships with land owners and managers. One SNH representative said that the Scheme had given her “*a very good tool with which you can go and talk to owners and occupiers about their site*” [FBGA2]. In addition to forging better relationships, one SNH interviewee remarked on the potential of the Scheme to change attitudes towards SNH and towards land management. He stressed that “*a lot of it is about a long-term change in the way people view, the way they manage their land*” [FBGA1]. This implied an important culture change with land owners and managers taking ownership of conservation as an integral part of their land management. This was to some extent echoed by another SNH interviewee, who explained that “*quite a key part of the Natural Care strategy is about fostering awareness and encouraging land managers to take a pride in the work that they do and for us to be recognised in that is an important step down that road*” [FBGA4]. This concept of partnership between SNH and local stakeholders was a reflection of how many statutory agencies view the notion of public participation (Goodwin, 1998b: 488).

To summarise, the ways in which the Scheme impacted on biodiversity were two-fold. For the land owners and managers, the biodiversity outcomes resulted from the *direct* application of prescriptions. For the SNH employees, the focus was much more on the Scheme and its *indirect* benefits, for example the fact that developing individual management plans required one-to-one contact with land owners and managers. This was seen as a way of fostering two-

way learning with officials from SNH improving their knowledge of the sites and its managers, and with land owners and managers potentially learning more about SNH.

### 7.5.3. *Linking the scale of the participation process with biodiversity outcomes*

As mentioned in Chapter 1 and Section 7.1, the existing literature argues that the scale of participatory process can be a factor determining who participates and how, with smaller scale initiatives making the involvement of local stakeholders easier to achieve. In this case study while the Scheme was developed at a regional level, individual management plans were developed locally (see Section 7.2.2). The expectation was that this case study could have incorporated the views of national-level organisations at the Scheme level, together with more local views and values in the individual management plans. In this section, the way in which this double-tiered approach actually impacted on biodiversity outcomes is explored.

The Natural Care initiative developed themed schemes that encompassed “*a set of prescriptions there effectively that covered that habitat type that could be applied generically across the board*” [FBGA1]. For some interviewees, particularly the scientific advisers, this resulted in a situation where despite the habitat being relatively uniform, the issues in each area within the Forth and Borders were potentially diverse: “*you’re dealing with a wide range of different types of moorland issues and obviously a different types of moorland sizes as well [...] small units in a moorland are quite difficult to manage and they have their own problems*” [FBBU10]. This led one land manager to advocate that “*you cannot put these big prescriptions over a big area, you’re throwing money away*” [FBBU8]. So, while the Scheme had captured the SSSIs in the Forth and Borders with the same habitat features, some criticised the fact that the Scheme did not necessarily capture the different issues on each site, leading to lower cost-effectiveness and poor uptake in smaller sites, potentially increasing the chances of poor management on those sites and lower biodiversity outcomes. A suggestion from one consultant in order to capture all these different issues, and to improve a wider set of values was to “*have schemes that are more locally tailored so they actually fitted the local conditions and circumstances better [...] rather than trying to have uniform prescriptions*” [FBBU9], i.e. a move away from the large scale approach adopted in the Scheme.

The Scheme was, however, implemented at the local level through individual management plans with local land owners and manager. As such, one consultant praised it for being a system which “*seemed to fit the scheme into the farm*” [FBSA1], resulting in a situation which one SNH representative described as “*very effective at local level*” [FBGA4]. In terms of uptake of the Scheme at the local level, this was, however, seen to be highly dependent on

ownership types and the local area officers. Area officers who knew the sites and the managers well could encourage land owners and managers to develop effective individual management plans, more likely to lead to expected biodiversity outcomes. In areas where the area officers did not know the sites or their owners and managers well, or in which the sites were poorly adapted to the Scheme, the uptake of the Scheme and any subsequent biodiversity outcomes were much less likely.

To sum up, the large scale approach adopted by the Scheme was perceived by some interviewees as having missed out site-specific biodiversity issues. This led to a feeling that the Scheme had not been as effective as it could, particularly through the resulting lack of uptake from owners and managers of smaller sites. In addition, the individual management plans, which had the potential to capture more localised concerns and issues, were perceived as being highly dependent on the ownership type, and on the local area officer. The fact that smaller sites had not taken up the Scheme, combined with the fact that many of the larger sites that did take up the Scheme changed little to their management, resulted in a situation where biodiversity outcomes of the Schemes may not have been optimised through the regional level nature of the Scheme.

## **7.6. Conclusion**

This case study focused on public participation in a voluntary incentive mechanism to encourage good management of moorland habitats at the macro-scale. The Scheme was driven by SNH to achieve national and European targets for SSSI condition, the success of which was dependent on the uptake of the Scheme by land owners and managers. The development of the Scheme corresponded closely to an instrumentalist approach to public participation common in the representative democracy model (see Chapter 3), consisting broadly of “a means of encouraging the “right” activities to meet national objectives” (Goodwin, 1998b: 486).

It was acknowledged by SNH that the Scheme “*wasn’t down to the individual landowners who were going to be affected*” [FBGA1]. Indeed, the development of the Scheme followed a technocratic approach, building on scientific and practical input from SNH and members of the Moorland Forum. The perceived lack of integration of local knowledges and values into the Scheme created the perception that SNH had not aimed to develop some of the more normative or substantive qualities of participation but wanted to gain what Irvin and Stansbury (2004) refer to as “a more cooperative public” (ibid: 57). While the Scheme was perceived by land owners and managers as technocratic, individual management plans were considered to be much more independent and flexible. The uptake of the Scheme and the

quality of the plans were, however, perceived to be highly dependent on the SNH local area officers and their knowledge of sites and their managers.

The double-tiered approach adopted in this Scheme had the potential to capture the values of local stakeholders while maximising long-term conservation results by focussing on large scale requirements of species and habitat (see Chapter 1). The lack of involvement of local land-owners and managers in the development of the Scheme resulted in poor uptake of the Scheme on smaller sites and of certain prescriptions perceived by some land owners and managers as being biased or impractical. In addition, the fact that SNH depended on the voluntary take-up of the Scheme also reflected for some interviewees a bias towards grouse management interests. Due to the flexibility of the individual management plans, their voluntary nature, and management approaches in large moorland estates, some interviewees questioned the value of the Scheme and its management plans in terms of delivering biodiversity outcomes. Indeed, while some interviewees had seen minor biodiversity improvements, the direct influence of Scheme on biodiversity outcomes was unclear. In addition, the short-term nature of the Scheme and lack of monitoring were highlighted by both interviewees and Delphi experts as barriers to the effective evaluation of the Scheme in delivering biodiversity outcomes.

To conclude, while all interviewees stressed the importance of moorlands and their management, emphasising that “*the moorlands are our rainforest in one sense; you want to look after them*” [FBSA4], many questioned whether the best approach had been adopted to encourage land managers and owners to deliver the biodiversity objectives of the Scheme. In light of the results of this and the previous chapters, the following chapter transcends across the case studies to compare participation processes, social outcomes and biodiversity outcomes at different spatial scales.

## **Chapter 8. Understanding the role of public participation at different scales: a comparison of and theoretical reflection on the three cases**

### **8.1. Introduction**

Public participation, while widely regarded as an inherently “good” thing in environmental planning and policy making (Ravetz, 1999: 331), has rarely been evaluated empirically in terms of its direct and indirect outcomes on the environment (see Chapter 1). Taking the example of Natura 2000 implementation in Scotland, this thesis aimed to address this knowledge gap.

Evaluation of public participation, whilst essential to justify the resources spent on such processes and to improve future processes, is notoriously difficult (see Chapter 3). Based on theory and practice, a number of evaluation criteria were adopted in this study to determine a) whether current public engagement processes are indeed participatory, and/or b) what can be gained from increased participation (i.e. the potential social and biodiversity outcomes of participation). In addition to evaluating the process and outcomes of participation in the implementation of Natura 2000, the study aimed to incorporate spatial scale into the evaluation framework. Authors are increasingly looking at sustainability through the integrated concept of social-ecological systems that incorporate social systems, i.e. governance, and ecological systems, i.e. ecosystems (Berkes et al., 2003: 3). Key to this approach is the supposed ‘misfit’ between the scales of these two aspects (Newig and Fritsch, 2009: 201), leading some authors to advocate the need for a closer ‘fit’ between ecosystems and institutional systems in order to promote sustainability (Young, 2002: 20). In the case of public participation in natural resource management, misfits over different scales could play a major impact on the process and outcomes of participation, although this is only starting to be addressed empirically (Rockloff and Moore, 2006: 650). This thesis aimed to expand on existing public participation evaluation models and develop an evaluation model set in the multi-scalar context of Natura 2000 implementation (the micro-scale (Bladnoch), the meso-scale (Moray Firth) and the macro-scale (the Forth and Borders Moorlands)) and capable of incorporating the evaluation of both the process and the direct and indirect outcomes of participation (see Chapter 3).

The aim of this chapter is to compare and reflect theoretically on these three case studies. To address this aim, the rest of this chapter comprises five sections. Section 8.2 compares the processes of public participation in the three case studies, explores the role of scale on the evaluation of process and analyses critically the process criteria used in the theoretical



framework. Section 8.3 uses the same approach to address the results of the evaluation of social outcomes of participation, while Section 8.4 addresses the biodiversity outcomes, the links between process and outcomes and the role of scale and other contextual factors. Section 8.5 reflects critically on the case study design approach and the methods used in the thesis, before outlining a set of conclusions in Section 8.6.

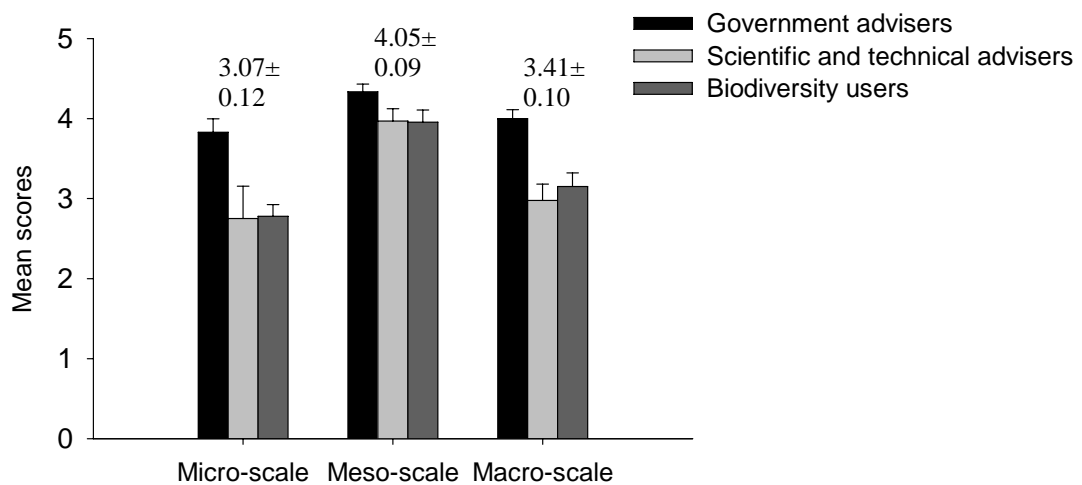
## 8.2. Processes of participation

As described in Chapter 3, six theory-based criteria building on existing theory (Rowe and Frewer, 2000: 12-17; Webler, 1995: 38; Webler and Tuler, 2002: 182) were selected to evaluate the process of participation in the three case studies. In this section, the evaluation of the process of participation is compared in each case study followed by a reflection on the impact of scale on this evaluation and a critical analysis of the criteria selected.

### 8.2.1. The evaluation of the processes of public participation in the three case studies

The process of participation was evaluated in all three case studies by the major stakeholder groups: Government (and their agencies); scientific and technical advisers; and biodiversity users such as farmers, fishermen, foresters and game managers (see Figure 8.1). While Chapters 5, 6 and 7 focused on the evaluation of individual criteria by different stakeholder groups in each case study, this section aims to compare the general evaluation of the process of participation at different scales by stakeholder groups.

**Figure 8.1. A quantitative evaluation of processes of participation by interviewees in three case study systems**



N.B. Numbers above grouped bars indicate total mean score ± standard error of the mean across stakeholder groups.

Government and government department representatives in all three case studies evaluated the process of participation most highly (see Figure 8.1). The views of the scientific and technical advisers were very similar to those held by biodiversity users, and, at the micro- and macro-scale were much lower than the evaluation of government advisers. In addition, the case study which was evaluated most highly, and where there was the closest level of agreement between all interviewees, was at the meso-scale. A number of factors were seen to be responsible for these findings, explored in this section.

It is perhaps unsurprising that Government and government department representatives in all three case studies evaluated the process of participation most highly. Indeed, it is their responsibility to ensure that the Habitats Directive is implemented at the Scottish level and that species and habitats are brought up to Favourable Conservation Status. In addition, the management plans at the micro- and macro-scale were initiated by SNH. There may therefore have been a bias in their evaluation of the process of including stakeholders in those management plans. Three main perceived factors influenced the lower evaluation from scientific advisers and biodiversity users at the micro- and macro-scales: the limited effectiveness of methods used to involve affected stakeholders, the influence of more powerful groups, and lack of clear goals.

The methods by which stakeholders were involved in each case study varied across case studies. At the micro-scale, a draft management plan was produced by SNH and the Galloway Fisheries Trust, which was then discussed within the steering group and was complemented by a questionnaire to local landowners. The meso-scale approach favoured a mix of methods including one-to-ones complemented by meetings with different groups of stakeholders. Finally, at the macro-scale, a double-tiered approach was adopted by SNH consisting of a Scheme being developed by SNH with input from advisers (including the Moorland Forum), followed by individual management plans between land owners and managers, technical advisers and SNH. These different approaches missed out key stakeholders, particularly at the micro- and macro-scale, where *directly affected* stakeholders were seen as missing due to a perceived over-reliance on non-personal communications rather than face-to-face discussions. In addition, at both the micro- and macro-scale, interviewees felt they had not been represented adequately indirectly at the higher level at which many decisions were being taken (e.g. the Bladnoch River Management Plan Steering Group and the Moorland Forum).

The way in which stakeholders were involved in turn affected the perceived independence of the processes and the influence participants felt they had. The most important factors here related to leadership of the process and the drivers behind the development of the

management plans, both of which were interlinked to a certain extent. At the micro- and macro-scales, some interviewees felt that there was a perceived bias towards government departments (who had initiated the development of the management plans) which resulted in a perception that local stakeholders had fewer opportunities to influence the plans, thereby reflecting the impact of political power structures in participatory processes (Richards et al., 2004: 20) and the need for participatory processes to allow participants to engage on some basis of equality with officials and experts (Chase et al., 2004: 636; Fiorino, 1990: 227). At the micro- and macro-scales, this also left stakeholders with a feeling of being presented with a *fait accompli*. This resembled predetermined decision-making, the lower rungs of the Arnstein ladder (1969: 217) and Rowe and Frewer's one-way "public communication" model (2005: 254). At the meso-scale however, where the process was industry-led, and favoured one-to-one interactions, local stakeholders scored the independence of the process and their level of influence more highly.

Having clear goals is an essential aspect in designing any effective conservation programme (Doremus, 2003: 228) and can help participants to understand the boundaries of such processes (Richards et al., 2004: 15). In all case studies, however, the goals of the plan were often different for different groups of interviewees, both those involved in the process and those outwith the process (e.g. the animal welfare groups at the meso-scale). At the micro-scale, for example, there was confusion even within the steering group, where "*they weren't too sure what they wanted*" [BSA1]. This lack of clarity acted as a barrier for stakeholders. At the micro-scale, one private forestry manager asked "*how can you argue something or have an input if you don't understand what's being proposed?*" [BBU6]. While this difference in perceptions of different stakeholders regarding the scope, limits (i.e. non-negotiables) and goals of participatory processes is not unusual (Mostert et al., 2007: 6), it risks leading to disappointment and disillusionment at the end of a process, and continued distrust between stakeholders (Richards et al., 2004: 15), as was the case at the micro-scale.

### *8.2.2. The role of scale on the processes of participation*

As noted in Chapter 1, participatory initiatives have mostly been undertaken at local scales (Munton, 2003: 116). The assumption tested in this study was that: the smaller the scale, the more likely the positive impact on the process of participation, for example by involving all affected stakeholders and better understanding their values and positions (Cheng and Daniels, 2003: 851). The results from the case studies, however, did not demonstrate that scale played a big role on the processes of participation.

At the micro-scale, some of the main affected land owners of the catchment, namely the private forest owners, were not involved because, while they owned a significant portion of

the area, they were not based locally. Indeed, while the scale may be local, the stakeholders may not be. In addition, however, even the local stakeholders at the micro-scale were not involved actively. At the meso-scale, while the expectation was that the process of participation would be more challenging (Younge and Fowkes, 2003: 17), especially in ensuring the representativeness of local actors (Richards et al., 2004: 17), this was not the case. So, while a couple of interviewees remarked on the lack of involvement of white fish fishermen and the lack of involvement of the Moray Firth partnership, representativeness was scored highest of all case studies. For most interviewees the scale at which the process was carried out did not impact adversely on their involvement, mainly due to the methods being adapted to involve them. Indeed, one-to-one contact with interviewees was found to be a strength of the meso-scale approach, where one key individual ensured adequate representativeness of all affected stakeholders. Finally, at the macro-scale, while the Scheme was developed at a regional level, individual management plans were then developed locally (see Section 7.2.2). The expectation was that this case study could have incorporated the views of national-level organisations at the scheme level, together with more local views and values in the implementation of the individual management plans. This approach, however, was perceived by some scientific advisers as missing out certain issues, and therefore missing out specific groups of affected stakeholders, particularly at smaller sites. The individual management plans, which involved one-to-one contact with land managers and owners were, however, broadly perceived positively, perhaps explaining the slightly higher evaluation of process criteria at the macro-scale than at the micro-scale (see Figure 8.1).

To summarise, while the expectation was that representativeness and involvement of stakeholders would be greater at the micro-scale, this was not the case, with directly affected stakeholders missing from the process. Scale was found to impact far less on the evaluation of process than the methods used to involve affected stakeholders. As such, while the process of participation was more complex at the meso-scale for example, a prioritisation of one-to-one contact at this scale ensured the representativeness of affected stakeholders. The case studies thus demonstrated that issues of scale can be overcome in participation processes, for example through the efforts of one key individual at the meso-scale.

### *8.2.3. Theoretical reflection on the process criteria*

As noted in Chapter 3, the process criteria selected in the theoretical framework built on criteria developed by Rowe and Frewer and were contextualised to reflect the guidelines mentioned in the guidance document on interpreting Article 6 of the Habitats Directive (see Table 8.1).

**Table 8.1. Original framework for evaluating public participation process in the implementation of Natura 2000 sites**

Evaluation focus	Criteria measured
<i>Procedural evaluation</i>	
Representativeness	1. Were the participants representative of the affected public?
Independence	2. Was the process carried out in an independent, unbiased way?
Transparency	3. Was the public able to see what was happening and how decisions were being made?
Influence	4. Did participant input have a genuine impact on the management plan
Early involvement	5. Was the public involved as early as possible?
Cost-effectiveness	6. Was the process cost-effective?

These criteria are reflected upon critically in this section, building on theory and interviewees' views on important process characteristics. This is not an uncommon approach in evaluation theory, with a number of authors (see, for example, Rosener (1981: 588), Tuler and Webler (1999: 440), McCool and Guthrie (2001: 314) and Moore (1996: 155)) basing their evaluation of participation on goals and objectives gained from participants themselves (see Chapter 3). As such, in this study, interviewees were asked what a 'good' process should consist of, based on their experiences. The number of times interviewees highlighted a particular characteristic was recorded and compiled in Table 8.2. For example, ten interviewees at the micro-scale highlighted the need to 'involve all stakeholders' as essential to a 'good' process (see Table 8.2). This table forms an integral part of the critical reflection on the criteria selected in the theoretical framework.

**Table 8.2. Interviewees' views on key participatory process characteristics**

Key process factors	Micro-scale	Meso-scale	Macro-scale
<b>Representativeness and involvement</b>			
Involve all stakeholders	10	8	5
Involve all stakeholders early	1		2
<b>Influence</b>			
Be unbiased and independent	1	2	
Have all stakeholders working together	1	4	2
Reach consensus on the actions that are needed			1
Ensure stakeholders can impact on the plan	1	2	
Keep people happy		1	
Allow for flexibility			1
<b>Clarifying objectives</b>			
Understand the issues	1	1	3
Understanding the role of SACs		1	
Address the key issues	2		
Have clear objectives: "Keep it simple"	2	1	3

<b>Key process factors</b>	<b>Micro-scale</b>	<b>Meso-scale</b>	<b>Macro-scale</b>
Be transparent and clear	2	2	
Develop realistic, pragmatic and achievable plans	1		
Get something really practical off the ground	1		2
<b>Leadership</b>			
Get the process off the ground		1	
Get the right person leading the process: “the one great enthusiast”		2	2
Get external professional facilitation	1		
Have the process industry-led		1	
Give the process direction in terms of starting it off and keeping it going	1	1	
Be prepared to go the extra mile		1	
<b>Cost effectiveness</b>		1	

The findings from the case studies confirmed the importance of ‘influence’ and ‘representativeness’, both closely linked characteristics, as the most important process evaluation characteristics (see Table 8.2). This reflected the normative goal of participation of allowing participants to be able to influence decisions (Chase et al., 2004: 638; Fiorino, 1990: 228), particularly important in those situations, such as natural resource management, where participation may be perceived as legitimising decisions that have already been made and where evaluation may thus determine whether a participatory process has had a genuine influence on policy (Rowe and Frewer, 2000: 14). The characteristics reflected that of ‘fairness’ identified by Webler, which emphasised the need for all those affected by certain decisions being given the opportunity to take part on an equal footing (Wabler, 1995: 38). As one interviewee remarked, it was important to get “*all the parties involved on the same level, on the same wave length*” [MBU10]. Interestingly, representativeness in the three case studies did not, however, mean that *everyone* should be involved. Some interviewees felt that representativeness should be restricted to those individuals *affected directly* by the decisions taken through the participatory process, i.e. “*the people who would be able to put right the things that are found to be wrong*” [BBU8]. This comment implied a pro-active role not only during the process, but in the implementation of decisions. This comment also implied the need to involve decision-makers capable of making and implementing the decisions taken in these processes (Fiorino, 1990: 230). However, the definition of who was affected depended largely on the goals of the management plans, and the clarity of those goals.

One criterion missing from the theoretical framework, therefore, and which emerged particularly from the micro- and macro-scale case studies, was the ‘clarity of the objectives of the management plan and participation’ (see Table 8.2). In the context of Natura 2000 implementation, this criterion needed to incorporate the objectives of the management plan (i.e. the issue(s) that were being addressed) *and* the way in which participation was carried out, including whose views should be sought, how they were sought, how the information

should feed into the process and what the expected outcomes of participation might be. The need to identify which issues needed to be addressed was most apparent at the micro- and macro-scales, where one government adviser commented that it could “*be half the battle, working out what the issues are that you’re trying to deal with in the plan*” [BGA5]. A key aspect highlighted by interviewees (see Table 8.2) was therefore to clarify what was expected from the management plan itself, to “*keep it simple*” [BBU1], and to “*pick on one objective and sort that one*” [MGA2]. The need to be open and clear about the objectives or goals of participation matched the literature on participation (Conley and Moote, 2003: 378; Milligan et al., 2009: 211), which advocates the need to determine the limits of participation to minimise frustration and disappointment (Richards et al., 2004: 15). In many ways, this new criterion is linked to the criterion of ‘transparency’ used in our theoretical framework. Within our framework, however, transparency referred to the later phase of the process, i.e. that the public should be able to see what was happening and how decisions were being made (Rowe and Frewer, 2000: 15), a characteristic interviewees linked to the trust they had in the person or organisation leading the process. As such, ‘transparency’ would be only one of many aspects incorporated within the new criterion of ‘clarifying objectives’.

A number of interviewees viewed ‘leadership’ as an important context-dependent characteristic, which impacted on all the process criteria identified in the theoretical framework (see Table 8.2). One SNH adviser emphasised that to get “*experienced people who have done it before, who know what they’re doing, is absolutely crème de la crème really*” [BGA1]. This comment highlighted one of the major difficulties in public participation exercises in the context of Natura 2000 implementation, namely the reliance on government departments often inexperienced in undertaking participation processes. Interestingly, however, the results from the case studies raised doubt over the use of independent, external and expert mediators or facilitators (Chess and Purcell, 1999: 2691; Rowe and Frewer, 2000: 13). Indeed, when asked whether an external expert could have been an option at the meso-scale, a government adviser commented that “*if someone external was trying to do it on behalf of you it would have made it much more complicated*” [MGA3]. More important was instead a known and trusted individual capable of crossing scales.

Closely related to the issue of leadership, was the criterion of ‘independence’. In the context of Natura 2000 implementation, processes were acknowledged by interviewees as inherently biased, being prompted directly or indirectly by the Habitats Directive. As such, when evaluating the criterion of ‘independence’, interviewees did so within the constraints of the process. Independence was therefore not particularly suited to the context of Natura 2000 implementation, encompassed instead to a large extent by the criteria of ‘influence’ and ‘process leadership’ (see Table 8.2).

Although ‘early involvement’ is an acceptance criteria according to Rowe and Frewer (2000: 14) and has been advocated by others as a ‘rule of thumb’ for participation processes (e.g. Chess and Purcell, 1999: 2691), this was not necessarily reflected by the case studies, with only three interviewees mentioning the importance of this characteristic. Perhaps more important was the need to involve stakeholders at the *appropriate* time, strongly advocated by interviewees at the meso-scale. In view of the importance of this slightly adapted criterion in the literature and in the case studies (see Chapters 5, 6 and 7), this characteristic could complement the evaluation of participatory processes. Finally, ‘cost-effectiveness’ was not seen as an important process characteristic for many interviewees (see Table 8.2), presumably because the only costs incurred in the three case studies were stakeholders’ time. This could become a more important characteristic if and/or when expert facilitation becomes more widespread.

To summarise, the criteria selected in the theoretical framework to evaluate the process of participation captured most aspects of the processes evaluated in the three case studies. However, the weight of these criteria varied according to interviewees. As such, while representativeness and influence were considered to be important aspects of a “good” process, ‘cost-effectiveness’ and ‘transparency’ were less so. Extra criteria relating to the ‘clarity of objectives’ and ‘leadership’ were needed to complement the existing set of criteria, and a modification to ‘timing of involvement’ was needed. These modifications are presented in Table 8.3.

**Table 8.3. Modified process evaluation framework**

<b>Evaluation focus</b>	<b>Criteria measured</b>
<i>Procedural evaluation</i>	
Active representation	1. Were all affected stakeholders adequately represented and involved?
Influence	2. Were all affected stakeholders able to have a genuine impact on the management plan?
Clarity of objectives	3. Were the objectives of the management plan and participation clear to all?
Leadership	4. Was the project led in a way that promoted trust in the process?
Timing of involvement	5. Were affected stakeholders involved at the most appropriate time?

### **8.3. The social outcomes of participation**

As described in Chapter 3, whilst process evaluation often focuses on the normative aspects of participation, it may fail to incorporate the substantive and instrumental objectives of participation. The social outcome criteria in the evaluation framework in Chapter 3 built on



those developed by Beierle and Konisky (2001: 518) (see Table 8.4). In this section, the evaluation of the social outcomes of participation is compared in each case study, followed by a reflection on the impact of scale and a critical analysis of the criteria selected.

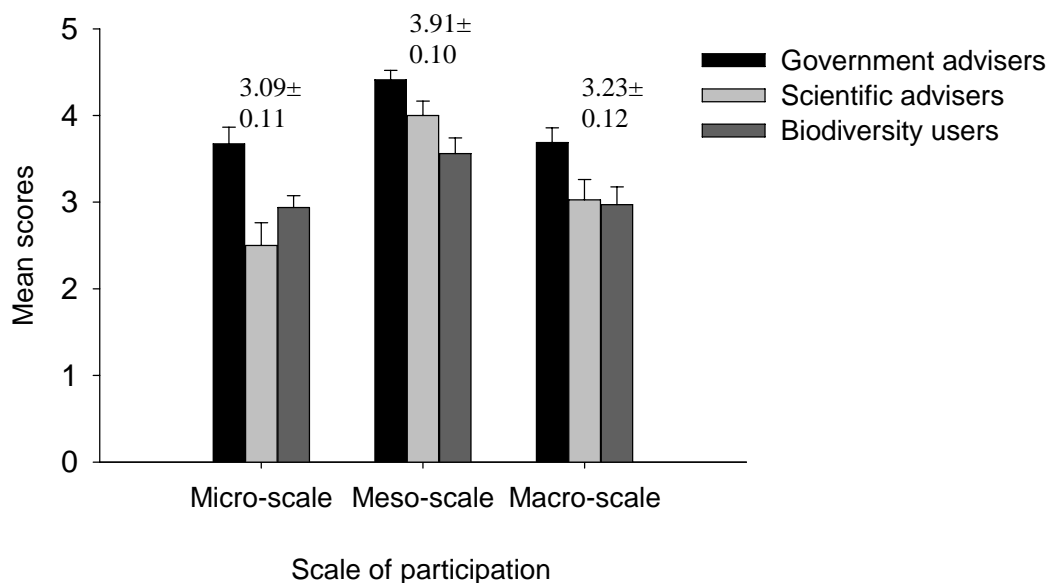
**Table 8.4. Original framework for evaluating social outcomes of participation in the implementation of Natura 2000 sites**

Evaluation focus	Criteria measured
<i>Outcome evaluation</i>	
Decision quality	7. Were public values incorporated into decision making? 8. Was the technical quality of decisions improved?
Relationships	9. Was conflict resolved among stakeholders? 10. Was trust increased between stakeholders?
Capacity-building	11. Did the stakeholders become better educated and informed? 12. Were organisations or structures established to implement decisions?

*8.3.1. The evaluation of the social outcomes of public participation in the three case studies*

As noted in the previous section, the social outcomes of participation were evaluated at the different scales by the three major stakeholder groups (see Figure 8.2).

**Figure 8.2. A quantitative evaluation of the social outcomes of participation by interviewees in three case study systems**



N.B. Numbers above grouped bars indicate total mean score ± standard error of the mean across stakeholder groups.

As with process evaluation, the evaluation of social outcomes was highest at the meso-scale and lowest at the micro-scale. The highest scores were allocated by the government and government department representatives at all scales. The evaluations of scientific advisers and biodiversity users were not as similar as for the evaluation of processes, although this was still marked at the macro-scale (see Figure 8.2). These findings are explored further in this section.

A key aspect influencing the scores at all scales was the perception of conflict management. All three case studies exhibited strong conflicts: acidification and salmon fisheries at the micro-scale; seal conservation and fisheries at the meso-scale; and farming, game management and moorland conservation at the macro-scale. One important consideration to emerge from the case studies was the different interpretations and perceptions of conflicts. This was highlighted by one SNH representative who stressed the difficulty of identifying *“what the conflicts are - it also depends on what’s perceived conflicts and whether there are ways around it in terms of compromise on both sides”* [FBGA1]. At the micro-scale for example, most of the government advisers did not perceive there to be a conflict, referring instead to *“challenges”* [BGA3] and *“tensions in terms of pace of change, those sorts of things”* [BGA5]. The biodiversity users at the micro-scale, however, were frustrated that the conflict due to acidification had not been addressed, perhaps explaining the low evaluation of social outcomes. These different interpretations of ‘conflict’ resulted in all case studies in very different evaluations of this characteristic, with some stakeholders disappointed by perceived unresolved conflicts. This finding emphasised not only the need to clarify objectives and issues, but to acknowledge and address conflicts.

The issue of conflict was linked to trust (Beierle and Cayford, 2002: 15). The evaluation of trust in all case studies was intrinsically linked to the leadership of the process and the level of influence stakeholders felt they had. This was very much the case at the meso-scale, where trust in the process leader had increased trust between most stakeholders, mainly by increasing understanding of their different perspectives, resulting in a positive evaluation at this scale. In those case studies where the process was driven by SNH, the evaluation of trust varied, with individual management plans between SNH, land owners and managers and advisers improving trust through increased contact, although this was highly dependent on the local area officers. At the micro-scale, the increased awareness of the workings of government departments emphasised their failings for some interviewees and led to a perceived complacency among organisations according to one scientific adviser.

Another major issue impacting on the evaluation of social outcomes was related to the implementation of decisions taken. The existing literature suggests that implementation is a

critically important dimension of success (McCool and Guthrie, 2001: 315). No organisation or structure specifically geared towards the implementation of management plans had been created at the meso- and macro-scales. At the micro-scale, most of the interviewees were unaware of the establishment of such a group. As such, in discussions, interviewees mainly discussed 'implementation' in terms of the application of decisions made in the plan. A perceived lack of such implementation at the micro-scale potentially contributed to the low evaluation by scientific advisers and biodiversity users (see Figure 8.2). What emerged from the meso- and macro-scale case studies was the need for a local coordination group at the meso-scale, and increased monitoring at the macro-scale to determine the effectiveness of the outcomes of participatory processes, reflecting a recurring weakness of such exercises (Conley and Moote, 2003: 380).

While scientists are often insulated from direct interaction with the public (McCool and Guthrie, 2001: 317) and mistrusted by stakeholders (Callon, 1999: 81), at the micro- and meso-scale, the integration of the scientists as stakeholders was an integral part of the management plan development. At the meso-scale in particular, this involvement resulted in increased understanding and trust between the scientists and other stakeholders, resulting in a high score for this characteristic by scientific advisers. In addition, the meso-scale approach prioritised the integration of local knowledge, values and interests to improve decision quality, resulting in local stakeholders more readily accepting the independence and accuracy of the scientific information emerging from the process, as reflected in other studies (Brennan and Rodwell, 2008: 1077). This contributed to the higher evaluation of social outcomes at the meso-scale. At the micro- and macro-scale a few biodiversity users commented that they had not been able to contribute their local knowledge of the area and had the perception that the local knowledge gained from experience was not on a par with scientific knowledge (Stenseke, 2009: 216). A perceived lack of integration of local knowledge and experience at the Scheme level at the macro-scale resulted in poor uptake of the Scheme at smaller sites, a finding concurrent with other studies (Bogaert et al., 2009: 885). In addition, there were few indications that local actor values had been integrated at the micro- and macro-scale with biodiversity users perceiving that the values of government departments had outweighed the values of those 'on the ground'. All these aspects were tightly linked to the clarity of the goals of management plans. In those case studies where the goals were clearer (e.g. the meso-scale), the issue of what data was needed and how local knowledges and values could be integrated may have been better delineated and achieved. In addition, the methods used in each case study impacted heavily on the successful integration of local knowledge and values.

Finally, providing the required knowledge on complex environmental problems is essential to allow lay people to take an informed part in environmental management (Chase et al., 2004: 638; Reed, 2008: 2422). While this had worked in all case studies *among* the stakeholders that had taken an active role in the process, education was “*relatively constrained to those that have been involved with it*” [MGA1], a common issue in participatory processes (Beierle and Konisky, 2001: 523). This was particularly apparent at the micro- and macro-scales, where affected stakeholders outwith the process felt they had not been informed sufficiently, or in the most appropriate way. A key issue to consider here was the appropriateness of wider education, an aspect again linked to the goals of the management plans.

To summarise, the evaluation of social outcomes was highest at the meso-scale due to a perceived integration of local knowledge and values improving decisions and increasing buy-in from stakeholders; a strong emphasis on conflict resolution; and increased trust between stakeholders. Evaluation was lowest at the micro-scale, where many interviewees felt disappointed over what they perceived as unresolved conflicts and increased learning had resulted in perceived minimised opportunities for novel solutions and decreased trust between some biodiversity users and government advisers. Finally, despite the importance of capacity-building, these criteria were poorly evaluated by interviewees in all case studies, particularly in terms of the perceived lack of structures capable of delivering the actions of the management plans.

### *8.3.2. The impact of scale on the evaluation of social outcomes*

The expectation in this study was that the smaller the scale, the greater the likelihood of social outcomes. Indeed, local stakeholders’ sense of “place” is thought to potentially increase their commitment to reaching a resolution and implementing decisions taken (Rockloff and Moore, 2006: 650). The success of conflict management has often been linked to smaller scales, with fewer people likely to make consensus easier, often indirectly through the way in which processes are led (Bingham, 1986: 99). In addition, evidence has shown that locally based and locally ‘owned’ decisions are “often the most effective in the long-term” (Richards et al., 2004: 11). In this section, the impact of scale on the evaluation of social outcomes is explored.

The technical quality of decisions was improved at the micro- and meso-scales, due to perceived good local expert advice at the micro-scale and a blend of national expert and local knowledge at the meso-scale. At the macro-scale, however, a lack of knowledge of local issues together with lack of data to support certain new prescriptions was perceived to have impacted negatively on the technical quality of decisions.

The local nature of the management plan at the micro-scale and the individual management plans at the macro-scale had completely differing outcomes in terms of conflict management. Indeed, the lack of inter-personal conflict among government and scientific organisations at the micro-scale may have actually *limited* opportunities for learning and creative solutions. At the macro-scale, however, the individual management plans provided a good opportunity to address conflicts at a local level – depending on the local area officer. Finally at the meso-scale, the scale may have contributed to gaining the support of decision-makers in the process, particularly in terms of implementing decisions. However, other factors may have contributed to their involvement, including project leadership and the drivers behind the development of the management plan. These factors may have impacted more than scale on the outcomes of participation in terms of increasing trust between stakeholders.

As for capacity-building, while stakeholders at the smaller scales were expected to take a greater role in implementation than at larger scales, this was difficult to uncover based on the results of the case studies, in large part because of the huge differences in all case studies in the ways in which the processes of participation were initiated and carried out. So, while a steering group had been set up at the micro-scale, potentially indicating a link between scale and implementation, very few interviewees had any knowledge of it.

To sum up, while scale may have affected some social outcomes of participation, other factors also had an effect - for example, the methods used at each scale to involve local actors, project leadership and the drivers behind the development of the management plan.

### *8.3.3. Theoretical reflection on the social outcome criteria*

As noted in Chapter 3, the social outcome criteria selected in the theoretical framework built on criteria developed by Beierle and Konisky (2001: 518) (see Table 8.4). These criteria are reflected upon critically in this section, building on theory and interviewees' views on important process characteristics, the results of which are presented in Table 8.5.

Getting the information 'right' in all case studies was perceived as important (see Table 8.5), a finding in line with the existing literature (see Chapter 3). While most interviewees were confident about discussing the quality of decisions in terms of scientific input and local knowledge input, the issue of whether or not their values were integrated into the decision-making process was more difficult for interviewees to answer. As with the earlier criterion of 'independence', the issue of integrating 'values' into management plan decisions was deemed somewhat unrealistic in the context of Natura 2000 implementation, resulting in only one interviewee highlighting this as an important social outcome of participation (see Table 8.5). As such, while efforts were made in each case study to take values into account,

non-negotiables in each case study may have prevented the incorporation of all stakeholder values into the management plans. In the context of Natura 2000, therefore, the criterion of ‘decision quality’ could be restricted to the technical quality of decisions, integrating both expert and local knowledges.

**Table 8.5. Interviewees’ views on key participatory social outcome characteristics**

Key social outcome factors	Micro-scale	Meso-scale	Macro-scale
<b>Quality of decisions</b>			
Gather the data and use it	1	5	
Integrate local knowledge	1		
Integrate stakeholder values	1		
<b>Relationships</b>			
Build understanding between stakeholders	1	1	
Resolve existing conflicts		2	
Have the trust of all involved		7	2
<b>Capacity building</b>			
Exchange information between stakeholders	2	5	2
Set targets	1		
Implement decisions taken	4	1	

As conflict was present in all case studies, it is perhaps unsurprising that relationship-building was highlighted by interviewees as an important social outcome of participation, particularly at the meso-scale (see Table 8.5). As such, ‘increased trust’ and ‘conflict resolution’ were important criteria both from theoretical (see Chapter 3) and interviewee perspectives, highly adapted to the context of natural resource management in general and Natura 2000 implementation in particular.

Learning, or exchanging information, was perceived to be one of the most important aspects of a ‘good process’ (see Table 8.5), reflecting other findings (Chase et al., 2004: 638). For many interviewees (particularly at the meso-scale) this exchange of information needed to be long-term, carrying on well after the end of the plan development process. A key consideration, however, was the potential confusion in terms of *who* needed to learn. Interviewees interpreted this in different ways: affected participants actively involved in the process, affected stakeholders outwith the process, and the wider public (who may or may not be affected). Evaluation frameworks should therefore tie this characteristic strongly to the aims of processes, and either differentiate between different groups in the question, or restrict the learning characteristic to the target group as determined by the aims of the process. Another aspect of capacity building is implementation of decisions. The focus on the development of organisations or structures that can institutionalise the arrangements that are needed to carry out future activities (Beierle and Konisky, 2001: 523) was too restrictive in the evaluation of participation in the case studies. Indeed, no new structure or organisation had been put in place at the meso and macro-scales, and at the micro-scale, few interviewees

knew about the structure that had been created. The implementation of decisions taken was, however, a crucial part of the process for many interviewees, particularly at the micro-scale (see Table 8.5). The perceived lack of such implementation can impact heavily on stakeholder buy-in and continued involvement in post-process activities, an important risk in natural resource management where responses often need to be long-term, and where implementation is not static, i.e. actions may need to be reviewed in light of new evidence.

To summarise, the social outcome criteria selected in the evaluation framework converged broadly with the interviewees' own views of 'good' social outcomes. In the context of Natura 2000, the question of whether or not stakeholders' values were integrated into decision-making was, however, hampered by the perceived non-negotiable nature of the Habitats Directive and was therefore not a useful criterion. In addition, 'implementation' needed to be broader than the creation of organisations or structures (see Table 8.6).

**Table 8.6. Modified social outcome evaluation framework**

<b>Evaluation focus</b>	<b>Criteria measured</b>
<i>Outcome evaluation</i>	
Decision quality	6. Was the technical quality of decisions improved through the integration of expert and lay knowledges?
Relationships	7. Was conflict resolved among stakeholders? 8. Was trust increased between stakeholders?
Capacity-building	9. Did the affected stakeholders become better educated and informed? 10. How were decisions implemented?

#### **8.4. Biodiversity outcomes**

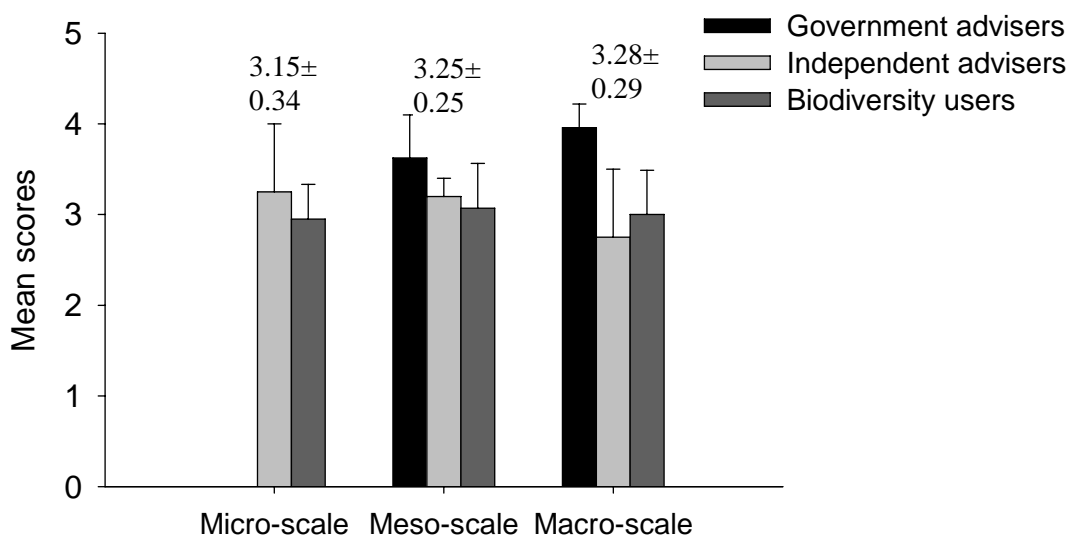
In addition to the potential social outcomes of participation, another important measure of success relates to policy outcomes. In the context of EU biodiversity policy and the implementation of Natura 2000, direct biodiversity outcomes are a key issue (see Chapter 1). As explained in Chapter 4, biodiversity outcomes were evaluated in all case studies both in interviews (through the scoring exercise, discussions and a counterfactual exercise) and Delphi processes. The results from the case studies are compared in this section together with an analysis of the role of scale on this criterion and a critical analysis of it.

##### *8.4.1. The evaluation of biodiversity outcomes in the three case studies*

When asked how successful the respective plans were in ensuring the long-term conservation of biodiversity the scores allocated by interviewees to this characteristic were relatively low.

In addition, biodiversity outcomes at the macro-scale were evaluated most positively, despite process and social outcomes being evaluated most positively at the meso-scale. Finally, as with the evaluation of process and social outcomes, government and government department representatives scored this criterion higher than other stakeholder groups, while scientific advisers and biodiversity users were more similar in their views (see Figure 8.3). A number of factors impacted on these results, explored in turn in this section.

**Figure 8.3. A quantitative evaluation of biodiversity outcomes of participation by interviewees in three case study systems**



N.B. Numbers above grouped bars indicate total mean score  $\pm$  standard error of the mean across stakeholder groups.

Perhaps the biggest challenge for interviewees and Delphi experts was the evaluation of biodiversity outcomes in light of external factors. The management plans in all cases could only address specific issues affecting the species or habitats concerned. For example, at the meso-scale, shooting pressure was reduced – this was, however, only one issue amongst a myriad of others affecting harbour seal populations in the Moray Firth. At the micro- and macro-scales interviewees had seen changes, but whether these were linked to the management plans was debatable. This reflected one key aspect of evaluation research, namely that interventions, such as public participation exercises, do not occur in a vacuum, but are influenced by other factors such as the social context in which participation is carried out and the nature of the environmental problems being addressed (Chess and Purcell, 1999: 2685). Lack of data and evaluation, and the general difficulties linked to long-term predictions made this criterion a very complex one for interviewees to interpret. The counterfactuals, both in interviews and Delphis, did, however, highlight that biodiversity



outcomes were less likely without the plans in place. This finding highlights that while the complexities and uncertainties linked to environmental systems are an argument for participation in these situations (see Chapter 1), they are also the very reasons why evaluation of participation in these settings is so difficult to achieve.

In addition to interviewee and Delphi experts' difficulties with evaluation of this criterion, from a researcher's point of view, the evaluation was difficult because of the different meanings interviewees attributed to 'biodiversity', and 'outcomes'. In all cases, the meanings attributed to biodiversity were partly due to a lack of clarity in terms of the goals of the management plans regarding biodiversity outcomes. This resulted in interviewees perceiving 'biodiversity' in very different ways, closely mirroring their stake in the process. For example, at the meso-scale, government advisers often focussed on reaching Favourable Conservation Status of the designated species or habitats in the SACs. Biodiversity users focussed on fisheries evaluated biodiversity in terms of the improvement of salmon stocks. Animal welfare representatives focussed their evaluation of biodiversity outcomes on the end to the culling of seals.

In addition to the different meanings allocated to 'biodiversity', different meanings were also attributed to 'outcomes', be they direct or indirect. Direct biodiversity impacts were described mainly at the macro-scale where the application of prescriptions on an individual farm basis provided some measure of biodiversity benefits, potentially contributing to the fact that this characteristic was scored highest at the macro-scale (see Figure 8.3). In addition, predicted direct outcomes often relied on the assumption that the actions in the management plans would be implemented adequately: this was reflected at the macro-scale, where Delphi experts emphasised that their scores were on the proviso that features were identified adequately and that prescriptions would be applied correctly. The direct benefits of biodiversity were difficult for interviewees to evaluate, particularly at the micro- and meso-scales, where a number of indirect benefits of the process were perceived to be impacting positively on biodiversity. The most important were the increased collaboration of all relevant stakeholders, the identification of important issues, increased trust between stakeholders and the improved quality of decisions through the integration of scientific and local knowledge. Determining how these social outcomes could impact on biodiversity outcomes in the long-term was difficult to evaluate, particularly in view of the external factors potentially impacting on biodiversity.

Finally, there were difficulties with using management plans in this study as a tool for evaluating public participation. While public participation was a feature at the meso-scale, the process of integrating local actors was much less of an emphasis at the other scales (see

Section 8.2). As such, much of the results of the evaluation of biodiversity outcomes at the micro- and macro-scales were associated with the management plans, rather than public participation.

To summarise, biodiversity outcomes were perceived as relatively low in all case studies. Interviewees found this criterion difficult to evaluate due to external factors impacting on biodiversity and lack of data; evaluation was compounded by different meanings attributed to 'biodiversity' and 'outcomes'; and the links between participation, the management plans and ensuing biodiversity outcomes were unclear.

#### 8.4.2. *The impact of scale on biodiversity outcomes*

As noted in Chapter 1, the scale of environmental problems is two-fold, incorporating the scale of the *physical* impacts of an activity on a natural process and the *social* phenomena (Meadowcroft, 2002: 172-173), including public participation processes. At the micro-scale, there was confusion amongst stakeholders regarding the definition of the environmental problem. While the main aim was to conserve the returning salmon, the environmental problem was not clearly defined. In addition, some of the most important stakeholders impacting on acidification were not local, thereby causing a mismatch between the scale of the environmental problem and the scale of the social phenomena to address it. At the macro-scale, the Scheme aimed to develop "*a set of prescriptions there effectively that covered that habitat type that could be applied generically across the board*" [FBGA1]. While this approach had captured the SSSIs in the Forth and Borders with the same habitat features, some criticised the Scheme for not necessarily capturing the different issues on each site, thereby not addressing the total physical impacts affecting this particular habitat. As with the micro-scale, the physical scale was not clearly addressed, thereby making a match with the social scale difficult. The issue of selecting the most appropriate scale in terms of species requirements was most discussed at the meso-scale, where interviewees commended the plan for focussing on the ecology of both the harbour seals and the Atlantic salmon, thereby addressing adequately the conflict between seals and salmon. The social scale was then adapted to fit the physical scale. This resulted in a situation in which the scale of the physical impact was clearly constructed and defined and the social phenomena scale was adapted to fit the physical impact in order to best address the environmental problem.

To summarise, while spatial scale may not have had a direct impact on biodiversity outcomes, spatial scale was potentially important when addressing the physical impacts of an activity and selecting the most appropriate scale for species and habitat requirements. The scale adopted in each case study was partly socially constructed, determined by what stakeholders understood by the 'environmental problem(s)' to be addressed by each

management plan, in addition to the ecological requirements of species and habitats. Focussing on perceived specific problems affecting species and habitats and taking the ecological requirements of those species into consideration, as in the meso-scale case study, may lead to better biodiversity outcomes than broader approaches where no specific issues are addressed, making the choice of the appropriate scale and methods more difficult.

*8.4.3. Theoretical reflection on the biodiversity outcome criteria*

Building on Section 8.4.1 and in view of future evaluations of participation in natural resource management, there is a clear need to expand the criterion of ‘biodiversity outcomes’ into several parts. The first is to determine exactly what biodiversity interviewees are referring to, in order to understand better the relationship between interviewee interpretations of biodiversity and the biodiversity targeted in the management plan goals. This would require a degree of flexibility, acknowledging that expectations of biodiversity outcomes might be different for different groups of stakeholders and not necessarily in line with the goals of the management plans. This criterion could complement the process characteristic of ‘clarity of goals’, enabling further insight into how clear the goals of the process were made to participants. The second consideration would involve timescales, with predictions required for the short- and long-term. The definition of short- and long-term would need to be determined according to the specific context of each management plan. The third consideration would need to determine the direct and indirect biodiversity outcomes, and the role of participation in achieving these outcomes. While some management plans led to direct biodiversity outcomes (such as the application of prescriptions on a farm basis at the macro-scale), the direct biodiversity outcomes in other cases were more difficult to establish. Evaluating the indirect biodiversity outcomes would help determine the links between the processes, social and biodiversity outcomes of participation. The modified criterion of ‘biodiversity outcomes’ is presented in Table 8.7.

**Table 8.7. Modified biodiversity outcome evaluation framework**

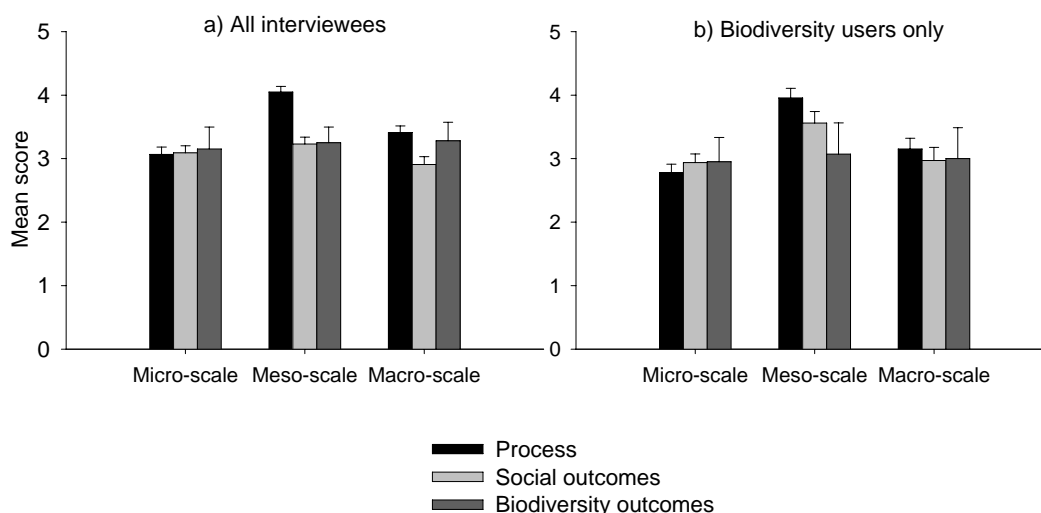
<b>Evaluation focus</b>	<b>Criteria measured</b>
<i>Biodiversity outcome evaluation</i>	
Biodiversity expectations	11. What biodiversity outcomes did stakeholders expect from the management plan process?
Timescales	12. How did the management plan process contribute to biodiversity outcomes in the short-term? 13. How did the management plan process contribute to biodiversity outcomes in the long-term?
Direct and indirect outcomes	14. What direct biodiversity outcomes emerged from the management plan process?

Evaluation focus	Criteria measured
	15. What indirect biodiversity outcomes emerged from the management plan process?
	16. Did/would increased participation impact positively on biodiversity outcomes?

#### 8.4.4. The links between process, social outcomes and biodiversity outcomes

Much of the literature on public participation assumes a link between process and outcomes of participation, in that the better a process, the more likely “good” outcomes are to emerge from it (Rowe and Frewer, 2004: 520). This assumption was tested in these case studies, with mixed results. At the micro- and macro-scales, the views of interviewees on process, social outcomes and biodiversity outcomes were relatively similar (Figure 8.4), which would imply a relationship between process and outcomes. At the meso-scale, however, there was the clear lack of an unequivocal relationship between process and outcomes (Figure 8.4a). This was particularly unexpected, seeing as the process at the meso-scale was evaluated very positively by interviewees but the social and biodiversity outcomes were evaluated much less positively, seemingly going against the assumption that a good process is more likely to lead to good outcomes. This section explores the reasons why the links between process and outcomes were ambiguous by analysing the links between process and social outcomes; process and biodiversity outcomes; and social and biodiversity outcomes.

**Figure 8.4. A quantitative comparison of the evaluation of process, social outcomes and biodiversity outcomes** by a) all interviewees in three case study systems and b) biodiversity users in three case study systems.



The relationship between process and social outcomes in all case studies was complex and influenced by the context in which management plans were developed. A major contextual

factor impacting on the link between process and social outcomes was the underlying drivers of participation in each case study, i.e. the prompts for the development of management plans.

As explained above, the development of management plans at the micro- and macro-scales was driven directly by the top-down EU and national level pressure to restore sites at a Favourable Conservation Status. As such, the development of the management plans reflected the pragmatic instrumental aims of the representative democracy model, used mainly in a capacity to legitimise certain decisions, increase trust in institutions, and resolve conflicts. The social outcomes at the micro- and macro-scales were scored relatively low, in part due to the process of involving mainly ‘experts’ in the development of the management plan – in this case government representatives. Indeed, at the micro- and macro-scales, local land owners and managers often felt their knowledge and values had not been integrated into the decision-making process, a common problem in representative models where experts are often deemed to be the principal protagonists (Eden, 1996: 187; Goodwin, 1998a: 13). The processes at the micro- and macro-scales also prevented the main perceived conflict issues to be addressed (i.e. acidification at the micro-scale and the raptor conservation/grouse management conflict at the macro-scale). So, at the micro- and macro-scales, the top-down driver of participation meant that both the process and social outcomes of participation were scored relatively low. What is perhaps more surprising is the lack of relationship between process and social outcomes at the meso-scale.

The drivers behind the development of the meso-scale management plan were not directly linked to the designation of the SACs, but were influenced by the direct threat of a ban on seal management itself linked to the SAC designation. As such, the development of the management plan reflected a deliberative (or pluralist) model of democracy, with the process relying on “the actions of organised voluntary action groups” (Teorell, 2006: 343). The process had ‘transformative potential’, with the process of discussing issues with people with often conflicting views enabling stakeholders at the meso-scale to gain new information and rethink their own positions (Young, 2000: 26). The deliberative process also allowed groups that are often considered to be disenfranchised and alienated into the decision-making process (Jentoft, 2005: 1), exerting their influence on the outcomes of the process (Collins and Burgess, 1999: 1-2). In addition, experts acted as “teachers and interpreters” (Fischer, 2004: 21), enabling citizens better to understand complex issues and incorporating different perspectives and knowledges into the decision-making process, adding to the quality and legitimacy of decisions. These elements of the more deliberative approach to participation may explain the more positive evaluation of the process and social outcomes by biodiversity users at the meso-scale (see Figure 8.4b). The reason why social outcomes were not better

evaluated at the meso-scale was the perceived lack of capacity building in terms of implementing decisions and providing continued feedback (see Section 6.4.3).

While these drivers of participation impacted on the evaluation of processes and social outcomes of participation differently in the three case studies, the perceptions of direct biodiversity outcomes in all case studies were broadly similar. The lack of relationship between the process and biodiversity outcomes of public participation was explored in Section 8.4.1, in which external factors, independent of the process of participation, as well as different meaning attributed to 'biodiversity' and 'outcomes' were all responsible for affecting the evaluation of biodiversity outcomes. External factors were also, to a certain extent, responsible for the lack of strong links between social and biodiversity outcomes. At the micro-scale, the bringing together of all government and research organisations had improved communication amongst the group, and improved coordination of on the ground actions. At the macro-scale, SNH representatives highlighted the benefits of improved relationships with land owners and managers and the potential of the Scheme to improve stakeholder views of SNH. While these social outcomes might benefit biodiversity on those designated sites in the long-term, external factors might prevent any unequivocal relationship to be made between social outcomes and biodiversity outcomes. So, while good social outcomes are perhaps more likely to lead to a higher willingness on the part of land owners and managers to want to conserve biodiversity, how this is done in practice, however, will be very dependent on context, including external factors independent of the participatory processes.

## **8.5. Critical reflections on the approach and methods employed**

This section offers a critical reflection on the multiple case study design approach, before moving on to the main methods used in the study, namely documentary evidence, semi-structured interviews, Delphi approaches, counterfactual analysis and triangulation.

### *8.5.1. The multiple case study design approach*

As noted in Chapter 4, the case study design allows the exploration of phenomena in real-life contexts, leading to a more detailed understanding of the nature of the case, its background, context and components (Stake, 2005: 447): a method well suited to evaluation research (Fischer, 1995: 78).

The interactions with participants in the case study design are believed to have the potential to uncover important properties of complex social processes (Cheng and Daniels, 2003:

851). This was particularly important in this study due to the complex and multidimensional nature of the natural and social systems. All case studies were embedded in conflict, which made the case study approach particularly relevant. The long discussions with a range of interviewees in each case study allowed for a more in-depth understanding of the roots of conflicts and the relationships that stakeholders had towards biodiversity and each other. These aspects were essential to understand the motivations of stakeholders towards participation and to determine their involvement in the implementation of management plans. So, while the main focus of this study was on the evaluation of participation in different systems, the case study approach allowed for an understanding of why participation had worked or not in different settings, thereby coinciding with the view of Schramm, who argued that case studies could help uncover the reasons why certain decisions are taken and how they are implemented (Schramm, 1971 in Yin 2003: 12). Finally, the case study design employed was particularly apt in the context of this research, where the main aim was to explain the causal relationships between public participation and policy outcomes, namely the long-term conservation of biodiversity. As we noted earlier in this chapter, while there were few direct links between increased participation and biodiversity outcomes, there were a number of indirect links, mainly when focussing on social outcomes. This strongly related to one of the main strengths of the case study design, namely the ability to explore situations where the intervention under examination has no single, clear outcome (Yin, 2002: 15).

Following a ‘replication’ logic” (2002: 47), the case studies in the multiple case study design adopted in this thesis were selected on the basis that they would show contrasting results (theoretical replication). As noted above, while scale could influence certain aspects of participatory processes, other more influential factors shaped these processes and their outcomes. The multiple scale approach based on spatial scale did, however, help build the theoretical evidence to show that ‘smaller is not necessarily better’, although this could be tested on a greater number of case studies.

The case study design enabled not only the testing of existing theories of public participation evaluation, but also allowed for useful lessons to be drawn for future public participation exercises in the field of natural resource management. This was especially important for the implementation of Natura 2000, increasingly a topical issue for government departments in Scotland, and the UK and EU more generally. The multiple case study approach contributed to the body of evidence on what does and doesn’t work in participation processes and highlighted the huge range of participation drivers, methodologies and actors involved in the conflict-embedded context of Natura 2000 implementation.

8.5.2. *The methods used*

The qualitative and quantitative methods used in the study included documentary research, semi-structured interviews, the Delphi method, a counterfactual analysis and triangulation. Each of these is critically reflected upon in this section.

Yin (2002: 87) highlights a number of potential benefits of documentary analysis in case study research (see Chapter 4). In this study, two types of documents were sought relating to i) the participatory process and ii) the ecological status of each site. Internet searches yielded peer-reviewed published articles, specific details such as the management plans themselves and links to other useful processes linked to the plans. Interviewees provided other useful documents, such as newspaper clippings, photos and copies of official documents. Documentary evidence in this study was, however, not the primary source of information, acting more as a triangulation method. Indeed, documentary evidence directly related to the development of the management plans was difficult to collect in the case studies. For example, no official ‘minutes’ relating to the process of developing management plans were in the public domain.

In addition to documentary evidence, semi-structured interviews were used to gain in-depth information on the interviewees’ perspectives (Bryman, 2004: 320). Transcribing interviews and analysing transcripts was time-consuming (Bryman, 2004: 319). While pilot interviews took on average 58 minutes, the total average for interviews was 1 hour 15 minutes, with interviews ranging from 22 minutes to 2 hours 25 minutes - resulting in 74 hours of interviews being transcribed. As codes were pre-determined by the theoretical evaluation framework developed in Chapter 3, coding and analysis were quicker. Based on early experience, interviews were modulated to start with a general question, usually “how did you first hear about the management plan/Scheme?”. This was an effective means of understanding the personal experiences of interviewees with the designated area(s) and participation processes and opening up discussions towards their concerns, not covered necessarily in the semi-structured interview. The table (see Appendix 1) was used to elicit more discussion on the process itself and scores. This part of the interview was more difficult at the macro-scale due to the double-tiered approach used. Apart from three, all interviewees took part in the scoring exercise. If participants felt unsure about taking part in the scoring, they were not pushed, hence the lack of scoring by government representatives on biodiversity outcomes at the micro-scale. Interviewees were also asked to rank the top three aspects of a participatory process, how the plan could have been improved and how outcomes would have been different without the plan in place. They were asked to suggest any other potential respondents and whether they had any comments. Contact details were left and interviewees were encouraged to get in touch should they require any further



information. While most interviews were face-to-face, three interviews were carried out over the phone. While these worked well, it was more difficult in two of those instances to elicit in-depth responses. The snowballing approach to interviewee selection worked best at the meso-scale, where the goals of participation were clear and delineated the 'affected stakeholders'. It also worked at the micro-scale, where most stakeholders were known due to the small size of the catchment. Private forest owners, who were also missing from the participatory process, were represented by one (local) private forest manager. At the macro-scale, the snowballing approach relied heavily on a local SNH area officer who suggested 10 of the 20 interviewees. Her suggestions were vital to get local land owners and managers to take part in the interviews. To determine the potential bias of this situation, triangulation was used to compare the views of those stakeholders suggested by the local area officer and other stakeholders not suggested by her. Many of the views and concerns were similar, thereby reducing the risk of bias. While a minimum of 15 interviews were initially planned, 20 interviews were carried out at both the meso- and macro-scales, and 19 at the micro-scale (see Appendix 2a).

In addition to the interviews, a Delphi approach was adopted in each case study as a forecasting method to determine the direct biodiversity outcomes of each case study. A small sample of experts was selected in each case study (see Appendix 4) using the 'reputation approach'. This selection process resulted in a strong set of experts in each of the case studies, all of which remained involved over the two rounds. The difficulties lay in the fact that no statistical analysis was possible due to the small sample of experts and the lack of clarity about the end-goals of the management plans. Indeed, no indicators were specified in any of the case studies to determine whether or not management plans had achieved their objectives. This was most probably due to the lack of resources to monitor species and habitats in SSSIs. Experts could only comment on general trends of the populations or habitats in question, which in the macro-scale case study was made even more difficult by the diversity of approaches used in the designated sites and methods used to implement these approaches. While this exercise added to the study as a triangulation exercise, it was not a Delphi process as such, but rather complemented the 'biodiversity outcomes' criteria through external expert opinions.

The counterfactual in these case studies followed a shadow controls design (see Chapter 4). Interviewees and Delphi experts were asked whether the long-term outcomes on biodiversity would have been different without the management plan in place, i.e. in a 'business as usual' situation without the input of public participation. The counterfactuals were often easier for participants and experts to answer and allowed for the potential biodiversity benefits to emerge from the management plans to be expanded upon.

Data triangulation and methodological triangulation were used to validate findings (Bryman, 2004: 454). The results of the interviews were triangulated to determine those aspects of the process and outcomes of participation that were agreed upon by the representatives of different stakeholder groups interviewed (see Figures 8.1 and 8.2). The results from the quantitative element of the interviews were triangulated with the more qualitative discussions. This provided a way of cross-checking findings provided by the quantitative and qualitative elements of the interviews (Bryman, 2004: 275). In effect, this form of triangulation shared some similarities with respondent validation, with interviewees basing their scores on what they had said during discussions. In terms of methodological triangulation, documentary evidence was triangulated against the findings from the semi-structured interviews. In addition, the evaluation of the outcome criteria relating to the long-term biodiversity benefits of participation was triangulated by comparing the views of interviewees with the results of the Delphi method. This was particularly useful because of the potential risk associated with only asking participants involved closely in the process, who might base the evaluation of its biodiversity outcomes on their experience of the participation process. The results from the interviewees (especially the scientific advisers) and the Delphis were broadly consistent, strengthening the findings emerging from the different methods. Finally, the counterfactual analysis was triangulated by comparing the Delphi counterfactual with the counterfactual element found in the semi-structured interviews. Again, results were similar, strengthening the argument in all case studies that having the management in place was better than a ‘business as usual’ scenario.

To summarise, using a range of different methods including documentary evidence, semi-structured interviews, a Delphi approach, counterfactuals and triangulation helped get the most out of the case study design approach. The semi-structured interviews gained in-depth knowledge not only of the participatory process and outcomes but also other issues important to interviewees. The Delphi approach was useful in terms of gaining external experts’ opinions on the management plans. The counterfactuals in both the interviews and the ‘Delphis’ were a useful way of expanding on the potential biodiversity benefits to emerge from the management plans.

## **8.6. Conclusion**

A critical reflection on the theoretical framework in this chapter resulted in a number of changes of procedural criteria. The criteria for social outcomes of participation were less substantially modified. In view of the context of this evaluation, i.e. Natura 2000 implementation, ‘biodiversity outcomes’ was potentially the most important evaluation criterion. In practice, however, the evaluation of this criterion by interviewees was difficult

due to the different meanings attributed to 'biodiversity' and the different meaning attributes to 'outcomes'. This resulted in a breaking down of this criterion of into several parts, covering 'biodiversity expectations', the 'short- and long-term biodiversity outcomes' and the 'direct and indirect biodiversity outcomes' of the management plan process and, specifically, participation.

While the case studies were selected on the basis of scale, the results from the case studies strengthened the theory that "smaller is not necessarily better" as regards participatory processes in the implementation of Natura 2000 and the need to focus on the appropriate scale in order to address the physical impacts of particular environmental problems. This implies, however, understanding and consensus over the issues to be addressed by management plans. The case studies also highlighted drivers of participation (i.e. whether the process was driven directly by Natura 2000 designation or by more localised conflict situations) as an important factor impacting on process and outcomes of participation in the context of Natura 2000 implementation.

The case study design approach and the methods associated with this approach were well adapted to the aims and objectives of this study. The Delphi approach was useful in terms of gaining external experts' opinions on the management plans. However, due to small sample numbers and lack of clarity of the biodiversity aims of the case studies, these exercises could not be viewed as true Delphi approaches but rather as complementing the 'biodiversity outcomes' criteria evaluation through external expert opinions. The counterfactuals were a useful method for allowing interviewees and Delphi to expand on the potential biodiversity benefits to emerge from the management plans. Data and methodological triangulation strengthened the validity of the results.

To conclude, the case studies emphasised some of the inherent difficulties in the evaluation of public participation process and outcomes, highlighted in Chapter 3, namely the complexity of the participation concept, the practical difficulties linked to the range and use of criteria for judging success and failure (Rosener, 1981: 583), and the need to acknowledge that participation does not occur in a social vacuum (Chess and Purcell, 1999: 2685). The case studies, however, provided insights into the impact of the drivers of participation, and the links between different interpretations of participation in the case studies and democracy models. These findings are taken further in the next chapter which derives 'lessons learned', policy recommendations and future research.

## Chapter 9. Conclusions and future research directions

### 9.1. Introduction

The Natura 2000 network, consisting of Special Protected Areas (SPAs) and Special Areas of Conservation (SACs) designated under the Birds and Habitats Directives respectively, constitutes the very backbone of the EU's biodiversity policy. The success of this network is particularly under scrutiny with the recent failure of the EU to meet its 2001 target of halting biodiversity loss by 2010 (European Commission, 2010: 8). In the EU's new 'vision' for 2050 and the headline target for 2020 (see Chapter 2), Natura 2000 remains a vital, if not *the* most vital element. Heads of State recently stressed "the need to fully implement the Birds and Habitats Directives, to speed up the completion of the Natura 2000 Network [...] and effective management and restoration measures" (European Council, 2010). The achievement of biodiversity targets in the EU therefore relies heavily on there being effective protected areas.

The Commission acknowledges that in order for these protected areas to work, they need the active involvement of those who live or depend on them (European Commission, 2000: 3). However, there is no explicit requirement on Member States to involve local actors in the management of these areas, something which is directly in line with the subsidiarity principle (see Chapter 3). The problem, therefore, is that while public participation is implicitly considered a *sine qua non* for the success of the network, there is no formal legal requirement on states to involve local actors. Even more importantly, there is little empirical evidence to support the hypothesis that were it to happen across the EU, increasing participation will necessarily deliver the biodiversity outcomes sought by the EU.

This ambiguity in the policy world is matched by a similar ambiguity in the academic world, in which public participation is seen as an inherently 'good thing' but there is little widespread agreement on how it should be organised. Indeed most academic evaluations of public participation focus mainly on the *processes* of participation rather than their *outcomes*, i.e. the eventual benefits of participation for society (including social learning, reducing conflicts, increasing trust in institutions and capacity building, etc) and the environment, including biodiversity (see Chapter 3). Of the few studies that have evaluated environmental outcomes, none has found an unequivocal link between participation and improved environmental quality (see Chapter 3). In addition to studying the direct links between process and environmental outcomes, more research is needed on the indirect links between process, social outcomes, and policy outcomes (Chess and Purcell, 1999: 2685).

These gaps in knowledge raise the question of how ‘more participation’, which is perceived so positively but often uncritically in the policy and wider academic literature, is to be organised in different contexts.

This study has aimed to work across these policy and academic perspectives, by looking not only at the role of public participation in decision-making but, importantly, also at the environmental outcomes of participation. Crucially, an attempt was made to build a notion of context (in this case spatial scale) into an overall evaluation of outcomes. Spatial scale was considered a particularly important aspect to take into account in such an evaluation in view of the dynamic nature of biodiversity - species can move across huge ranges, habitats can change over time - and the potential mismatch between the scale of species’ requirements and the scale at which relevant participatory processes are undertaken. The three case studies therefore explored different management plans at three different scales in Scotland, namely: micro (the River Bladnoch SAC Atlantic Salmon Catchment Management Plan); meso (the Moray Firth Seal Management Plan); and macro (the Forth and Borders Moorland Management Scheme).

The rationale for adopting this approach was to build a body of evidence to enable a more informed debate on the longer term role of public participation in the context of biodiversity policy. This, it was hoped, would help to inform EU biodiversity policy and its implementation, as well as wider academic debates, which have often run ahead of empirical studies of causes and effects. This chapter summarises the main findings of the thesis and identifies their added academic value (Section 9.2) before setting out the main policy recommendations (Section 9.3) and possible directions for new research (Section 9.4).

## **9.2. Main findings and their academic novelty**

### *9.2.1. Participatory processes: method adaptation, leadership and rationale*

The case studies demonstrated that while government departments and, to a large degree, scientific advisers were well represented in the development of management plans for Natura 2000 sites, a number of barriers prevented other affected stakeholders from being involved in their development. One important barrier was the perceived inappropriateness of current methods, such as large meetings and printed material, to involve local land owners and managers, who preferred one-to-one dialogue. Closely linked is the issue of language, with many interviewees emphasising the need for better communication and understanding between stakeholders, who often have very different backgrounds. Perhaps the main barrier to the effective involvement of affected stakeholders in the process of developing

management plans was the perceived lack of clarity by interviewees, including those from government departments at the micro-scale, over the goals of the management plans. This resulted in confusion over the involvement of stakeholders and differing expectations from stakeholders regarding the outcomes of the management plan. These findings complement three major issues currently being discussed in the public participation literature: i) the importance of adapted participatory methods, ii) the role of facilitators in public participation processes, and iii) the framing of public participation rationale. These are explored in turn.

The importance of adapted participatory methods was emphasised in a recent review of public participation processes. This review concluded that methods should be “selected and tailored to the decision-making context, considering the objectives, types of participants and appropriate level of engagement” (Reed, 2008: 2424). This was best demonstrated in this study at the meso-scale, where a wide range of stakeholders, from local businesses to national government, were involved using different methods (meetings, one-to-one contact, etc). However, the successful adaptation of methods in this case study was highly dependent on a single individual leading the process: someone who was known and trusted by all stakeholders, knowledgeable about the issues being addressed and able to bridge across governance scales. Consequently, an important addition to the current thinking on the dynamic adaptation of methods should include careful consideration on the pivotal role of leadership in method adaptation. To ignore the effect of informed leadership would be a risk to the validity of future research on participatory method adaptation.

Another important contribution made by this study revolves around the role of facilitators in public participation processes. Public participation literature has emphasised the need for independent expert mediators or facilitators (Chess and Purcell, 1999: 2691; Rowe and Frewer, 2000: 13). Results from the meso-scale case study, however, suggest the opposite. At the meso-scale, the individual leading the process was not ‘independent’: he worked for a District Salmon Fishery Board. As such, while independent facilitators may improve levels of stakeholder involvement, there is a need to acknowledge and understand the potential advantages, such as trust and knowledge, and disadvantages, such as bias, of an internal stakeholder taking on this role. The advantages of an internal stakeholder may, for example, be particularly apparent in the context of natural resource management where conflicts are common and where stakeholder groups are often disenfranchised. At the meso-scale for example, the individual leading the process, because of pre-existing relationships, was able to bring a disenfranchised group, in this case fishermen, into the process to develop a jointly agreed management plan.

Finally, this study emphasised the importance of the framing of participatory rationale. There was inexperience and confusion among many actors of how to lead (e.g. government organisations) or be involved (e.g. local stakeholders) in ‘participatory’ management plan processes. One key barrier to increased involvement of stakeholders was the lack of clarity over the goals of the management plans, often leading to differing expectations, and potentially disappointment, over outcomes. The lack of clear, measurable goals also resulted in confusion over the role of stakeholders in the development of those plans. The lack of explicit goals and objectives found in this study is consistent with a dominant stream of the public participation literature, reviewed by Reed (2008: 2424). This confusion is linked to the fact that the rationale and motivation for public participation is not explicitly outlined in natural resource management generally, or EU Directives (including the Habitats Directive and its Article 6) specifically. In addition, this ambiguity is closely linked to the underlying interpretations of democracy itself (see Chapter 3) and its goals, be they normative, substantive and/or instrumental. This thesis clearly identifies a critical need to address the ambiguity surrounding participatory processes in management plans. At the meso-scale, the rationale for and outcomes of participation were framed more clearly than at the macro- and micro-scales: there was a clear driver for participation (a ban on shooting) and a targeted goal, namely reduction of seal shooting pressure. Even this, however, resulted in differing biodiversity expectations amongst stakeholders. Consequently, it is imperative that at the outset the expected outcomes are communicated, understood and agreed by the stakeholders involved. It is crucial, therefore, that the rationale for a participatory approach should be identified and justified. Moreover, there must be clearly defined outcomes expected from such participatory initiatives in natural resource management. Without an explicit rationale and defined outcomes there is an inherent risk of failure due to disenchantment of stakeholders, and disappointment due to a mismatch between expectations and outcomes. Such failures may engender future biodiversity conflicts.

To conclude, a number of barriers and approaches to increasing stakeholder involvement in participatory processes were identified in this study. In addition to the need to adapt methods to the decision-making context, there must be a consideration on the pivotal role of leadership in method adaptation. There is also a need to rethink the hypothesis that independent expert facilitators are necessarily better than dependent ones who may possess a deeper understanding of the situation and its actors. Finally, confusion among government organisations and local stakeholders was linked to a lack of explicit rationale and outcomes of participation at the policy level (i.e. the European Commission). Research is needed to understand better the role of drivers of participation and the potential outcomes of increased participation in natural resource management, an issue covered in more detail in the next section.

*9.2.2. Linkages between processes, social and biodiversity outcomes*

There is an assumption in the literature on public participation that the better a process, the more likely ‘good’ outcomes (or desired aims of the exercise) are to emerge from it (Rowe and Frewer, 2004: 520). The interviews, Delphi processes and counterfactual analysis indicated that successful biodiversity outcomes in all three cases were more likely with the management plans in place, compared with a ‘business as usual’ scenario with no management plan. However, it was impossible to identify direct causal links between the level of participation and biodiversity outcomes in the three cases. For example, at the meso-scale, where interviewees evaluated the process highly, the expected biodiversity outcomes were approximately the same as in other cases (i.e. the micro- and macro-scales) where the process of participation had been scored less positively.

This next section outlines the two main contributions of this thesis to existing knowledge on linkages between processes, social and biodiversity outcomes. Firstly, the results highlight the influence of the characteristics of the natural environment, social phenomena, and methodological limitations on public participation evaluations. Secondly, the results emphasise there is a risk of drawing erroneous conclusions if evaluations focus solely on processes, because an actual link between process and outcomes has not yet been established. These two contributions to the existing literature on public participation are explored in more detail below.

The characteristics of the natural environment prevented many interviewees from confidently linking the management plan with increased biodiversity. At the micro-scale, the life-cycle of the salmon, which spend much of their life at sea, meant that any actions in the Bladnoch were unlikely to impact significantly on the returning population of salmon. At the meso-scale, impacts other than shooting pressure (such as food availability) were likely to affect seal populations. At the macro-scale, extrinsic pressures, including afforestation and agricultural subsidies were, again, likely to impact on moorland habitats. The characteristics of the natural environment (i.e. complexity, high uncertainty, large temporal and spatial scales and irreversibility), used as arguments for increased public participation in environmental management (see Chapter 1), actually prevented participants from evaluating possible biodiversity benefits derived from the management plans.

In addition to the characteristics of the natural environment, establishing causality between process and outcomes was also hampered by social phenomena, such as pre-existing relationships between the stakeholders involved (Chess and Purcell, 1999: 2685), and their perceptions of the environmental problem. Importantly, and very much a feature of natural resource management, all case studies were embedded in severe and long-standing conflicts:



acidification and salmon fisheries at the micro-scale; seal conservation and fisheries at the meso-scale; and farming, game management and moorland conservation at the macro-scale. The stakeholders involved held very strong preconceptions of other stakeholders and of the environmental problem. The different perceptions of the environmental problem, for example, led stakeholders to attribute different meanings to ‘biodiversity’, depending on their stake in the issue. It also led stakeholders to interpret ‘outcomes’ differently, potentially leading them to overlook indirect outcomes such as increased trust between stakeholders, that may have longer-term consequences for biodiversity management.

Finally, the methodological limitations of this study made the evaluation of links between public participation processes and outcomes difficult. Management plans were chosen in this study as a tool to evaluate public participation processes and outcomes. Management plans were selected on the basis that at some stage of their development and/or implementation they required the active participation of a range of local stakeholders. Using management plans as a tool for evaluating public participation was, however, confounded in those case studies (micro- and macro-scales) where participation was not central to the development of the management plans, i.e. where the process was not participatory. This is an important finding as it points to the importance of and difficulties associated with identifying ‘participatory’ initiatives in the context of natural resource management. Few current initiatives to resolve biodiversity issues are necessarily branded as ‘participatory’ from the outset. At the meso-scale for example, it may well be that the concept of the initiative being “adaptive co-management” (Butler et al. 2010, submitted) was established after the process, rather than a deliberate decision taken when the process started. The wider implications are that to determine links between process and outcomes of public participation, in a context such as natural resource management, an essential initial step would be to evaluate whether processes are indeed participatory. Public participation, as opposed to stakeholder involvement, could still be in its infancy in biodiversity management, hence the difficulty in finding tools (other than management plans) with which to evaluate participation.

The second and perhaps most important contribution of this thesis to the current literature on public participation is the potential risk of drawing erroneous conclusions if evaluations focus solely on processes and assume a link with outcomes. Indeed, at the meso-scale, where the process of participation, and its social outcomes were evaluated positively, biodiversity outcomes were not evaluated any higher than at the micro- and macro-scales where the process of participation was evaluated much less highly. This lack of link between process and outcomes may be due to the characteristics of the natural and social systems in which participation was applied and/or methodological limitations (as explained above). In addition, this study suffered from many of the known challenges of evaluating outcomes,

including determining the end point of a participatory exercise (Irvin and Stansbury, 2004: 63); competing definitions of ‘success’ (Beierle, 1998: 14); and last but not least, separating the outcomes of participation from other variables (Chess and Purcell, 1999: 2685). Despite these difficulties, which may or may not be overcome with the new framework for evaluation (see Appendix 5), if public participation is carried out, then evaluations incorporating both process and outcomes will no doubt result in a more comprehensive understanding of public participation exercises, especially in natural resource management settings, where perceptions and conflict can be entrenched.

Finally, the question remains of whether this study, focussing on participatory processes and outcomes, sheds light on whether expansion of participation is necessarily the best option to adopt to improve effectiveness of biodiversity policy. For example, results across case studies showed that participation in the development and implementation of management plans could lead to good social outcomes. This may be sufficient reason to promote the expansion of participation, and to carry out further research on how social benefits may contribute to biodiversity outcomes. However, links between participation and biodiversity outcomes were unclear; suggesting that expansion of participation may not aid biodiversity policy implementation, if the expected outcome of such participation is improved biodiversity conservation. The role of participation in biodiversity policy implementation requires further debate because successful implementation may require a broader approach to involving local actors. For example, instead of focussing solely on participation in the management plans of protected areas, research should explore the conditions for and outcomes of alternative and varied approaches to local biodiversity policy implementation. While many such approaches exist (e.g. flagship or demonstration projects, local community or individual initiatives), they are often not documented despite important lessons learned from these processes (Young et al. 2010: submitted). Analysts therefore have a key role to play in gathering (with the help of practitioners), testing, creating and evaluating the processes and outcomes of wide-ranging approaches to local biodiversity policy implementation.

To conclude, this thesis has found that establishing direct and indirect links between participation processes and outcomes in natural resource management is complicated by the characteristics of the natural environment, social phenomena, and confounding methodological limitations. These findings emphasise the risks associated with the assumption that good processes are more likely to lead to good outcomes and thus the need for multi-dimensional evaluations incorporating process, social outcomes and biodiversity outcomes. Moreover, there is a need to widen the current debate on participation in biodiversity policy implementation. This will require evaluations of processes and outcomes

of a wider range of alternative and varied approaches to local biodiversity policy implementation.

*9.2.3. The influence of spatial scale and other contextual factors on participatory processes and outcomes*

The different spatial scales at which management plans were undertaken was used to explore the relationship between different processes and outcomes of participation. While the spatial scale did not influence directly the process or social outcomes of participation, it was an important consideration in improving the likelihood of desired biodiversity outcomes. Furthermore, other contextual factors emerged from the case studies, including the drivers of management plan processes. These are discussed below.

It is generally assumed that smaller scale approaches benefit the process of participation by allowing a better understanding of the positions, interests and knowledges of the stakeholders involved (Richards et al., 2004). However, this was not reflected in these case studies. While the lack of involvement of particular groups of stakeholders was a feature at all scales, at the micro-scale, where one would have expected better representation of stakeholders and their values, some of the main affected land owners of the catchment, namely the private forest owners and some of the local land owners and managers, were not represented. The lack of involvement of private forest owners highlighted the alleged “globalising tendencies” of some economic pressures (Mohan, 2001: 162). Localised approaches are also widely assumed to improve the social and policy outcomes of participatory processes. It has been argued that local stakeholders’ sense of “place” can potentially increase their commitment to reaching a resolution and implementing it in practice (Rockloff and Moore, 2006: 650), with locally ‘owned’ decisions “often the most effective in the long-term” (Richards et al., 2004: 11). This, again, was not reflected in the case studies, with ownership of the management plan by stakeholders being most apparent at the meso-scale. Large-scale initiatives have also been found to minimise opportunities for social learning (Borowski et al., 2008: 13). This was also not reflected in the case studies. Indeed, social learning was perceived as being a weak aspect of the plan at both the micro- and macro-scales, with land owners and land managers often perceiving that they had not learned from the process and with little evidence to show that government advisers had learned from land owners and managers. Indeed, while ‘ways of knowing’ are seen to be influenced by scale (Cheng and Daniels, 2003: 851), there was little evidence from these case studies that the ways of knowing at the smaller scale, i.e. based on personal experiences and knowledges, have been favoured at the micro-scale. While scientific information was a key aspect of all case studies, the integration of expert and lay person knowledges was best achieved according to interviewees at the meso-scale, despite both the micro- and macro-

scale approaches being built on evidence from local scientific experts. These important findings add to the growing body of evidence challenging the assumption that 'smaller is better' (Rockloff and Moore, 2006: 650).

While scale may not have had a direct impact on participation processes and social outcomes in these case studies, it was an important factor acting on biodiversity management outcomes. This was evident at the meso-scale, where the management plan was devised according to i) the issue (i.e. seal shooting pressure) and ii) the ecology of the species targeted (i.e. Atlantic salmon and harbour seals). The management plan was therefore not focussed on individual SACs, but instead on a multi-SAC approach that accounted for the broad spatial scale at which the problem was felt by local stakeholders and the distribution and movement of the species involved. This approach of defining the scale appropriate to the problem and the biodiversity components was viewed by interviewees as a novel and effective way of addressing the underlying issue. Following on from this innovative framing of the ecological scale, the scale of the participatory process was made to 'fit' to this ecological scale. This was achieved by the efforts of one key individual who tackled the challenges of larger scale participation processes (e.g. numerous actors, limited social learning), seeking actively the views and input of stakeholders and creating joint ownership of the management plan.

Aside from spatial scale, other contextual factors were identified as impacting on the evaluation of process and outcomes of participation in these three case studies. These included the leadership of the process, the history of the conflict(s), the clarity (or lack) of the goals of the process, the environmental context and the level of involvement of decision-makers. The key aspect, which impacted on all these other contextual factors, however, was related to the drivers of the management plan process (see Chapter 8). The development of management plans at the micro- and macro-scales was driven directly by the top-down EU and national level pressure to restore sites at a Favourable Conservation Status, reflecting the pragmatic instrumental aims of the representative democracy model. This resulted in social outcomes at these scales being scored relatively low, in part due to representation in the process being focussed on 'experts'. The processes at the micro- and macro-scales also prevented the main perceived conflict issues to be addressed. The drivers behind the development of the meso-scale management plan were not directly linked to the designation of the SACs, but were influenced by the direct threat of a ban on seal management itself linked to the SAC designation. The development of the management plan therefore reflected a deliberative (or pluralist) model of democracy, with the process relying on a representative group of local stakeholders leading and taking part in the process. Stakeholder values and knowledges were integrated into the management plan process, and conflict was directly

addressed by the actions within the plan. These elements of the more deliberative approach to participation may explain the more positive evaluation of the process and social outcomes at the meso-scale. While not widely discussed in the literature, the underlying drivers of participation appear to impact greatly on the processes and social outcomes of participation, and could be a crucial focus of future evaluations of what constitutes ‘good practice’.

To conclude, this study challenges the common assumption that smaller is necessarily better in environmental management. Spatial scale had no bearing on the processes and social outcomes of public participation. However, spatial scale can affect biodiversity outcomes through framing the management plan around the ecological scale of the problem being addressed and ‘fitting’ the participatory process to that ecological scale. Finally, the underlying drivers of participation were found to potentially influence the process and outcomes of participation, highlighting the importance of incorporating such contextual factors into future evaluations of public participation.

### **9.3. Policy recommendations**

The case studies were all unique and limited in number. Therefore, one should be wary of generalising too much from them, let alone derive a ‘blueprint’ for future success. It is, however, possible to make some policy recommendations based on them. These are explored in this section and address two types of policy-relevant audience: EU-level actors such as the European Commission and the European Parliament; and national-level actors such as the country agencies (e.g. SNH) responsible for implementing the Habitats Directive in Member States.

#### *9.3.1. Policy recommendations at the EU level*

In the field of policy analysis, “when questions about the appropriateness of policy goals or processes arise [...] policy evaluation falls disturbingly silent” (Fischer, 1995: 6). Three questions arise from this statement in the context of this particular study:

- i) are participatory processes appropriate for the future implementation of EU biodiversity policy?
- ii) do the Habitats Directive and associated Natura 2000 network actually enhance biodiversity management?
- iii) does the current approach to biodiversity policy and public participation contribute to addressing the alleged democratic deficit in the EU?

To answer the first question, namely whether participatory processes in the implementation of EU biodiversity policy are appropriate, one needs to look at the wider context, particularly the reasons why consultation was mentioned in the guidance document on Article 6 of the Habitats Directive in the first place. As mentioned in Chapter 1, delays in implementing the network were caused by local stakeholder opposition to the selection of sites. Indeed, these conflicts and delays may have convinced the EU (and specifically the Commission) of the potential importance of stakeholder involvement in this context. From an EU policy perspective, the main objective of the guidance document on Article 6 was to a large extent an attempt to get the network accepted and sites selected by Member States. Indeed, responsibility for gaining the support of local people in the *management* of Natura 2000 sites to guarantee Favourable Conservation Status falls on Member States (Ostermann, 1998: 968) first and foremost, not the European Commission. In this regards, the strategy of mentioning ‘consultation’ may have worked: according to a recent European Commission policy document, “the EU’s Natura 2000 network, which covers 17% of the EU's territory and is the largest network of protected areas in the world, is a success story” (European Commission, 20010: 4). This statement, mainly related to the extent rather than the quality of the network leads us to our next, and perhaps more pertinent question: do the Habitats Directive and associated Natura 2000 network actually enhance biodiversity management?

The recent report on the status of Natura sites was damning of the network’s capacity to restore sites to Favourable Conservation Status, with 52% of species assessments and 65 % of Annex I habitat assessments being unfavourable across the 25 Member States (European Commission, 2009b: 7). Other criticisms have included the network’s failure to mitigate climate change (Sutherland et al. 2010: 957), and its lack of functional connections, making it a collection of sites rather than a network (Maiorano, 2007: 1443). In view of these criticisms of Natura 2000, two major issues will need to be addressed by the EU if future global and EU biodiversity targets are to be met, namely determining how Favourable Conservation Status can be achieved in Natura 2000 sites, and whether the currently limited approach to EU biodiversity conservation (Maiorano, 2007: 1443; Sutherland et al. 2010: 957) might be complemented.

Enhancing “communication, cooperation and concerted action between Commission, Member States, landowners, scientific and conservation communities in support of Natura 2000” is one of the actions under the Biodiversity Action Plan (European Commission, 2006: 11). Indeed, ensuring a Favourable Conservation Status will most probably require cooperation between EU-level, Member State and local actors. The case studies showed that the majority of local actors interviewed valued biodiversity on their land and were willing to adjust management practices to benefit biodiversity provided they could contribute to and

understand the rationale for these practices. This willingness of local stakeholders to engage with biodiversity management may represent an opportunity given the current uncertainties over funding the network and the warning that “the level of investment will need to increase if Member States are to respect their obligations under the Habitats Directive” (European Commission, 2009b: 16). A few examples of how this involvement could be achieved are described in more detail in the following section, as these initiatives would be carried out at the national levels, as per the subsidiarity principle. To ensure that sites reach Favourable Conservation Status this will, however, also require political pressure at the EU level. This could build on a range of arguments for biodiversity such as the provision of ecosystem services (e.g. Millennium Ecosystem Assessment, 2005) and the economics of biodiversity loss (e.g. The Economic of Ecosystems and Biodiversity initiative). Linked to increased political pressure, tougher law enforcement at the EU level is needed to ensure adequate protection and management of sites. One potential way forward would be the adoption of a directive on access to justice in environmental matters (as part of the implementation of the Aarhus Convention – see Chapter 2). Indeed, a recent report from the European Commission concluded that “Community environmental law would be better and more consistently enforced if the proposed directive were adopted” due to national-level resolution of cases and less need for Commission intervention (European Commission, 2008b: 6).

While improving biodiversity on protected areas is obviously a priority, equally important is the need for the EU to broaden its current approach to biodiversity conservation by integrating biodiversity into sectoral activities and exploring other options such as re-wilding. Chapter 2 briefly explored current efforts to integrate biodiversity into sectoral activities, an area where progress is still very slow. Integrating biodiversity conservation and agriculture for example is still a major challenge with respect to the long term reform of CAP (Young et al. 2010). In addition to protected areas and sectoral integration, the EU could explore complementary approaches. One example is re-wilding, i.e. creating or restoring wilderness areas, an approach first described in the United States (Noss, 2003: 1271) but gaining ground in Europe (Martin et al., 2008: 34). In the UK, many respected nature conservation organisations are supporting this approach, including the National Trust and Natural England (Leake, 2008). An advantage of these approaches is that, in the UK at least, re-wilding is often driven by private landowners (Leake, 2008), thereby potentially relieving the financial burden of conservation for Member States. While the biodiversity benefits of re-wilding are still unclear, and acknowledging that re-wilding may engender conflict for example with species such as wolves being re-introduced in areas where they had previously been exterminated, new options like these could be considered by the European Commission.

Finally, in view of the current attempts to strengthen democracy in the EU (see Chapter 3), there is a real need to question how EU biodiversity policy is contributing to addressing what many perceive to be a democratic deficit. Scharpf looks at different perspectives on democracy in terms of their legitimacy, distinguishing between input-oriented democracy as ‘government *by the people*’ and output-oriented democracy as ‘government *for the people*’ (Scharpf, 1999: 6). He argues that the EU is generally better at output legitimacy, i.e. producing policies that people support, than input legitimacy (i.e. involving people directly in decision making). In view of this, it is perhaps unsurprising there are so many calls for increased ‘input legitimacy’, with greater deliberation being one potential reform track (Pollack, 2010: 39). While it was clear from the case studies that little public input was taking place at the national level, with local stakeholders and country agencies often unsure of the purpose of management plans and participation, this finding highlights some untapped opportunities for deliberation on EU biodiversity policies. The question though is what might these look like? Imposing a new or revised Habitats Directive requiring participation only in the designation process without allowing greater societal discussion at the policy making stage could well reduce input legitimacy, resulting in “an inconsistency about inviting local involvement when the actual room for influence is marginal” (Stenseke, 2009: 220). A possible way forward would be that above and beyond securing designation, EU biodiversity policies really should not say much at all about public participation or consultation. Indeed, in view of the subsidiarity principle, it is unlikely that Member States really want to be told how to involve stakeholders in the management of Natura 2000 sites, especially not through vague ‘considerations on management plans’ such as those set out in the European Commission’s guidance document on managing Natura 2000 sites (European Commission, 2000: 54). The questions surely are *if and why* Member States are willing to really address this opportunity. The role of EU therefore could be to invite greater societal deliberation over the potential benefits of and contexts within which to encourage increased stakeholder involvement (whether through management plans or other mechanisms). This deliberation and knowledge exchange could allow a greater flexibility for Member States over how best to implement EU biodiversity policy.

While stakeholder input in the three management plans was minimal, there was limited evidence that the process of developing them had actually improved public perceptions of the EU, its policies and its institutions. While six biodiversity users welcomed EU LIFE-Nature funding for biodiversity, most interviewees, when referring to ‘Europe’ focussed on its regulatory role. Biodiversity users mentioned “*restrictions*” [BBU8], “*rules*” [MBU10] and “*fines*” [FBBU8]. Government agencies specifically highlighted their obligation to report back to the European Commission and the EU’s “*powers to take infraction proceedings, which they have done in the past*” [BGA4] or to “*sniff around*” [MGA2]. The



'power' (i.e. legitimacy) of European institutions was, however, only called into question by two scientific advisers, one of which criticised the focus on politically-driven targets, which was resulting in a situation which was "*not a human community project, it's a political process*" [FBSA4]. Another expressed frustration and disappointment as what he perceived as an empty promise: "*you supposedly have this really powerful bit of legislation that can take you to Brussels, to the European Court for real major things, but it doesn't seem to...*" [BSA1]. This last comment highlights a gap between the activities of EU decision-making (Bache & George, 2006: 67) and everyday practices on the ground. One way to narrow this gap would be a combination of tougher law enforcement and increased EU funding, both of which have been addressed earlier in this section.

To conclude, the Natura 2000 network is regarded a success by the EU in terms of its coverage. Perhaps the onus on consultation (guidance document on interpreting Article 6) may have been a political tool to minimising conflicts over site designation and establishing the network. The current network will not, however, deliver on the EU's ability to achieve global and EU biodiversity targets. This will require increased political pressure, more funding and a broader approach to biodiversity conservation. In addition to these EU-level needs, action will be required from Member States, explored in the next section. Finally, this thesis has provided limited evidence that Natura 2000 has improved the democratic credentials of the EU, but whether more can be done by the EU to increase this in the future is very unclear given the unwillingness of Member States to open up their domestic politics to external influences.

### *9.3.2. Policy recommendations at the national level*

One issue which emerged from discussions with representatives from government agencies was the need for basic guidelines or key general issues to bear in mind when considering or developing management plans. It is rather unreasonable to hope that there are 'one size fits all' guidelines, but there are a number of useful 'rules of thumb' that can be cited in the existing literature (e.g. Chess & Purcell, 1999: 2691). This section therefore starts by taking a step back, considering whether to consider management plans and/or participation as an option in the implementation of Natura 2000 in Scotland, and then specifically addresses issues that SNH may consider in its future implementation of Natura 2000.

It is worth remembering that management plans are not compulsory; for reasons identified above they are only considered 'best practice' by the EU. A key decision on the part of country agencies will be determining those situations where a management plan would be suitable. The social and ecological contexts of each SAC are radically different and need to be understood before deciding if a management plan is needed. The next consideration is

whether the involvement of local actors is critical to the development of that management plan. At present, states feel that they are better placed to make this judgment than the Commission. Even so, it remains a tricky issue: some interviewees at the micro- and macro-scale, though that the processes of developing the management plans without justification or clear goals actually aggravated existing conflicts. Key to this initial planning phase is the recognition of conflict. If a justification for a management plan is conflict management, this should be explicitly acknowledged and addressed. *If* management plans are not the best approach, then national agencies should consider other options. One approach - which was discussed at the macro-scale by some interviewees - was the use of demonstration or flagship projects, i.e. projects implemented by well respected land owners or managers making 'innovations' on their lands that could, in time, be replicated by others upon seeing positive changes occurring. Another suggestion at the macro-scale was to get independent advisers with knowledge of farming and conservation issues to run meetings, with a focus on encouraging a few key individuals to get involved and take it up, thereby relying on 'word of mouth' to encourage uptake. Another option, suggested both at the micro- and macro-scales was one-to-one contact with land owners and managers. Indeed, most interviewees were not averse to making small changes to their practices provided they could understand why these were needed, and what biodiversity benefits could emerge. Rather than a compulsory measure, these would be agreed between SNH and land owners and managers, integrate local knowledge and be relatively informal. These arrangements, however, would require SNH to invest time in developing good working relationships with land owners and managers and to provide the latter with ownership of their decisions.

The Commission's role in biodiversity policy making and implementation is, as noted above, already contested. Member States have clung to their role as independent policy implementers. Yet a current problem afflicting the implementation of biodiversity policy at the national level was the broadly negative view of SNH by local stakeholders. SNH's role was poorly understood; they appeared disconnected from those 'on the ground' and their inability to regulate was perceived to be a weakness. What were most appreciated were local area officers, some of which knew the issues in their areas and had developed relationships with the land owners and managers, often over a long time period. Perhaps a first step for such country agencies would be to reflect on why land owners and managers perceive them in the way they do. This initial reflexivity should lead to an in-depth analysis from SNH of how they want to relate to land-owners and managers in the future and perhaps re-think in terms of their role, i.e. for example taking on a more regulatory role.

In view of the perceived negative relationship towards SNH, another key issue for country agencies to consider is the role of organisations or individuals who are perceived to have

widespread legitimacy. While organisations such as FWAG (now no longer in place) were well respected by many land owners and managers, SNH were not. In the Moray Firth, the fact that the process was industry (fishery)-led was seen as a major reason to explain the success of the plan. These individuals need to have perceived legitimacy and the right personalities to make changes. By being considered as ‘insiders’ they are also more likely to know who the main stakeholders are, and how to involve them best. So, instead of SNH leading, or being perceived to lead, SNH might consider liaising more or better with those ‘on the ground’ with perceived legitimacy. While this may be an investment in terms of relationship-building, this approach may be more beneficial to biodiversity in the long-term.

Another important group for SNH to connect with are scientists. Scientists are often perceived to be insulated from direct interaction with the public (McCool and Guthrie, 2001: 317) and mistrusted by stakeholders (Callon, 1999: 81). SNH may, however, have a key role in involving scientists more in land management issues. While this will involve major shifts in terms of how scientists work and interact with the public, the integration of unbiased scientific advice together with local knowledge can represent a major step forward. This was very much the case at the micro- and meso-scale where locally-based scientists were involved in the process of developing options for change. The fact that the scientists in those case studies were perceived to be unbiased, were local, accessible and had personalities which enabled them to be well-respected by biodiversity users was very important. Another key role for scientists could be in relation to monitoring.

Capacity-building post-plan was stressed in all three case studies, with stakeholders wanting to see how their activities were making a difference through continued monitoring, feedback and communication. Indeed, one major issue at the macro-scale was the lack of a carefully designed monitoring programme to determine the effectiveness of the Scheme. Responsibility for monitoring was left predominantly to land owners and managers, this lack of oversight from SNH implied to one land-owner that his efforts were not being recognised. Scientists could have a key role therefore not only in improving the quality of decisions but also in capacity-building, for example through monitoring. Finally, the development of dynamic management plans reviewed regularly on the basis of new data, regular newsletters, presentations and one-to-one discussions with stakeholders were some of the suggestions from interviewees to strengthen capacity-building.

To conclude, it is important to consider whether management plans are required, for what purpose (i.e. simply achieving designation or achieving longer term biodiversity improvements) and whether participation is integral to that process, or whether there are alternative options. This will depend on SNH improving relationships with stakeholders to

mitigate current negative perceptions, and forging collaborations with individuals and other organisations who have perceived legitimacy. Finally, stakeholder involvement requires long-term engagement through continued monitoring, feedback and communication.

#### **9.4. Future research directions**

This research has uncovered a number of future research avenues, including: i) the drivers needed to trigger bottom-up initiatives; ii) the importance of the framing and matching of ecological and social scales for biodiversity outcomes; and iii) the causal links between social and biodiversity outcomes of public participation. These new and potentially valuable research directions are explored in this concluding section.

A valuable research challenge would be to explore the drivers needed to trigger bottom-up participatory initiatives. A possible hypothesis would be that such initiatives can only arise when policy processes reach a 'crisis point'. As seen at the meso-scale, mobilisation of local actors only occurred when a crisis point was reached, defined here as a situation in which all stakeholders were directly affected. Moreover, we need to understand what the role of government is in creating such crisis points. At the meso-scale, the threat of a ban on seal shooting led to the involvement of government in the bottom-up initiative which in turn produced a management plan. Other than legislative pressure, it would be necessary to explore what other conditions can lead to crisis points and/or to bottom-up initiatives. Gaining insights into such conditions would uncover some of the ingredients needed to develop a demand for public participation and how this might be met. Such research would be valuable, particularly if current approaches to resolving biodiversity conflicts through participation continue to be largely unsuccessful.

Another research avenue could be related to the role of scale. Spatial scale did not impact directly on the processes and social outcomes of participation in these case studies. However, there was evidence that spatial scale may play an important role in reaching successful biodiversity outcomes. At the meso-scale for example, fitting the social scale to the ecological scale of the problem was perceived to be a novel and successful approach to a biodiversity conservation issue. A promising avenue for future research would be to expand on this initial result. A possible hypothesis would be that successful biodiversity outcomes only arise when the ecological scale of a biodiversity issue is matched closely to the social scale. Case selection would need to focus on participatory processes that have worked up from and matched against the ecologically-relevant scale and participatory processes where the ecological scale was not considered. This would need to consider the processes of framing in each case, i.e. why some frames gained purchase over others. The biodiversity

outcomes of both those initiatives would then be evaluated to determine whether a closer fit between the ecological and social scales of a problem did indeed lead to improved biodiversity outcomes.

Finally, the links between the social and biodiversity outcomes of public participation need to be better understood. While the results from the meso-scale case suggested that a good process was more likely to lead to good social outcomes, the link between social and biodiversity outcomes was obscured by many complicating factors, not least the characteristics of the natural environment. One way to address this research gap would be to examine analogous case studies to hypothesise that good social outcomes improve the likelihood of reaching desired biodiversity outcomes. Case studies would be selected on the basis that processes were evaluated positively by stakeholders and management plan actions on the ground were measurable. One of the reasons why causal links were so difficult to uncover in the case studies was the complexity of the natural systems. Management plans focusing on simpler natural systems would help to reduce confounding influences in order to detect links between social and biodiversity outcomes. One approach would be to select sedentary species affected by fewer external impacts, e.g. forests. A major LIFE-funded project, which resulted in public participation in management plans, was the Core Forest Sites that aimed to promote native broadleaved woodlands in the UK. Using the adapted framework developed as a result of this study (Appendix 5), case studies such as the Core Forest Sites could provide essential insights into the causal links between social and biodiversity outcomes.

This thesis has provided further evidence that the better designed a participatory process, the more likely positive social outcomes will result. In addition, while spatial scale did not impact strongly on the link between processes or social outcomes, it may play a key role in delivering targeted biodiversity outcomes. The case studies reflected many of the challenges inherent to public participation evaluations, not least the difficulty of identifying public participation processes in a context such as biodiversity conservation. Perhaps the most important contribution of this thesis is to expose the complex causal interrelations between the processes, and the social and biodiversity outcomes of public participation. This complexity, in turn, highlights the risks for policy makers to justify public participation in terms of its biodiversity benefits. In light of the importance of biodiversity to human well-being, academic and policy attention is required to understand and address the complex and manifold links between stakeholder involvement in its widest sense and successful conservation.

---

## References

- Abelson J, Forest P-G, Eyles J, Smith P, Martin E, Gauvin F-P, 2003. Deliberations about deliberative methods: issues in the design and evaluation of public participation processes. *Social Science and Medicine* 57:239-251.
- Alphandery P, Fortier A, 2001. Can a territorial policy be based on science alone? The system for creating the Natura 2000 network in France. *Sociologia Ruralis* 41:311-328.
- Anon, 1998. Conference "Natura 2000 and people: a partnership". [http://ec.europa.eu/environment/nature/info/pubs/docs/nat2000/1998\\_bath\\_proceedings.pdf](http://ec.europa.eu/environment/nature/info/pubs/docs/nat2000/1998_bath_proceedings.pdf) [Accessed 21/06/2010]. In: *Natura 2000 and people: a partnership* (The United Kingdom Presidency of the European Council and the Unit for Nature protection coastal zones and tourism of the European Commission, ed). Bath.
- Anon, 2002. The Conservation of Seals (Scotland) Order 2002. Scottish Statutory Instrument 2002 No. 404. The Stationary Office.
- Anon, 2004. The Conservation of Seals (Scotland) Order 2004. Scottish Statutory Instrument 2004 No. 283. The Stationary Office.
- Anon, 2007. Report of the working group on North Atlantic salmon (WGNAS). 11th-20th April 2007, ICES CM 2007/ACFM: 13. (ICES Advisory Committee on Fishery Management, ed). Copenhagen, Denmark.
- Anon, 2009. Technical Note for Scotland Performs Indicators and Targets - National Indicator 37. <http://www.scotland.gov.uk/Topics/Statistics/About/NotesSP/TechnicalNotesSPNI37> [Accessed 23/08/2010].
- Arnstein, SR, 1969. A ladder of citizen participation. *Journal of the American Institute of Planners* 35: 216-224.
- Aulong S, 2002. La directive 92/43/CEE "Habitats, Faune, Flore": Analyse comparative de sa mise en oeuvre en Europe. Rapport final pour le CNASEA, Decembre 2002.
- Bache, I, George S. 2006. *Politics in the European Union*. Oxford University Press, Oxford.
- Baker S, 2003. The dynamics of European Union biodiversity policy: Interactive, functional and institutional logics. *Environmental Politics* 12:23-41.
- Balmford A, Bond W, 2005. Trends in the state of nature and their implications for human well-being. *Ecology Letters* 8:1218-1234.
- Bardgett RD, Marsden JH, Howard DC, 1995. The extent and condition of heather on moorland in the uplands of England and Wales. *Biological Conservation* 71:155-161.

- Beierle TC, 1998. Public participation in environmental decisions: An evaluation framework using social goals. Discussion paper 99-06. (Resources for the future WD, ed).
- Beierle TC, Cayford J, 2002. Democracy in Practice: Public Participation in Environmental Decisions. Washington D.C: RFF Press.
- Beierle TC, Konisky D.M. 2001. What are we gaining from stakeholder involvement? Observations from environmental planning in the Great Lakes. *Environment And Planning C-Government And Policy* 19:515-527.
- Bergseng E, Vatn A, 2009. Why protection of biodiversity creates conflict - Some evidence from the Nordic countries. *Journal of Forest Economics* 15:147-165.
- Berkes F, Colding J, Folke C, 2003. Introduction. In: *Navigating Social-Ecological Systems: Building Resilience for Complexity and Change* (Berkes F, Colding J, Folke C, eds). Cambridge, UK: Cambridge University Press.
- Bhaskar R, 1975. *A Realist Theory of Science*. Leeds: Leeds Books.
- Bingham G, 1986. *Resolving environmental disputes: A decade of experience*. Washington D.C.: The Conservation Foundation.
- Birch D, 2002. *Public Participation in Local Government: A survey of local authorities*. London: The Office of the Deputy Prime Minister.
- BirdLife International 2004. *Birds in the European Union: a status assessment*. Wageningen, The Netherlands: BirdLife International.
- Blahna DJ, Yonts-Shepard S, 1989. Public involvement in resource planning: Toward bridging the gap between policy and implementation. *Society and Natural Resources* 2:209-227.
- Blaikie P, Brown K, Stocking M, Lang L, Dixon P, Sillitoe P, 1997. Knowledge in Action: Local knowledge as a development resource and barriers to its incorporation in natural resource research and development. *Agricultural Systems* 55:217-237.
- Bogaert D, Cliquet A, Maes F, 2009. Designation of marine protected areas in Belgium: A legal and ecological success? *Marine Policy* 33:878-886.
- Bollens S, 2000. Community development in democratic South Africa. *Community Development Journal* 35:167-180.
- Bonner WN, 1989. Seals and Man - a changing relationship. *Biological Journal of the Linnean Society* 38:53-60.
- Borowski I, Le Bourhis JP, Pahl-Wostl C, Barraque B, 2008. Spatial Misfit in Participatory River Basin Management: Effects on Social Learning, a Comparative Analysis of German and French Case Studies. *Ecology and Society* 13:22.
- Brennan RE, Rodwell LD, 2008. Sustainable management of wild Irish Atlantic salmon: Keys found through the looking-glass. *Marine Policy* 32:1072-1079.

- BRIG, 2008. UK Biodiversity Action Plan; Priority Habitat Descriptions. <http://www.ukbap.org.uk/library/UKBAPPriorityHabitatDescriptionsfinalAllhabitats20081022.pdf#UH> [Accessed 23/02/2010]. (Maddock A, ed).
- Brody SD, 2003. Measuring the effects of stakeholder participation on the quality of local plans based on the principles of collaborative ecosystem management. *Journal of Planning, Education and Research* 22:407-419.
- Brooker R, Young JC, Watt AD, 2007. Climate change and biodiversity: impacts and policy development challenges - A European case study. *International Journal of Biodiversity Science and Management* 3:12-30.
- Bruce A, Lyall C, Tait J, Williams R, 2004. Interdisciplinary integration in Europe: the case of the Fifth Framework programme. *Futures* 36:457-470.
- Bruhier-Vanpeene S, 2005. Etats de lieux de la procedure Natura 2000 en France et analyse de l'importance de la gestion par l'agriculture et la sylviculture. *Ingenieries* 44:63-79.
- Bryman A, 2004. *Social Research Methods*. Oxford: Oxford University Press.
- Burgess J, Chilvers J, 2006. Upping the ante: a conceptual framework for designing and evaluating participatory technology assessments. *Science and Public Policy* 33:713-728.
- Burgess J, Clark J, 2006. Practitioner evaluations of participatory processes in environmental decision-making. In: *Interfaces between science and society* (Pereira AG, Vaz SG, Tognetti S, eds). Sheffield: Greenleaf Publishing; 225-252.
- Burgess J, Harrison CM, Filius P, 1998. Environmental communication and the cultural politics of environmental citizenship. *Environment and Planning A* 30:1445-1460.
- Burgess RG, 1982. *Field research: A sourcebook and field manual*. London: Unwyn Hyman.
- Burnham P, Gilland K, Grant W, Layton-Henry Z, 2004. *Research methods in politics*. Basingstoke: Palgrave Macmillan.
- Butler JRA, 2005. *Moray Firth Seal Management Plan - A pilot project for managing interactions between seals and salmon in Scotland*. Aberlour: Spey District Fishery Board.
- Butler JRA, Graham IM, Harris RN, Submitted. Perceptions and costs of seal impacts on salmon and sea trout fisheries in the Moray Firth, Scotland: implications for the adaptive co-management of seal-fishery conflicts. *ICES Journal of Marine Science*.
- Butler JRA, Middlemas SJ, Graham IM, Thompson PM, Armstrong JD, 2006. Modelling the impacts of removing seal predation from Atlantic salmon, *Salmo salar*, rivers in Scotland: a tool for targeting conflict resolution. *Fisheries Management and Ecology* 13:285-291.
- Butler JRA, Middlemas, S.J, McKelvey, S.A., McMyn, I., Leyshon, B., Walker, I., Thompson, P.M., Boyd, I.L., Duck, C., Armstrong, J.D., Graham, I.M., Baxter, J.M., 2008. *The Moray Firth Seal Management Plan: an adaptive framework for balancing*



- the conservation of seals, salmon, fisheries and wildlife tourism in the UK. *Aquatic Conservation – Marine and Freshwater Ecosystems* 18:1025-1038.
- Butler JRA, Radford A, Riddington G, Laughton R, 2009. Evaluating an ecosystem services provided by Atlantic salmon, sea trout and other fish species in the River Spey, Scotland: The economic impact of recreational rod fisheries. *Fisheries Research* 96:259-266.
- Callon M, 1999. The role of lay people in the production and dissemination of scientific knowledge. *Science, Technology and Society* 4:81-94.
- Carter N, Darlow A, 1997. Local Agenda 21 and developers: Are we better equipped to build consensus in the 1990s? *Planning practice and research* 12:45-57.
- Carter TJ, Pierce GJ, Hislop JRG, Houseman JA, Boyle PR, 2001. Predation by seals on salmonids in two Scottish estuaries. *Fisheries Management and Ecology* 8:207-225.
- Chambers R, 1994. Participatory Rural Appraisal (PRA): Challenges, potentials and paradigm. *World Dev* 22:1437-1454.
- Chambers R, 1995. Making the best of going to scale. *PLA Notes* 24:57-61.
- Chase, LC, Decker DJ, Lauber TB, 2004. Public participation in wildlife management: What do stakeholders want? *Society and Natural Resources* 17:629-639.
- Cheng AS, Daniels SE, 2003. Examining the interaction between geographic scale and ways of knowing in ecosystem management: A case study of place-based collaborative planning. *Forest Science* 49:841-854.
- Chess C, 2000. Evaluating Environmental Public Participation: Methodological Questions. *Journal of Environmental Planning and Management* 43:769-784.
- Chess C, Purcell K, 1999. Public Participation and the Environment: Do We Know What Works? *Environmental Science and Technology* 33:2685-2692.
- Chilvers J, 2009. Deliberative and participatory approaches in environmental geography. In: *A Companion to Environmental Geography* (Castree N, Demeritt D, Liverman D, Rhoads B, eds). Oxford: Blackwell; 400-417.
- Christophersen T, Weber N, 2002. The influence of non-governmental organisations on the creation of Natura 2000 during the European policy process. *Forest Policy and Economics* 4:1-12.
- Clair TA, Hindar A, 2005. Liming for the mitigation of acid rain effects in freshwaters: A review of recent results. *Environmental Reviews* 13:91-128.
- Clark KE, Applegate JE, Niles LJ, Dobkin DS, 2006. An objective means of species status assessment: Adapting the Delphi technique. *Wildlife Society Bulletin* 34:419-425.
- Collins K, Burgess J, 1999. Summary of the London Seminar. In: *Deliberative and Inclusionary Processes: A report from two seminars CSERGE Working Paper PA 99-06* (O'Riordan T, Burgess J, Szerszynski B, eds).

- Conley A, Moote MA, 2003. Evaluating collaborative natural resource management. *Society and Natural Resources* 16:371-386.
- Cooke B, Kothari U, 2001. *Participation: The New Tyranny?* London: Zed Books.
- Costanza R, dArge R, deGroot R, Farber S, Grasso M, Hannon B, Limburg K, Naeem S, Oneill RV, Paruelo J, Raskin RG, Sutton P, vandenBelt M, 1997. The value of the world's ecosystem services and natural capital. *Nature* 387:253-260.
- Council of Ministers, 1983. Resolution of the Council of the European Communities and of the representatives of the Governments of the Member States, meeting with the Council, of 7 February 1983 on the continuation and implementation of a European Community policy and action programmes on the environment (1982 to 1986). *Official Journal C046* 17/02/1983.
- Council of Ministers, 1993. Resolution of the Council and the Representatives of the Governments of the Member States, meeting within the Council of 1 February 1993 on a Community programme of policy and action in relation to the environment and sustainable development - A European Community programme of policy and action in relation to the environment and sustainable development. *Official Journal C* 138 , 17/05/1993
- Council of Ministers, 2001. Communication from the Commission to the Council, the European Parliament, the Economic and Social Committee and the Committee of the Regions On the sixth environment action programme of the European Community 'Environment 2010: Our future, Our choice' - The Sixth Environment Action Programme (COM/2001/0031 final)
- Council of the European Union, 2010. Council conclusions on biodiversity post-2010 - EU and global vision and targets and international access and burden sharing regime - 3002nd Environment Council meeting. Brussels, 15 March 2010. [http://www.consilium.europa.eu/ueDocs/cms\\_Data/docs/pressData/en/envir/113373.pdf](http://www.consilium.europa.eu/ueDocs/cms_Data/docs/pressData/en/envir/113373.pdf) [Accessed 21/06/2010].
- Cresser MS, 2000. The critical loads concept: milestone or millstone for the new millennium? *The Science of the Total Environment* 249:51-62.
- Danielsen F, Burgess ND, Balmford A, 2005. Monitoring matters: examining the potential of locally-based approaches. *Biodiversity and Conservation* 14:2507-2542.
- Davies A, 2002. What silence knows – planning, public participation and environmental values. *Environmental Values* 10: 77-102.
- Davos CA, Jones PJS, Side JC, Siakavara K, 2002. Attitudes toward participation in cooperative coastal management: Four European case studies. *Coastal Management* 30: 209-220.
- De Marchi B, Ravetz J, 2001. *Participatory Approaches to Environmental Policy*. Policy Research Brief Number 10. Cambridge: Cambridge Research for the Environment.

- DEFRA, 2005. Securing the future: Delivering UK sustainable development strategy. DEFRA.
- DEFRA, 2006. The UK Biodiversity Action Plan: Highlights from the 2005 reporting round. London: DEFRA.
- Denzin NK, Lincoln YS, 2005. The SAGE handbook of qualitative research. Thousand Oaks, California: SAGE.
- Department of the Environment, 1990. This common inheritance: Britain's environmental strategy. London: HMSO.
- Devine F, 1995. Qualitative methods. In: Theory and methods in political science (Marsh D, Stoker G, eds). Basingstoke: Palgrave Macmillan, pp 197-216.
- Dimitrakopoulos PG, Memtsas D, Troumbis AY, 2004. Questioning the effectiveness of the Natura 2000 Special Areas of Conservation strategy: the case of Crete. *Global Ecology and Biogeography* 13:199-207.
- Dixon J, 1998. Nature conservation. In: British Environmental Policy and Europe: Politics and policy in transition (Lowe P, Sharp R, eds). London: Routledge.
- Dodgshon RA, Olsson GA, 2006. Heather moorland in the Scottish Highlands: the history of a cultural landscape, 1600-1880. *Journal of Historical Geography* 32: 21-37.
- Donald PF, Sanderson FJ, Burfield IJ, Bierman SM, Gregory RD, Waliczky Z, 2007. International conservation policy delivers benefits for birds in Europe. *Science* 317: 810-812.
- Doremus H, 2003. A policy portfolio to biodiversity protection on private lands. *Environmental Science and Policy* 6: 217-232.
- Dryzek JS, 2000. *Deliberative democracy and beyond*. Oxford: Oxford University Press.
- Dunn WN, 2008. *Public Policy Analysis: An Introduction*. New Jersey: Pearson Education.
- Eden S, 1996. Public participation in environmental policy: considering scientific, counter-scientific and non-scientific contributions. *Public Understanding of Science* 5:183-204.
- EEA, 2005. *The European Environment: State and Outlook 2005*. Copenhagen.
- EEA, 2007. Designated areas (CSI 008) - Mar 2007 Assessment: [http://themes.eea.europa.eu/IMS/IMS/ISpecs/ISpecification20041007131611/IAssessment1175086782375/view\\_content](http://themes.eea.europa.eu/IMS/IMS/ISpecs/ISpecification20041007131611/IAssessment1175086782375/view_content). Accessed online [18/01/2008]. Copenhagen: EEA.
- European Commission, 1973. Declaration of the Council of the European Communities and the representatives of the Governments of the Member States meeting in the Council of 22 November 1973 on the programme of action of the European Communities on the environment. *Official Journal* C112, 20/12/1973.
- European Commission, 1983. Resolution of the Council of the European Communities and of the representatives of the Governments of the Member States, meeting with the

- 
- Council, of 7 February 1983 on the continuation and implementation of a European Community policy and action programmes on the environment (1982 to 1986). Official Journal C046.
- European Commission, 1992. Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora, [http://europa.eu.int/comm/environment/nature/nature\\_conservation/eu\\_nature\\_legislation/habitats\\_directive/index\\_en.htm](http://europa.eu.int/comm/environment/nature/nature_conservation/eu_nature_legislation/habitats_directive/index_en.htm) [Accessed 20/07/2006].
- European Commission, 1998. Communication of the European Commission to the Council and to the Parliament on a European Community Biodiversity Strategy. COM (98)42. <http://ec.europa.eu/environment/docum/9842sm.htm> [Accessed 23/08/2010].
- European Commission, 2000. Managing Natura 2000 sites, the provisions of article 6 of the Habitats Directive 92/43/CEE.
- European Commission, 2001a. A sustainable Europe for a better world: A European Union strategy for sustainable development (Commissions' proposal to the Gothenburg European Council). COM(2001)264 final.
- European Commission, 2001b. European Governance: A white paper. COM(2001) 428 final.
- European Commission, 2003a. Natura 2000 and forests "Challenges and opportunities" - Interpretation guide. Luxembourg: Office for official publications of the European Communities.
- European Commission, 2003b. Directive 2003/35/EC of the European Parliament and of the Council of 26 May 2003 providing for public participation in respect of the drawing up of certain plans and programmes relating to the environment and amending with regard to public participation and access to justice Council Directives 85/337/EEC and 96/61/EC.
- European Commission, 2004a. Report from the Commission of 5 January 2004 on the implementation of the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora [COM(2003) 845]
- European Commission, 2004b. Integrating environmental considerations into other policy areas- a stocktaking of the Cardiff process. COM (2004) 394 FINAL.
- European Commission, 2004c. Fifth annual survey on the implementation and enforcement of Community environmental law 2003. Brussels, 27.7.2004, SEC(2004) 1025.
- European Commission, 2005a. Special Eurobarometer 217: The attitudes of European citizens towards environment.
- European Commission, 2005b. Communication from the Commission to the Council, the European Parliament, the European Economic and Social Committee and the Committee of the Regions: The Commission's contribution to the period of reflection and beyond: Plan-D for Democracy, Dialogue and Debate. COM (2005) 494 final.

- 
- European Commission, 2006. Halting the loss of biodiversity by 2010- and beyond: Sustaining ecosystem services for human well-being. COM(2006)216 final.
- European Commission, 2007. Natura 2000 Barometer, [http://ec.europa.eu/environment/nature/nature\\_conservation/useful\\_info/barometer/barometer.htm](http://ec.europa.eu/environment/nature/nature_conservation/useful_info/barometer/barometer.htm) [Accessed 06/03/2008].
- European Commission, 2008a. A mid-term assessment of implementing the EC Biodiversity Action Plan COM(2008) 864 final.
- European Commission, 2008b. Communication from the commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the regions on implementing European Community Environmental Law. COM(2008) 773 final.
- European Commission, 2009a. Natura 2000 Barometer, [http://ec.europa.eu/environment/nature/natura2000/barometer/index\\_en.htm](http://ec.europa.eu/environment/nature/natura2000/barometer/index_en.htm) [Accessed 16/06/2009].
- European Commission, 2009b. Composite Report on the Conservation Status of Habitat Types and Species as required under Article 17 of the Habitats Directive. COM(2009) 358 final.
- European Commission, 2009c. Accompanying document to the report from the Commission 26<sup>th</sup> annual report on monitoring the application of community law (2008). SEC(2009) 1684/2.
- European Commission, 2010. Options for an EU vision and target for biodiversity beyond 2010. COM(2010) 4 final. [http://ec.europa.eu/environment/nature/biodiversity/policy/pdf/communication\\_2010\\_0004.pdf](http://ec.europa.eu/environment/nature/biodiversity/policy/pdf/communication_2010_0004.pdf) [Accessed 23/08/2010].
- European Council, 2010. EU Council conclusions on biodiversity post-2010. [http://www.europa.eu/articles/fr/article\\_9571\\_fr.htm](http://www.europa.eu/articles/fr/article_9571_fr.htm) [Accessed 21/06/2010].
- European Court Judgements, 1997a. Judgment of the Court (Fifth Chamber) of 11 December 1997. Commission of the European Communities v Federal Republic of Germany. Failure to fulfil obligations - Failure to transpose Directive 92/43/EEC. Case C-83/97. European Court reports 1997 Page I-07191.
- European Court Judgements, 1997b. Judgment of the Court (Fifth Chamber) of 26 June 1997. Commission of the European Communities v Hellenic Republic. Failure to fulfil obligations - Failure to transpose Directive 92/43/EEC. Case C-329/96. European Court reports 1997 Page I-03749.
- European Court Judgements, 2000. Judgment of the Court (Fifth Chamber) of 6 April 2000. Commission of the European Communities v French Republic. Failure by a Member State to fulfil its obligations - Directive 92/43/EEC - Conservation of natural habitats

- and of wild fauna and flora. Case C-256/98. European Court reports 2000 Page I-02487.
- Evans DM, Redpath SM, Elston DA, Evans SA, Mitchell RJ, Dennis P, 2006. To graze or not to graze? Sheep, voles, forestry and nature conservation in the British uplands. *Journal of Applied Ecology* 43: 499-505.
- Fairbrass J, 2000. EU and British biodiversity policy: Ambiguity and errors of judgement. CSERGE Working paper GEC 2000-04.
- Fairbrass J, Jordan A, 2001. Protecting biodiversity in the European Union: national barriers and European opportunities? *Journal of European Public Policy* 8: 499-518.
- Fairchild WL, Swansburg EO, Arsenault JT, Brown SB, 1999. Does an association between pesticide use and subsequent declines in catch of Atlantic salmon (*Salmo salar*) represent a case of endocrine disruption? *Environmental Health Perspectives* 107: 349-357.
- Farmer RA, Nisbet TR, 2004. An overview of forest management and change with respect to environmental protection in the UK. *Hydrology and Earth System Sciences* 8: 279-285.
- Farrelly C, 2004. *An Introduction to Contemporary Political Theory*. <http://politicalscience.uwaterloo.ca/Farrelly/chapter7oftextbook.pdf> [Accessed 19/02/2007]. London: Sage Publications.
- Ferreras P, 2001. Landscape structure and asymmetrical inter-patch connectivity in a metapopulation of the endangered Iberian lynx. *Biological Conservation* 100: 125-136.
- Fiorino DJ, 1990. Citizen participation and environmental risk: A survey of institutional mechanisms. *Science, Technology and Human Values* 15: 226-243.
- Fischer A, Young JC, 2007. Understanding mental constructs of biodiversity: Implications for biodiversity management and conservation. *Biological Conservation* 136: 271-282.
- Fischer F, 1995. *Evaluating public policy*. Chicago: Nelson-Hall.
- Fischer F, 2004. Professional expertise in deliberative democracy: Facilitating participatory inquiry. *The Good Society* 13: 21-27.
- Fisheries Research Services, 2008. *Statistical Bulletin: Scottish Salmon and Sea Trout Catches, 2007*. Fisheries Series No. Fis/2008/1.
- Forestry Commission, 2000. *Forests and peatland habitats: guideline note*. Edinburgh: Forestry Commission.
- Forestry Commission, 2003. *Forests and Water Guidelines*. 4th Edition. Edinburgh: Forestry Commission.
- Forestry Commission, 2006. *The Scottish Forestry Strategy Review*. Edinburgh: Forestry Commission.

- Forestry Commission, 2007. Galloway Forest District, Strategic plan 2007-2017. [http://www.forestry.gov.uk/pdf/GallowayFDSP.pdf/\\$FILE/GallowayFDSP.pdf](http://www.forestry.gov.uk/pdf/GallowayFDSP.pdf/$FILE/GallowayFDSP.pdf) [Accessed 21/01/2010].
- Gardner SM, Hartley SE, Davies A, Palmer SCF, 1997. Carabid communities on heather moorlands in Northeast Scotland: The consequences of grazing pressure for community diversity. *Biological Conservation* 81: 275-286.
- Gaventa J, 2004. Representation, Community Leadership and Participation: Neighbourhood renewal and Local Governance: Prepared for the Neighbourhood Renewal Unit, Office of the Deputy Prime Minister.
- George AL, Bennett A, 2005. Case studies and theory development in the social sciences. Cambridge, Massachusetts: MIT Press.
- Gimingham CH, 1995. Heaths and moorlands: an overview of ecological change. In: Heaths and moorlands: Cultural landscapes (Thompson DBA, Hester AJ, Usher MB, eds): HMSO, pp9-18.
- Goodwin P, 1998a. Challenging the stories about conservation. Understanding local participation in conservation. *Ecos* 19: 12-19.
- Goodwin P, 1998b. 'Hired hands' or 'local voice': understandings and experience of local participation in conservation. *Transactions of the Institute of British Geographers* 23: 481-499.
- Graf RF, Bollmann K, Suter W, Bugmann H, 2005. The importance of spatial scale in habitat models: Capercaillie in the Swiss Alps. *Landscape Ecology* 20: 703-717.
- Green RE, Etheridge B, 1999. Breeding success of the hen harrier *Circus cyaneus* in relation to the distribution of grouse moors and the red fox *Vulpes vulpes*. *Journal of Applied Ecology* 36: 472-483.
- Greene JC, 2000. Understanding social programs through evaluation. In: Handbook of qualitative research Second edition (Denzin NK, Lincoln YS, eds). Thousand Oaks, CA: SAGE Publications Inc.
- Griffin CB, 1999. Watershed councils: An emerging form of public participation in natural resource management. *Journal of The American Water Resources Association* 35: 505-518.
- Guba EG, Lincoln YS, 2005. Paradigms, controversies, contradictions, and emerging confluences. In: The SAGE handbook of qualitative research (Denzin NK, Lincoln YS, eds). Thousand Oaks, California: SAGE, pp 191-215.
- Gulez S, 1992. A Method for Evaluating Areas for National Park Status. *Environmental Management* 16:811-818.
- Hailey J, 2001. Beyond the formulaic: Process and Practice in South Asian NGOs. In: Participation: The New Tyranny? (Cooke B, Kothari U, eds). London: Zed Books; 88-101.

- Hammond PS, Hall AJ, Prime JH, 1994. The diet of grey seals around Orkney and other island and mainland sites in North-Eastern Scotland. *Journal of Applied Ecology* 31: 340-350.
- Hanley N, Ready R, Colombo S, Watson F, Stewart M, Bergmann EA, 2009. The impacts of knowledge of the past on preferences for future landscape change. *Journal of Environmental Management* 90: 1404-1412.
- Harrison C, Burgess J, 2000. Valuing nature in context: the contribution of common-good approaches. *Biodiversity and Conservation* 9:1115-1130.
- Hay C, 2002. *Political analysis: A critical introduction*. Basingstoke: Palgrave.
- Helliwell RC, Ferrier RC, Johnston L, Goodwin J, Doughty R, 2001. Land use influences on acidification and recovery of freshwaters in Galloway, south-west Scotland. *Hydrology and Earth System Sciences* 5:451-458.
- Henriksson L, Hindar A, Thörnelöf E, 1995. Freshwater liming. *Water, Air and Soil Pollution* 85:131-142.
- Hess GR, King TJ, 2002. Planning open spaces for wildlife I. Selecting focal species using a Delphi survey approach. *Landscape and Urban Planning* 58:25-40.
- Hesthagen T, Larsen BM, 2003. Recovery and re-establishment of Atlantic salmon, *Salmo salar*, in limed Norwegian rivers. *Fisheries Management and Ecology* 10: 87-95.
- Hewer HR, 1974. *British Seals*. Glasgow: William Collins Sons and Co Ltd.
- Hilborn R, 2004. Ecosystem-based fisheries management: the carrot or the stick. *Marine Ecology - Progress Series* 274:275-278.
- Hindar A, Kroglund F, Lydersen E, Skiple A, Høgberget R, 1996. Liming of wetlands in the acidified Lake Røynelandsvatn catchment in southern Norway: effects on stream water chemistry. *Canadian Journal of Fisheries and Aquatic Sciences* 53:985-993.
- Hobolt SB, 2006. Direct democracy and European integration. *Journal of European Public Policy* 13:153-166.
- Holden J, Shotbolt L, Bonn A, Burt TP, Chapman PJ, Dougill AJ, Fraser EDG, Hubacek K, Irvine B, Kirkby MJ, Reed MS, Prell C, Stagl S, Stringer LC, Turner A, Worrall F, 2007. Environmental change in moorland landscapes. *Earth-Science Reviews* 82: 75-100.
- Hudson PJ, Newborn D, 1995. *A Manual of Red Grouse and Moorland Management*. Game Conservancy Ltd, Fordingbridge.
- Huntington HP, 2000. Using Traditional Ecological Knowledge in science: Methods and applications. *Ecological Applications* 10: 1270-1274.
- IDS, 1996. *The power of participation: PRA and policy*. IDS Policy Briefing.
- IIED, 2003. *State versus participation: Natural resource management in Europe*. International Institute for Environment and Development (IIED) and Institute for Development Studies (IDS), Brighton.



- Involve, 2005. The true costs of participation. <http://www.involve.org.uk/assets/Uploads/True-Costs-Full-Report2.pdf> [Accessed 23/08/2010].
- Irvin RA, Stansbury J, 2004. Citizen participation in decision making: Is it worth the effort? *Public Administration Review* 64: 55-65.
- Jenkins A, Helliwell RC, Swingewood PJ, Sefton C, Renshaw M, Ferrier RC, 1998. Will reduced emissions under the Second Sulphur Protocol lead to recovery of acid sensitive sites in UK? *Environmental Pollution* 99:309-318.
- Jentoft S, 2005. Fisheries co-management as empowerment. *Marine Policy* 29: 1-7.
- JNCC, 2007. Second report by the UK under Article 17 on the implementation of the Habitats Directive from January 2001 to December 2006. Peterborough: JNCC.
- JNCC, 2008. SAC selection Species Account - Atlantic Salmon *Salmo salar* - <http://www.jncc.gov.uk/ProtectedSites/SACselection/species.asp?FeatureIntCode=S1106> [Accessed 23/08/2010].
- JNCC, 2009. UK SAC site list: River Bladnoch site details. <http://www.jncc.gov.uk/protectedsites/sacselection/sac.asp?EUCode=UK0030249> [Accessed 23/08/2010].
- JNCC, 2010. UK SPA site summary (<http://www.jncc.gov.uk/page-1399>) and UK SAC site summary (<http://www.jncc.gov.uk/page-1456>) [Accessed 16/06/2010].
- Jonsson BL, Jonsson N, 2004. Factors affecting marine production of Atlantic salmon (*Salmo salar*). *Canadian Journal of Fisheries and Aquatic Sciences* 61: 2369-2383.
- Kapoor I, 2001. Towards participatory environmental management? *Journal of Environmental Management* 63: 269-279.
- Kavanaugh D, 1972. Political behaviour and political participation. In: *Participation in politics* (Perry G, ed). Manchester: Manchester University Press.
- Kendall F, Louw L, 1989. *Let the People Govern*. Bisho, Ciskei: Amagi Publications.
- Kenney DS, 1999. Are community-based watershed groups really effective? Confronting the thorny issue of measuring success. *Chronicle of Community* 3:33-37.
- Klemetsen A, Amundsen PA, Dempson JB, Jonsson B, Jonsson N, O'Connell MF, Mortensen E, 2003. Atlantic salmon *Salmo salar* L., brown trout *Salmo trutta* L. and Arctic charr *Salvelinus alpinus* (L.): a review of aspects of their life histories. *Ecology of Freshwater Fish* 12: 1-59.
- Koontz TM, 2005. We finished the plan, so now what? Impacts of collaborative stakeholder participation on land use policy. *The Policy Studies Journal* 33: 459-481.
- Kusel J, Doak SC, Carpenter S, Sturtevant VE, 1996. The role of the public in Adaptive Ecosystem Management. Final report to Congress, vol. II: Assessments and scientific basis for management options. Davis: University of California, Centres for Water and Wildland Resources.

- Laird FN, 1993. Participatory Analysis, Democracy, and Technological Decision Making. *Science, Technology and Human Values* 18:341-361.
- Leake J, 2008. If you go down to the woods... *The Sunday Times*, December 28, 2008. <http://www.timesonline.co.uk/tol/news/environment/article5404100.ece> [Accessed 07/07/2010].
- Ledoux L, Crooks S, Jordan A, Turner RK, 2000. Implementing EU biodiversity policy: UK experiences. *Land Use Policy* 17: 257-268.
- Lélé S, 1991. Sustainable development: a critical review. *World Development* 19: 607-621.
- Lenschow, A. Environmental policy: between efficacy and experimentation. In: Wallace, H, Pollack, MA, Young, AR. *Policy-making in the European Union*. Oxford University Press, Oxford. Pp307-330.
- Lindstone AH, Turoff M, 1975. *The Delphi method: Techniques and applications*. Reading, Massachusetts: Addison-Wesby publishing.
- Lister-Kay J, 1979. *Seal cull: The grey seal controversy*. Harmondsworth: Penguin Books.
- Lloyd MG, Peel D, 2006. Devolution, decentralization and dispersal: Asserting the spatiality of the public sector in Scotland. *European Planning Studies* 14: 831-854.
- Lonergan M, Duck CD, Thompson D, Mackey BL, Cunningham L, Boyd IL, 2007. Using sparse survey data to investigate the declining abundance of British harbour seals. *Journal of Zoology* 271:261-269.
- Lowe P, Ward S, 1998. *British Environmental Policy and Europe: Politics and policy in transition*. London: Routledge.
- MacDonald D, Crabtree JR, Wiesinger G, Dax T, Stamou N, Fleury P, Lazpita JG, Gibon A, 2000. Agricultural abandonment in mountain areas of Europe: Environmental consequences and policy response. *Journal of Environmental Management* 59:47-69.
- Mahanty S, Russell D, 2002. High stakes: Lessons from stakeholder groups in the biodiversity conservation network. *Society and Natural Resources* 15:179-188.
- Maiorano L, Falcucci A, Garton EO, Boitani L, 2007. Contribution of the Natura 2000 Network to Biodiversity Conservation in Italy. *Conservation Biology* 21:1433-1444.
- Manring NJ, 1998. Collaborative resource management: Organizational benefits and individual costs. *Administration and Society* 30:274-290.
- Marsh D, Furlong P, 1995. A skin, not a sweater: Ontology and epistemology in political science. In: *Theory and methods in political science* (Marsh D, Stoker G, eds). Basingstoke: Palgrave Macmillan.
- Martin S, 1999. Achieving best value through public engagement. *Warwick/DETR Best Value Series*. Paper Number 8. Department for the Environment, Transport and the Regions.
- Martin VG, Kormos CF, Zunino F, Meyer T, Doerner U, Aykroyd T, 2008. Wilderness Momentum in Europe. *International Journal of Wilderness* 14: 34-43.

- Matejusova I, Doig F, Middlemas SJ, Mackay S, Douglas A, Armstrong JD, Cunningham CO, Snow M, 2008. Using quantitative real-time PCR to detect salmonid prey in scats of grey *Halichoerus grypus* and harbour *Phoca vitulina* seals in Scotland - an experimental and field study. *Journal of Applied Ecology* 45: 632-640.
- McCool SF, Guthrie K, 2001. Mapping the dimensions of successful public participation in messy natural resources management situations. *Society and Natural Resources* 14: 309-323.
- McCool SF, Guthrie K, Smith JK, 2000. Building consensus: Legitimate hope or seductive paradox? Usda Forest Service Rocky Mountain Research Station Research Paper.
- McCracken DI, Midgley A, 2010. How well is farmland biodiversity being maintained? In: Skerratt SHC, Lamprinopoulou C, McCracken D, Midgley A, Price M, Renwick A, Revoredo C, Thomson S, Williams F, Wreford A (eds) *Rural Scotland in Focus*. Edinburgh, Scottish Agricultural College, pp 70-79.
- Meadowcroft J, 2002. Politics and scale: some implications for environmental governance. *Landscape and Urban Planning* 61:169-179.
- Miles J, 2002. Policy benefits and constraints in the uplands of Scotland. In: *The British Uplands: Dynamics of Change* (Burt TP, Thompson DBA, Warburton J, eds). Peterborough: JNCC; 111-117.
- Millennium Ecosystem Assessment, 2005. *Ecosystems and human well-being: Current State and Trends*. Washington, D.C.: Island Press.
- Miller HG, 1985. The possible roles of forests in streamwater acidification. *Soil Use and Management* 1:28-29.
- Milligan J, O'Riordan T, Nicholson-Cole SA, Watkinson AR, 2009. Nature conservation for future sustainable shorelines: Lessons from seeking to involve the public. *Land Use Policy* 26:203-213.
- Mills D, 1991. *Ecology and Management of Atlantic Salmon*. London: Chapman and Hall.
- Milne JA, Hartley SE, 2001. Upland plant communities - sensitivity to change. *Catena* 42:333-343.
- Ministry of Housing and Local Government, 1969. *People and Planning*. Report of the Committee on Public Participation in Planning, ('The Skeffington Report'). London: HMSO.
- Mog JM, 2004. Struggling with sustainability - A comparative framework for evaluating sustainable development programs. *World Development* 32: 2139-2160.
- Mohan G, 2001. Beyond Participation: Strategies for Deeper Empowerment. In: *Participation: The New Tyranny?* (Cooke B, Kothari U, eds). London: Zed Books; 153-167.

- Moore SA, 1996. Defining "successful" environmental dispute resolution: case studies from public land planning in the United States and Australia. *Environmental Impact Assessment Review* 16:151-169.
- Moreira F, Rego FC, Ferreira PG, 2001. Temporal (1958-1995) pattern of change in a cultural landscape of northwestern Portugal: implications for fire occurrence. *Landscape Ecology* 16: 557-567.
- Mosse D, 2001. 'People's Knowledge', Participation and Patronage: Operations and Representations in Rural Development. In: *Participation: The New Tyranny?* (Cooke B, Kothari U, eds). London: Zed Books.
- Mostert E, Pahl-Wostl C, Rees Y, Searle B, Tabara D, Tippett J, 2007. Social learning in European river-basin management: Barriers and fostering mechanisms from 10 river basins. *Ecology and Society* 12:16.
- Mulongoy KJ, Chape S, 2004. Protected areas and biodiversity. UNEP-WCMC Biodiversity Series No 21.
- Munton R, 2003. Deliberative democracy and environmental decision-making. In: *Negotiating change: Advances in environmental social science* (Berkhout F, Leach M, Scoones I, eds). Cheltenham: Edward Elgar.
- Mutamba E, 2004. Community participation in natural resources: reality or rhetoric? *Environmental Monitoring and Assessment* 99.
- Newig J, Fritsch O, 2009. Environmental governance: participatory, multi-level - and effective? *Environmental Policy and Governance* 19:197-214.
- Nicholson L, 2005. Civic participation in public policy-making: A literature review. Edinburgh: The Research Shop, Scottish Executive Social Research.
- Nieminen M, 2004. BioFACT- Finnish report. [www.ecnc.nl/file\\_handler/documents/original/download](http://www.ecnc.nl/file_handler/documents/original/download) [Accessed 20/09/2006]. Jyvaskyla: University of Jyvaskyla, Department of social sciences and philosophy.
- Nisbet TR, 2001. The role of forest management in controlling diffuse pollution in UK forestry. *Forest Ecology and Management* 143:215-226.
- North N, 1991. Acidification of freshwaters: the threat and its mitigation. Pitlochry: Atlantic Salmon Trust.
- Noss RF, 2003. A checklist for Wildlands Network Designs. *Conservation Biology* 17(5): 1270-1275.
- Nowacek DP, Thorne LH, Johnston DW, Tyack PL, 2007. Responses of cetaceans to anthropogenic noise. *Mammal Review* 37:81-115.
- O'Riordan T, Burgess J, Szerszynski B, 1999. Deliberative and Inclusionary Processes. A report from two seminars. CSERGE Working Paper PA 99-06.

- Ormerod SJ, Donald AP, Brown SJ, 1989. The influence of plantation forestry on the pH and aluminium concentration of upland welsh streams: A re-examination *Environmental Pollution* 62:47-62.
- Owens S, 2000. 'Engaging the public': information and deliberation in environmental policy. *Environment and Planning A* 32:1141-1148.
- Paloniemi R, Tikka PM, 2008. Ecological and social aspects of biodiversity conservation on private lands. *Environmental Science and Policy* 11: 336-346.
- Palos M, Bertrand N, 2004. Environmental contractual procedures and sustainable development of rural areas: the French case on water management and implementation of European Habitat Directive. In: *Regional Studies Association - International conference EU regional, policy, peripherality and rurality* 15th-16th April 2004. Anger, France.
- Papadopoulos Y, Warin P, 2007. Are innovative, participatory and deliberative procedures in policy-making democratic and effective? *European Journal of Political Research* 46: 445-472.
- Parkins JR, Mitchell RE, 2005. Public participation as public debate: A deliberative turn in natural resource management. *Society and Natural Resources* 18: 529-540.
- Parrish DL, Behnke RJ, Gephard SR, McCormick SD, Reeves GH, 1998. Why aren't there more Atlantic salmon (*Salmo salar*)? *Canadian Journal of Fisheries and Aquatic Sciences* 55: 281-287.
- Pawson R, Tilley N, 1997. *Realistic evaluation*. London: Sage.
- Peterken GF, 2001. Ecological effects of introduced tree species in Britain. *Forest Ecology and Management* 141:31-42.
- Petts J, 2001. Evaluating the effectiveness of deliberative processes: Waste management case-studies. *Journal of Environmental Planning and Management* 44:207-226.
- Pimbert MP, Wakeford T, 2001. Overview - deliberative democracy and citizen empowerment. *PLA Notes* 40:23-28.
- Pinto-Correia T, Gustavsson G, Pirnat J, 2006. Bridging the gap between centrally defined policies and local decisions - Towards more sensitive and creative rural landscape management. *Landscape Ecology* 21:333-346.
- Pollack MA, 2010. Theorizing EU policy-making. In: Wallace, H, Pollack, MA, Young, AR. *Policy-making in the European Union*. Oxford University Press, Oxford. Pp15-44.
- Primmer E, Kyllonen S, 2006. Goals for public participation implied by sustainable development, and the preparatory process of the Finnish National Forest Programme. *Forest Policy and Economics* 8: 838-853.
- Punch KF, 2005. *Introduction to social research: Quantitative and qualitative approaches*. London: Sage publications.
- Rae BB, 1968. The food of seals in Scottish waters. *Marine Research* 2:1-23.

- Ravetz J, 1999. Citizen participation for integrated assessment: new pathways in complex systems. *International Journal of Environmental Pollution* 11: 331-350.
- Redpath SA, Arroyo BE, Leckie EM, Bacon P, Bayfield N, Gutierrez RJ, Thirgood SJ, 2004. Using decision modeling with stakeholders to reduce human- wildlife conflict: a Raptor-Grouse case study. *Conservation Biology* 18: 350-359.
- Reed MS, 2008. Stakeholder participation for environmental management: A literature review *Biological Conservation* 141: 2417-2431.
- Reed MS, Bonn A, Slee W, Beharry-Borg N, Birch J, Brown I, Burt TP, Chapman D, Chapman PJ, Clay GD, Cornell SJ, Fraser EDG, Glass JH, Holden J, Hodgson JA, Hubacek K, Irvine B, Jin N, Kirkby MJ, Kunin WE, Moore O, Moseley D, Prell C, Price MF, Quinn CH, Redpath S, Reid C, Stagl S, Stringer LC, Termansen M, Thorp S, Towers W, Worrall F, 2009. The future of the uplands. *Land Use Policy* 26:S204-S216.
- Rees RM, Ribbens JCH, 1995. Relationships between afforestation, water chemistry and fish stocks in an upland catchment in south west Scotland. *Water, Air and Soil Pollution* 85: 303-308.
- Reid CT, Woods M, 2006. Implementing EC conservation law. *Journal of Environmental Law* 18: 135-160.
- Renn O, 2006. Participatory processes for designing environmental policies. *Land Use Policy* 23: 34-43.
- Renn O, Webler T, Rakel H, Dienel PC, Johnson B, 1993. Public participation in decision-making: A three-step procedure. *Policy Sciences* 26: 189-214.
- Renn O, Webler T, Wiedemann P, 1995a. A need for discourse on citizen participation. In: *Fairness and competence in citizen participation: Evaluating models for environmental discourse* (Renn O, Webler T, Wiedemann P, eds). Dordrecht: Kluwer Academic Press.
- Renn O, Webler T, Wiedemann P, 1995b. The pursuit of fair and competent citizen participation. In: *Fairness and competence in citizen participation: Evaluating models for environmental discourse* (Renn O, Webler T, Wiedemann P, eds). Dordrecht: Kluwer Academic Press.
- Richards C, Sherlock K, Carter C, 2004. *Practical Approaches to Participation*. SERP Policy Brief No.1. Aberdeen: Macaulay Institute.
- Robertson PA, Park KJ, Barton AF, 2001. Loss of heather *Calluna vulgaris* moorland in the Scottish uplands: The role of red grouse *Lagopus lagopus scoticus* management. *Wildlife Biology* 7:11-16.
- Rockloff SF, Moore SA, 2006. Assessing representation at different scales of decision making: Rethinking local is better. *Policy Studies Journal* 34: 649-670.

- Romao C, 2004. A data overview of the network of Special Protection Areas in the EU-15. European Topic Centre on Nature Protection and Biodiversity.
- Rosendal GK, 2001. Impacts of overlapping international regimes: The case of biodiversity. *Global Governance* 7:95-117.
- Rosener JB, 1981. User-oriented evaluation: A new way to view citizen participation. *The Journal of Applied Behavioural Science* 17:583-596.
- Rosener JB, 1982. Making bureaucrats responsive: A study of the impact of citizen participation and staff recommendations on regulatory decision making. *Public Administration Review* 42: 339-345.
- Ross A, Adamson H, Moon A, 2003. Evaluating management techniques for controlling *Molinia caerulea* and enhancing *Calluna vulgaris* on upland wet heathlands in northern England, UK. *Agriculture, Ecosystems and Environment* 97:39-49.
- Rowe G, Frewer LJ, 2000. Public participation methods: A framework for evaluation. *Science, Technology and Human Values* 25: 3-29.
- Rowe G, Frewer LJ, 2004. Evaluating public-participation exercises: A research agenda. *Science, Technology and Human Values* 29: 512-557.
- Rowe G, Frewer LJ, 2005. A typology of public engagement mechanisms. *Science, Technology and Human Values* 30: 251-290.
- Rowe G, Wright G, 1999. The Delphi technique as a forecasting tool: issues and analysis. *International Journal of Forecasting* 15: 353-375.
- Rowe G, Wright G, Bolger F, 1991. Delphi - A re-evaluation of research and theory. *Technological Forecasting and Social Change* 39:235-251.
- Rowe G, Wright G, McColl A, 2005. Judgment change during Delphi-like procedures: The role of majority influence, expertise, and confidence. *Technological Forecasting and Social Change* 72:377-399.
- Royal Commission on Environmental Pollution, 1998. Setting Environmental Standards. 21st Report, Cm4053.
- Rydin Y, Pennington M, 2000. Public participation and local environmental planning: the collective action problem and the potential social capital. *Local Environment* 5:153-169.
- Salmon T, 2001. European Community Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora. First report by the United Kingdom under Article 17 on the implementation of the Directive from June 1994 to December 2000. Department for Environment, Food and Rural Affairs.
- Sauer A, 2005. European nature conservation: challenges for local implementation in Germany. In: From landscape research to landscape planning: aspects of integration, education and application (Tress B, Tress G, Fry G, Popdam P, eds). Dordrecht: Springer.

- Scharpf F, 1999. *Governing in Europe: Effective and democratic?* Oxford: Oxford University Press.
- Schramm W, 1971. Notes on case studies of instructional media projects. Working paper for the Academy for Educational Development, Washington DC.
- Schwandt TA, 2000. Three epistemological stances for qualitative inquiry: Interpretivism, hermeneutics and social construction. In: *The Handbook of Qualitative Research 2nd Edition* (Denzin NK, Lincoln YS, eds). Thousand Oaks, CA: Sage Publications, Inc.
- Scotland's Moorland Forum, 2003. *Scotland's Moorland Forum: Principles of Moorland Management*.
- Scotland's Moorland Forum, 2008. *Task Group Reports 2008*. Dumfries: The Heather Trust.
- Scott D, 2001. Chemical pollution as a factor affecting the sea survival of Atlantic salmon, *Salmo salar L*. *Fisheries Management and Ecology* 8: 487-499.
- Scottish Executive, 2004. *Scotland's biodiversity: it's in your hands. A strategy for the conservation and enhancement of biodiversity in Scotland*. Edinburgh: Scottish Executive.
- Scottish Natural Heritage, 2004. *Forth and Borders Moorland Management Scheme*.
- Scottish Natural Heritage, 2007. *River Bladnoch SAC Atlantic Salmon Catchment Management Plan*. SNH.
- Select Committee on Science and Technology, 2000. Third report Science and Technology. HL paper 38-I. <http://www.parliament.the-stationery-office.co.uk/pa/ld199900/ldselect/ldscitech/38/3801.htm> [Accessed 23/08/2010].
- Sewell WRD, Phillips SD, 1979. Models for the evaluation of public participation programmes. *Natural Resources Journal* 19:337-358.
- Shearer WM, 1992. *The Atlantic Salmon: Natural history, exploitation and future management* Oxford: Fishing News Books.
- Singh JS, 2002. The biodiversity crisis: A multifaceted review. *Current Science* 82:638-647.
- Slocum N, 2003. *Participatory methods toolkit: A practitioner's manual*: United Nations University.
- Smith M, Beazley M, 2000. Progressive regimes, partnerships and the involvement of local communities: A framework for evaluation. *Public Administration* 78:855-878.
- Snapp S, Heong KL, 2003. Scaling up and out. In: *Managing natural resources for sustainable livelihoods: Uniting science and participation* (Pound B, Snapp S, McDougall C, Braun A, eds). London: Earthscan.
- Special Committee on Seals, 2004. *Scientific advice on matters related to the management of seals populations: 2004*.
- Special Commission on Seals, 2005. *Scientific advice on matters relating to the management of Seal populations: 2005*.



- Special Commission on Seals, 2008. Scientific Advice on Matters Related to the Management of Seal Populations: 2008.
- Stake RE, 2005. Qualitative case studies. In: The SAGE handbook of qualitative research (Denzin NK, Lincoln YS, eds). Thousand Oaks, California: Sage 443-466.
- Steelman TA, Ascher W, 1997. Public involvement methods in natural resource policy-making: Advantages, disadvantages and trade-offs. *Policy Science* 30:71-90.
- Stenseke M, 2009. Local participation in cultural landscape maintenance: Lessons from Sweden. *Land Use Policy* 26:214-223.
- Stephenson G, 1997. Is there life after subsidies? The New Zealand Experience. *ECOS* 18:22-26.
- Stones T, Harley D, Rose L, Lasen-Diaz C, Rayment MD, Trash M, 1999. The cost of managing the Natura 2000 network. Report for the RSPB and BirdLife International. Sandy, UK: RSPB.
- Storch I, 1995. Annual home ranges and spacing patterns of capercaillie in Central Europe. *Journal of Wildlife Management* 59: 392-400.
- Sultana P, Abeyasekera S, 2008. Effectiveness of participatory planning for community management of fisheries in Bangladesh. *Journal of Environmental Management* 86:201-213.
- Sutherland WJ, Albon SD, Allison H, Armstrong-Brown S, Bailey MJ, Brereton T, Boyd IL, Carey P, Edwards J, Gill M, Hill D, Hodge I, Hunt AJ, Le Quesne WJF, Macdonald DW, Mee LD, Mitchell R, Norman T, Owen RP, Parker D, Prior SV, Pullin AS, Rands MRW, Redpath S, Spencer J, Spray CJ, Thomas CD, Tucker GM, Watkinson AR, Clements A, 2010. The identification of priority policy options for UK nature conservation. *Journal of Applied Ecology* 47(5): 955-965.
- Svarstad H, Daugstad K, Vistad OI, Guldvik I, 2006. New protected areas in Norway: Local participation without gender equality. *Mountain Research and Development* 26:48-54.
- Taylor M, 2003. *Public policy in the Community: Public Policy and Politics*. Basingstoke: Palgrave Macmillan.
- Teorell J, 2006. Political participation and three theories of democracy: A research inventory and agenda. *European Journal of Political Research* 45:787-810.
- Tervet DJ, Rendall DA, Stephen AB, 1995. Critical loads - A valuable catchment management tool? *Water, Air and Soil Pollution* 85:2485-2490.
- Thirgood S, Redpath S, Newton I, Hudson P, 2000. Raptors and Red Grouse: Conservation conflicts and management solutions. *Conservation Biology* 14:95-104.
- Thompson DBA, Macdonald AJ, Marsden JH, Galbraith CA, 1995. Upland Heather Moorland in Great-Britain - a Review of International Importance, Vegetation

- 
- Change and Some Objectives for Nature Conservation. *Biological Conservation* 71:163-178.
- Thompson PM, McConnell BJ, Tollit DJ, Mackay A, Hunter C, Racey PA, 1996. Comparative distribution, movements and diet of harbour and grey seals from Moray Firth, N.E. Scotland. *Journal of Applied Ecology* 33:1572-1584.
- Thompson PM, Mackey B, Barton TR, Duck C, Butler JRA, 2007. Assessing the potential impact of salmon fisheries management on the conservation status of harbour seals (*Phoca vitulina*) in north-east Scotland. *Animal Conservation* 10:48-56.
- Thompson PM, Van Parijs S, Kovacs KM, 2001. Local declines in the abundance of harbour seals: implications for the designation and monitoring of protected areas. *Journal of Applied Ecology* 38:117-125.
- Tritter JQ, McCallum A, 2006. The snakes and ladders of user involvement: Moving beyond Arnstein. *Health Policy* 76: 156-168.
- Tuler S, Webler T, 1999. Voices from the forest: What participants expect of a public participation process. *Society and Natural Resources* 12: 437-453.
- UNCED, 1992a. Agenda 21: Programme for action for sustainable development. United Nations Conference on the Environment and Development, Rio de Janeiro, June 1992.
- UNCED, 1992b. Rio Declaration on Environment and Development. Rio de Janeiro: United Nations Conference on Environment and Development.
- UNEP, 1992. Convention on Biological Diversity. <http://www.biodiv.org/doc/legal/cbd-un-en.pdf> [Accessed 14th September 2006]. Nairobi, Kenya: United Nations Environment Programme.
- United Nations, 2009. World Population Prospects: The 2008 Revision. Executive Summary. [http://esa.un.org/unpd/wpp2008/pdf/WPP2008\\_Executive-Summary\\_Edited\\_6-Oct-2009.pdf](http://esa.un.org/unpd/wpp2008/pdf/WPP2008_Executive-Summary_Edited_6-Oct-2009.pdf) [Accessed 15/06/2010].
- Unnerstall H, 2008. Public participation in the establishment and management of the Natura 2000 network - legal framework and administrative practices in selected Member States. *Journal for European Environmental and Planning Law* 5:35-68.
- van Ast JA, Boot SP, 2003. Participation in European water policy. *Physics and Chemistry of the Earth* 28:555-562.
- van den Hove S, 2000. Participatory approaches to environmental policy-making: the European Commission Climate Policy Process as a case study. *Ecological Economics* 33:457-472.
- Vedung E, 2005. Public policy and program evaluation. New Brunswick, USA: Transaction Publisher.
- Walder C, Dick G, Baumuller A, Weatherley J, 2006. Towards European Biodiversity Monitoring: Assessment, monitoring and reporting of conservation status of

- European habitats and species. Results, comments and recommendations of a NGO consultation with the European Habitats Forum.
- Warren C, 2002. *Managing Scotland's environment*. Edinburgh: Edinburgh University Press.
- Warren M, 1996. Deliberative democracy and authority. *American Political Science Review* 90:46-60.
- Webler T, 1995. "Right" discourse in citizen participation: An evaluative yardstick. In: *Fairness and competence in citizen participation: Evaluating models for environmental discourse* (Renn O, Webler T, Wiedemann P, eds). Dordrecht: Kluwer Academic Press.
- Webler T, Renn O, 1995. A brief primer on participation: Philosophy and practice. In: *Fairness and competence in citizen participation: Evaluating models for environmental discourse* (Renn O, Webler T, Wiedemann P, eds). Dordrecht: Kluwer Academic Publishers.
- Webler T, Tuler S, 2002. Unlocking the puzzle of public participation. *Bulletin of Science, Technology and Society* 22:179-189.
- WEHAB Working Group, 2002. *A Framework for Action on Biodiversity and Ecosystem Management*. World Summit on Sustainable Development, Johannesburg 2002.
- White S, 1989. *The recent work of Jürgen Habermas*, Second printing ed. Cambridge: Cambridge University Press.
- Whitfield DP, McLeod DRA, Watson J, Fielding AH, Haworth PF, 2003. The association of grouse moor in Scotland with the illegal use of poisons to control predators. *Biological Conservation* 114: 157-163.
- Wilcox D, 2003. *The guide to effective participation*, <http://www.partnerships.org.uk/guide/index.htm> [Accessed 23/08/2010].
- Wilson EO, 1984. *Biophilia: The Human Bond with Other Species*. Cambridge, Massachusetts: Harvard University Press.
- Woodhouse EJ, Nieuwma DE, 2007. Democratic expertise: Integrating knowledge, power and participation. In: *Knowledge, power and participation in environmental policy analysis* (Hisschemoller M, Hoppe R, Dunn WN, Ravetz JR, eds). New Brunswick (USA) and London (UK): Transaction Publishers.
- World Commission on Environment and Development, 1987. *Our Common Future*. Oxford: Oxford University Press.
- WWF, 2004. *Natura 2000 in the New EU Member States: Status report and list of sites for selected habitats and species*. Brussels: WWF European Policy Office.
- Yallop AR, Clutterbuck B, Thaker JI, 2009. Burning issues: the history and ecology of managed fires in the uplands. In: *Drivers of environmental change in the uplands* (Bonn A, Allott T, Hubacek K, Stewart J, eds). Abingdon, UK: Routledge Studies in Ecological Economics.

- 
- Yin RK, 2002. Case study research: design and methods. Thousand Oaks: Sage Publications.
- Yodzis P, 2001. Must top predators be culled for the sake of fisheries? *Trends in Ecology and Evolution* 16: 78-84.
- Young IM, 2000. *Inclusion and Democracy*. Oxford: Oxford University Press.
- Young J, Watt A, Nowicki P, Alard D, Clitherow J, Henle K, Johnson R, Laczko E, McCracken D, Matouch S, Niemela J, Richards C, 2005. Towards sustainable land use: identifying and managing the conflicts between human activities and biodiversity conservation in Europe. *Biodiversity and Conservation* 14:1641-1661.
- Young, JC, Marzano, M, White, RM, McCracken, DI, Redpath, SM, Carss, DN, Quine, CP, Watt, AD. The emergence of biodiversity conflicts from biodiversity impacts: characteristics and management strategies. Submitted to *Biodiversity & Conservation*.
- Young OR, 2002. *The Institutional dimensions of environmental change: Fit, interplay and scale*. Cambridge MA: MIT Press.
- Younge A, Fowkes S, 2003. The Cape Action Plan for the Environment: overview of an ecoregional planning process. *Biological Conservation* 112: 15-28.
- Youngson AF, MacLean JC, Fryer RJ, 2002. Rod catch trends for early-running MSW salmon in Scottish rivers (1952–1997): divergence among stock components. *ICES Journal of Marine Science* 59: 836-849.

**Appendix 1. Semi-structured questionnaire**

Short introduction:

The aim of this research is to better understand how local people are involved in the management of protected areas. I'll be asking you a series of questions about your experience of the site and its management plan. The interview usually takes about an hour. There are no right or wrong answers, it's all confidential and your identity will not be revealed at any stage.

I've divided the interview into three main parts, just to help me remember everything: initially I'll just ask a few background questions about you and your experience of the area, the meat of the interview is really about the process of writing the management plan (that's where the table comes in), and then a quick look at the plan itself.

Background questions to be filled before-hand

Date of interview:	
Location of interview:	
Name and contact details of interviewee:	
Profession of interviewee:	

FIRST OF ALL, A FEW QUESTIONS REGARDING YOUR *PERSONAL EXPERIENCE OF THE AREA*

**Q: How well do you know the site (How long have you lived in the area? How often do you visit the site? How well do you know the local inhabitants?)**

Moving on to the Natura 2000 site:

**Q: Have things changed since the site was designated as a Natura 2000 site? (Has the use of the site changed? Are there any activities you can no longer carry out? How will future use of the site be affected, i.e. increase in tourism? How might this future use affect you personally?)**

NOW IN TERMS OF YOUR *PERSONAL LEVEL OF INVOLVEMENT IN THE DEVELOPMENT OF THE MANAGEMENT PLAN*

**When** did you first get involved? What were your **responsibilities**? How many **meetings** did you attend? Did you have any **other related activities** apart from attending the meetings? Generally, **how well** do you think the drafting of the management plan went?

**Table exercise:** Focussing still on the **drafting of the plan**, I've got a list here of different aspects that could be true of the process. It's my list and there are probably lots of aspects

I've missed out, so if you think of anything else as we're going along, just let me know. For each of these aspects I'd like you to think back, talk me through it and at the end score each of the aspects along a gradient from 1 to 5 where 1 is very bad and 5 very good.

How good was the process at:	1 (very bad)	2	3	4	5 (very good)
Representing the people affected					
Allowing people to have a real impact					
Incorporating the values of people					
Involving people as early as possible					
Increasing trust between all involved					
Resolving any existing conflicts					
Being unbiased and independent					
Being transparent and clear					
Being cost-effective					
Improving the technical quality of decisions					
Providing information and educating people					
Leading to new organisations or structures being established to implement decisions					
Leading to long-term biodiversity benefits					

Q: Were there any aspects **missing**? Irrespective of how you scored, what were the **three most important aspects** for you in the above list during the process of drawing up the plan?

Q: Do you think the process **could have worked better**? How?

Moving on the implementation of the plan:

Q: **How well** do you think the management plan is being **implemented**?

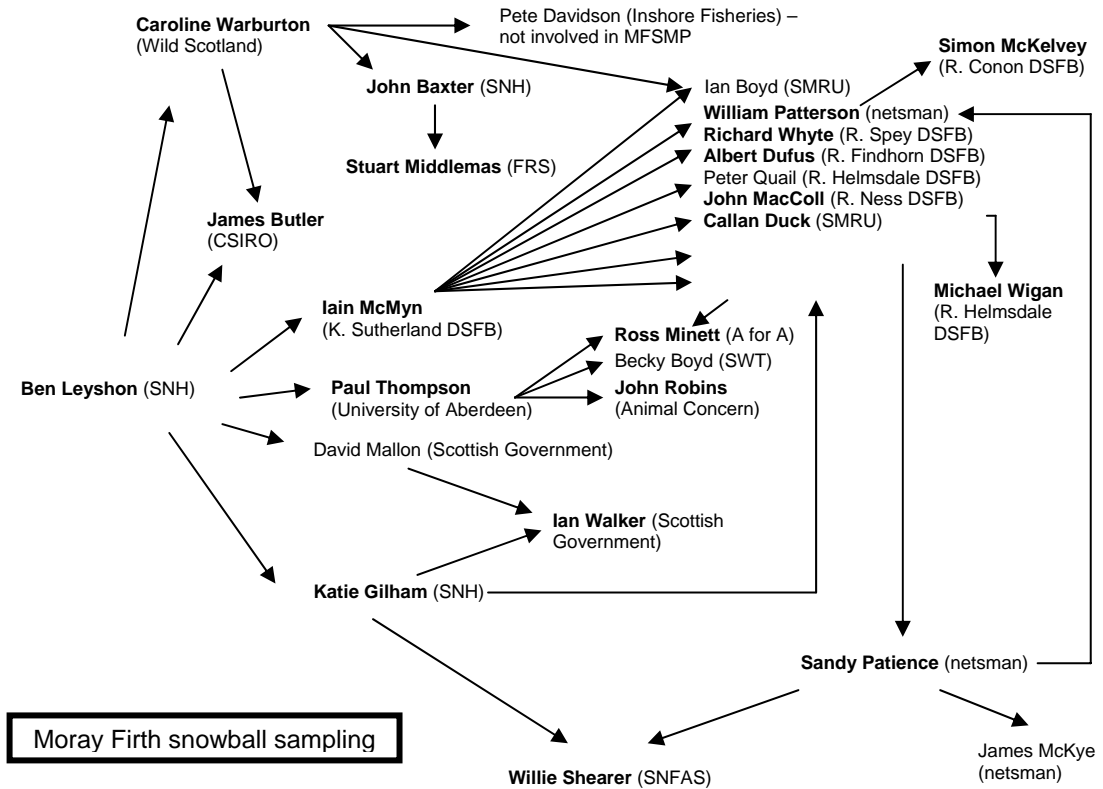
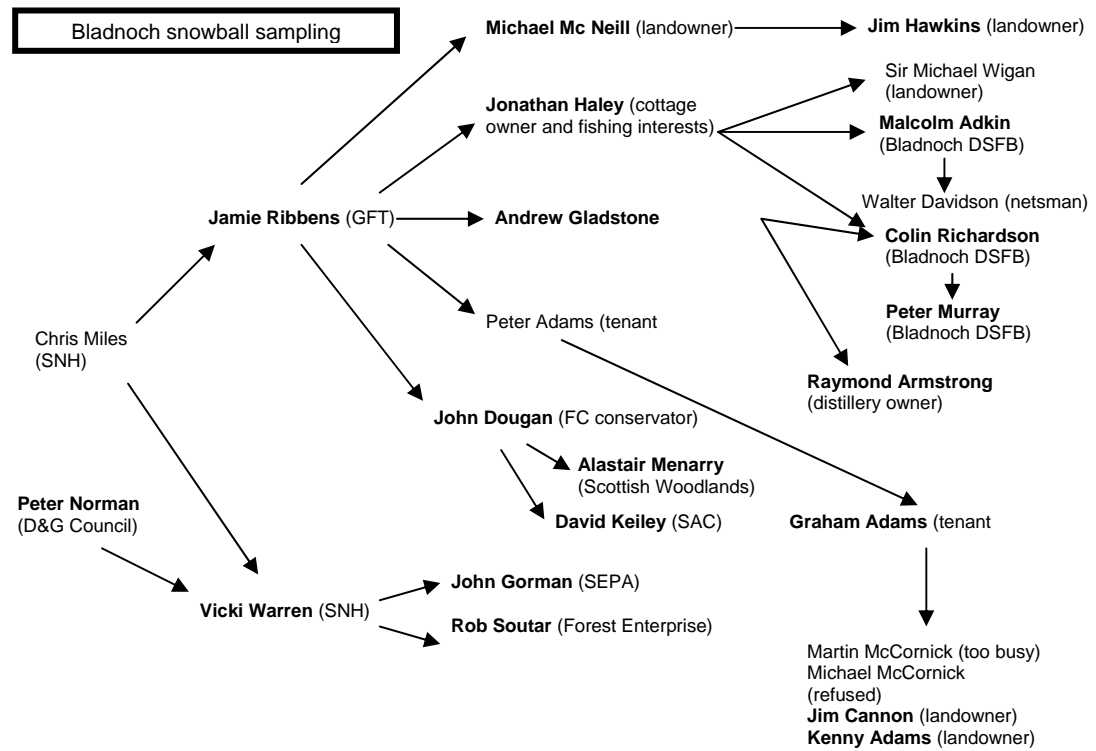
Q: Do you think **things could have been different** in the area if there wasn't a plan in place? What about in terms of **biodiversity** specifically?

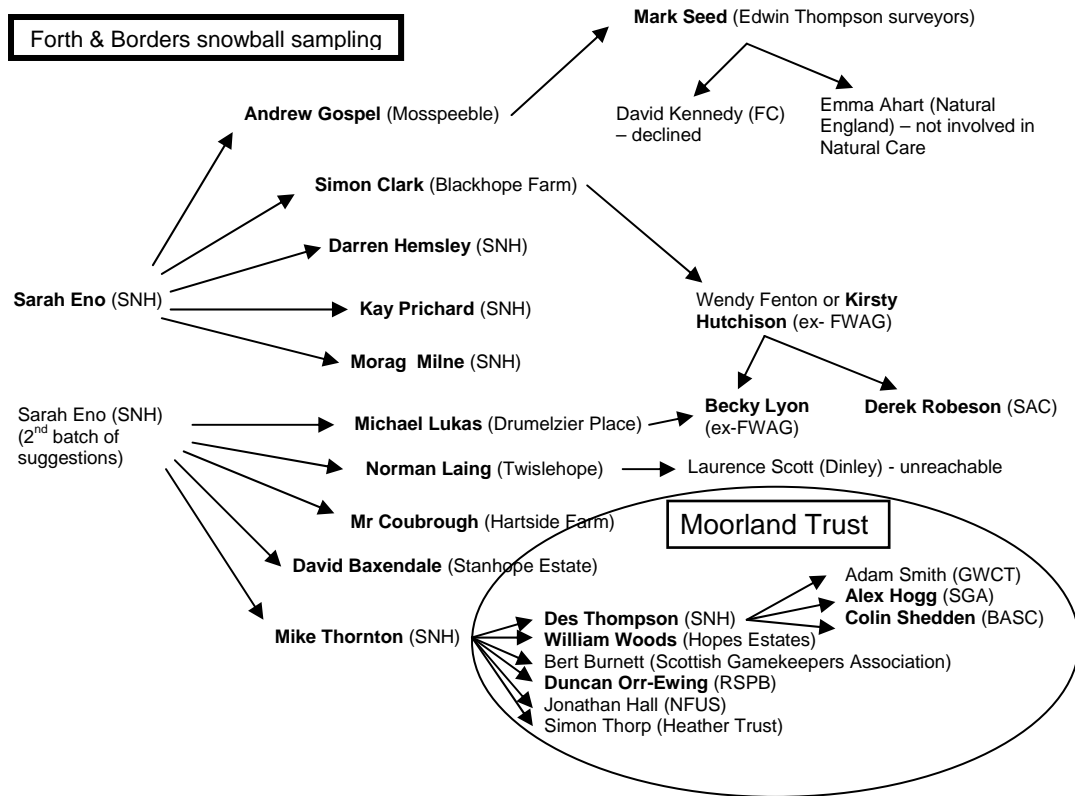
Q: Do you have any **suggestions** as to who else I should interview?

Q: I fully appreciate that this is a very general approach and that there are probably lots of things I haven't mentioned. I don't know if anything comes to mind now? If later, provide contact details.

Q: Do you want to be **kept informed** of research findings? Yes or No? Contact details?

Appendix 2a. Snowballing exercises for interviews







**Appendix 2b. Interviews undertaken in each case study**

<b>Interviewee background</b>	<b>Micro-scale</b>	<b>Meso-scale</b>	<b>Macro-scale</b>
Representatives of the Scottish Government or government departments	BGA1	MGA1	FGA1
	BGA2	MGA2	FGA2
	BGA3	MGA3	FGA3
	BGA4	MGA4	FGA4
	BGA5		FGA5
			FGA6
Scientific advisers	BSA1	MSA1	FSA1
	BSA2	MSA2	FSA2
		MSA3	FSA3
		MSA4	FSA4
		MSA5	
		MSA6	
Biodiversity users	BBU1	MBU1	FBU1
	BBU2	MBU2	FBU2
	BBU3	MBU3	FBU3
	BBU4	MBU4	FBU4
	BBU5	MBU5	FBU5
	BBU6	MBU6	FBU6
	BBU7	MBU7	FBU7
	BBU8	MBU8	FBU8
	BBU9	MBU9	FBU9
	BBU10	MBU10	FBU10
	BBU11		
	BBU12		

The first letter of the interviewee code refers to the case study (B: Bladnoch; M: Moray Firth; F: Forth and Borders); the second couple of letters refers to the background of each interviewee (GA: Government or government departments; SA: Scientific adviser; BU: Biodiversity user).

---

**Appendix 3. Acronyms**

ASCMP	Atlantic salmon Catchment Management Plan
ASSI	Area of Special Scientific Interest
BAP	Biodiversity Action Plan
CAP	Common Agricultural Policy
CBD	UN Convention on Biological Diversity
CCW	Countryside Council for Wales
cSAC	Candidate Special Area of Conservation
DEFRA	Department for Environment, Food and Rural Affairs
dSAC	Draft Special Area of Conservation
DSFB	District Salmon Fishery Board
EC	European Commission
ETC	European Topic Centre on Biodiversity
EU	European Union
FBMMS	The Forth and Borders Moorland Management Scheme
FCS	Favourable Conservation Status
FCS	Forestry Commission Scotland
FE	Forest Enterprise
FWAG	Farming and Wildlife Advisory Group
FWG	Forests and Water Guidelines
ICES	International Council for the Exploration of the Sea
IUCN	International Union for the Conservation of Nature
JNCC	Joint Nature Conservation Committee
LIFE	L'Instrument Financier pour l'Environnement [Financial Instrument for the Environment]
MFSMP	Moray Firth Seal Management Plan
NCC	Nature Conservancy Council
NE	Natural England
NFU	National Farmer's Union
NGO	Non-Governmental Organisation
NNR	National Nature Reserve
PDV	Phocine Distemper Virus
pSAC	Possible Special Area of Conservation
SAC	Special Area of Conservation (Habitats Directive)
SAC	Scottish Agricultural College
SCI	Site of Community Importance
SEERAD	Scottish Executive Environment and Rural Affairs Department
SEPA	Scottish Environment Protection Agency

---

SMRU	Sea Mammal Research Unit
SNFAS	Salmon Net Fishing Association of Scotland
SNH	Scottish Natural Heritage
SPA	Special Protection Area (Birds Directive)
SRDP	Scotland Rural Development Programme
SRPBA	Scottish Rural Property and Business Association
SSSI	Site of Special Scientific Interest
UKBAP	United Kingdom Biodiversity Action Plan

## **Appendix 4. Delphi experts**

### **Chapter 5: The Bladnoch River SAC Atlantic Salmon Catchment Management Plan**

Dr Willie Shearer - Salmon Net Fishing Association, UK  
Professor Derek Mills - Atlantic Salmon Trust, UK  
Dr David Reddin - Department of Fisheries and Oceans, Canada  
Professor Peter Maitland - Fish Conservation Centre, UK  
Dr Jaakko Erkinaro - Finnish Game and Fisheries Research Institute, Finland

### **Chapter 6: The Moray Firth Seal Management Plan**

Callan Duck - University of St Andrews, UK  
Dr Mike Hammill - Department of Fisheries and Oceans, Canada  
Dr Don Bowen - Dalhousie University, Canada  
Dr Isla Graham - University of St Andrews, UK  
Dr Paul Thomson - University of Aberdeen, UK

### **Chapter 7: The Forth and Borders Moorland Management Scheme**

Dr Mick Marquiss - Retired, Centre for Ecology and Hydrology, UK  
Dr Robin Pakeman - Macaulay Institute, UK  
Dr Ruth Mitchell - Natural Research, UK  
Dr Alistair Hamilton - Scottish Agricultural College, UK  
Dr Richard Lindsay - University of East London, UK  
Professor Charles Gimingham – Retired, University of Aberdeen, UK.

**Appendix 5. A framework for evaluating public participation in the context of Natura 2000**

<b>Evaluation focus</b>	<b>Criteria measured</b>
<i>Procedural evaluation</i>	
Active representation	1. Were all affected stakeholders adequately represented and involved?
Influence	2. Were all affected stakeholders able to have a genuine impact on the management plan?
Clarity of objectives	3. Were the objectives of the management plan and participation clear to all?
Leadership	4. Was the project led in a way that promoted trust in the process?
Timing of involvement	5. Were affected stakeholders involved at the most appropriate time?
<i>Outcome evaluation</i>	
Decision quality	6. Was the technical quality of decisions improved through the integration of expert and lay knowledges?
Relationships	7. Was conflict resolved among stakeholders? 8. Was trust increased between stakeholders?
Capacity-building	9. Did the affected stakeholders become better educated and informed? 10. How were decisions implemented?
<i>Biodiversity outcome evaluation</i>	
Biodiversity expectations	11. What biodiversity outcomes did stakeholders expect from the management plan process?
Timescales	12. How did the management plan process contribute to biodiversity outcomes in the short-term? 13. How did the management plan process contribute to biodiversity outcomes in the long-term?
Direct and indirect outcomes	14. What direct biodiversity outcomes emerged from the management plan process? 15. What indirect biodiversity outcomes emerged from the management plan process? 16. Did/would increased participation impact positively on biodiversity outcomes?