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BIODIVERSITY POLITICS:
POLICY, PLANNING AND PUBLIC UNDERSTANDINGS

Thesis submitted for the
Degree of
Doctor of Philosophy

By

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November 2010

research has been carried out under the supervision of
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SUMMARY

The past fifty years have seen dramatic losses in biodiversity and associated ecosystem services despite increased environmental policy at global, EU, national and local scales. Increasingly, biodiversity policy has moved from strict protectionist conservation to a framework with sustainable development at its core. With this shift, integration of biodiversity across a wide array of sectors is now required, and also, increased stakeholder engagement. Biodiversity policy also seeks to engage broad spectrum public support and involvement in biodiversity planning and decision-making.

Research suggests that engaging with this wide array of stakeholders and publics, across scales and sectors of biodiversity decision-making is not unproblematic. Careful attention is required to the process by which decisions regarding biodiversity are constructed, negotiated and implemented. Understanding who is involved in this process, their differing conceptions and understandings of biodiversity and its loss are important. So too are the ways in which individuals access, interact and seek to influence the decision-making process.

As part of the EPA-funded BioChange initiative, this thesis addresses the highly political activity of biodiversity planning in Ireland. Qualitative methods were utilised to gain a clear understanding of conceptions and lived context of the issues involved, providing access to issues of power, politics and participation in biodiversity planning. The project engaged with forty-five key policy actors at EU, national and local scales through semi-structured interviews. Twelve focus groups were conducted across the case study area of Co. Clare and Inis Oirr to access public's opinions. The qualitative data collection process allowed for a degree of flexibility, giving both researcher and participants scope to address concerns or thoughts as they arose. Interviews and focus groups were recorded and transcribed by the researcher prior analysis.

The findings of this research are discussed around three key themes: understandings and values, governance and public participation. The examination of understandings and values reveals the manifold ways in which biodiversity, biodiversity loss and biodiversity policy is viewed and acted upon within the decision-making process. Discussion with stakeholders uncovered a wealth of instrumental and non-instrumental values. But also demonstrated that ecological and economic values take precedence within decision-making. Discussions with publics revealed a similarly complex array of understandings and values, constructed through social, cultural and economic lived experience. While publics were generally aware of the term biodiversity, knowledge of its scientific and ecological meanings were viewed as intimidating and problematic. Instead, publics drew on notions of nature and place to express values of biodiversity. Discussions with both stakeholders and publics revealed instances of value conflict between economic priorities and needs, and the wider requirements of biodiversity protection policies.

An examination of biodiversity governance involving the forty-five stakeholders presents the complex web of multi-scalar arrangements through and within which biodiversity policy-making plays out. The findings here clearly demonstrate those organisations and tools stakeholders view as important in biodiversity governance, and highlight discrepancies of power and influence over the process of biodiversity protection. Of primary concern for stakeholders was the role of the state in the process of biodiversity protection, coupled with a reliance on command and control regulatory

process. The examination of governance also revealed the tensions between economic development priorities and biodiversity protection, and the manner in which such tensions are organised within the workings of governance from national to local levels. Findings also revealed new tools of, and pathways to, decision-making within the biodiversity governance arena which have recently evolved to allow cross-sectoral biodiversity integration, and also provide access to decision-making for an expanded array of stakeholders.

Findings of the third theme, public participation, involved an analysis of both stakeholders and publics views of the processes and practices of public participation. With respect to the former it was clearly demonstrated that efforts to engage publics follow an information-deficit model of participation, whereby publics are sought to be educated and informed of biodiversity loss. The focus for participatory arrangements have largely focused on awareness raising campaigns, biodiversity events and mass media approaches. However, a limited number of collaborative projects were also discussed, primarily by stakeholders at local scale. Discussion with publics around the process of participation revealed a reliance on representation through local elites, politicians and interest groups. Findings from the focus groups also highlight issues of trust, in addition to cultural and historical differences between publics and the bodies of the state with authority over biodiversity.

This study reveals the ongoing and evolving process of biodiversity politics in Ireland. It presents the different many ways in which biodiversity is understood and valued, the prevailing structures of power and influence in decision-making, and the difficulties in making public participation in decision-making a reality. The thesis illustrates the difficulties in operationalising the most pertinent issues within biodiversity policy, the integration of economic development and sustainable use of biodiversity, and the engagement of a wide array of stakeholders and publics in this process.

ACKNOWLEDGEMENTS

The completion of this PhD is due, in no small part, to the fantastic support and friendship I have received over the last number of years. I'd like to take this opportunity to thank those who have enabled to me to conduct and complete this research.

First and foremost, I wish to thank my supervisor Prof. Anna Davies, who provided me with this opportunity. I am deeply grateful to her for her endless enthusiasm, and patience, energy and guidance throughout the project. I am especially grateful for the time she took to read the many previous versions of this thesis. It has been a privilege to work with her over the last four years.

This research and thesis would not have been possible without financial support, and I am very grateful to the EPA for providing funding for this work. I would like to thank the other staff and students involved in the BioChange project in particular Dr. Steve Waldren and Dr. Louise Scally who administered the project. Also, the staff and students at the Department of Geography, especially Terry, Mabel and Sheila, Andrew, Barry, Frank, Gayle, Kate, Kim, Niall, Sarah, Sue and Sheila. A very big thanks to Joanne and Arlene who read, and gave very useful comments, on various incarnations of previous chapters.

A huge thanks to my friends Aoif, Aoife, Dee, Dee L, Fiona, Karen, Mags, Reg, Sinead and Jacqui, and especially Maria and Carmel who proof read, checked, and organised me through the PhD. I'm truly grateful to you all.

Lastly, I owe a huge thanks to my family; my brother Andrew who helped me with my Irish, and his wife Lorraine and son Conall; my sister Nicola, who coaxed me out from behind the computer when I most needed it. Most of all, my Mum and Dad, who over the course of my academic career have gone out of their way to be supportive, and have listened to the highs and lows of my PhD experience. I am very grateful for your unconditional love and support.

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LIST OF ABBREVIATIONS USED

5EAP	Fifth Environmental Action Programme
6EAP	Sixth Environmental Action Programme
AA	Appropriate Assessment
AEOS	Agri-Environment Options Scheme
A-I-D-A	Awareness–Information–Decision–Action
BEG	Biodiversity Expert Group
BIM	Bord Iascaigh Mhara
CAP	Common Agricultural Policy
CBC	Community-Based Conservation
CBD	Convention Biological Diversity
CBG	Clare Biodiversity Group
CCDP	Clare County Development Plan
CDP	County Development Plan
CEC	Commission of the European Communities
CEPA	Communication, Education and Public Awareness
CHF	Clare Heritage Forum
CIF	Construction Industry Federation
Comhar	The Sustainable Development Council
COP	Conferences of the Parties
DACGI	Department of the Arts, Culture, Gaeltacht and the Islands
DAFF	Department of Agriculture, Food and Fisheries
DAFRD	Department of Agriculture, Food and Rural Development
DEHLG	Department of Environment, Heritage and Local Government
DGEnv	DG Environment
DM&NR	Department of Marine and Natural Resources
EA	Ecosystem Approach
EAP	Environmental Action Programme
ECJ	European Court of Justice
EE	Environmental Education
EEA	European Environment Agency
EEC	European Economic Community (now known as the EU)
EIA	Environmental Impact Assessment
ENGO	Environmental Non-Governmental Organisation
EPA	Environmental Protection Agency
EPBRS	European Platform for Biodiversity Research Strategy
EPI	Environmental Policy Integration
ESB	Electricity Supply Board
EU	European Union
FSC	Forest Stewardship Council
GAEC	Good Agricultural and Environmental Condition
GMIT	Galway-Mayo Institute of Technology
IFA	Irish Farmer's Association
IRDA	Irish Rural Dwellers Association
IROPI	Imperative Reasons of Overriding Public Interest
IUCN	The World Conservation Union
LA 21	Local Agenda 21
LAP	Local Area Plan
LBAP	Local Biodiversity Action Plan
MA	Millennium Ecosystem Assessment

MAB	Man and the Biosphere
MEA	Multi-lateral Environmental Agreement
MLG	Multi-level governance
NBF	National Biodiversity Forum
NBP	National Biodiversity Plan
NBSAP	National Biodiversity Strategy and Action Plan
NDP	National Development Plan
NEP	New Ecological Paradigm
NEPI	New Environmental Policy Instruments
NGO	Non-Governmental Organisation
NHA	Natural Heritage Area
NHP	National Heritage Plan
NPBR	National Platform for Biodiversity Research
NPWS	National Parks and Wildlife Service
NRC	National Research Council
NSS	National Spatial Strategy
OECD	Organisation for Economic Co-operation and Development
RDP	Rural Development Programme
REPS	Rural Environment Protection Scheme
RPG	Regional Planning Guidelines
S.M.A.R.T targets	Specific, Measurable, Agreed or Achievable, Realistic, Time-bound
SAC	Special Area of Conservation
SBSTTA	Subsidiary Body on Scientific, Technical and Technological Advice
SCI	Sites of Community Importance
SEA	Strategic Environmental Assessment
SPA	Special Protection Area
SRHG	Sustainable Rural Housing Guidelines
SSD	Strategy for Sustainable Development
TD	Teachta Dala (Irish member of parliament)
UK	United Kingdom
UN	United Nations
UNCED	United Nations Conference on Environment and Development
UNCHE	United Nations Conference on the Human Environment
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
US	United States
USA	United States of America
WCED	World Commission on Environment and Development
WSSD	World Summit on Sustainable Development
WTO	World Trade Organisation
WTP	Willingness to Pay
WWF	World Wildlife Fund

Chapter 1 - Introduction

1.1 - Introduction

Biodiversity forms the web of life upon which humanity fully depends (SCBD, 2002). But today the planet is said to be experiencing a biodiversity crisis, defined as an "unprecedented acceleration in species extinction" (EEA, 2006:11). A dynamic interaction exists between people and the planet, but the changing human condition is driving both directly, and indirectly, changes in biodiversity. It is increasingly recognised by scientists, politicians and policy makers that the failure to conserve biodiversity could seriously undermine the sustainability of the planet and the human species.

Within Ireland bodies such as the Environmental Protection Agency (EPA) have suggested that Ireland's biodiversity now faces significant threats (Clenaghan, 2008). After the economic boom of the Celtic Tiger years it is not only the cultural, social and political landscape that has changed, but also the physical landscape (Clinch et al., 2002). Indeed it is where these landscapes interest that what might be called the politics of biodiversity governance can be found. This research contributes to a burgeoning academic and political debate which addresses biodiversity loss by examining the way in which biodiversity is conceptualized, negotiated and subsequently protected, or not, by a variety of stakeholders and publics, and at a range of scales.

It is important however to begin with a reflection on the debates surrounding the term biodiversity. This is followed by a brief mapping of current trends in biodiversity management. It is from these reflections and mappings that the research problem and research questions emerge. Finally the chapter outlines the structure of the thesis.

1.2 - Biodiversity meanings

Perhaps the most widely recognised definition of biological diversity comes from the 1992 United Nations Earth Summit in Rio de Janeiro.[1] Defined within the Convention on Biological Diversity (CBD) agreed at Rio, biodiversity is "the variability among living organisms from all sources, including, 'inter alia', terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems" (CBD, Article 2,1992:5). This definition has become formally institutionalized within policy appearing within a plethora of plans, programmes and policies from global to local scales (e.g. Clenaghan, 2008; MA, 2005; DAHGI, 2002). Inherent within this definition is the idea of biodiversity as an umbrella concept through which a mass of unaccounted for, but potentially ecologically significant genes and species can be protected. In addition it encompasses highly visible rare and charismatic species, but also refers to the interconnections between species at different levels of the biological hierarchy and the relative importance of species to ecological function and subsequent ecological processes (Naeem et al., 2009). This focus on interconnections links ecosystem function and process with the multitude of services it provides humans (MA, 2005). So, conceptualised as the relationships between the various elements of the natural world, biodiversity subsumes issues highlighted by other conservation concepts and presents them as an integrated set.

Beyond a strictly scientific or ecological definition, biodiversity has also taken on a more normative dimension. Biodiversity, as first championed and vigorously promoted by an influential "cadre of ecologists and biologists" (Takacs, 1996:1) in the United States, was a tool for the defense of a particular idea of the natural world

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[1] It is widely held that the first definition of the term was given in a paper by Bruce A. Wilcox commissioned by the International Union for the Conservation of Nature and Natural Resources (IUCN) for the 1982 World National Parks Conference in Bali and subsequently published in 1994. The definition Wilcox gave is "Biological diversity is the variety of life forms.at all levels of biological systems (i.e., molecular, organismic, population, species and ecosystem)." The term's contracted form 'biodiversity' is credited to W.G. Rosen in 1985 while planning the National Forum on Biological Diversity organised by the National Research Council (NRC). The term first appeared in a publication in 1988 when entomologist E. O. Wilson used it as the title of the proceedings of that forum. Wilcox, Bruce A. 1984. In situ conservation of genetic resources: determinants of minimum area requirements. In National Parks, Conservation and Development, Proceedings of the World Congress on National Parks, J.A. McNeely and K.R. Miller, Smithsonian Institution Press, pp. 18-30

that "recognises, analyzes and rues the furious destruction of life on Earth" (Takacs, 1996:2). These scientists, among them Reed Noss, suggest that biologists have an "ethical obligation to make a powerful case for the conservation of biodiversity to everyone, everywhere" (Noss, 1990:2). Beyond an ethical rationale for the protection of biodiversity biologists have packaged political, emotional, aesthetic and spiritual feelings about the natural world within the concept of biodiversity. For example, the Millennium Ecosystem Assessment (MA, 2005) makes a case for the conservation and sustainable use of biodiversity on the basis of ecosystem services, which include scientific but also normative rationales for protection.

So while biodiversity may at first glance give a sense of value neutral science, the concept is in reality, value-laden. The values ascribed to the term are multiple and are not only subject to, but also reflective of social, cultural and political norms. As Macnaghten & Urry suggest "there is no singular 'nature' as such, only a diversity of contested natures and each such nature is constituted through a variety of socio-cultural processes from which such natures cannot be plausibly separated" (1998:1). The significance of social practices to "produce, reproduce and transform different natures and different values" (Macnaghten & Urry, 1998:2) shifts discussion concerning operationalisation of biodiversity protection from scientific into social, economic and political realms.

Despite the prevalence of the term in scientific research and policy rhetoric, the usefulness of biodiversity as a conservation strategy is contested. Like sustainable development, its very broadness which was intended to garner political support has proved difficult to operationalise. The vagueness and ambiguity inherent in the term biodiversity and its multitude of associated values, has generated active brokerage between political and scientific communities and publics over the appropriate means to govern biodiversity and halt its loss. Biodiversity management therefore has become a highly conflictual arena, taking on a political dimension. In this sense, biodiversity politics can be viewed as the process by which decisions regarding biodiversity are constructed, negotiated and implemented at a range of scales, highlighting the variety of actors involved each with differing conceptions and understanding of biodiversity (O'Riordan, 2002). The complexity of biodiversity and biodiversity politics implies the importance of understanding not only the goal of

biodiversity decision-making, but also the process through which it is negotiated and the participants in that process, including publics. While biodiversity may be a relatively new object of conservation the protection of nature and natural resources has a long history in public policy. In the following section, biodiversity as a policy issue will be examined, tracing trends in biodiversity conservation over time. Beginning with the notion of protectionism and following developments in biodiversity conservation to sustainable use, the following section provides context for subsequent chapters of this thesis.

1.3 - Biodiversity governance – from protectionism to halting loss

The protection of biodiversity has a long history albeit in different forms and under different terminology. This section traces key trends in biodiversity governance practice since its inception as protectionism in the late nineteenth century, to where it is today, management with sustainable development at its core.

1.3.1 - Biodiversity governance – Protectionism

The idea of protecting nature or wildlife through public policy and spatial planning is not a new one. It has existed for over a century finding its origins in the United States and the National Park movement which then spread globally, taking different forms in different places. The national park movement and protectionism was built on a romantic vision of nature and wilderness protection which came under scrutiny in the mid twentieth century for a number of reasons both scientific and socio-political. As new scientific information developed over the twentieth century it challenged the utility of strict protectionism (Mulder & Coppolilo, 2005). In particular the work of ecologists Robert MacArthur and E.O Wilson, building upon the idea of systems dynamics, contributed to this debate through what is considered one of the most significant ecological theories of this time, the so called 'Golden Age' of ecology. MacArthur & Wilson's equilibrium theory of island biogeography suggested that small and/or isolated islands hold less species than larger and/or less isolated ones (MacArthur & Wilson, 1967; cited Wilson & Peter, 1988). This theory had direct implications for the legitimacy of conservation solely through management of protected areas. In tandem with the generation of new ecological knowledge at this time was the growing recognition that protected areas were established around

scenic rather than biological resources, leaving some aspects of the natural world such as migration or seasonal ranges unprotected.

In addition to scientific concerns with protectionism there were political and fiscal issues associated with protected areas policies. Authors suggest that protected areas, which were often selected and managed to the exclusion of humans, were also sites of highly contentious debates between local and national interests (Mulder & Coppolilo, 2005). While not all protectionism results in displacement of humans, there are ethical considerations with such approaches. In Europe, for example, protectionism and the establishment of national parks has been strongly linked with class conflicts and political inequality. Together, the ethical, political and fiscal issues in protected area management, and a growing recognition that areas outside those protected may also require attention, encouraged development of new approaches to conservation management. Within these approaches community development and public engagement became key to protecting biodiversity (McNeely, 2009). As a result there was a discernable shift in nature conservation policy in the 1970s and 1980s that coincides with emergence of sustainable development.

1.3.2 - From protectionism to sustainable use

An early response to problems associated with protectionism was the UNESCO Man and the Biosphere programme (MAB) in the late 1960s. The inclusion of human-modified areas within these reserves was an important departure for conservation thinking. An important feature of the biosphere model was that "conservation of environmental resources could and should be achieved alongside their utilization for human benefit" (Batisse, 1982:101). This reflects the programmes concern with the human communities living in areas of special biological importance. Its focus on utilization as a means of conservation and its grassroots orientation fitted with the social and scientific climate of the 1970s and 1980s. It is from these origins that ideas of biodiversity and sustainable development emerged (Mulder & Coppolilo, 2005).

The 1970s and 1980s was a time of transition with respect to the relationship of conservation to development. The year 1972 saw the growth of a new agenda in

environmental policy at an international level. 'The Limits to Growth' document published in that year (commissioned by the Club of Rome) argued that economic expansion and population growth could not be sustained without severe depletion of natural resources, environmental damage and an increase in poverty. Also in 1972 the United Nations Conference on the Human Environment (UNCHE) was held in Stockholm. The outcomes of this conference had a number of implications for future biodiversity policy. First it consolidated an emphasis on human-environment interactions, second, it called for rational management of the world's resources, third it connected environmental issues to development issues and fourth it broadened those involved in environment decision-making, recognising the role of Non Governmental Organisations (NGOs) as key players (Caldwell, 1996).

Some years later, in 1987 the UN General Assembly set up the World Commission on Environment and Development, chaired by Gro Harlem Brundtland. Its brief was to examine the environmental and development crises, and make proposals for 'a global agenda of change'. The resulting document 'Our Common Future' (WCED, 1987) followed closely to the priorities set out at the Stockholm Conference and highlighted the move from single-issue environmental policy towards consideration of the connections between the economy, society and the environment. 'Our Common Future', also called the Brundtland Report, emphasized sustainable development as the mutual reinforcing of economic growth, social development and environmental protection. Together, 'Limits to Growth', UNCHE and the Brundtland Report brought sustainability to the fore of the world political agenda.
While the above developments brought forth the notion of sustainable development, these ideas are also apparent in conservation strategies of the time most notably the 'World Conservation Strategy' (IUCN/UNEP/WWF, 1980). This conservation manifesto was created by leading international conservation organisations with the aim of maintaining essential ecological processes and preserving genetic diversity. The 'World Conservation Strategy' argued that conservation and development are inseparable in so far as human welfare is dependent on nature. In 1991 the same organisations updated their manifesto in 'Caring for the Earth' (IUCN/UNEP/WWF, 1991) and the magnitude of this change in thinking became obvious. 'Caring for the Earth' revealed how conservation had turned from protectionism to a position which strongly embraced the utilitarian approach advocated by the Brundtland Report.

The principle aim of conservation in Caring for the Earth became "helping to improve the condition of the world's people" (WCED, 1987:3).
As highlighted above the policy agenda developed throughout the 1980s emphasized the need for rational management of the world's resources, connection of environmental issues to development issues and the mutual reinforcing of economic growth, social development and environmental protection. These ideas became integral to biodiversity conservation through the 1990s as evident in the signing of the Convention on Biological Diversity (CBD) at the 1992 Rio Earth Summit. The objectives of the CBD are to conserve biological diversity, use biological diversity in a sustainable fashion and to share the benefits of biological diversity fairly and equitably. With its emphasis on sustainable use, the CBD required that biodiversity be integrated throughout economic sectors. But also, it called for greater stakeholder and public engagement in decision-making. Following the CBD, sustainable use and participation became cemented within the biodiversity conservation agenda throughout the 1990s and into the 21st century.

Since the 1990s both the terms biodiversity and sustainable development have achieved widespread use among biologists, environmentalists, political leaders, and concerned citizens worldwide. Favorability towards sustainable use has coincided with increasing concern over observed biodiversity extinction in the last decades of the 20th century. Originating in the idea of sustaining biodiversity, it has become evident that to conserve biodiversity and sustainably use it, its loss would need to be addressed. To this end, prominence in policy debates throughout the early 21st century has tended towards addressing the causes of biodiversity loss in an effort to halt rates of extinction.

1.3.3 - Halting the loss of biodiversity

A growing body of evidence has concluded that the past fifty years have seen dramatic losses in biodiversity with current estimates suggesting that the global species extinction rate is 1,000 to 10,000 times higher than the natural, non-human induced extinction rate. Some authors even suggest that a mass extinction event is on going (Eldredge, 2001). In the first years of the 21st century biodiversity loss, and efforts to halt this loss, have become closely intertwined with the economic, social and political processes (Adger et al., 2005; MA, 2005).

It is becoming increasingly evident that biodiversity loss, social, economic and political processes form a highly interconnected system. The eighteen-fold growth in world economic output observed during the 20th century has lead to dramatic increases in the use of biological resources to meet human demands for food, fresh water, timber, fibre and fuel (SCBD, 2002). Fulfilling this demand has led to the conversion of natural, biologically diverse systems into human dominated systems, driving biodiversity losses, for example, the conversion of native forests into farm land, the intensification of agricultural production systems, or the abandonment of traditional biodiversity–sensitive land management practices through construction (EEA, 2006; CEC, 2006a; MA, 2005). Additionally, pollution, eutrophication and changes in ecosystem species composition through the introduction of invasive alien species, have also contributed to biodiversity loss through fragmentation, degradation and destruction of natural habitats (Kettunen & ten Brink, 2006). Other human-induced environmental pressures, for example climate change, may also have repercussions for habitats, the distribution of species, ecosystem functioning and provision of services (CEC, 2006a; SCBD, 2002). These issues are well documented by a wealth of scientific research which suggests that habitat loss or degradation, poor planning and the growth in infrastructure, commercial activity and agricultural practices are key factors contributing to biodiversity loss globally (MA, 2005) at EU level and in Ireland (Clenaghan, 2008; NPBR, 2003).

In order to address these issues in 2001 the EU Heads of State and Government committed to halt the loss of biodiversity [in the EU] by 2010 and to secure the recovery of habitats and natural systems as a headline objective in the European Union Strategy for Sustainable Development. Following this, in its 'Plan of Implementation', the 2002 World Summit on Sustainable Development (WSSD) endorsed the Hague Ministerial Declaration of the Sixth Conference of the Parties to the CBD that committed them "to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth." (SCBD, 2000:319)

As a result of these initiatives in recent years biodiversity policy has been framed in terms of biodiversity loss, defined in the CBD as "the long-term or permanent

qualitative or quantitative reduction in components of biodiversity and their potential to provide goods and services, to be measured at global, regional and national levels" (SCBD, 2004:para. 2). In these terms, halting the loss of biodiversity has become a prominent global public policy issue in recent years with the EU Commission identifying it as a one of the most important challenges facing humanity (CEC, 2001). From this, there has been a trickledown of concern with national states of the EU being asked to consider biodiversity loss at a national level. In the following section the issue of biodiversity management in Ireland will be introduced.

1.4 - Biodiversity politics in Ireland

In this section the history and current practices of biodiversity management in Ireland will be discussed. The first section traces Ireland's roots in the conservation movement and the section outlines some current issues with respect to biodiversity conservation in the country.

1.4.1 - Conservation movements and Ireland

Concern about the loss of flora and fauna as a result of the destruction of wildlife towards the end of the 1800's has lead, via a convoluted path, to wildlife and conservation movements in of the new millennium as previously discussed. As the conservation movements progressed and developed over time, a number of distinctive iterations with regard to the role of civil society can be traced. These include the European nature monument movement between 1910-1930, the landscape and amenity movement post World War II, the wildlife movement between 1930-1960s, and environmental justice movement towards the end of the 20th century. Each of these will be considered in turn, followed by a brief consideration of civil society engagement in conservation and wildlife movements in Ireland.

It should first be noted that current conservation thinking which emphasises the role of humans in environmental destruction, differs from conservation rationales of the past. However, the current practice of conservation management is also intrinsically tied to these past rationales. The origins and function of the nature monument movement is a key example. A nature monument refers to regions, objects or living

species of flora and fauna of aesthetic, historic or scientific interest to which strict protection is given. The purpose of the nature monument, and the movement which carried it, was to protect a specific object, or a species of flora or fauna by setting aside an area for that object or single species. All use within such areas is prohibited, except authorised scientific investigations and government inspection. Contrary to the idea of national parks, nature monuments do not need to be open to the public. The 1933 Convention Relative to the Preservation of Flora and Fauna in their Natural State (London Convention) set the legislative tone for African conservation, and radically altered the configuration of wildlife protection globally, alterations which still reverberate within the conservation movement of the new millennium. The London Convention greatly encouraged the setting aside of large areas for game preservation and set in motion a wave national park establishment in Africa, but also globally. Commercial utilisation of wildlife in these areas was rejected, but, hunting by sportsmen for non-commercial reasons remained acceptable (Jepson & Whittaker, 2002). Another recommendation made at this time which has had long-lasting consequences was that the control of wildlife should be centralised at national government level (Heijnsbergen, 1997). As a consequence of this movement, new laws were introduced which disenfranchised landholders, and brought large tracts of land under state control. The nature monument movement is linked to expansionist colonial advances at this time, which required the resources of colonial territories for economic development, and hence, prescribed for their conservation.

After the Second World War in 1945, a second wave or form of conservation movement developed, in the UK primarily. This took a more proletarian account, and called for opening up of countryside, and wildlife, for amenity and recreational pursuits. This movement found its roots in the romantic movement of the 18th and early 19th century, which formed a backlash against industrialisation and urbanisation, evoking anti-materialistic values in favour of aesthetic appreciation of landscape. In addition, after the First World War, the movement found support from a burgeoning middle class, with increasing leisure time and money. Equally, the fashion for outdoor activity and environmentally based recreation at the time was significant. This resulted in mounting calls for access to space, and countryside, which was strenuously denied to middle and working classes by landed elites. The

mass trespass of Kinder Scout in the Peak District in 1932 set about reordering this relationship between publics and private space and as a result, landscape protection was institutionalised in the UK related to ideas of amenity, rather than ecological integrity. This new agenda was formally institutionalised within the 1949 National Parks and Access to Countryside Act in the UK, with the land in the Peak District becoming Britain's first National Park in 1951 (Eden, 2003).

The third wave of environmental movement occurs in the US in the 1960's. Prior to this time, the predominant concerns of conservation organisations in the US, such as Sierra Club, involved land and wildlife issues. A common feature of, so called, first generation environmental issues is that they primarily address threats to particular areas or species. However, an awareness of new environmental issues began to develop in the late 1950's. These second generation issues, by contrast, were not necessarily site or species specific: they involve environmental consequences that are often delayed or subtle and their causes are difficult to prove. Particularly influential to the second generation wave of environmental movement is Rachel Carson's book Silent Spring (1962) which was typical of new thinking at the time. By the end of the 1960s conservation organisations in the US had adopted the defining characteristics of the new environmental movement: a strong ecological perspective and an agenda that included second generation environmental issues. The ecological perspective of the first generation provided an intellectual framework which enabled organisations to link ecological destruction with environmental pollution, and politics.

Fractures quickly began to appear between first and second generation environmental organisations. For example, Friends of the Earth founder David Bower established the organisation after he was fired as the Sierra Club executive director for acting independently of Sierra's board of directors on direct action issues. The second wave of environmental organisations, such as Environmental Defence Fund, established in 1967, and Friends of the Earth were regarded as radical because of their uncompromising opposition to most forms of development, big business and big energy. Further radicalisation of the movement is evident, for example, in the establishment of The Environmental Policy Institute. This organisation was founded by as an offshoot of FOE by individuals who were tired of

pandering to members, and wished to concentrate solely on lobbying for political change. Along with organisations such as Greenpeace, Conservation International and the World Wildlife Fund, international civil society conservation organisation took on a political mantle, embedded within a justice framing of environmental issues.

Few studies have been conducted into conservation movements in Ireland. Leonard's (2006) research into environmental civil society more broadly has identified a perception that those who are overt in their concern to protect the environment tend to be middle class and urban, and interestingly without a strong connection (practically and historically) with the land and rural issues. While much work has been conducted on issues of national identity, post-colonialism and culture in Ireland (see Howe, 2000), ttraditionally, there has been a low cultural acceptance of conservation science in this country (Outram, 1998). In part, it finds its source in identification of science, and in particular natural history, with Protestant elites, landlords and administrators. Within this, a second issue also warrants consideration. During the time when other countries, such as the US and the UK, were beginning to address conservation issues, Ireland was in the midst of a cultural and political reconfiguring. The series of famines in the 1940's, the land wars and rural political agitation which lead to the repeal of the Land Acts from 1880 to 1905 ran parallel to a new found search for national identity. This lead to a particular manifestation of cultural nationalism which was at not only at odds with the science of conservation, but crucially, also its proponents. Still today natural science in is also associated with external recreational interests, the concern of urban dwellers and alien to everyday rural, local, life (Viney, 2003). While the basis of this view may be found in Ireland's colonial past, it also has more recent origins in the cultural differences which have taken place in Irish society through urbanisation since the 1980s. At this time the identity of rural Ireland, so long equated with the 'real Ireland' gave way to increasingly urban standpoints and concerns. Tovey (1994) suggests this change ran parallel to environmental groups targeting farmers as a major threat to the Irish countryside, and suggesting their attitudes were detrimental to nature. This collective cultural identify as rural, real Ireland, set apart from urban colonial conservationalists has gathered individuals around a certain interpretation of place, which has effectively created dichotomous

'in' group and 'out' group. This complex variety of reasons, linked to land, history, nationalism and identity, goes some way to explain why Ireland is somewhat of an anomaly in western Europe, with a weak environmental civil society and no global conservation presence, such as Greenpeace or WWF.

1.4.2 - Biodiversity in Ireland

Perhaps somewhat unexpectedly for its position as a small island on the western fringe of Europe, and relatively low number of species, Ireland has an interesting wealth of biodiversity, with a number of ecologically significant habitats and plant communities, such as that found in the Burren, but also within freshwater, wetland and peatland habitats. However, in recent years economic development and changing land management practices have put significant pressure on Irish biodiversity (Clenaghan, 2008). With respect to sites protected under the Habitats Directive, a report submitted to the Commission in December 2007 (under Article 17) presents the first baseline assessment of the conservation status of habitats and species listed under this Directive. Many of Ireland's most important habitats are reported to be of bad conservation status, including dune systems, raised and blanket bogs, oligotrophic lakes, fens and mires, natural grasslands and woodlands. Certain protected species, particularly those found in wetland and aquatic environments, are also reported to be of bad conservation status, such as the Atlantic salmon and freshwater pearl mussel. The key threats to these habitats and species have been identified by the National Parks & Wildlife Service as direct habitat damage, overgrazing and undergrazing, water pollution, unsustainable exploitation, invasive alien species, and recreational pressure (NPWS, 2008).

Like other European countries, Ireland is subject to a range of biodiversity instruments, such as the Convention on Biological Diversity and the EU Habitats and Birds Directives, although the implementation of such international agreements has been described as deficient (Tovey, 2009; Comhar, 2004). For example, a recent assessment of the Irish conservation designation lists by the European Commission indicates that the state's Special Protection Areas (SPA) list and its Sites of Community Importance (SCI) list are incomplete. Also, the list of European Court of Justice (ECJ) rulings against Ireland illustrates significant issues with the implementation of the Habitats and Birds Directives. For example, in December

2007 the European Court of Justice ruled that Ireland had failed to fulfil its obligations under EU law in relation to the designation, classification and protection of wild bird SPAs and in the protection of several bird species (C- 418/04). Furthermore, in January 2007 the European Court of Justice ruled that Ireland did not have in place a system of strict protection for Annex IV species due to inadequate monitoring arrangements and deficient procedures to protect species from development projects (C-183/05). Certain derogations under the Wildlife Act, 1976 were also found to be incompatible with EU law. In 2006, the European Commission urged Ireland to implement a further two European Court of Justice judgments, made in 1995, regarding the designation of sites under the Habitats Directive.

It is clear that in Ireland there are challenges with the process of designation and implementation of the Habitats and Birds Directives, in addition to tardy and incomplete implementation of international agreements such as the CBD (Comhar, 2004). This suggests a failure of governance in terms of biodiversity and nature conservation in the state. In order to address issues of biodiversity loss in Ireland the European Commission suggests that better planning at national, regional and local levels holds the key to preventing, minimising and offsetting potential negative impacts of development on biodiversity (CEC, 2006a/b). While this may be the case, it is also important to address the process of biodiversity planning in Ireland, which is highly political (Laffan & O'Mahony, 2008). In addition, whether the EU is blameless in the resulting implementation deficits has also been questioned (Flynn, 2009; Baker, 2003).

This thesis examines the planning structures for biodiversity, but also considers less visible issues of governance that affect biodiversity politics, by paying attention to the influence of civil society, private sector interests and publics as well as public sector planning. The following section presents the aim and research questions which this project poses and seeks to answer.

1.5 - Research aim and research questions

The previous sections illustrate the dynamic nature of biodiversity, the manner in which it is understood and the way it is governed. It has been suggested that

moving from spatially rigid management practices to those which embody sustainable use pose numerous challenges. Understanding these challenges can only be met with a deeper analysis of the politics of biodiversity, that is, an exploration of the manner in which biodiversity is governed. The overall aim of this project is to develop a clearer conception of the politics of biodiversity planning and policy making in Ireland. To address these, three areas of research were identified, understandings of biodiversity, biodiversity governance, and participation. Within these themes, four key research questions form the backbone of this research:

1a. What do people (stakeholders and publics) understand by the term biodiversity?
1b. Why is protecting biodiversity and halting its loss considered important?

2a. How is biodiversity governed in the Irish context?
- What organisations/actors are involved in biodiversity decision-making?
- What are the patterns of interaction, involvement and influence, of these organisations/actors across the various spheres[2] and tiers[3] of governance?
- How do these patterns of interaction & involvement influence biodiversity policy?

3a. What role do publics play in biodiversity policy making?
- How are publics engaged in biodiversity through the processes of public participation?
- How to publics and policy makers view the participation process?

Research question 1a&b requires an examination of definitions and understandings of biodiversity as well as attention to the values that underpin those understandings of biodiversity and its loss. It seeks to clarify what is considered as biodiversity in decision-making processes and with publics. Research question 2 demands attention to the practice of governance related to biodiversity. This focuses on who is involved and perceptions of who has influence over the way biodiversity is managed. As such this question addresses issues of power and responsibility in biodiversity governance. The third research question addresses current issues

[2] Public, private and civil society
[3] Local, national, EU and global

relating to calls for more public participation in biodiversity governance. It is constructed to permit critical examination of the current mechanisms used to involve publics and publics' views of those mechanisms.

A detailed discussion to the methodological approach is presented in Chapter 4, but will briefly be reviewed here. As the research questions focus on process and perception, this demands research methods that permit the investigation of attitudes, values and perceptions to explore biodiversity governance in its lived context. For this reason a case study approach was decided upon using qualitative data collection techniques. The case study area of Co. Clare and the Aran Islands was selected to conduct focus groups with publics, and semi-structured interviews with key actors and organisations involved in biodiversity governance. This area of Ireland was chosen as a result of pragmatic concerns relating to the wider research project context, as one of a number of projects within the Environmental Protection Agency funded BioChange initiative. While BioChange obviously provided a framework, and located the research within Co. Clare and the Aran Islands, there was a large degree of researcher discretion regarding the more detailed aspects of the research process, for example, the geographical location of focus groups and interviewee selection. In addition, the national scale of decision-making was also addressed through semi-structured interviews with stakeholders.

1.6 - Structure of thesis

Chapter 2 examines biodiversity policy in more detail, setting the scene and providing context for the analysis that follows. The chapter provides a review of the rise of biodiversity policy as a conservation tool and highlights its multi-scalar nature from supra national agreements to local biodiversity action plans. From this initial examination of policy a number of key themes arise; understandings of biodiversity, governance and participation. These topics are explored in Chapter 3, the academic literature review, which provides the conceptual background to the analysis chapters which follow. In Chapter 4 the methodology used to collect data is presented.

The results of the research are presented in two parts. Part I focuses on understandings of biodiversity. Chapter 5 details stakeholders' understandings of

term biodiversity and an analysis of their views regarding the importance of biodiversity. Chapter 6 examines public understandings, and also presents participants' knowledge of biodiversity in their local area. In Part II an analysis of biodiversity governance is provided. This begins in Chapter 7 with the results of stakeholders' interviews which explore the patterns of power and responsibility in biodiversity decision-making across a range of scales and policy areas. In Chapter 8 stakeholders' and publics' views of participation in decision-making are examined. The concluding chapter, Chapter 9, brings the research questions together, reflecting on key themes from each chapter. The main research findings are summarised, methods evaluated and areas for future research identified.

Chapter 2 - Biodiversity policy and planning

The last thirty years has seen increased emphasis in public policy in the area of biodiversity protection. As such biodiversity has become an important political issue addressed through international, national and local policy. Accordingly a range of institutional bodies and government agencies have come into being which formulate and implement these policies. The aim of this chapter is to critically review the nature and purpose of biodiversity policy and to show how selected international initiatives translate into local practices in Ireland, and to point out the kinds of constraints that have been identified in terms of implementation of biodiversity policy. The policies are presented according to the scale at which they are formulated, international, supra-national (EU) and national, however, in reality there are clear and reciprocal links between scales of policy making. In the first section, the international conventions that Ireland has agreed to are discussed, followed by policy and regulation arising from the EU and finally, national laws and regulations of relevance to biodiversity are discussed.

2.1 - International biodiversity policy

Since the 1970s over 300 multi-lateral environmental agreements (MEAs) have come into being for the protection of the environment. Table 2.1 clearly illustrates the increase in international agreements since the 1970s. Within the vast array of MEAs are six biodiversity-related conventions. Beginning in the early 1970s each of these agreements identifies particular elements of biodiversity to be protected or actions which threaten biodiversity to be regulated. Table 2.2 outlines the title, date and aim of each of the conventions in the biodiversity cluster.

Of the agreements constituting the biodiversity cluster, the Convention on Biological Diversity (CBD) represents a significant departure from previous agreements in terms of both function and substance. Firstly, unlike previous agreements the CBD is a framework convention. One of the central principles of a framework convention is to take into account new information and trends in conservation and science on an ongoing basis and incorporate these into the decisions. The original text of the

Table 2.1 Summary of global measures for biodiversity in chronological order

Decade	YEAR	Governing Organisation	Title of Agreement
Pre 1970	1931	International Whaling Commission	Convention on the Regulation of Whaling
	1933	International Congress for the Protection of Nature	London Convention on African Wildlife
	1937	Northeast Atlantic Fisheries Commission	Convention for the Regulation of the meshes of fishing nets and the size limits of fish
	1949	UN General Assembly	United Nations Conference on the conservation and Utilisation of Resources
	1950	United Nations	International Convention on the Protection of Birds
	1958	Food and Agriculture Organisation	Convention On Fishing And Conservation Of The Living Resources Of The High Seas
1970 - 1989	1970	UNESCO	Man and Biosphere programme
	1971	Ramsar Convention Bureau	Convention on Wetlands of International Importance
	1972	UNESCO	Convention for the Protection of World Cultural and Natural Heritage
	1972	UN - General Assembly	United Nations Conference on the Human Environment
	1973	CITES Secretariat	Convention On International Trade In Endangered Species Of Wild Fauna And Flora
	1979	UNEP CMS Secretariat	Convention On The Conservation Of Migratory Species Of Wild Animals (BONN CONVENTION)
	1979	International Plant Protection Convention Secretariat	International Plant Protection Convention
	1980	IUCN (with UNEP and WWF)	World Conservation Strategy
	1982	North Atlantic Salmon Organisation	Convention fo the Conservation of Salmon in the North Atlantic Ocean
	1982	IUCN (with majority UN assembly support)	World Charter for Nature
	1983	International Tropical Timber Organization	International Tropical Timber Agreement
	1987	World Commission on Environment and Development	The World Commission on Environment and Development - 'Our common future'
1990 -2006	1991	Eurobats Secretariat	Agreement on the conservation of bats in Europe (arising from CMS)
	1992	Secretariat for the Convention of Biological Diversity	Convention On Biological Diversity
	1992	ASCOBANS	Agreement on the conservation of small cetaceans of the Baltic and North Seas (arising from CMS)
	1992	Joint Secretariat of PARCOM and OSCOM	Convention For The Protection Of The Marine Environment Of The North East Atlantic
	1992	United Nations	Agenda 21
	1992	United Nations	United National Framework Convention on Climate Change
	1992	United Nations	United Nations statement on Forest Principles
	1994	International Tropical Timber Organization	International Tropical Timber Agreement
	1995	AEWA Secretariat	Agreement on the conservation of African-Eurasian Migratory Waterbirds (arising from CMS)
	2000	Secretariat for the Convention of Biological Diversity	Cartagena Biosafety Protocol
	2000	United Nations	UN Millenneum Summitt - Millenneum Development Goals
	2001	Food and Agriculture Organization (FAO)	International Treaty On Plant Genetic Resources For Food And Agriculture
	2002	United Nations	World Summit on Sustainable Development
	2004	UN ECE	UN Decade of Education for Sustainable Development incorporates biodiversity
	2005	Secretariat for the Convention of Biological Diversity	Global Strategy for Plant Conservation
	2005	UNESCO	International Conference on Biodiversity: Science and Governance

Table 2.2 Biodiversity related multi-lateral agreements

1971	Ramsar Convention (Convention on Wetlands)	Provides for a framework for national and international actions for the conservation and wise use of wetlands
1972	World Heritage Convention	Concerned with the protection of the world's cultural and natural heritage, but with a strong biodiversity or nature conservation component
1973	CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora)	The aim of CITES is to ensure that international trade in specimens of wild animals and plants does not threaten their survival
1979	The Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention)	Aims to conserve those species and habitats whose conservation requires co-operation between several governments
1979	Bonn Convention on Migratory Species	Concentrates multilateral action for the protection of terrestrial, marine and avian migratory species
1992	The Convention on Biological Diversity	Aims to conserve and sustainably use biodiversity and share its benefits equitably

Convention therefore established the contours of its evolution and future programme of work. The Convention has evolved by, for example, incorporating expert scientific advice from the Subsidiary Body on Scientific, Technical and Technological Advice which then enables the Conference of the Parties of the Convention (COP) at their biennial meetings to set priorities for work, such as non-binding work programmes. Contributions from signatories to the Convention can also lead to negotiations on specific areas. One of the implications of this ongoing rolling approach is that the CBD today is quite different to what was initially signed in 1992 (Le Prestre, 2002).

A second feature of CBD which differentiates it from previous biodiversity agreements is its responsibility to take a co-coordinating and leadership role in biodiversity policy at international scale (McGraw, 2002). It should be noted that each convention within the biodiversity cluster exists independently with its own defined objectives and commitments, the CBD does not absorb or superseded prior agreements, instead it supplements them (Glowka et al.,1994). The integral position of the CBD amongst the biodiversity cluster is borne out in the CBD Strategic Plan (2002). Within the CBD strategic plan it states that the Convention "is setting the global biodiversity agenda" (C.1.1) and is also "leading the promotion of co-operation between all relevant international agreements and processes to enhance policy coherence" in the area of biodiversity (C.1.2). Efforts have been made to integrate the Conventions, both in terms of substantive issues (such as common issue areas and objectives) and functional areas (such as reporting, monitoring, scientific and environmental assessment, financial and technical co-operation). However, commentators such as McGraw (2002) argue that the biodiversity related agreements remain poorly integrated at international level due to entrenched institutional history and different approaches to biodiversity management. Despite this criticism, the CBD is considered to have the potential to establish a wider and more comprehensive context for the protection of biodiversity than previous agreements.

Thirdly, the comprehensive nature of the CBD also contrasts to previous agreements, both in terms of subject (biological diversity) and activity (conservation, sustainable use and equitable sharing of benefits). Prior international biodiversity

agreements are considered by commentators to have been more targeted in their focus towards specific species, sites or activities (McGraw, 2002). In fact, with the CBDs emphasis on sustainable use, it falls within a second cluster of MEAs which also arose as a result of the 1992 Rio Earth Summit. Namely, the United Nations Framework Convention on Climate Change, The Statement of Principles for the Sustainable Management of Forests and Agenda 21. The three Rio Conventions enjoy special status within the UN system being among the 25 treaties identified in the Secretary General's Millennium Report as central to the UNs mission.

The Rio documents represent a milestone in the development and recognition of a global consensus for sustainable development. The Rio Summit and subsequent conventions gave practical force to the idea of sustainable development. The Rio Declaration on Environment and Development comprises a charter of twenty-seven basic principles for sustainable development covering rights and responsibilities of states and their citizens. These principles establish the links between social, economic and environmental issues. Agenda 21, a global action plan for furthering sustainable development, covers four main areas of political action: social and economic development (Chapters 1-8), natural resources, fragile ecosystems and by-products of industrial production (Chapters 9-22), major organisations and groups of people (Chapters 23-32) with Chapter 28 covering local participation and Local Agenda 21, and means of implementation (Chapters 33-40).

2.1.1 - The Convention on Biological Diversity (CBD)

The CBD is an outcome of intergovernmental negotiations. National delegations, led by governments, include administrators from the ministries of environment and foreign affairs, members of the research community and, in some delegations, representatives of national non-governmental organisations (NGOs). International NGOs such as IUCN and governmental organisations, e.g. UNEP, taking part in the negotiations as observers. Governments of take part in goal setting, implementation and follow up. Subsequent decisions are made by the Conference of the Parties (COP) that meets every two years, and working groups.

With 192 signatories, and its comprehensive approach to the protection and sustainable use of biodiversity, the CBD potentially has far reaching implications for

the protection of biodiversity. However, in the years since it was first signed the CBD has come in for substantial criticism and is proving difficult to implement and operationalise. In the following section the CBD is examined in more detail to highlight significant articles pertaining to the Conventions three objectives, conservation, sustainable use and equitable sharing of benefits and highlights some of the difficulties faced in its implementation at national and local scales.

The conservation of biodiversity, called for under objective one of the CBD is primarily considered in Article 8 in-situ conservation and Article 9 ex-situ conservation. With regard to in-situ conservation the CBD requires signatories to establish a national system of protected areas and promote appropriate development policies in and around these areas which will contribute to the conservation and sustainable use of biodiversity. Article 8 provides legal protection for threatened species and populations and calls on Parties to the Convention to regulate risks threatening ecosystems, habitats and species (Henne & Fakir, 1999). Priority is given within the convention to in-situ over ex-situ protection, protected areas regarded as the cornerstones of international conservation policy (Mulder & Coppolilo, 2005). However, McNeely & Mainkta (2009) highlight that while protected areas have conservation value, they can no longer be seen as islands of biodiversity which exclude human interest. Instead, protected areas are to be seen as elements of the landscape, connected by habitat corridors and contributing ecosystem services to local people. In addition, McNeely & Mainka (2009) stress that protected areas also safeguard historic, cultural and economic features important to local populations. Article 8(j) recognises the rights, skills and knowledge of local populations and the need to integrate local people into protected area management decisions.

The second objective of the Convention is to sustainably use biodiversity. Articles 6 and 10 call for integration of biodiversity into all governmental planning and decision-making reflecting attempts to incorporate sustainable use of biodiversity in all aspects of social and economic development. Article 10 encompasses all governmental action, including legislation, and encourages co-operation between governmental authorities and the private sector in developing methods for sustainable use of biodiversity (Henne & Fakir, 1999). Through Article 10,

biodiversity management has the potential to reach not only private sector users, but also local community or public resource users of biodiversity. Further provisions for the inclusion of local communities are peppered throughout the Conventions text, such as Article 8(j) highlighted above. Articles 8(j) and 10(c) recognize the dependence of local communities on biodiversity resources, their role in resource management and the value of local knowledge and skills. It also recognises the need for local solutions to address the causes of biodiversity loss and encourages governments to respect and involve multiple stakeholders in national plans and plan making.

The third objective 'the fair and equitable sharing of benefits' deals with issues concerning access to genetic resources and transfer of technologies taking into account the rights over these resources. This provision was fought for by developing countries concerned about the extraction and commercialization of resources by commercial and public institutions in the developing world. Within Articles 15 and 16, provisions are made for access to, and fair and equitable sharing, of the results of research and development, benefits arising from commercialization of the resources and a transfer of technology that makes use of those resources. With respect to objective 3, Middleton & O'Keefe (2003) point out that the CBD was a "sorry affair" agreed in the face of powerful and well-established transnational corporations exploiting the profitability of biological resources while also seeking to extend monoculture and genetically modified organisms. In contrast McGraw (2002) takes a somewhat less critical view, acknowledging that the CBD does have limitations, but that the agreement represents a network of compromises and tradeoffs made between developing and industrialized countries.

Due to its comprehensive ecological focus and integration of non-traditional conservation issues (i.e. sustainable use and participation) into the conservation arena, the CBD has been described as a "courageous political document" by McGraw (2002:32). Henne & Fakir (1999) follow in a similar vein, claiming that the CBD has the potential to change the management of biodiversity in a revolutionary way by governing the many relationships between humans, economic development and natural resources. However, despite its ambitious nature and potential, in the years since it was initially signed the CBD has been heavily criticized.

Commentators have criticized the Convention's cumbersome, vague legal text and absence of timetables and specific, binding targets. For example, most of the Articles of the convention have qualifiers such as "as far as possible and as appropriate" (e.g. Articles 5, 7, 8, 9, 10, 11, 14) which situates implementation within national capacities and socio-economic context (Henne & Fakir, 1999). Also, as Le Prestre (2002) points out, the Convention reaffirms and extends national sovereignty over biodiversity and biodiversity resources, providing states the right to choose the policies they deem most appropriate for biodiversity conservation and sustainable use. While this flexibility is seen as a positive aspect promoting continual harmonious co-operation between public administrators and citizens, and also promoting technological innovation, it also contributes to implementation issues. This has created difficulties in translating the convention into national and local action and allowed for substantial flexibility in implementation (Swanson, 1997). Together these deficiencies are considered to have substantially weakened the influence of the CBD at EU (Baker, 2003) and national levels (Cowie et al., 2007). McGraw (2002) maintains that the CBDs near universal membership, while a success in a manner of speaking, is also reflection of these inherent weaknesses. She suggests countries signed on because there is no effective way of monitoring or enforcing compliance.

In the ten years between the Rio Agreement and the development of the CBD Strategic plan in 2002, it became recognised by the Conference of the Parties that translating the aspirations of the Convention into action at national and local scales was proving highly problematic. Like that of other MEAs, the current focus of CBD discussions at the international scale has shifted from policy deliberation and formulation towards a more focused effort on supporting implementation (Seyfang & Jordan, 2002). In 2002, recognising that the rate of loss of biodiversity was continuing to increase, the parties to the convention agreed to a strategic plan intended to halt the loss of biodiversity. Parties committed to the '2010 Biodiversity target', that is 'to achieve by 2010 a significant reduction of the current rate of biodiversity loss at the global, regional and national level as a contribution to poverty alleviation and to the benefit of all life on earth. Outcome-oriented targets, on a global basis, have been agreed, and include a target of at least 30% of production lands managed consistent with the conservation of plant diversity.

Actions to be taken include conserving production species, protecting other species in the landscape, and introducing management practices that minimise adverse impacts on surrounding ecosystems, such as by reducing export of agri-chemicals and preventing soil erosion. The strategic plan includes the goal to reduce pressures from habitat loss, land use change and degradation, and unsustainable water use, and to enhance resilience to climate change. Parties are to implement national policies and programmes targeted toward these goals.

However, implementation of the CBD is largely a domestic matter, which according to Le Prestre (2002:65) "complicates the matter". In the case of the CBD the main mechanisms for implementation are national strategies and action plans, the clearing house mechanism, various focal points created to liaise with the regime and scientific, technological and financial transfers (Le Prestre, 2002). The key mechanism through which the objectives of the convention are to be realised and which underpins each provision is Article 6. This Article requires contracting parties to the Convention, in accordance with the countries particular conditions and capabilities, to:

> (a) Develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity or adapt for this purpose existing strategies, plans or programmes which shall reflect, inter alia, the measures set out in this Convention relevant to the Contracting Party concerned; and
> (b) Integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies" (CBD, Article 6).

The provisions of Article 6 require that Contracting Parties integrate biodiversity across all government policy, plans and programmes and throughout sectors. One of the implications of mainstreaming is that it enables conservation and sustainable use of biological diversity to become formally institutionalized, an integrated aspect of the national development process. NBSAPs (National Biodiversity Strategy and Action Plans) therefore, have come to be recognised at the international level as the critical framework for national implementation of the objectives of the Convention. They are a central mechanism to integrate concern for biodiversity across government decision-making and planning ensuring that biodiversity becomes a key

component in a range of policy sectors such as trade, agriculture and forestry (Garner, 1999). Repeated COP decisions[4] and the 2002 CBD Strategic plan stressed the importance of more effective and coherent implementation of the Convention at national level through the integration of biodiversity concerns into all relevant sectors of government (Article 6 of the 1992 Convention, reiterated in Goal 3 of the 2002 Strategic Plan).

Despite the central importance of NBSAPs and repeated calls for their development and implementation, a review conducted by the CBD secretariat is highly critical of progress (SCBD, 2007). The review states that 43 parties have not developed national plans, but that many have not implemented them, reviewed or updated them. Furthermore, the review identified additional limitations in NBSAPs, such as inadequate financial, human and technical resources for implementation, lack of quantitative targets and communication programmes, non-integration of the ecosystem approach and no link to the 2010 target. The review noted the importance of securing high-level government support in the process of developing, updating and implementing national biodiversity strategies and action plans, and the need to engage all relevant sectors and stakeholders, including government departments, local authorities, local and indigenous communities, civil society and the private sector in the process.

In the review concern was raised that where NBSAPs had been drawn up, they were not successfully integrating biodiversity concerns into national planning processes or into the policies and programmes of economic sectors. In addition, the review noted that while stakeholder consultations have been part of some NBSAP preparation, "the range of stakeholders involved is often not adequate to ensure effective ownership of NBSAPs or to ensure mainstreaming of biodiversity beyond the environment community" (SCBD, 2009:4). The need for a cross-sectoral approach and increased participation of publics and stakeholders has been noted as the main cause of limited progress on implementation of the Convention (Anderson et al., 1997). Involving local people and wider stakeholders in plan

[4] Decision VI/26 on the Strategic Plan for the Convention; Decision VI/27 A on Implementation of the Convention; Decision IX/8 on Guidance for development, updating and implementation

development is considered key to successful biodiversity management, with UNEP, suggesting that "the preparation and implementation of effective national biodiversity strategies, plans or programmes requires a highly participatory process, especially involving people and economic sectors most affected" (Glowka et al., 1994:29). The CBD, and ensuing NBSAPs therefore has the potential to involve the users of biological resources both private sector and local population directly in policy making and management.

A secondary concern regarding the CBD is raised by Naeem et al. (2009) who argue that the very definition of biodiversity in the CBD is so broad and inclusive as to provide little guidance on how to move beyond the use of 'diversity' as a useful abstraction, and towards an understanding of the specific attributes of communities of organisms in particular locations and ecosystems. The emphasis in the convention on sustainable use may encounter problems from policy formation to practice. Problems arise based on the lack of scientific information available and the dynamics of the economic, social, political and cultural systems that guide or regulate use. In addition there are possible philosophical or moral objections with the notion of sustainable use despite it being deeply enshrined in biodiversity policy from international to local scales. From one perspective sustainable use can be seen as a mechanism to positively encourage and contribute to biodiversity conservation, or at least, is preferable to uncontrolled use of resources. On the other, it may be seen as a way to make more palatable the regulation of resources being more politically expedient than the notion of national parks and human population exclusion (Campbell, 2002).

The Convention states that where there is a threat to biological diversity, lack of full scientific certainty should not be used as a reason for postponing measures to avoid or minimise such a threat, what has become known as the precautionary principle. In 2001, a review of the current status of global biodiversity was published in the first edition of the Global Biodiversity Outlook (SCBD, 2001) and analyzed progress towards the three objectives of the CBD as requested by the COP of the CBD. The report concluded that the lack of biodiversity information was one of the major impediments for reporting achievements but also for the creation of meaningful targets against which progress of the CBD could be measured. In

response to this information deficit, and with request for information from three other international conventions, the CCD (desertification), Ramsar and the Millennium Ecosystem Assessment (MA) was authorized by governments, through the CBD. The MA has proved to be an important addition to the international body of biodiversity policy.

2.1.2 - The Millennium Ecosystem Assessment (MA)

The goal of the Millennium Ecosystem Assessment (MA) was to establish the scientific basis for actions needed to enhance the conservation and sustainable use of ecosystems and their contribution to meeting human needs. It seeks to address on of the fundamental issues in biodiversity policy integration and implementation, to strengthen the links between policymaking, science, and society. The MA represents the considered findings of nearly 1,400 scientists from around the world, who were asked to evaluate the state of knowledge, trends and conditions of ecosystems and the services they provide, and give some indication of the potential future conditions and evaluate the successes and failures of possible policy responses. The Millennium Ecosystem Assessment (MA, 2005) drew significant attention to ecosystem services, the benefits that people obtain from ecosystems, and supported by biodiversity (CEC, 2006a)[5]. Table 2.4 provides a summary of ecosystem services and their value to humans. It should be pointed out that in addition to those services provided by biodiversity which directly affect basic human needs and survival, biodiversity also provides many 'cultural services', such as space for recreation, spiritual and religious reflection, as well as opportunities for education and aesthetic enjoyment. The importance of biodiversity as part of human well-being and quality of life is therefore a key component of the MA, and ecosystem services (MA, 2005; Lees & Evans, 2003). The MA, therefore, provides a conceptual framework that captures the circular relationship between the well being of people and the services that ecosystems offer. It links the impacts of human activities such as economic development on biodiversity. But also it highlights that economics and human well being is also dependant on biodiversity. It

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[5] The concept of ecosystem services originated in the mid 1960's, but since the MA, has become widely used in policy discussions. There are numerous classifications describing ecosystem services (Ozdemiroglu, 2006; English Nature, 2002).

recognises that economics and human society often overlook the necessity of healthy ecosystems to long term economic success. The MAs framework links drivers, services and human well-being, which according to Norrgard (2008), may turn out to be its most important contribution to biodiversity policy. By promoting the direct relationship between biodiversity, in the form of ecosystems, an overt justification for the protection of biodiversity can be provided by appealing to human well being (MA, 2005; Lees & Evans, 2003; SCBD, 2002).

Table 2.3 Summary of ecosystem services and associated values

Adapted from: MA (2005); Lees & Evans (2003).

Ecosystem service	Value
Provisioning and economic	Direct provision of food, fuel, fibre, water and genetic resources such as biochemicals, natural medicines, pharmaceuticals and ornaments
Regulating, purification and detoxification	Climate (temperature regulation, precipitation, carbon storage), flooding (flood prevention, timing and regulation of run off, aquifer recharge), disease regulation, water purification, waste management, air quality, regeneration and reproduction (habitat pollination and seed dispersal), biocontrol (control of natural predators of pests), pollution and natural hazard protection (fire resistance, protection from avalanche and storm), invasion resistance, herbivory, pollination, seed dispersal
Cultural and social	Aesthetic and inspiration, recreational, educational, spiritual and religious, social relations and personal development, sense of place, identity, cultural heritage, tourism, better living surroundings, distant appreciation, knowledge systems and scientific discovery
Supporting (services supporting all other ecosystem services)	Primary production (biomass), atmospheric oxygen production, nutrient cycling, soil formation and retention, water cycling, habitat provision (refuge for animals and plants), storehouse for genetic material

The MA (2005) suggests that humans, by modifying and removing natural ecosystems have changed the Earth's biodiversity substantially thereby bringing about the current biodiversity crisis. A major conceptual advance of the MA is the conceptualization of tradeoffs in ecosystem services. One of its major findings was that for many decades there have been significant enhancements of provisioning

services (e.g. food provision) at the expense of other services, such as regulating services (e.g. sequestration of carbon) or cultural services. While the MA clearly demonstrates and documents these tradeoffs at global or regional scales (e.g. within the European Union) it also suggests that such tradeoffs also exist at national and local scales. The outcome of the MA repositioned calls to halt the loss of biodiversity in terms of ecosystem services. This makes explicit the relationship between human well being and biodiversity and starkly highlights choices made in utilising biodiversity. Implementation of the MA is suggested to start from the global framework, but that strategies, policies and measures for implementation need to be generated at the level sovereign nation states and individual communities so that responses are case specific. Assessing the advantages and disadvantages of ecosystem management (that is with social, economic, and environmental costs and benefits) within a national decision-making framework will be an essential prerequisite for establishing the balance between ecosystem management and other urgent development priorities and for identifying and mainstreaming key policies for implementation (MA, 2005).

Identification of multi-scalar trade-offs is one of the key outcomes of the MA, as its states, "effective management of ecosystems requires co-coordinated responses at multiple scales" (MA, 2005:9). As Rauschmayer et al. (2009) claim the MA recognises that local and global processes are deeply intertwined, that what happens at one scale is not only connected to other scales, but is to some extent, part of processes at other scales. Local interactions with biodiversity are not disassociated with trends and interactions at higher levels. It positions the requirement of multi-scalar management in two ways.

First, it recognises that conserving biodiversity through sustainable use involves trade offs, and that local areas are called upon to bear the burden of ecosystem management. It suggests that local communities will need to be reassured that the benefits they reap from trade-offs will exceed the costs. The MA suggests that equitable burden sharing will be required, especially to ensure that disproportionate additional costs are not imposed on already impoverished groups. Secondly, the MA recognises that building equality into decisions will require the engagement of a broad range of stakeholders, through multilevel mechanisms, to build both

ownership and consensus around MA results within specific countries and communities. Therefore, the MA calls for integrated, multi-scalar science and more integrated, multi-scalar governance. It suggests that the way forward requires rewiring the institutions of governance, making new connections to understand and find solutions to solve the complex interlinked challenges of ecosystem degradation based on deliberative information gathering and planning (MA, 2005:8).

However, critics have highlighted potential problems in scaling down the MA to national and local level. While the development of the MA attempted include and attempted to reach a wide group of people, scientists, policy makers, politicians and business[6], in the years since its production, the MA has faced difficulties in meeting this audience. Norgaard (2008) suggests that the key issue lies with national state representation, institutionalization and visibility in the process by which the MA was conducted. He goes on to suggest that a process that does not involve individual countries independently of convention secretariats will be much easier to dismiss. The Conventions and their secretariats are not themselves potent political actors. For example, the CBD explicitly recognises each country's sovereign control over its own natural resources and to date has had very few, if any, binding protocols regarding the reporting of the conditions and trends in those ecological resources or the services they provide. The mismatch between main political audiences and authority to act for the MA raises the potential for individual countries to ignore its findings, unless specific actions are taken to ensure the findings are confronted. In addition, the issues the MA addresses are intrinsically interconnected with energy, environment and development issues, to the extent that there is no single home for its findings within national governments. While this level of interconnectedness mirrors the real-world complexity of ecosystems and ecosystem services it can also mean that there is no institution whose interests are so strongly connected to the issues raised in the MA that it would benefit from, or be threatened by, its findings and therefore would become a focal point for policy actions.

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[6] The business community was successfully engaged at the outset of the MA at board level. Integration was somewhat less successful at lower levels, but business participants were involved in the drafting team for the synthesis report that was targeted at the business community.

A second body of criticism of the MA comes from its integration with market-oriented mechanisms for conservation. This is suggested by Norgaard (2010) and McCauley (2006:27) as one of the most important trends in conservation science at the moment, based on the "underlying assumption that if scientists can identify ecosystem services, quantify their economic value, and ultimately bring conservation more in line with market ideologies then decision-makers will recognize the folly of environmental destruction and work to safeguard nature". Theses critics argue that the fundamental premise of valuing ecosystems in economic terms as a stock, from which services flow and the determination of market based conservation strategies is defective in two ways. First, it offers little guidance on how to protect biodiversity, that conflicts with our interests, or preserve those aspects of biodiversity that neither help nor harm us. Secondly, he objects to the rationalization of ecosystem services, intentionally or otherwise, which measures the conservation potential of nature on the basis of "when it is, or can be made, profitable" (McCauley, 2006:28). Similarly, Barbier et al. (2009) recognises that "while the MA offers a useful way into the problem for economists, many other still have difficulty both with the notion that species have a finite value".

2.1.3 - International policy guidance on implementation of the CBD and MA

International biodiversity policy from the CBD, its 2002 strategic plan, and reiterated in the MA, is the importance of integration of biodiversity through out economic sectors as a mechanism to tackle the drivers of biodiversity loss. Lack of integration across these sectors was considered by the 2002 CBD Strategic Plan as a key obstacle towards achieving the 2010 target to halt the loss of biodiversity. The Global Biodiversity Outlook 2006 suggests that engaging actors in these sectors is vital, but also, it states that recruiting allies as advocates for the conservation and sustainable use of biodiversity is also required. Therefore, it acknowledged that biodiversity mainstreaming is complex and requires the active and effective participation of private, public and civil society stakeholders. Within the biodiversity policy documents, two strategies of engagement are discernable, Communication, Education and Public Awareness strategies (CEPA) and the Ecosystem Approach. However, Agenda 21, also signed at Rio is essential policy underpinning stakeholder engagement.

Article 13 of the CBD, 'Communication, Education and Public Awareness' (CEPA), is considered to be a key mechanism to facilitate increased participation in biodiversity decision-making (Middleton & O'Keefe, 2003). Under Article 13, nation states are required to promote a public education and awareness of biodiversity. CEPA is considered as a tool for mainstreaming biodiversity into sectoral practices, bringing different perceptions and priorities into the decision-making process, and potentially changing individual behaviour to prevent the further erosion of ecosystems and reduce the main factors responsible for biodiversity loss (Kelsey, 2002). CEPA documents stress that information provision needs to move beyond rational individual choice or making scientific information available to the public. Instead, "CEPA deals with the processes that motivate and mobilise individual and collective action. CEPA comprises a range of social instruments including information exchange, dialogue, education, and marketing. The instruments work best when part of an instrument mix that is used to develop, implement and manage the national biodiversity strategy and action plans" (van Boven & Hesselink, 2003:2). However, as the MA (2005:160) states, "communication and education is a relatively weak instrument to bring about change if that change involves high barriers, such as great personal effort or economic loss". Where personal changes are perceived negatively, for example involving great commitment or economic loss, CEPA, it is suggested, can be accompanied by other measures to ensure livelihood support. In such circumstances CEPA becomes a tool to provide information and build capacity which can assist communities to take decisions regarding biodiversity (MA, 2005; Goldstein & Hesselink, 2003). CEPA is now considered part of the MA, and the other biodiversity Conventions, providing a broad framework for public participation as evidenced by the plethora of guidelines and toolkits to support this approach (e.g. Martin-Mehers et al., 2004; van Boven & Hesselink, 2003; Kelsey, 2002).

The Ecosystem Approach (EA) is also considered central to the implementation of the CBD. EA calls for 'people-first' conservation through participation of stakeholders and local communities in adaptive management decision-making. The Ecosystem Approach was originally mooted at COP 2 as the primary framework of action to be taken under the Convention, but without specifying what the approach implied in concrete terms. It was formally endorsed by the fifth Conference of the

Parties to the Convention on Biological Diversity (CBD) in Nairobi, Kenya, in May 2000, as a framework for thinking ecologically that results in action based on holistic decision-making. It is described as "a strategy for the management of land, water and living resources that promotes conservation and sustainable use in an equitable way" (Smith & Maltby, 2003:i). The Ecosystem Approach is based on the application of appropriate scientific methodologies focused on levels of biological organisation which encompass the essential processes, functions and interactions among organisms and their environment. It recognises that humans with their cultural diversity are an integral component of ecosystems. The Ecosystem Approach therefore links biological, social and economic information and aims to achieve a socially acceptable balance between nature conservation priorities, resource use and the sharing of benefits, placing people firmly within the context of ecosystem management.

Guidelines produced by the IUCN entitled 'Using the Ecosystem Approach to Implement the Convention on Biological Diversity' suggests that the integration of the Ecosystem Approach into natural resource sectors such as water resources, agriculture and fisheries is an appropriate way to further the implementation of the CBD. The Ecosystem Approach brings into consideration the concept of sustainability as one very important component of conservation policies. It places humans at the heart of ecosystems, and their sustainable use and conservation of biodiversity. From both an ethical and pragmatic view, the EA suggests, in accordance with the World Conservation Strategy, that it is appropriate to give local populations a central role in conservation programme.

From the above discussion two key distinguishing features of the Ecosystem Approach can be discerned. First, it puts people at the centre of biodiversity management and decision-making, and second, it addresses prior fragmentary approaches to conservation and sustainable use of biodiversity activities. These features are important as decision-making through the EA takes relationships between organisms and their habitats, including human activities, into consideration, and is based on natural space rather than judicial space. The Ecosystem Approach when combined with spatial planning is suggested to help resolve conflicting land use objectives and promote synergies between social,

economic and environmental goals. In order to operationalise these two features, a central principle of the EA states that management should be decentralised to the lowest appropriate level (Principle 2 of the EA). Although it is recognised in EA guidelines that the local scale of decision-making is not removed or dislocated from other scalar influences, instead, as Smith & Maltby (2003) suggested, a combined bottom-up and top-down approach can be used to identify the most appropriate management prescriptions and mechanisms.

The MA (2005:142; citing CBD 2003:8) also considers the ecosystem approach as a key implementation mechanism. But asserts that employing the approach will not equate to a 'win-win' outcome for biodiversity and economic development. Instead, the MA states, that there is a need to "dispel the myth" that 'win-win' situations between development and conservation objectives are widely achievable. The MA suggests that the ecosystem approach be used to understand how trade-offs and equitable compromises between society, the market and ecosystem services can be attained. Returning to issues of scale, the MA also suggests that mainstreaming the ecosystem approach requires multi-scalar involvement, from the local to the international. For example, the MA suggests that utilizing the ecosystem approach at international level would require increased take-up by parties to multilateral environmental, trade, and development agreements, and by financial institutions in their funding decisions (MA, 2005). But it also requires that issues at regional and sub-national levels provide opportunities to address trade-offs and synergies in regional planning.

Following the 2007 outcomes of the COP review into CBD implementation, EA and MA are considered as important for inclusion into national biodiversity strategies and action plans (SCBD, 2009). It is suggested in the review that using the EA will highlight the contribution biodiversity makes to ecosystem services, poverty eradication, national development and human well-being, as well as the economic, social, cultural, and other values of biodiversity as emphasized in the CBD. The review also calls upon those making the national plan to use, as appropriate, the methodologies and conceptual framework of the Millennium Ecosystem Assessment. Closely linking national plans and strategies to biodiversity and ecosystem services, it suggests, will allow better integration of biodiversity into other

sectors or broader national objectives. The review also calls for sub-national targets (where applicable) to support the implementation of the national biodiversity strategy, through the production of Local Biodiversity Action Plans.

2.2 - European biodiversity policy

The following section will outline significant European policies and their implications for biodiversity. Before examining significant biodiversity policy in detail, a brief overview of environmental and biodiversity policy framework at EU scale will be provided.

The EEC and now the EU, has been steadily developing a body of European laws and policies on the environment since the 1960s, however since the 1987 Single European Act this moved into a new phase of increased activity. This Act gave the European Commission new powers to introduce and develop environmental law, which had until that time principally come under the remit of the Council of Europe. Table 2.4 illustrates this growth in biodiversity related policy, in particular, arising from the Commission. For example the Bern Convention on the Conservation of European Wildlife and National Habitats (1979) and specific agreements which were developed for migratory birds and mammals under the 1979 Bonn Convention (Dixon, 1998). The Act also promoted common environmental standards as a critical element in the process of harmonization needed to create a single European market (Desai, 2002). The EU did not begin to address biodiversity seriously until a relatively late stage in the development of its environmental policy, having first concentrated on developing air and water pollution controls which were regarded as being more closely related to the development of a common market (Ledoux, 2000). The Fifth Environmental Action programme (5EAP) 'Towards Sustainability' covering the years 1993 – 2000, marked a departure in EU environmental policy. Sustainable development was identified as the main objective of environmental policy, and it included five policy targets with regard to conservation and use of biodiversity.

Table 2.4 Summary of European measures for biodiversity in chronological order

Decade	YEAR	Governing Organisation	Title of Agreement
Pre 1990	1962	European Commission - DG Agriculture and Rural Development	Common Agricultural Policy - Agri Environment Schemes REPS
	1970	European Commission - DG Fisheries	Common Fisheries Policy
	1979	Council of Europe Secretariat for the Bern Convention	Convention On The Conservation Of European Wildlife And Natural Habitats (BERN CONVENTION)
	1979	European Commission - DG Envrionment	Birds Directive (Council Directive 79/409/EEC)
1990 - 1999	1991	European Commission - DG Envrionment	Nitrates Directive (91/676/EEC) and related
	1991	European Commission - DG Envrionment	Urban Waste Water Treatment (91/271/EEC) and related
	1992	European Commission - DG Envrionment	EU Habitats Directive (Council Directive 92/43/EEC) and establishment of Natura 2000 network
	1995	Council of Europe	Pan-European Biological and Landscape Diversity Strategy
	1997	European Commission - DG Envrionment	European Environmental Impact Assessment Directive (Council Directive 97/11/EC amending Directive 85/337/EEC)
	1998	European Council	The Cardiff Process - integration of environmental considerations into European policy
	1998	European Commission - DG Envrionment	European Biodiversity Strategy (COM (98) 42 final)
	1999	European Council	Strategy for integrating the environmental dimension into CAP
2000 - 2006	2000	European Commission - DG Envrionment	EU Water Framework Directive (Council Directive 2000/60/EC)
	2000	Council of Europe	European Landscape Convention
	2001	European Commission - DG Envrionment	Biodiversity Action Plan Agriculture (COM (2001) 0162)
	2001	European Commission - DG Envrionment	Biodiversity Action Plan Fisheries (COM (2001) 0162)
	2001	European Commission - DG Envrionment	Biodiversity Action Plan Natural Resources (COM (2001) 0162)
	2001	European Commission - DG Envrionment	Biodiversity Action Plan Development Cooperation (COM (2001) 0162)
	2001	European Commission - DG Envrionment	The Sixth Environmental Action programme 'Our Future, Our Choice' 2002 - 2012 (COM (2001) 31 Nature and Biodiversity
	2001	Council of Europe	The European Union Strategy for Sustainable Development (COM (2001) 264 final) and related
	2002	Council of Europe and Planta Europa (Czech NGO)	European Plant Conservation Strategy
	2004	European Commission - DG Envrionment	European Strategic Environment Assessment Directive
	2004	European Commission - DG Envrionment	Malahide Conference - Sustaining Livlihoods and Biodiversity
	2004	European Commission - DG Agriculture and Rural Development	Biodiversity Action Plan for Agriculture - Implimentation Report
	2005	European Commission - DG Envrionment	Strategy on the sustainable use of natural resources COM(2005) 670
	2006	European Commission - DG Envrionment	2010: EU Biodiveristy Communication - Road map to halting the loss of biodiversity in the EU by 2010

In addition, while previous EAPs were primarily top-down driven processes, this programme encouraged citizens of Member States to engage in shared responsibility for the environment (Connolly & Smith, 2003).The Sixth Environmental Action Programme built on this objective and was also significant in its prioritizing of nature and biodiversity as a key theme. One of the objectives within the 6EAP is to halt the loss of biodiversity in the European Union and on a global scale (CEC, 2001).

The section begins with an examination of the integration of the CBD at a European level. This is followed by one of the most recent developments in biodiversity policy in the EU, the 2006 Communication from the Commission on Halting the Loss of Biodiversity by 2010. This document brings together a range of EU biodiversity policies, including the key EU Directives which will then be examined.

2.2.1 - Integrating the CBD at European level

The Convention on Biological Diversity was ratified at the European level by the European Union in 1993. In response to the CBD, the Community expressed reservations about the CBDs financial arrangements, over-ambitious aims and the corresponding lack of focus, which in 2002, at COP6, led to the drafting of the CBD Strategic Plan (Baker, 2003). In the intervening years between ratification and the production of the European Community Biodiversity Strategy in 1998, the EU engaged in what Baker (2003) calls an ad hoc response to the Convention, drawing on existing financial and legal instruments. The EC Biodiversity Strategy represents the EUs strategic response to the CBD. It should be highlighted, that individual Member States of have also ratified the CBD, leading to some confusion around the responsibilities of the EU versus Member States, it has resulted in, as Baker (2003) calls, an arrangement of 'mixed competence.'

The EU Biodiversity Strategy contains general measures to promote the conservation and sustainable use of biodiversity and is built around four major themes: conservation and sustainable use of biodiversity; sharing of benefits arising from the utilization of genetic resources; research, identification, monitoring and exchange of information; and education, training and awareness. The Strategy has been linked with sectoral policy integration, following the 1998 European Council

meeting in Cardiff (the Cardiff Process), whereby biodiversity became of strategic, economic importance. Within the four main themes, the Commission listed 46 specific objectives. In keeping with the Cardiff Process, the overall aim of these objectives is to integrate biodiversity considerations into sectoral policy. In 2001, this lead to the production of four Biodiversity Action Plans, concerning conservation of natural resources, agriculture, fisheries, and economic and development co-operation (CEC, 2001). Each defines actions and measures to meet the objectives defined in the 1998 Strategy and specifies measurable targets. Additionally, there have been administrative adjustments within the Commission, with the introduction a CBD team within DG Environment (DGEnv) and biodiversity integration correspondents and environmental units within other DGs.

However, as Baker (2003) notes, there are also deficiencies in these documents. First, the Commission is advised by an ad hoc working group, which focuses on identifying a research agenda, rather than acting as a consultative body with a broader remit. In addition, legislative efforts appear piecemeal, building on existing uncoordinated pieces of legislation, as will be discussed below, rather than a unifying legislative approach. In addition, sectoral policy integration, a lynchpin of the sixth EAP, has proved notoriously difficult to achieve.

2.2.2 - Target to halt the loss of biodiversity by 2010 and review of EU Biodiversity Strategy

In 2001 the EU Heads of State and Government made commitments to protect and restore habitats and natural systems, and halt the loss of biodiversity by 2010 [in the EU] by 2010, as part of the European Union Strategy for Sustainable Development (SSD) at Gothenburg (Withana et al., 2010). The renewed SSD, which was developed at this time in an effort to demonstrate EU global leadership in the run up to the World Summit for Sustainable Development in 2002, has as one of its challenges, conservation and management of natural resources. Within this a key objective is to improve and avoid over exploitation of natural resources, recognising the value of ecosystem services and to secure the recovery of habitats and natural systems. In 2002, the CBD adopted its strategic plan which included the overall target to significantly reduce the rate of biodiversity loss by 2010. This target was subsequently endorsed by 130 world leaders (including EU Heads of State and

Government) at the World Summit on Sustainable Development (WSSD) in 2002 which committed to significantly reduce the rate of biodiversity loss [globally] by 2010 which further strengthened political support and established increased momentum for biodiversity (Withana et al., 2010).

Withana et al. (2010) outline the process of review of the implementation, effectiveness and appropriateness of the EU Biodiversity Strategy and Action Plans. In 2003 the Commission began the review process, which was agreed by Commission services, Member States, acceding countries and civil society organisations. The process was overseen by the European Commission's Biodiversity Expert Group (BEG) whose members included delegated experts from Member States and experts representing civil society organisations. Five working groups were established under BEG, and were similarly representative of stakeholders. An Inter-Departmental Co-ordination Group on Biodiversity was set up to allow for consultation among the Commission services, and the research community was engaged through the European Platform for Biodiversity Research Strategy (EPBRS).

The 2003-2004 review process culminated in a stakeholder conference held under the Irish Presidency in Malahide, Ireland from 25-27 May 2004 entitled 'Biodiversity and the EU – Sustaining Life, Sustaining Livelihoods'. The outcome of this conference was the Message from Malahide, which set out concrete targets and priority actions to help achieve the 2010 target (Duke, 2005). As part of the review process, and included in the Message from Malahide, were a set of EU headline biodiversity indicators, which are said to act as mechanism of measurement, communication and achievement of the 2010 target. By 2004, the need for accelerated action towards the target was being stressed at high political levels - e.g. EU Heads of State and Government at the European Council in June 2004 linked the 2010 biodiversity target to the Lisbon Reform Agenda. The link between biodiversity and the economy was reiterated by the European Council in March 2005 in its conclusions on the re-launch of the Lisbon Strategy. This notes "the importance of the objective of halting the loss of biodiversity between now and 2010, in particular by incorporating this requirement in other policies, given the importance of biodiversity for certain economic sectors". Setting and delivering

biodiversity priorities was seen as an opportunity for the EU to take leadership on the international stage (Withana et al., 2010:58).

This high level political commitment led to the publication of the 2006 Communication and Action Plan. The analysis in the Impact Assessment accompanying the 2006 Communication showed that a business as usual scenario would not deliver the political commitments to halt the loss of biodiversity in the EU and would be inconsistent with the Council's calls for accelerated action in the area. The regulatory approach was discarded as the introduction of new legislation would take several years, and would thus not have a significant impact in meeting the 2010 target. The Commission also claimed that there was insufficient evidence to suggest that the existing legal framework was inadequate. The approach of a focused EU Action Plan to 2010 was selected given its support during the consultation process (Withana et al., 2010).

2.2.3 - Communication on 'Halting the Loss of Biodiversity by 2010 and Beyond'

In May 2006 the European Commission issued the Communication and Impact Assessment 'Halting the Loss of Biodiversity by 2010 and beyond'. The EU Action Plan encompasses previous plans, but also presents a new approach to biodiversity policy in the EU, providing for the first time a sectoral and horizontal action plan which provides in one document an overview of priority actions in all relevant sectors and horizontal policy areas for both Community and Member States.

The EU Action Plan is broadly based on the CBD, apportioning responsibility for actions to Member State level. The plan is orientated towards biodiversity conservation through key policy areas, clear objectives and supporting measures, targets, actions and indicators to measure progress. The Communication identifies four key policy areas for action and ten priority objectives. The four policy areas include biodiversity within the EU, the EU and global biodiversity, biodiversity and

climate change and biodiversity knowledge base[7]. The Biodiversity Action Plan sets a number of headline targets and more specific targets to be achieved under each of the ten priority objectives, and identifies over 150 specific actions for implementation at Community or Member State level, or both. The Plan is non-legislative and focuses on the implementation of existing instruments rather than on the development of new ones. The Plan does not supersede existing sectoral Biodiversity Action Plans, but is intended as a complement to them. While the targets themselves are not legally binding, but often refer to legally binding actions such as the successful implementation of the birds and habitats Directives (Withana et al., 2010).

The Action Plan emphasizes the importance of public involvement in biodiversity decision-making (CEC, 2006a/b). The 2010 Communication from the European Commission suggests that there is a need to build greater awareness among the wider public and Supporting Measures two, three and four of the action plan are of note in this regard. Supporting Measure two calls for a strengthened decision-making process to improve co-ordination and coherence at national level between plans and programmes affecting biodiversity and to ensure decision-making at regional and local levels are consistent with national and international commitments for biodiversity which suggests a top down perspective for policy implementation. Supporting measure three, building partnership, suggests that by developing inter sectoral partnerships between organisations, for example business and biodiversity or construction and biodiversity, stakeholders can engage in dialogue thereby identifying early solutions and necessary trade offs for biodiversity. Supporting measure four, building public awareness and participation, calls for a more determined and strategic approach to building public awareness and participation. It

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[7] Within these four areas, the 10 priority objectives are: to safeguard the EU's most important habitats and species; to conserve and restore biodiversity in the wider EU countryside; to conserve and restore biodiversity in the wider EU marine environment; to reinforce the compatibility of regional and territorial development with biodiversity in the EU; and to substantially reduce the impact on EU biodiversity of invasive alien species and alien genotypes. To substantially strengthen the effectiveness of international governance for biodiversity; to substantially strengthen support for biodiversity in EU external assistance; and to substantially reduce the impact of international trade on EU and global biodiversity; support biodiversity adaptation to climate change, and to substantially strengthen the knowledge base for conservation and sustainable use of biodiversity, in the EU and globally (CEC, 2006b).

suggests that greater awareness will help foster political demand for conservation and sustainable use of biodiversity and help capture relevant knowledge on biodiversity and mobilise resources for policy implementation (CEC, 2006b). The Communication suggests a form of new governance, based on the partnership model, but with the aim of better implementation of biodiversity policy, rather than a strong commitment to a more participatory democracy.

Withana et al. (2010) highlight that while the Action Plan is closely linked to the Malahide Objectives, there are gaps and differences. These differences represent a watering down of Malahide objectives, for example, further integration of the target into agricultural, forestry and tourism policy. Also, there is significant emphasis within the Communication identifiing the flow of ecosystem services as the most important reason for conserving biodiversity given the flow of ecosystem services which underpin prosperity, competitiveness and quality of life (CEC, 2006b). This emphasis was not included in the original Malahide documents. These comments are significant, they suggests that through the Communication the EU biodiversity policy is now focusing on economic aspects of biodiversity and ecosystem services. Linking habitat protection to economic development is suggested by critics as a major policy shift of potentially enormous significance (Stoll-Kleemann, 2001).

In December 2008, the Commission published its mid-term assessment of progress in the implementation of the Biodiversity Action Plan at both the Community and Member State level. The report highlights some positive developments, such as the extension of the Natura 2000 network, but also shows that implementation of the plan has been slow. It concludes that the EU would not meet its target of halting the loss of biodiversity by 2010. The review highlights some key issues regarding implementation. Significantly, it states that integration of biodiversity and ecosystem conservation measures into sectoral policies is urgently required. The Commission also identified legislative weaknesses and the significant variation between Member States in the proportion of spending targeted towards measures that benefit biodiversity.

Withana et al. (2010) provide some additional reasons which explain the poor implementation of the Action Plan at state level. First, they criticize the delegation of

responsibility for overseeing implementation of the Action Plan to the Biodiversity Expert Group (BEG), which they suggest absolved the Commission of its responsibility for implementation. This resulted in increased pressure on officials from environment agencies, especially in those Member States where such agencies do not have a high level of political influence. This limited the possibility of the Action Plan receiving buy-in from sectoral agencies / departments outside the area of nature conservation and environment. Second, lack of specific funding has caused delays in implementation. The Commission maintained that because many of the proposed actions in the Plan were already required by existing Community policies and/or legislation, additional resources were not assigned for implementation. This has proved to be a key limitation, because existing resources to implement existing policy are largely viewed as inadequate, and therefore, any stilting any movement beyond this. Third, its effectiveness was limited because it lacked of appropriate legal impetus to support it, and did not include specific, measurable, achievable, realistic and time bound targets. Withana et al. (2010:58) go as far to suggest, that the weak implementation of the Action Plan, as revealed by its mid-term assessment in 2008 "appears to have achieved little in terms of faster, more effective and better targeted implementation of relevant measures and has not effectively contributed to achieving the 2010 target".

Critics also suggest that far better science is required to input into and monitor progress towards post-2010 targets, such as spatial, geographical, and taxonomic information concerning changes in the quantity and quality of populations, habitats, and the benefits they confer on society (Balmford et al., 2005). Addressing this shortfall, they stress, requires greatly increased inputs from biologists, but also from statisticians, the remote-sensing community, and social- and earth-systems scientists. On top of this, maintaining political commitment to this crucial target (and to similar targets in the future) will require close work with media experts to explore innovative approaches to raising public awareness.

2.2.4 - EU Directives: evolution and enforcement

Before moving on to consider the EU Directives most important to the protection of biodiversity, and addressing their implementation difficulties, some attention must first be paid to the workings of the EU, its policy making role and enforcement

capabilities. As noted previously, the protection of biodiversity has gradually become the explicitly stated over-arching goal EU environmental policy. This is reflected in the development of EEC and EU laws and policies on the environment since the 1960s.

However, there were tensions between the EU and Member States around this. For example, during the preparation of the Birds Directive, many Member States questioned the legal basis of European Community action in the area of nature conservation, generally seen as the responsibly of the state, rather than EU, claiming that it went too far beyond economic co-operation, as laid down by the Treaty of Rome (Baker, 2003). However, since the 1987 Single European Act environmental policy at EU level has moved into a new phase of increased activity. This Act gave the European Commission new powers to introduce and develop environmental law, which had until that time principally come under the remit of the Council of Europe. The Single European Act also promoted common environmental standards as a critical element in the process of harmonization needed to create a single European market (Desai, 2002). Despite these changes, the EU did not begin to address biodiversity seriously until a relatively late stage in the development of its environmental policy, having first concentrated on developing air and water pollution controls which were regarded as being more closely related to the development of a common market (Ledoux et al., 2000).

Extensive efforts, though mostly piecemeal and largely reactive, have been made by the EU since the 1970s to encourage in-situ biodiversity conservation (Jordan, 2004). It is important to note, that the EU relies heavily on legal and financial instruments, rather than on other, softer mechanisms to achieve its objectives, partly because of concerns about their enforceability (Baker 2003). The EU is almost entirely dependent on Member States to provide the means of implementation of policy (Fairbrass & Jordan, 2001a). Therefore, there is a need to design legislation that produces transparent and clearly defined outputs that can be cheaply and rapidly audited. This process is also said to increase transparency, generating trust among states, reducing the risk of defection, and ensuring that each state implements its commitments in a broadly comparable manner (Ledoux et al., 2000).

Under Article 211 of the Treaty of Rome, the legal responsibility for ensuring Member States comply with directives falls to the European Commission. The Commission monitors the implementation of EU law by individual Member States. In cases of suspected non-implementation, it can initiate infringement proceedings. Invariably, these proceedings begin informally, with a series of bilateral negotiations between the Commission and the state. The majority of suspected breaches of EU law are resolved in this manner. But, where dialogue and mediation fail to produce a satisfactory conclusion, proceedings become more formal. First, the Commission sends a formal letter of notice, detailing the grounds of the suspected infringement, and inviting feedback from the concerned Member State. If a satisfactory response is not forthcoming, the Commission may deliver a reasoned opinion, laying out the Commission's view of how Member State action remains inadequate, and establishing a deadline to rectify the infringement. Failure to comply with the reasoned opinion may result in the case being referred to the European Court of Justice (ECJ) (Perkins & Neumayer, 2007).

The framework of clearly denoted sites, now termed the Natura 2000 sites, which are selected by states, appealed to the political, bureaucratic and enforcement roles of EU officials. These issues underpinned the production of the two most important pieces of biodiversity policy legislation in Europe, the Natura 2000 Directives.

2.2.5 - Natura 2000 Directives

The 1979 Directive on the Conservation of Wild Birds (the Birds Directive, Council Directive 79/409/EEC) and the 1992 Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora (The Habitats Directive, Council Directive 92/43/EEC) comprise the Natura 2000 network of protected sites, seen as a pillar of European biodiversity protection policy (CEC, 2006c). Together, these two pieces of legislation aim to ensure the favourable conservation status of European habitats and species. Sites protected under these directives represent the EUs main 'reservoir' of biological diversity, they also have a role in maintaining the vital stream of ecosystem services and their combined area covers 18% of the EU-15 territory (CEC, 2006c). The nature and purpose of each of these directives will be discussed in turn.

The Birds Directive is the oldest piece of EU nature conservation legislation and was adopted by the Council of Europe in 1979. It was designed to ensure the long-term protection and management of all wild bird species and their habitats (WWF, 2006). Baker (2003) points out that the Birds Directive pre-dates the Community's ratification of the CBD, it was introduced prior to the adoption of the principle of biodiversity conservation as a component of EU environmental policy, and was originally aimed at more specific goals. As Fairbrass & Jordan (2001b:502) explain, drawing on Article 2 of the Directive, "it places a very general duty on Member States to maintain populations of wild birds subject to ecological, scientific, cultural, economic and recreational considerations". Under the Birds Directive, deliberate killing and hunting of wild birds, and disturbance to nests, eggs, or birds, during breeding and rearing seasons, are prohibited. It also outlaws the keeping of birds whose hunting and capture is prohibited. This protection is to be achieved through a system of special protection areas (SPAs).

European Union's major policy response to the Convention on Biological Diversity was the Habitats Directive (Ledoux et al., 2000). The Habitats Directive was presented to the UNCED Conference in Rio de Janeiro in 1992, with the aim of bringing a uniform approach to conservation planning across Europe. As such it represents a major contribution by the European Union to implementing the CBD. Under Article 2 of the Habitats Directive, Member States are charged with contributing to the protection of biodiversity, by conserving habitats, wild flora and fauna whilst taking account of economic, social & cultural requirements and regional and local characteristics.

It prescribes that Member States maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest (Fairbrass & Jordan, 2001b). The Directive requires that Member States provide the Commission with a national list of sites which host types and species listed in the Annexes to the Directive. Sites are to be selected by means of scientific criteria such as rarity, biological importance, frequency, and distribution. A wide range of grassland, forest, freshwater, and marine and coastal habitats are considered within this. Species of community interest include those that are endangered, rare or endemic. In total 218 habitats and 887 species are listed as of Community

importance in Annexes I and II of the Habitats Directive, respectively. A strict protection regime is established for 1,009 species (Annex IV), including the protection of breeding and resting places of certain animal species, and preventing the capture or killing of others species, and the destruction of certain plant species in the wild. The Directive divides Europe into five biogeographical regions. Ireland is within the Atlantic zone where total of 168 natural habitat types and 362 animal and plant species have been identified.

The Habitats Directive sets out a number of measures to achieve its aims, including the designation of protected areas, Special Areas of Conservation (SACs). The Articles of the Directive provide safeguards to protect SACs, "including statutory, administrative or contractual measures, management plans, the prior assessment of potentially damaging plans and projects; the requirement that these plans and projects be approved only if they represent an overriding public interest and only if no alternative solution exists; and compulsory compensatory measures in the event of damage" (WWF, 2006:13). This means that Member States are required to take all appropriate steps to avoid the deterioration of habitats and species listed in the Directive. All development plans or projects which are predicted to have a significant effect on the sites concerned (whether inside SACs or not) are to be subject to an appropriate assessment (Ledoux et al., 2000).

The aim of the Natura 2000 network, comprising both SPAs and SACs, is to maintain, or where appropriate restore, the most important European habitats and species, to favourable conservation status. Once in place, the aim of the network is to ensure that the best examples of EU natural habitats and areas that host rare and endangered plant and animal species are conserved and protected. But also, there are considerations with the directives to pertaining to ecological coherence of Natura 2000. Kettunen et al. (2007), on behalf of the EU Commission, have produced a guidance document to support this. They discuss the framework for ecology connectivity in detail, noting that in order for Natura sites to function as an ecologically coherent network, functional connections amongst the sites and their surroundings must be maintained. Therefore management measures need to go beyond the designated sites' boundaries and apply to the wider environment. In order to facilitate this wider ecological coherence within the landscape, these critics

suggest, national spatial planning policies and regulations play an important role.[8] However, in the EU the issues related to land use and spatial planning fall under the exclusive competence of Member States. This means that the Community has no legislative powers over Member States' land use practices.

Importantly, the Natura 2000 directives do not exclude socio-economic activities in protected sites, but rather, suggests that care must be taken to ensure that human activities in these sites do not damage the wildlife and habitats. WWF (2006:14) consider this feature positively, highlighting that Natura 2000 sites can bring socio-economic benefits to local populations, by "increasing tourism or adding value to local products" but also, through the protection of biodiversity "affords human beings basic valuable environmental services, such as clean water and air, protection against flooding and other natural disasters, and recreation facilities". While this may be the case, Jordan (2002) claims, these two Directives have placed new and much more rigid environmental limits on the economic development of natural habitats.

Shortcomings in the Natura 2000 Directives have been discussed by Fairbrass (2000), who suggests that the original intent behind the Habitats Directive was to amend and remedy some of the deficiencies of the Birds Directive, and extend the level of protection to a wider range of species and habitat types[9]. However, this was not achieved. Article 6(4) of the Habitats Directive inserts the proviso that where plans or projects are show to affect a designated site, they can proceed, proving

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[8] Supporting connectivity through land-use planning strategies and polices can, according to Kettunen et al. (2007) take two routes. First, land-use planning processes can be used to actively support the maintenance and establishment of landscape features that improve connectivity, e.g. ecological networks and their different elements. This includes integrating the creation and management of protected areas, buffer zones, corridors and other connecting structures as integral parts of an area's land-use planning strategy. Second, land-use planning and management processes can help to maintain general landscape quality by preventing further fragmentation of landscapes (e.g. preventing construction in existing green areas).

[9] Fairbrass (2000) points out that under the Birds Directive, once an SPA was declared, the Member State was under absolute duty to protect the site, and the Directive as then drafted, did not permit any incursion into the area for economic reasons. An ECJ decision in the case against Spain ruled that economic considerations could play no part in designation of the SPA's boundaries, ecological criteria should outweigh all others. Fairbrass suggests that Member States were alarmed by the ECJ ruling and worked to introduce legislation that would give them more latitude.

compensatory measures are undertaken "to ensure the overall coherence of the Natura 2000 network is protected". This Article, Fairbrass (2000) suggests, has allowed a wide degree of flexibility around the activities permitted within and around Natura 2000 sites, and is also criticised as being vague. In part, this vagueness reflects nature of decision-making in the EU, whereby decision-makers are compelled to frame loosely worded legislation due to Member States threat of veto, or the potential for blocking legislation when qualified majority voting applies. In deliberately phrasing the Directives in rather loose terms, all parties to the agreement may be able to claim success. However, the resultant obscurity increases the potential for misinterpretation at national level, as the Natura 2000 directives apply uniformly across Europe and leave detailed implementation to the national level (Jordan, 2004).

While this reflects the need for flexibility across states, and the particular requirements of ecological context, it also allows flexibility in determining what constitutes damage and deterioration to sites. Habitats Directive permits Member States to take social and economic factors into account when considering management of Natura 2000 sites. SACs are not intended to exclude human activities, but to restrict those activities that would cause deterioration or disturbance to the features for which a site has been designated. As Maddock & Samways (2002) demonstrate, ecological regulation called for under the Directive, is inherently a question of integrating, or attempting to integrate, science and policy. But, identifying procedures and criteria at this science-policy interface, can be a source of conflict among competing interests. Particularly so in the case of the Habitats Directive, because designation must be based upon scientific criteria, but in the absence of these criteria, site selection has frequently been based on pre-existing national schemes and available taxonomic experience (see Dimitrakopoulos et al., 2004). This has led to substantial deliberation over what constitutes deterioration and disturbance between competing interests within the nation state (Gibbs et al., 2007).

Implementation of the Natura 2000 Directives involves a two-fold responsibility from Member States and the European Commission. Although the Commission sets out scientific criteria for site selection, Member States draw up their own lists of

proposed sites. Evans (2006) discusses the difficulties in the ecological field work associated with identifying habitats, particularly relating to the biogeographical areas defined in the Directive and landscape mosaics. Therefore, both the form and implementation of the Directive have been subject to considerable debate and as a result, the Directive has been implemented with varying degrees of enthusiasm by Member States (Baker, 2003). Where Member States have not fulfilled the requirements, the Commission or ECJ has intervened. Fairbrass & Jordan (2001b) contend that the result of these interventions by the Commission and the ECJ, triggered and supported by conservation groups, has succeeded in advancing a stronger interpretation of EU law than states had originally expected or desired. These critics go on to suggest that the rules to which Member States work are increasingly determined by the combined activities of these agencies. While others, have noted that in cases where there has been an ECJ ruling, this very rigid approach is said to have raised costs of implementation. A key consideration within this, WWF suggested is public involvement. They suggest that "a major obstacle for success [of the Habitats Directive] is the lack of public knowledge, interest and support which in turn would influence the political agenda and ensure proper resource allocation for implementation" (WWF, 2006:7). Rauschmayer et al. (2009) have found that the public and stakeholders have had a limited influence on the definition of fundamental principles of the legislation and on its design. Therefore, both the Habitats Directive and the Birds Directive are based on ecological criteria, which reflect a general 'top-down' administrative, expert-based, and protectionist approach. This reflects the time (1980s/1990s) at which the Natura 2000 Directive were constructed, with little evidence of a shift towards bottom-up science, or an Ecosystems Approach.

In a report produced by a consortium of NGOs Non Governmental Organisations (NGOs), Green 10 (2008), calls were made to increase the role of the European Parliament in the Directive. Green 10 (2008) suggested that debate around financing, implementation and communication of Birds and Habitats Directives should be revitalised, and supplemental funding, to the tune of €6.1 billion per year, such be secured for Natura 2000 sites. They also suggest that the European Parliament should assess implementation of Natura 2000 laws in the Member States over five years and should propose ways to improve compliance and

penalise states for persistently failing to meet their legal obligations under these Directives.

The primary mechanism for funding Natura 2000 Directives is LIFE, now known as LIFE+. This is the EU's financial instrument supporting environmental and nature conservation projects throughout the EU, as well as in some candidate, acceding and neighbouring countries. Between 1992 and 2006, LIFE co-financed some 3115 projects, contributing approximately €2 billion to the protection of the environment. The LIFE+ programme which runs from 2007-2013 has a budget of €2.143 billion, which is considerably less than that called for by Green 10. Of this, 78% of the LIFE+ budgetary resources must be used for project action grants, the rest for operation costs within DG Environment. At least 50% of the LIFE+ budget for project co-financing must be dedicated to LIFE+ Nature and Biodiversity projects, the rest divided between LIFE+ Environmental Policy and Governance and LIFE+ Information and Communication. The Nature & Biodiversity component of LIFE+ continues and extends the former LIFE Nature programme. It will co-finance best practice or demonstration projects that contribute to the implementation of the Birds and Habitats Directives and the Natura 2000 network; as well as innovative or demonstration projects that contribute to the implementation of the objectives of Commission Communication on "Halting the loss of biodiversity by 2010 – and beyond". The 2010 call for funding under LIFE+ has made up to €243 million available for co-financing of projects, a futher call for programme funding will be made in 2011 (EC, 2010).

This section illustrated some of the difficulties inherent with the Natura 2000 Directives, the tensions between Member States and the EU decision-making bodies, and tensions between economic development and conservation objectives more generally. It is worth considering that these tensions also play out within the working of the European bodies also, and subsequently, have implications on the national level. For example, the Commission faced opposition to the Natura 2000 directives at EU level, managing to achieve sufficient support only after agreeing two budget lines to pay for implementation, one directly tied to the Directive (under LIFE) and the other, the EUs Agri-Environment Regulation (EEC 2078/92). EU policies and activities, such as the Common Agricultural Policy (CAP) and the use

of structural funds, such as the European Regional Development Fund, the European Social Fund have led to agricultural intensification and the funding of infrastructure projects potentially harmful to biodiversity (Fairbrass, 2000). But as Fairbrass & Jordan (2001b) highlight, through a number of different factors, such as greening of European party politics and international trade arrangement, some degree of power has shifted at EU level from agricultural and development to environment. This has enabled environment to initiate more progressive and politically intrusive policy. However, the Commission recently acknowledged that measures in place to protect Natura 2000 sites are insufficient to reverse present trends of biodiversity loss in Europe (COM (98) 42), further integration of biodiversity concerns within the workings of EU policy will be required.

The following section examines how biodiversity has been integrated into the wider workings of EU policy, specifically focusing on agriculture, forestry and fisheries.

2.2.6 - EU sectoral integration of biodiversity

Agriculture including arable land and permanent grassland is one of the most important forms of land use, covering about 43% (137 million ha) of the European Union, with twelve million or more people depending on agriculture directly (Ledoux et al., 2000). Human activities can be beneficial to biodiversity, such as in grassland and agricultural landscapes, where low-intensity management can lead to high densities of species (Young et al., 2005; O'Rourke, 2005a/b). Although many factors are responsible for decline in biodiversity in these ecosystems, the root cause has invariably come from some form of human activity, which can be associated with changes in the Common Agricultural Policy (CAP).

CAP "consisted of an intervention system designed to provide internal price support and protection against external shocks to European agricultural markets. Integral to this regime was the desire to sustain ongoing increases in production" (Taylor, 2005:125). The industrialisation and intensification of agricultural production through CAP was often at the expense of the environment and ecosystems (Taylor, 2005). During the 1980s there was an emerging awareness that agricultural practices were impacting negatively on biodiversity. To address this, the focus of CAP has widened. In recent years CAP has moved towards integration of biodiversity

requirements through agri-environment measures and compensatory allowances, measures to protect the environment became coupled with rural development supports through the notion of multi-functional land use.
Multifunctional agriculture, is described by Siebert (2010:270) as an "apolitical concept used to identify and value the environmental landscape services provided by farmers to society." Used for the first time in 1993 by the European Council for Agricultural Law in an effort to harmonise agricultural legislation across Europe and to provide the general notion of 'sustainable agriculture' with a legal definition. The Cork declaration in 1996 articulated the commitment of the European Commission to multifunctionality, "stressing that agriculture is a major interface between people and the environment and that farmers have a responsibility as stewards of the natural resources of the countryside" (Gorman et al., 2001: 138). However, Marsden & Sonnino (2008) contend that the term is contested, and has fallen victim to the competing paradigms of agri-food and rural development interests.

Siebert (2010) notes that at a practical level, the concept of multi-functionality fits two purposes. First, its application support negotiations at international regimes where subsidies of agricultural land have to be justified and explained. Second, it legitimises tax payers financial outlay at European and national levels. One of the services provided by farmers to the European tax payers and therefore, eligible for financial support, is the maintenance and enhancement of biodiversity in the landscape as part of the ecological functions carried out by agriculture.

At EU level, multi-functionality is said to encompass a range of functions of agricultural land, including the production of food, but also the preservation, management and enhancement of the rural landscape and protection of the environment. CAP contains two main routes regarding biodiversity and multi-functionality. First, farmers have to fulfill minimum norms of best practice regarding the protection of the environment to receive direct EU subsidies through cross-compliance. Beyond cross compliance and best agricultural practice, farmers can avail of agri-environment schemes, which EU Member States are obliged to instigate as part of their Rural Development Programme (RDP).

Cross compliance conditions aim to make farming-related subsidies conditional on practice of particular management practices on farms. The original reason for cross compliance was to limit over-production, rather than to enhance or safeguard the environmental dimensions of farmland. It can therefore be argued that it is only relatively recently that cross compliance specifically intended for environmental objectives has been perceived by farmers as a real policy option. This option became reality with the introduction of EU Council Regulation 1782/2003, which has now led to statutory management requirements for farmers claiming direct payments and to Good Agricultural and Environmental Condition (GAEC) conditions defining the required environmental standard (Davies & Hodge, 2006).

Banks & Marsden (2000:466) contend that agri-environmental measures are key part of the CAP, and RDP, allowing "conservation and improvement of the landscape, wildlife and the historic heritage of the countryside, sustaining traditional rural skills, and through their role in extending employment opportunities". Agri-environmental schemes are voluntary, and provide a bonus payment for extra endeavors which are compatible with the environment or projects with additional nature protection value, or where a lack of capital, market access, skills or entrepreneurialism may be present. More than a third of EU expenditures for the development of rural areas between 2000 and 2002 were spent on agri-environment programmes.

However, despite reforms, the Common Agricultural Policy is considered by critics such as Green 10 (2008) as a major driver for biodiversity loss. They position their critique as follows. First, they assert that the Common Agricultural Policy (CAP) absorbs over 40% of the EU budget but fails to adequately address current environmental challenges such as biodiversity decline, and other environmental issues, such as climate change. The reason for this, they contend, is that CAP spending goes to untargeted direct payments to farmers, with insufficient connection between the level of payments and the level of public goods provided, so called 'non-crop' goods, such as protection of wildlife habitats and other ecosystem services. In fact, the highest payments often go to the biggest, most competitive and most intensive farms.

With respect to agri-environment measures, Young et al. (2005) highlight a number of problems with related to the protection of biodiversity. First, at present, only a relatively small proportion of farms participate in the scheme and are still under funded compared to other farm support measures. They also criticize the voluntary of the schemes, which they suggest, implies that farmers will need extra incentives to adopt them. Another major problem is that agri-environmental contracts have variable time frames. This is disadvantageous, they claim, because farmers can adopt any kind of farming practice once the contract is over, thereby potentially annulling the ecological benefits accrued during the contract period. Also, they voice caution at the removal of direct production subsidies, which they claim could adversely impact on smaller, often biodiversity richer, farms throughout Europe. Also, Young et al. (2005) point out that there is some discussion on how effective agri-environment measures are for the protection of biodiversity. While, some research has been conducted which suggests a positive benefit (e.g. Bracken & Bolger, 2006) others claim that positive benefits for biodiversity are only likely if schemes are designed to encompass large congruent areas rather than a series of smaller habitat patches (Whittingham, 2007).

A secondary concern with respect to agri-environment schemes is that they depend on the level and quality of farmers co-operation with these policies. Siebert et al. (2006) contends that in this respect, a degree of variability, from country to country, and within countries from region to region, must be expected. As a heterogeneous group, farmers cannot be assumed to willingly and automatically co-operate with biodiversity integration. Siebert (2010) suggests that farmers' willingness and ability to co-operate in biodiversity conservation is not reducible to their attitudes towards nature, authority or economic matters. Rather, the success, in terms of biodiversity protection within agri-environmental schemes is predicated upon a complex of agronomic, cultural, social and psychological factors that affect each individual farmers view of, and responses, to biodiversity protection measures.

The EU Forest Strategy (2005) states "forests play an important role in sustainable development, in particular of rural areas and at the same time, are crucial for the fulfillment of the EUs commitment to halt the loss of biodiversity, to mitigate climate change and to combat desertification". Progress on the integration of biodiversity

into forestry policy has also been made through sustainable forest management practices. However, this must also be placed within the broader context of intensification, changes in ownership patterns, transportation systems or even changes in planning strategies, which have adversely affected biodiversity. This intensification of forestry practices and the increasingly multi-purpose role of forests (as noted above with respect to agriculture) have contributed to a number of initiatives to better understand the status of forests in Europe, their threats and priorities in conservation. Examples include the work programme on Forest Biological Diversity at the sixth Conference of the Parties in The Hague in 2002 and the work undertaken by the Ministerial Conference on the Protection of Forests in Europe (Young et al., 2005). Voluntary commitments to produce environmentally friendly wood products and exert market pressure are also becoming increasingly important. In Europe, several certification systems exist, for example the Pan-European Forest Certification (PEFC), the Forest Stewardship Council (FSC). However, there are contradictory views about whether 'market pressure' and voluntary standards negotiated with industry, can have real effect. Further opportunity is provided for integration of biodiversity concerns in the forthcoming EU Forest Action Plan (CEC, 2006b; NPBR, 2004).

Freshwater and marine biodiversity are offered protection through a number of measures. The Water Framework Directive aims to create a unified and integrated approach to improving and maintaining water quality throughout Europe. It brings together the aims of several previous directives addressing specific aspects of water quality, and expands the conception of water quality from chemical content to one that also embraces ecological characteristics. Two particularly significant aspects of the Water Framework Directive emphasise integrated river basin management, rather than treating rivers, groundwater, lakes and estuaries independently and the explicit statement that Member States must encourage 'the active involvement of all interested parties' in the implementation of the Directive (Article 14). In combination, these two aspects have been taken as an indication that the Directive requires an approach to planning which will involve stakeholders in the production of the integrated River Basin Management Plan, in which specific actions for each River Basin District will be set out. As such, conflicts between, for example, conservation groups and those whose actions have an impact on water

quality, will need to be addressed in developing the plan. As the 'Programme of Measures' to be determined in each of these plans will not enter into force until 2012, it will be some time before the impacts of the Water Framework Directive can be properly examined (Young et al., 2005) The Water Framework Directive provides for improvement of the ecological quality of freshwaters and places requirements on 'good ecological status'.

Other key areas of European policy include the Thematic Strategy on the Marine Environment' and proposed Marine Strategy Directive introduce an 'ecosystems approach' to the management of Europe's seas (CEC, 2006b) and the Strategic Environmental Assessment and Environmental Impact Assessments Directives, which aim to identify and avert negative effects of infrastructure projects and thus potentially defuse conflicts. The EIA (Environmental Impact Assessment) Directive requires the consideration of potential impacts of certain regional and territorial developments, includes consideration of alternatives and the design of measures to prevent and reduce negative impacts. Careful assessments carried out early in the decision-making process have proven helpful in this regard. The recent introduction of the Strategic Environmental Assessment (SEA) Directive applies to certain plans and programmes, and offers the potential to reconcile conservation and development by ensuring consideration of impacts much earlier in the planning process. The application of new spatial planning methods, such as the Landscape Directive, and other techniques can also contribute to conflict management processes for biodiversity.

2.2.7 - Post 2010 European policy direction

By 2008, when the mid-term assessment of the Communication was produced, it was recognised that the EU would not reach its target of halting the loss of biodiversity by 2010. Key difficulties were identified in implementing Natura 2000 directives and sectoral integration of biodiversity policy. In 2009 the EU Environment Council called for a new post-2010 EU vision and target for biodiversity. The European Commission organized a high level conference in Athens in April 2009, which examined achievements made in biodiversity policy, but also began discussions on future actions. The resulting 'Message from Athens', calls for the development of an ambitious, measurable and clear post-2010 target,

emphasising the intrinsic value of biodiversity while also recognising the value of healthy and resilient ecosystems and the services they provide.

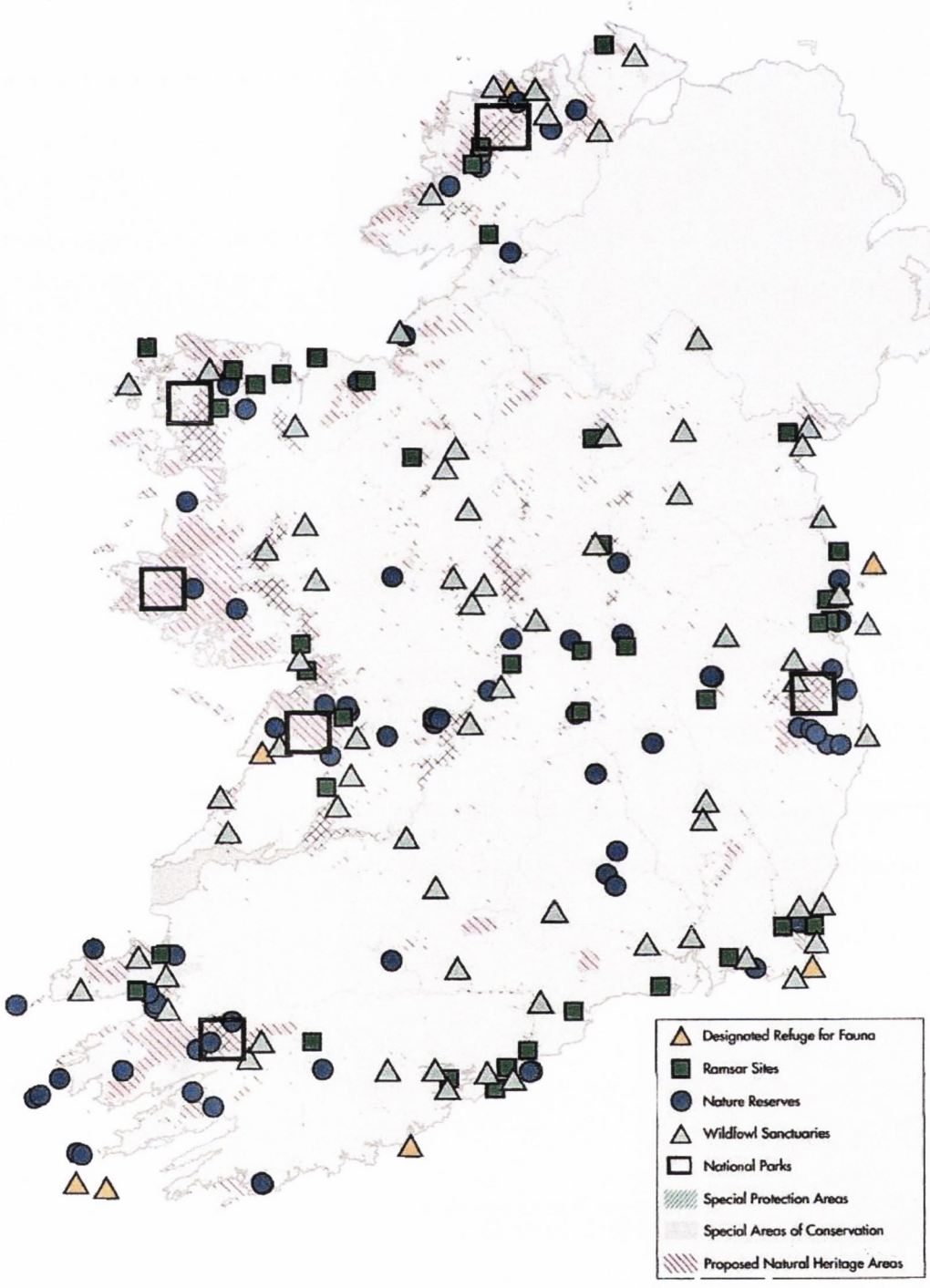
The message calls for increased efforts to integrate biodiversity through agriculture, fisheries, regional development, transport, energy, trade and development sectors. With a three fold objective, to minimise damage, maximise the positive contribution to nature conservation objectives and realise the potential of co-benefits resulting from the maintenance and enhancement of healthy ecosystems. This tightly configures biodiversity conservation to the green economy and encouraging market mechanism which will allow EU businesses to profit from protecting biodiversity. In addition, calls were made for the development of a coherent approach to spatial planning. The aim here is twofold. First, to allow Natura 2000 to be completed, managed effectively and resourced appropriately. Second, to enable areas outside protected sites, such as parks, gardens, and green spaces be managed as multi-functional landscape, and with a view to conservation of entire ecosystems. Suggestions for a revised Action Plan are thereby expected for the end of 2010, likely having a stronger focus on drivers of biodiversity loss and pressures on ecosystems.

A core element of the Message from Athens, and its first priority however, is to provide a vision on why biodiversity matters. This outlines the requirement to "develop and communicate a better understanding of why healthy ecosystems deliver tangible benefits that underpin our economic, social and cultural well-being" (CEC, 2009:4). Within this, the suggestion is made to make biodiversity conservation a priority for future communication programmes, this recognises that it is "essential to engage the public at all levels – including through the education system – in order to build an understanding of why biodiversity matters" and "develop alliances with key stakeholders who are directly affected by biodiversity loss" (CEC, 2009:4).

2.3 - Irish national biodiversity policy

In this section, Irish biodiversity will be briefly explored, followed by the policy at national and local scale which govern the protection of these habitats and species. Figure 2.3 illustrates the key nature conservation designations in Ireland, including

Figure 2.1: Key National Conservation Designations in Ireland.
Used wih permission from NPWS



the local of National Parks, nature reserves, Special Protection Areas and Special Areas of Conservation.

2.3.1 - Irish Biodiversity

Ireland's array of species and habitats is not as diverse as other European countries. This relatively impoverished biodiversity is believed to have occurred as a result of the county's small size, island status, position at the edge of a European archipelago and glacial history (Mitchell, 2000). Writing in 1994, Schouten suggests ecosystems like raised and blanket bogs, intact river catchments and unpolluted lakes, which have practically disappeared in the rest of north-west Europe, are still present in Ireland. Rural landscapes with species rich semi-natural habitats, formed under traditional farming practices, have also been removed all over north-west Europe, but are still common in large parts of the country. Ireland can boast one of the cleanest environments in north-west Europe. As a result, many of the species which have become endangered or extinct elsewhere are still quite common in Ireland.

The scarcity of habitats across mainland of Europe which still exist in Ireland in comparatively good status is reflected by the 25 species and 60 habitats which are recognised by the EU to be in need of special protection in Ireland, including 16 priority habitats as designated under the EU Habitats Directive. These habitats of particular significance include limestone pavement, turloughs, intact sand and machair systems (EPA, 2008). The importance of Ireland's peatland and wetland habitats is reflected by the fact that 32 raised, 47 blanket bog and 39 fen sites considered to be of prime ecological importance in the country have been proposed as candidate SACs. The National Park and Wildlife Service notes that the value of Ireland's floral diversity lies with its plant communities, which are ecologically highly significant (DAHGI, 1998). For example, Ireland has unique juxtapositions of Mediterranean flora with species of colder climates. Ireland is also particularly rich in bryophytes (mosses and liverworts) and algae.

In addition to these habitats of European importance, Ireland has a number of habitats which are of national ecological significance. Forests would naturally cover the greater part of the island but the long history of forest decline over the last 6,000

years, due mainly to clearance by man, means that little of this ancient woodland remains. Native woodland habitats can be divided into several categories ranging from dry woods to swamp woodland. Amongst these, three divisions are recognised: woods mostly on acid soils of which oak is the principal tree in deciduous woods; woods on limestone of which ash-elm-hazel are the principal native components; and the third category is scrub comprising open, fragmented woods and hedgerow. Extensive scrub clearance occurs in large parts of the west and it is expected that several species of this habitat will move into the threatened category in the near future (Curtis & McGough, 1988). Hedgerows are a particularly prominent feature of the Irish countryside and have become 'naturalised' over the last few centuries to act as linear strips of native woodland. Hedgerows are considered especially important, given the small amount of remaining woodland in the country, and they act as linking corridors between habitat patches. Hedgerows have suffered significant losses, largely due to removal for agricultural purposes, the habitat quality of remaining hedgerows is also impacted due to improper maintenance, such as inappropriate cutting (EAP, 2001).

Ireland's fauna diversity is similarly sparse when compared to other EU countries having only 35 terrestrial mammal species and fewer breeding bird species than its neighbours, with some 200 regularly occurring bird species in Ireland. Ireland does hold important numbers of bird species that are in decline or rare elsewhere, for example, storm petrels *(Hydrobates pelagicus),* roseate terns *(Sterna dougallii),* and choughs *(Pyrrhocorax pyrrhocorax).* In addition, Irish waters are among Europe's richest for cetaceans, 24 whale and dolphin species having been observed to date. According to the EPA (2008:189) these habitats are "regarded by many at home and abroad as jewels in our national heritage". Ireland lakes and rivers support important populations of fish species, 28 freshwater fish species have been recorded, half of which are non-native (Fitzsimons & Igoe, 2004). Aquatic, coastal and marine habitats are also relatively well represented on the list of species and habitats under EU protection. These support internationally significant populations of threatened species such as the Atlantic salmon *(Salmo salar)*, White-clawed crayfish *(Austropotamobius pallipes)*, Freshwater pearl mussel *(Margaritifera margaritifera)*, whorl snails and several further species and groups, for example of water beetles. Ireland is home to an estimated 16,000 species of invertebrate, many

of which are marine and most of which have received very little attention or protection to date (EPA, 2008). Aquatic habitats and species, however, feature strongly in the lists of those identified as being of bad conservation status. The significance of the aquatic ecosystems in this regard, along with the many human activities with potential to damage the water environment, serves to underline the fact that in Ireland, as elsewhere, requires integration of biodiversity protection measures across a range of policy areas.

Habitats and species of EU and national importance are particularly well represented in Co. Clare and the Aran Islands. As the Clare Biodiversity Action Plan (Clare BAP, 2006:2) suggests, "biodiversity is what gives Clare its character and charm....provides us with our beautiful landscape to live in and enjoy". There are an abundance of protected areas in the county. Under the EU Habitats Directive, Clare hosts thirty-eight SACs, and eight Special Protection Areas (SPAs) under the Birds Directive. In addition, a national park and fifteen Natural Heritage Areas (NHA) are provided with state legislative protection and the county also hosts sixty-one proposed Natural Heritage Areas (pNHA). Clare is also important for faunal species such as pine martins *(Martes martes),* butterflies, moths and lesser horseshoe bats *(Rhinolophus hipposideros*). The Cliffs of Moher contain one of the principal colonies of seabirds in Ireland, including the largest mainland colony of Puffins *(Fratercula arctica)*. The area is designated as an SPA and a Refuge for Fauna. Other cliffs in Clare are found west of Kilkee and at Loop head.

Many of the species and habitats noted within Clare County Council's Development Plan (CCC, 2005) and Clare's Biodiversity Action Plan (CBG, 2007) are associated with the Burren area in north Clare, which is considered a biodiversity hotspot. While the boundaries of the Burren are disputed, it is geologically and botanically considered to extend into south Co. Galway and include the Aran Islands. The three Aran Islands lie to the west of Co. Clare and have been separated from the mainland for approximately 8,000 years. In terms of their geology and botany the islands are very similar to the Burren area of the Co. Clare, most of the surface of the islands being composed of limestone pavement (Nelson, 1999). More than 700 different species of flowering plants, conifers and ferns have been recorded in The Burren and Aran islands. This constitutes three-quarters of Ireland's native flora.

While none of these species is unique to the Burren and Aran islands they grow in greater abundance here than in other areas in Ireland or in the UK (Cunningham, 1998). Within the area of the Burren in North Clare there are also other habitats of significance. Turloughs are almost unique to Ireland and can be found around Carran and Ballyvaughan in North Clare. Significant grasslands are also to be found in this area. Orchid rich dry calcareous grasslands are of high conservation value internationally are to be found primarily in the Burren, which support a vast diversity of plants and animal, including butterflies, moths and insects.

The Burren region takes its name from the Gaelic word 'Bhoireann', meaning a 'stony place'. The area largely consists of a limestone plateau situated on the west coast of Clare, estimates of its size range from 270km² to 367km² (Drew, 1997) and has been the focus of much scientific scrutiny. Early references to the botanical richness of the Burren can be found found in Praegers' A tourists flora of the west of Ireland, written in 1909 (and later reprinted in 1934). Marking Ireland's, and in particular Clare's, botanical popularity internationally, were two visits made by the International Phytogeographical Society in 1911 and 1949, these, and subsequent visits by a myriad of students, professional and interested amateurs have produced a wealth of botanical work now relied on in examining the ecology of the area.

In many ways the essence of this landscape is defined in stone, which despite its initial appearances is considered a 'fertile rock'. O'Ceirnin (1998) termed the Burren the largest and most remarkable rock garden in the world. It is an area of juxtapositions. Mountain plants grow beside the sea, lowland plants thrive on mountainsides, Alpine, Mediterranean, Arctic and native Irish flowers grow side by side, and lime-shy plants and lime-loving plants will grow together in the same soil. In addition to its unique position in terms of flora, the Burren is also unique in its farming practices. Due to the mildness of its marine-temperate climate, the long growing season, the heat retaining capacity of the rock and the well drained permeable limestone pavements, a unique agrarian practice known as 'winterage' has become inseparable from the Burren. Cattle (and in the past sheep) are put on the rough grazing of the High Burren towards the end of October and left there until the following spring. In effect the cattle were out-wintered at a low cost, needing neither housing nor extra winter feeding. Winter and light summer grazing are an

essential part of the ecology of the Burren, keeping the scrub and high grasses in check, so that light-sensitive plants and flowers can thrive (O'Rourke, 2005). The Burren therefore is viewed as a cultural landscape, the product of agricultural practices, the natural conditions, a co-created nature. Scrub regeneration, most notably hazel, through changing farming practice is today seen as the major threat to the ecology of this high conservation value landscape.

Inis Oirr, the smallest of the Aran Islands, is a geological extension of the limestone region of the Burren. The land surface is primarily limestone pavement, divided up by a network of fissures which vary in size from fine lines to deep cliffs. Soil cover is generally thin, with pockets of deeper soil between the bare limestone. In the past, this naturally-occurring soil was combined with a mixture of sand and seaweed to form a man-made soil unique to the island. The land surface is subdivided into fields by a multitude of stone walls, each one enclosing a small area of limestone pavement and its associated species rich calcareous grassland (NPWS, SAC site synopsis, 2003). In places, the rocky grasslands support the Red Data plant species, such as the Hairy Violet *(Viola hart),* which is protected under the Flora (Protection) Order, 1999. Species-rich meadows support a plant community dominated by grasses, but with many flowering herbs. These are significant ecological features, reflected by the designation of approximately 90% of the island as SAC under the Habitats Directive.

In addition to the grasslands, Lough More, situated in the east of the Inis Oirr, is an example of a deep (up to 23 m) karstic rock lagoon, believed to be rare in Europe. The lagoon is connected to the sea through underground rock fissures with limestone cliffs along much of the shoreline. The fauna of the lagoon is poor despite the apparently stable and uniform conditions, this may be due to the island effect and the problems of colonisation and survival on a small offshore island. Lough More, is of value to birdlife in the area providing habitat for four species are listed on Annex I of the E.U. Birds Directive. As the NPWS suggest "the botanical, historical, archaeological and cultural interest of the island make this an extremely valuable site for educational and scientific purposes" (NPWS, SAC site synopsis, 2003:2). Like the Burren, traditional farming methods practised on the Island are intrinsically linked with the islands' high conservation value. Agricultural intensity is low

throughout the island with the majority of the land used as winterage for cattle, sheep and, in some places, goats. The fields located close to the houses are used for summer grazing. This traditional practice, coupled with the absence of fertilisers, has maintained the species richness and high diversity of the Island flora. However, increased tourism on the Island is resulting in a gradual move away from farming, which may threaten the survival of some species-rich meadows. Many of the Islands habitats and associated wildlife are sensitive to damage resulting from certain forms of agricultural improvement and removal of sand from dune areas poses a significant threat to those habitats (NPWS, 2003).

Along with its rich terrestrial ecology and associated natural resource management, the islanders have extensively utilised the marine environment. One such tradition, which is no longer practiced, was hunting basking sharks which were relatively abundant in the waters around the islands. While it is illegal to hunt basking sharks now, the practice has been immortalised through Robert Flaherty's 1934 film, 'The Man of Aran'. Lobster fishing however, still continues today, albeit on a small scale. In 2006, Bord Iascaigh Mara (The Irish Sea Fisheries Bord) issued a report stating that lobster fisheries off the coast of Ireland were on the verge of collapse. In the subsequent management plan 'Managing Access to the Lobster Fishery' BIM worked closely with the lobster fishing industry to regulate catch and monitor stock. This issue and the way in which the process was managed was heralded as a success on the island, in terms of both managing the stock and bringing income to those involved in the enterprise.

Of the 533 hectares covered in the Kilrush Area Plan (KTC, 2008) only 206 hectares are developed. The remaining open area is mainly open farmland, woodland or the open water of the harbour. The undeveloped lands comprise a variety of grassland, woodland, freshwater, marine and coastland habitats that support a wide range of wild flora and fauna. Local landscape features such as rivers, streams, ponds, lakes, and field boundaries also form distinctive rural and urban habitats around Kilrush. Hedgerows and shelter belts provide valuable wildlife habitat and many hedgerows and stone walls mark parish and town land boundaries and give insight into land ownership and land use in an area. It is these landscapes that are at the greatest threat from permanent alteration through

development. Distinctive larger habitats include Kilrush Woods and Vandeleur Gardens, a mix of broadleaf and conifer plantation, covering an area of 72 hectares. The stone walls around Vandeleur Estate are of particular importance as being locally distinctive in the eastern part of the Plan area.

The 17 hectares of Kilrush harbour, which were once tidal, are now controlled by lock gates which retain a high water tide level. Outside the lock gates are mud flats that provide feeding grounds for estuarine birds and over wintering wildfowl and waders. It is also an important site for marine wildlife, such as the only known resident group of Bottlenose dolphins *(Tursiops truncates)* in Ireland. Kilrush is most noted for its marine wildlife, particularly species such as the Bottlenosed dolphin which is listed under Annex II of the Habitat Directive. Bottlenose dolphins are widespread in the coastal waters of western Ireland (Ingram et al., 2001) the largest resident population of dolphins in Irish waters is found in the Shannon Estuary, a critical habitat for this species (Ingram & Rogan, 2002). The Shannon Estuary is the only Special Area of Conservation designated for this species in Irish waters. The latest population estimate for the Shannon Dolphins has indicated that approximately 140 dolphins use this site although the numbers vary depending on the time of year (Englund et al., 2007).

While the dolphins are of particular scientific interest in this area, much of the open area in Kilrush consists of farmland, woodland or the open water of the harbour. The undeveloped lands comprises a variety of grassland, woodland, freshwater, marine and coastland habitats that support a wide range of wild flora and fauna (KTC, 2008).

2.3.2 - The Wildlife Acts (1976 & 2000 amendment)

Table 2.5 outlines key Irish policies of relevance to biodiversity protection. Early attempts at biodiversity policy in Ireland came in the form of the 1976 Wildlife Act, which entered into force on 1st June 1977. The 1976 Act anticipated many of the provisions of the ECs 1979 Birds Directive, protecting wild birds, their nests and eggs, and making provision for the protection of certain wildlife habitats. Under the Act, therefore, all wild species of flora and fauna were given protection on state

owned land. The habitat protection measures included in the Act were relatively weak with regard to land in private ownership.

The Wildlife 1976 Act was updated in 2000, to improve existing measures, and introduce new ones in order to enhance the conservation of wildlife species and their habitats. Comerford (2000) suggests that the updated act represents a movement away from the protection of individual species to the protection of ecosystems. The Act, according to Comerford (2000) has a number of significant advances. The main objectives of the Wildlife (Amendment) Act, 2000 are to provide a mechanism to give statutory protection to National Heritage Areas (NHAs) and provide for statutory protection for important geological and geomorphological sites, including fossil sites by designation as NHAs. The Act also enhances a number of existing controls in respect of hunting, which are designed to serve the interests of wildlife conservation. The scope of the Amendment Act is also broadened to include most species, including the majority of fish and aquatic invertebrate species which were excluded from the 1976 Act. It also introduces new provisions to enable regulation of the business of commercial shoot operators. With respect to international agreements, the Amendment Act ensures or strengthens compliance with international agreements and, in particular, has enabled Ireland to ratify the Convention on International Trade in Endangered Species (CITES) and the African-Eurasian Migratory Waterbirds Agreement. An additional feature was the substantial increased in the level of fines for contravention of the Wildlife Acts and to allow for the imposition of prison sentences. It also strengthens provisions relating to the cutting of hedgerows during the critical bird-nesting period and include a requirement that hedgerows may only be cut during that period by public bodies, including local authorities, for reasons of public health or safety. With respect to sites of European significance, the Act strengthens the protective regime for Special Areas of Conservation (SACs) by ensuring protection applies from the time of notification of proposed sites.

Significantly, it also provides mechanisms to allow the Minister for Environment, Heritage and Local Government to act independently of forestry legislation, for example, in relation to the acquisition of land by agreement. Comerford (2000:1) suggests that by "expanding and clarifying existing definitions and by divorcing the

historic control of the acquisition of lands and other rights used for wildlife purposes from its stifling historic connection with forestry and forestry legislation". Finally, the Wildlife (Amendment) 2000 gives specific statutory recognition to the Minister's responsibilities in regard to promoting the conservation of biological diversity, in light of Ireland's commitment to the CBD.

2.3.3 - The National Biodiversity Plan

Ireland ratified the Convention on Biological Diversity in 1996. As discussed previously, one of the main obligations within the CBD is that each Contracting Party develop national strategies or plans for the conservation and sustainable use of biological diversity. As a framework convention, the provisions of the CBD are expressed as overall goals and policies, each Contracting Party then decides how to achieve the overall goals of the CBD and meet its various provisions.

In response to the CBD, in April 2002, the Department of the Arts, Culture, Gaeltacht and the Islands (DACGI) launched Ireland's 'National Biodiversity Plan'. The Plan takes cognizance of the CBD, other biodiversity related conventions and European Directives related to biodiversity. This plan sets out a series of actions to promote and assist in the conservation of Ireland's biological diversity, at a national and also local level, as well as to contribute to the conservation and sustainable use of biodiversity globally. It sets out a series of 91 actions designed to address Ireland's biodiversity obligations at a national and local level to ensure all relevant plans and programmes and all new legislation, and key existing legislation, incorporate provisions pertaining to the conservation and sustainable use of biological diversity. In the same year, responsibility for the implementation of the NBP was moved from the DACGI to the Department of Environment, Heritage and Local Government (DEHLG). A core component of the NBP takes into account

Table 2.5 Summary of Irish measures for biodiversity in chronological order

Decade	YEAR	Governing Organisation	Title of Agreement/ Document
Pre 1990	1937	National Parks and Wildlife Service under DEHLG	Whale Fisheries Act
	1968	Department of Industry and Commerce	The Contenential Shelf Act
	1976	National Parks and Wildlife Service under DEHLG	Wildlife Act
1990 - 1999	1995	Department of Arts Culture, the Gaeltacht and Islands	The Heritage Act
	1995	Department of Environment, Heritage and Local Government	Guidelines on Local Agenda 21 - Local Authorities and Sustainable Development
	1996	Department of Foreign Affairs	White Paper on Foreign Policy - The Environment
	1997	National Parks and Wildlife Service under	European Communities (Natural Habitats) Regulations 1997 - 2005
	1997	Department of Environment, Heritage and Local Government	EIA Directive
	1997	Department of Environment, Heritage and Local Government	National Sustainable Development Strategy - Sustainable Development a Strategy for Ireland
	1999	National Parks and Wildlife Service under DEHLG	Flora Protection Order
2000 - 2006	2000	Department of Environment, Heritage and Local Government	Local Government (Planning and Development) Acts 1963 - 2000
	2000	National Parks and Wildlife Service under DEHLG	Wildlife (Ammendment) Act
	2000	Department of Environment, Heritage and Local Government	National Climate Change Strategy
	2000	Department of Environment, Heritage and Local Government	National Development Plan
	2000	Department of Agriculture and Food	Forest Biodiversity Guidelines
	2001	Department of Environment, Heritage and Local Government	Towards sustainable Communities - Guidelines on local agenda 21
	2002	Department of Environment, Heritage and Local Government	National Biodiversity Plan
	2002	Department of Environment, Heritage and Local Government	National Heritage Plan
	2002	Department of Environment, Heritage and Local Government	National Spatial Strategy
	2002	Department of Environment, Heritage and Local Government	Making Ireland's Development Sustainable - Review, Assessment and Future Action
	2003	Department of Environment, Heritage and Local Government	The Planning and Development (Regional Planning Guidelines) Regulations
	2003	Department of Environment, Heritage and Local Government	Guideance note for Implimentation of the National Spatial Strategy - Preparing Regional Planning
	2003	The Heritage Council	Guidelines for the Production of Local Biodiversity Action Plans
	2003	The Heritage Council	Guidelines for the Production of Sectoral Biodiversity Action Plans by Government Departments and
	2004	The Heritage Council	European Communities Landscape Convention
	2004	Department of Agriculture and Food	A review and Appraisal of Ireland Forest Development Strategy
	2004	Department of Environment, Heritage and Local Government	Guidelines for the implementation of SEA directive (2001/42/EC) for Regional Authorities and Planning
	2005	National Botanic Gardens	National Plant Conservation Strategy for Ireland
	2006	The Heritage Council	Landscape policy development and establishment of national landscape programme

Article 6 of the Convention, which calls for measures to integrate conservation and sustainable use cross sectorally.[10] Within this, a substantial aspect of the NBP (eleven actions) relates to the integration of biodiversity across state departments. The NBP calls on all state departments and agencies to produce a sectoral plan and dentify where biodiversity provides value for their sector. Key aims of the sectoral biodiversity plans are to minimise adverse impact on biodiversity and encourage the promotion of beneficial impacts on biodiversity. Also, crucially, "each action plan must seek to encourage the sector to which it relates to play a proactive part in relation to biodiversity" (DAHGL, 2002:14). In other words, integrate biodiversity concerns into the wider sector, beyond the working directly related to the state department or agency. These eleven objectives are crucial for the implementation of the NBP. A considerable proportion of the remaining 80 objectives rely on the effective realization of the sectoral plans, and that all sectors/actors participate appropriately in actions to promote biodiversity.

"Strategies and actions for the conservation of habitats and ecosystems are of crucial importance in the NBP, second only to sectoral integration of biodiversity needs, in providing for the conservation of biological diversity" (DAHGI, 2002: 20). A key component of habitat and ecosystem conservation within the NPB is recognised through countryside conservation. That is, the NBP recognises that outside the sites of national biodiversity importance, provided for under Irish and EU legislation for example, it is also necessary to maintain, and where possible enhance, biodiversity in the broader countryside irrespective of how intensively used it is. The NBP recognises that the wider countryside is of local nature conservation importance, and that information on such areas is frequently limited or non-existent.

The NPB states that amongst the most important means of providing for the conservation and sustainable use of biodiversity in the wider countryside is through the planning system. It recognises that developments in planning legislation, in particular the Planning and Development Act (2000) provide improved measures for

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[10] Article 6B requires each Contracting Party to 'integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross sectoral plans, programmes and policies.'

the conservation of biodiversity. For example, the NBP highlights how the 2000 Planning and Development Act, through provisions for the production of Development Plans, must have mandatory objectives for the conservation of European and nationally important sites and for the conservation of biodiversity in general (DAHGI, 2002; Objective 2.25). Actions in relation to this matter include better hedgerow management, integration into planning considerations and through agri-environmental measures.

A significant measure in the NBP falls under actions ten and eleven. These state that each local authority is required prepare a Local Biodiversity Action Plan (LBAP) in consultation with relevant stakeholders and to designate a contact officer for natural heritage conservation matters in the area (DAHGI, 2002). The production of Local Biodiversity Action Plans (LBAPs) by local authorities is considered an essential aspect of provisions under the NBP, acting as mechanism to improve biodiversity planning at the local scale, through identification of local features of biodiversity importance, and integration within the planning system.

In 2004 Comhar (The Sustainable Development Council) issued 'Recommendations on the Implementation and Review of the National Biodiversity Action Plan'. It suggested that progress on most of the actions in the Plan has been slow or minimal and that auditing the Plan was problematic due to a lack of prioritized targets within specified timescales. Where progress has been made in the implementation of some of the actions contained in the NBP, it was largely in areas where the European Commission had exerted pressures on the Irish authorities to deliver on commitments made.

The Comhar review issued thirteen recommendations. These included the creation of a dedicated Biodiversity Unit to oversee implementation of the Biodiversity plan in the DEHLG. The Biodiversity Unit became part of the National Parks and Wildlife Service (NPWS), a branch of the DEHLG.[11] Also, it called for Biodiversity Units to

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[11] See Buckley (2004) for full discussion of roles and responsibilities of NPWS.

be established in other key departments, such as the Department of Agriculture, Fisheries and Food (DAFF).

In terms of sectoral integration, the Comhar review states that Departments and Agencies, had not, as of 2004, produced biodiversity plans, although it recognised that many had introduced biodiversity-friendly initiatives which promote the conservation of biodiversity. It called for measures to be taken to ensure biodiversity be fully addressed in the implementation of the operational programmes of the National Development Plan, and in the preparation of future national plans (e.g. National Development Plan, National Sustainable Development Strategy). It also suggests that a dedicated public awareness and education campaign be developed the specific purpose of promoting the objectives of the Convention on Biological Diversity in Ireland. In addition to problems associated with the issues above, the process by which the NBP was produced was heavily criticized by the Comhar group. Contrary to manner suggested by the CBD, and subsequent COPs, the process was considered as largely top-down, with little effort to establish a meaningful participatory process.

In 2005, the DEHLG conducted its own review of the NBP, which recognised and implemented many of the recommendations made by the Comhar review. For example, the DEHLG review recognised that the National Development Plan (NDP) and its Operational Programmes were subjected to an eco-audit and guidelines had been established to assist programme managers in this task. The DEHLG claimed that biodiversity was considered as part of this process. The DEHLG also stated that the Department of Finance reported that biodiversity would be considered in the development of the next NDP. In addition, the review outlined some of the achievements under the NBP. These included the appointment new positions, such as ecologists in state forestry originations, both Coillte and the Forest Service and 27 Heritage Officers within the local authority. 2005 also saw the establishment of a National Biodiversity Research Platform to underpin the scientific basis for the National Biodiversity Plan, which is, elaborating a framework for a Biodiversity Knowledge Programme for Ireland and the addition of a significant biodiversity dimension to the annual call for research by the Environmental Protection Agency.

2006 saw some additional developments to implement the recommendations of the Comhar review. For example, the establishment of a Biodiversity Fund managed by the Heritage Council to support local site conservation and management and for the production of biodiversity education and awareness material. In the same year Biodiversity Units were established in NPWS and within the DAFF. The establishment of a Biological Records Centre that year was heralded as an essential mechanism for identification, monitoring and research in the area of biodiversity. 2006 also saw the initiation of the first public biodiversity awareness campaign 'Notice Nature' and through this process the development of biodiversity guidelines for the construction, business, agriculture and tourism sectors. 2006 also saw the inaugural meeting of the National Biodiversity Forum (NBF). The Forum was established to provide independent monitoring of the implementation of the NBP and to contribute to the development of Government policies to conserve and enhance Ireland's biodiversity. Representation on the Forum was to include key stakeholders, with representatives of the agricultural sector, business organisations, planning lobby groups, environmental non-governmental organisations, academics working in the field of conservation biology and state agencies.

2.3.4 - Implementing the Natura 2000 Directives in Ireland

The Natura 2000 sites, SACs and SPAs, cover approximately 11% of land in Ireland (CEC, 2006c).[12] The Habitats and Birds Directives have been transposed into Irish Law through the Natural European Communities (Natural Habitats) Regulations 1997; 1998, 2005 and European Communities (Birds and Natural Habitats) Regulations 2010. Natura 2000 sites are afforded protection by imposing "strict conditions on any development in or near these sites" (Clenaghan, 2008:190). There are various controls in place to protect Natura 2000 sites, including the Planning and Development Acts, and sectoral initiatives such as forestry guidelines and the Rural Environment Protection Scheme (REPS).

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[12] These areas are based on 413 Sites of Community Importance (SCI) the designation given prior to full SAC status and 131 SPAs; Present protected area is now lightly to be over this with 423 SACs and 147 SPAs now designated (NPWS, pers comm.)

The National Parks and Wildlife Service, as part of the DEHLG, has responsibility for protected areas in Ireland, which largely exist on agricultural land and rely on biodiversity sensitive management practices. In the past a lack of expertise and an incomplete picture of Irelands' biodiversity has meant that preparing an adequate list of sites for inclusion in the Natura 2000 list was difficult. 2002 statistics highlight that Ireland occupies the lowest place in the World Conservation Union (IUCN) league for the land set aside as protected areas (1% compared to average 10-12% for other developed countries). When European sites, SACs and SPAs, are included this figure increases to 11% of land area.

The OECD in its Environmental Performance Review for Ireland (2009) notes that some progress has been made with regard to Natura 2000 site management. Tentative management plans have been put in place for most Natura 2000 sites, with forty-five being approved by 2009. Almost a dozen species management plans (e.g. for the otter, *Lutra lutra*) have been adopted and are being implemented with the active participation of Irish nature NGOs, which carry out some of the work on the ground. However, the review also notes that "nature protection has remained the poor relative of Irish environmental policy both nationally and locally" (OECD, 2009: 15). Many proposed Natural Heritage Areas (NHAs), as well as marine SACs, still await formal designation and the European Court of Justice is perusing Ireland in a number of matters.

As of 2006, Ireland had not met two European Court of Justice rulings concerning the Habitats Directive. The first, in relation to the 1995 deadline to complete the list of nature sites to protect its most endangered natural habitats and species, as part of the EU-wide Natura 2000 network. The second in relation to insufficient measures to recover vegetation in Irish uplands that were extensively damaged by overstocking of sheep from the 1980s onwards (IP/06/1394). In January 2007 the European Court of Justice ruled that Ireland did not have in place a system of strict protection for Annex IV species due to inadequate monitoring arrangements and deficient procedures to protect species from development projects. Specifically, it was found that Ireland had breached commitments to the Directive by failing to have a system in place to monitor protected species, such as the otter, Kerry slug *(Geomalacus maculosus)* and a number of species of bat. In addition, Ireland did

not conduct appropriate assessment prior to major infrastructural projects. The ECJ cited construction of the Ennis by pass, a gas pipeline in Broadhaven bay and Lough Rynn Estate as examples of projects which began before the completion of the environmental impact assessment (C-183/05). Later that year, in December 2007, the European Court of Justice ruled that Ireland had failed to fulfill its obligations under EU law in relation to the designation, classification and protection of wild bird SPAs and in the protection of several bird species (C- 418/04). Clearly, Ireland has had a problematic history of compliance with the Natura 2000 Directives.

But Ireland is not alone having difficulties in complying with and implementing the Natura 2000 directives. Scholars have shown that a misfit between national administrative, legal and policy systems, traditions and practices can have an effect on how Member States adopt and adapt to EU legislation, others have highlighted the role of domestic actors, in stalling or preventing the implementation of EU directives (e.g. in the UK: Gibbs et al., 2007; Fairbrass & Jordan, 2001b; Fairbrass, 2000; in France: McCauley, 2008; Pinton, 2001). Laffen (2004) conducted a comparative study across a number of Member States, including, Ireland, Greece, Finland, Estonia, Hungary and Slovenia. This comparative study highlights a number of key issues, which are common to the countries, relating to the transposition and subsequent implementation of the directives. Laffen (2004) highlights that the Directives privilege scientific expert knowledge over the socio-economic concerns of landowners which causes difficulties at implementation stage. A second common theme is the role the Commission has played not only in the transposition of the Directives, but also their implementation, using complaints procedures and political/administrative negotiations in dealing with non-compliance of Member States. Third, is the challenging role of environmental ministries, with the legal requirement to transpose and implement the directives, on one hand, but also faced with the challenge of negotiating outcomes at the national level on the other. A forth issue raised is the level of funding provided by the EU to implement Natura 2000.

With respect to this latter point it should be noted that since 1992, 50 projects have been funded in Ireland within the EU LIFE Nature strand of funding. These projects

have primarily focused on site restoration and management, with emphasis on blanket bog, raised bog habitats, farmland and various types of woodland. According to an evaluation of LIFE projects in Ireland conducted by the Commission in 2009, LIFE projects have positively fed into the implementation of the Rural Environment Protection Scheme (REPS), by demonstrating cost efficiency of small-scale project activities and enhancing farmer ownership of agri-environmental improvements. LIFE Nature projects have also targeted species with good results, increased breeding and winter populations have been observed for Annex I birds, and an increased survival rate for the golden eagle (COWI, 2009). One of the key outcomes of LIFE nature funding has been in the provision of innovative ways that allowed an empowerment, previously not seen, of local stakeholders most directly concerned with the habitat, in this case the farming community. One example of such an initiative comes under LIFEIII. BurrenLIFE successfully secured €2,230,487, of which €1,672,865 was provided by EU funds, for the 'Farming for conservation in the Burren' project. As the evaluation points out, participation of local stakeholders, particularly the farming community, is an important aspect of implementation of the Natura 2000 Directives. This issue has been highlighted as a key issue by scholars of biodiversity policy in Ireland.

Specifically addressing implementation of the Natura 2000 Directives in Ireland, Laffen (2004) and Laffen & O'Mahony (2008) detail the fraught political processes which took place with respect to the transposition and implementation. The core argument made by these scholars is that the EU Habitats Directive triggered a high degree of political opposition from key domestic actors, particularly landowners and farming lobby groups, that essentially stymied the efforts of the Irish authorities to implement the directive on time and in the correct manner (Laffen & O'Mahony, 2008). Other critics have suggested that those groups opposing the transposition of the directive positioned their objections to it in the context of the country's colonial past, drawing on the strong cultural sensitivity about property rights in Ireland (Flynn, 2007; Taylor, 2001). These researchers note that as a result of the constitutional and legal environment in Ireland, considerable protection is accorded to landowners under the principle of natural justice, underlined in an Irish Supreme Court Judgement in 1994 (Tovey, 1994). But as Leonard (2006: 41) notes there was a second, social battle, "to own and control land was at the heart of modern

Irish cultural nationalism", and the heart of Irish rural identity. The legal implications of the directive appeared to violate a collective cultural norm strongly held by Irish farmers and landowners; namely that they are the ultimate arbiters of their own land (Leonard, 2006; Taylor, 2001).

One of the key issues therefore in the implementation of biodiversity policy in Ireland is to understand and address these cultural and political processes which underpin the trajectory of biodiversity policy. In the case of the Burren, EULIFE funding has provided a mechanism through which local landowners can be brought on board and empowered to take responsibility for conservation, while also, importantly, securing additional income.

2.3.5 - National cross-sectoral policy

The first national report on the implementation of the CBD to the UN stated that agriculture is the single biggest influence on biodiversity in Ireland (DAHGI, 1998). For this reason, measures to incorporate biodiversity into the agricultural environment are given some detailed consideration here. This is followed by an overview of policy relating to forestry, national development and heritage plans.

2.3.5.1 - Agricultural policy

Ireland's agri-environmental measure, the Rural Environmental Protection Scheme (REPS) was introduced in Ireland in 1994 in response regulation Agri-Environment Regulation, Council Regulation No. (EEC) 2078/92. As of 2005, approximately 50,000 farmers participate in REPS (DAFF, 2010a)

REPS was the first nationwide scheme to encourage farmers to protect natural and cultural heritage. On joining the scheme farmers enter into a five year contract with DAFF, to farm in accordance with an agri-environmental plan drawn up by an approved planning agency. The philosophy behind REPS, is that farmers should be compensated for additional expenses incurred in providing positive environmental benefits over and above good farming practice. However, with the management of the scheme in the hands of the DAFF, arguably more attention has been paid to its potential to transfer income to farm families than to maximising its environmental impact (Matthews, 2003).

Evidence for this is reflected in the patterns of REPS uptake. Initially, the scheme was targeted towards, and had highest uptake with drystock farmers, especially sheep farmers, engaging in extensive farming practices. Geographically, REPS participation has been concentrated in the poorer, most disadvantaged regions of the country, i.e. the western and northwestern counties. The limits placed on fertiliser inputs and stocking rates were said to have effectively discouraged the more intensive commercial farmers. This is indicated by the relatively low uptake with intensive dairy farmers. However, this also changed over time. By 2009, 9,000 (almost half of the 19,000 dairy farmers in the country) had participated in the scheme (Dwyer, 2009).

The measures and payments under the scheme have also changed over time. In early REPS (from 1994 – 1999) there were eleven measures in the scheme that were directed to broadly improving the farm environment, for example, controlling nitrogen use and stocking rates, controlling waste and effluent around the farmyard, and protecting water quality, hedges and features of archaeological or historical importance on the farm. In addition to the basic premium, extra payments were made to farmers who undertake supplementary measures within the scheme. During this time period supplementary measures, for example, included the preservation of certain endangered agricultural species and local breeds, organic farming, public access to land for recreation[13] and long-term set-aside of land on the banks of certain designated rivers. There were also supplementary measures to farmers whose land is designated as Natural Heritage Areas or Special Areas of Conservation.

Much of the benefit of REPS during this time, was considered to have been in the form of reduced pollution where, arguably, compensation should not be paid (Mathews, 2003). Farmers themselves view positively the farm clean up aspect of REPS, such as "removing plastic and twines; and, in general, making the place look better" (Gorman et al., 2001:145). In research conducted by National University of Ireland, Galway in 1999, 46% of Co. Galway farmers interviewed thought the

[13] This measure was discontinued after REPS 1; the EU held it did not accord with the scheme's objectives (Van Rensburg et al., 2009)

purpose of REPS was to clean and tidy farms (Aughney & Gormley, 1999, cited Leonard & O'Kane, 2008). This, critics suggest, had had the effect of alienating farmers from the ecological spirit of REPS and reduced it to a matter of 'tidying the farm' thus losing much of the inherent environmental potential which the Scheme encapsulates.

After poor uptake of REPS 2, premiums were raised for subsequent schemes. REPS 3 and REPS 4 (1999 – 2009) also saw an increased array of farm management options designed to enhance biodiversity. Participants in REPS 4 were required to undertake eleven basic measures, in addition to two Biodiversity options (from a list of twenty-four options available) (DAFF, 2010a). A recent document produced by the Irish Farmers Association (Dwyer, 2009) highlights ecological benefits produced by farmers under the scheme, for example, 10,000 kilometres of new and rejuvenated hedgerows, and one million broadleaved trees have been planted. However, this positive judgement is based on the quantity, rather than the quality, of biodiversity measures. The lack of ecological monitoring of REPS and insufficient baseline data is highlighted by Finn et al. (2005). Indeed, DAFF, in the first review of REPS (Department of Agriculture, Food and Rural Development, 1999) noted this deficiency. In the first evaluation in 1999, the chapter 'Environmental impact of the REP Scheme' commented that: "A weakness of the implementation of the REP Scheme to date has been the absence of comprehensive environmental baseline data. Instead, the evaluation has had to fall back largely on the requirements made of farmers in the individual REP Scheme plans. there is a need for baseline data and monitoring of the Measures dealing with habitat and landscape". (DAFRD, 1999: 52/53). Through out the life of REPS, various commentators suggested as re-design of the scheme to improve and monitor environmental benefits (Mathews, 2003; Feehan, 2002).

Payments under REPS 3 and 4 continued to be of vital importance for smaller, poorer farmers, particularly along the western seaboard. Dwyer (2009) notes that as of 2008, 75% of all REPS participants were drystock or sheep sectors. O'Rourke & Kramm (2009) examined farm income of Kerry hill farmers and concluded that income is essentially composed of the Single Farm Payment (68%) and the agri-environmental (REPS) payment. However, in this area only 19.4% of households

were fully dependent on their farms as their sole source of income. Similar results have been found in Co. Clare. A farm survey in the Burren area concluded that 57% of farmers surveyed were part-time (Bogue, 2006). By 2009, another change in REPS uptake was clearly discernable. Almost half of the 19,000 dairy farmers in the country participated in the scheme by 2009.

Farmers attitudes towards REPS, and the environment appears not to have substantially changed over the course of REPS. For example, Van Rensburg et al. (2009) in their research with REPS and non-REPS commonage farmers in Mayo, examined farmers perceptions towards environmental and ecological deterioration in the area. Their findings suggest an overall lack of environmental sensibility of the part of the majority of REPS and non-REPS farmers, but did suggest that REPS farmers did appear to have a higher level of environmental awareness compared to non-REPS farmers, albeit starting from a very low base. Their findings on the impact REPS has had on developing positive environmental awareness is inconclusive. They suggest that REPS may have had a positive (albeit marginal) educational effect in terms of raising the environmental awareness of its participants, or alternatively, farmers who joined REPS may have been those with a higher environmental awareness in the first place.

A key criticism of REPS is the mis-match between the schemes requirements and local conditions. This has been particularly acute in the Burren area in Co. Clare. Critics suggest the focus of REPS on tidying up the countryside and repairing the stone walls (a particular feature in the west of Ireland), rather than getting the stocking density and farm nutrient balance right (O'Rourke, 2005b; Citing Bohnsack & Carrucan, 1999). Participant in a study conducted in the Burren by Gorman et al. (2001) highlight that current grazing regulations could have a detrimental effect on the vegetation of the Burren. Farmers in the Burren traditionally grazed cattle at low stocking rate through out the year, which allowed build-up of grass, but restricted growth of trees, gorse and shrubs. Within the existing environmental regulations, farmers are only allowed to have stock on the mountain for one week between April and October. This, farmer suggest, has led to excessive growth of shrubs and trees, which is posing a threat to the unique flowers for which the Burren is famous.

In March 2010 the new Agri-Environment Options Scheme (AEOS) was announced (DAFF, 2010). This scheme follows in a similar vein to REPS, in that it specifically targets farmers in Less Favoured Areas, and smaller holdings. In addition, applicant selection for the scheme prioritizes holdings with Natura 2000 designated sites or commonage. It is interesting to note that within AEOS, Category 2 applicants (those without Natura 2000 or commonage land) can chose from one of three primary environmental objectives contributing to 'halting biodiversity decline', 'maintaining water quality', combating climate change'. Within these objectives there are a range of biodiversity-enhancing actions from which farmers may choose to suit their own farming systems. Many of the eighteen options available are similar to those found in previous REPS as biodiversity options or supplementary measures. The scheme appears to have an increased emphasis on biodiversity many of the complementary and additional actions (over and above the mandatory actions) are biodiversity related. However, at this is the first year to the scheme it remains to be seen how it will be monitored, and how it will affect biodiversity management in the agri-environment.

2.3.5.2 - Forest policy

Ireland's forest resource has increased from 1% in 1901 to 9.8% of the land area (Bullock et al., 2008 citing Fahy & Foley, 2004). Almost all this increase has been represented by commercial forestry based on exotic conifers. This accounts for approximately 650,000 hectares of land area.

The Forest Service has set a national target of increasing forest coverage by 20,000 hectares per year to 2035. Conifers will constitute the greater proportion of this planting, a target of 30% annual broadleaf afforestation remains in place under the Rural Development Programme 2007-2013. The Native Woodland Scheme and elements of the Woodland Improvement Sub-Measure encourage the planting of native broadleafs. Furthermore, the inclusion of objectives for broadleaf woodland is especially important for biodiversity in that surviving examples of old woodland sites are rare. In 2002, such forests represented only 6.3% of Coillte's estate (Bullock et al., 2008). Forest Service is responsible for ensuring the development of forestry in Ireland and in 2000 issued 'The Forest Biodiversity Guidelines' which require approximately 15% of forest area to be treated with particular regard to biodiversity

(Forest Service, 2000). The Forest Environment Protection Scheme has been introduced under the Rural Development Plan 2007-2013 and will operate on a pilot basis during 2007. The schemes main objective is to encourage the establishment of high nature value forestry on farms which participate in REPS.

However, areas of conflict have arisen with regard to forest practice in Ireland and biodiversity. For example, management of harvesting and nutrient provision which affects the freshwater pearl mussel and management for the hen harrier, both protected under the Habitat Directive and Birds Directive respectively. The Forest Service, Department of Agriculture, Fisheries and Food, in conjunction with the National Parks and Wildlife Service has developed the' Forestry and Freshwater Pearl Mussel Requirements - Site Assessment and Mitigation Measures', in order to assist in the protection and conservation of the freshwater pearl mussel and its habitat.

From the perspective of the Forest Service, biodiversity objectives do help to justify support to the sector in the context of increasing the nation's forest cover. Hence, indicators have been developed by the COFORD BIOFOREST project (http://bioforest.ucc.ie) as a means of demonstrating biodiversity outputs. These include structural indicators of biodiversity (e.g. area, connectivity, dead wood), compositional indicators (species numbers and diversity) and functional indicators (frequency or intensity of natural or human activities). The follow up to this project, COFORD FORESTBIO has also produced detailed research on biodiversity and forestry conflicts, for example, in the case of hen harriers.

2.3.6 - Spatial Planning and National Development Plan

Article 5 of the NBP highlights the importance of integrating biodiversity with the National Development Plan (NDP). Ireland's first National Development Plan and Community Support Framework (2000 – 2006) set the national agenda for social and economic growth and regional development. The Irish Government and the European Commission identified four priority considerations to be factored into the NDP: poverty, equal opportunities, the environment, and rural development. These cross-cutting or horizontal principles supported all programmes in the plan, which oversaw significant investment in social improvements, infrastructure developments

and scientific and technological research (Bullock et al., 2008). An Taisce (2007) note that this NDP did not specifically mention biodiversity, or protected areas, an omission which the organisation claims indicated the absence of any real commitment to halt the loss of biodiversity.

The most recent National Development Plan 2007-2013 sets out economic and social investment priorities for coming years. This plan outlines a programme for the investment of €184 billion to support environmentally sustainable economic and social growth including an allocation of €25 billion in "programmes that will directly and positively impact on environmental sustainability" (Bullock et al., 2008:30). Natural heritage and biodiversity are among the main challenges cited in the new NDP alongside climate change, eutrophication, waste management. The NDP recognises that "Ireland's biodiversity, which includes our ecosystems, provides environmental services vital to human welfare. These environmental services include the provision of food, fresh water, clean air and nutrient recycling, all of which are essential to human life. Furthermore, our natural environment is valuable and worthy of protection in its own right." This NDP includes a commitment to halt the loss of biodiversity by 2010 and Ireland's responsibility under Natura 2000 Directives (An Taisce, 2007). The NDP provides for a programme of capital works to protect and restore the integrity of the habitats under the Natural Heritage Sub-Programme of the Social Infrastructure priority. Some €67 million will fund the purchase of Natura 2000 sites, as well as the acquisition of habitat-rich sites and designated raised bogs. Concerning coastal protection, the Plan notes that project design and planning takes full account of environmental, ecological and heritage issues and that Environmental Impact Assessments are undertaken for schemes which are likely to have a significant impact in environmental terms (An Taisce, 2007).

A second national framework through which planning for biodiversity is considered is the National Spatial Strategy (NSS) for the period 2002 – 2020. The NSS is designed as a framework to assist Ireland to achieve a better balance of social, economic, physical development and population growth between the regions. It fulfils a commitment made in the NDP 2000–2006 to designate national 'gateway' and regional 'hub' cities and towns as key centres for economic and social

development as well as for service and amenity functions. The NSS is intended to counterbalance the rapid growth of the Dublin metropolitan area, although its achievement in this regard is contested (Scott, 2006). It contains a large focus on the need for sustainable development, and, importantly, recognises that sustainable development is more than just an environmental concept. It accepts that development should be guided by sustainability principles, for example reducing the need to travel and minimizing the consumption of non-renewable resources.

In addressing the spatial and regional issues for its implementation, the NSS recognises the fundamental importance of Ireland's natural resource base to the economy and to future national development. Furthermore, it explicitly recognises that biodiversity has intrinsic economic and social value, whether through its importance for recreation or tourism, or its relevance to agriculture, forestry, fisheries and other indigenous industries (Bullock et al., 2008). However, An Taisce (2007) note that the NSS makes clear that statutory designation of certain rural areas (i.e. SAC/ SPA/ NHA) is not intended to prevent development, and more specifically, housing development. The bodies responsible for regional and local planning decisions as well as national policy are expected to align their actions with the NSSs provisions over the next 20 years.

The Sustainable Rural Housing Guidelines (SRHG) (DEHLG, 2005) constitute Ministerial Guidelines under Section 28 of the Planning & Development Act 2000. Therefore, the Planning Authority is required to have regard to them in formulating its policies on rural housing. Biodiversity is included as one of four categories of heritage which are relevant to rural housing. Under the SRHG planning authorities should take all reasonable steps to ensure that planning applications involving development that may affect aspects of biodiversity and natural heritage are referred in a timely manner to any prescribed bodies. Also, under the guidelines Planning authorities should also have regard to the inter relationship of these sites and the need for corridors and stepping stones between them. Planning authorities should also have regard to the National Heritage Plan and any County/City Heritage Plans and Biodiversity Plans when making decisions.

According to An Taisce, the SRHG make it clear that statutory designation of certain rural areas (i.e. SACs, SPAs and NHAs) is not intended in any way to operate as an inflexible obstacle to housing development. However, planning authorities should only consider approving proposed developments when they are satisfied the development not adversely affect the integrity of the designated area in themselves or in combination with other proposals. The Guidelines identify two types of potential impacts. First, site impacts, which are impacts arising from one or a number of developments that affect a localized feature of biodiversity importance, such as an important habitat, or a population of a rare species. Second, area-wide impacts, which are cumulative impacts of many developments on biodiversity in the wider countryside. According to the Guidelines, a proposal must be subjected to an appropriate assessment of its implications, if it is clear, on the basis of a preliminary examination, that the project could have a significant effect on the area. Nevertheless, the Guidelines also observe that it is likely that, at a national scale, most single housing developments will be located on habitats of low biodiversity value.

2.3.6.1 - Irish planning legislation

In a recent document produced by DEHLG (2009) outlines the hierarchy of statutory spatial and land use plans that has been established in Ireland under the Planning and Development Acts 2000-2006 (as amended). These include the following: The Regional Planning Guidelines (RPGs) which provide a long-term (12-year) strategic planning framework for the development of a region; City/County Development Plans (CDP), which set the 6-year framework and associated objectives for the sustainable development of the city, county or town; and Local Area Plans (LAP), based upon the detailed development plan objectives for specific areas.

Land use planning is a specific dimension of the government framework for sustainability. The Planning and Development Acts 2000 – 2006, have sustainable development written in as a key objective of the planning system. Specifically the phrase "proper planning and development" of an area, which was the touchstone of the planning code, has been replaced by "proper planning and sustainable development". Both CDPs and LAPs are required to contain sustainable planning policies and objectives for the area that the development management process

implements over the time period of the plan. It is at this scale that policies, objectives and zonings that determine planning applications are adopted.

Sections 10 and 34 of the Planning & Development Act 2000 state that the County Development Plan (CDP) must include objectives for the conservation and protection of SPAs and SACs and the Planning Authorities must also have regard to their status in deciding on planning permissions.

Section 10(2)(c) of the Act is crucial in this regard. This Section provides that every CDP must have mandatory objectives for the conservation of European and nationally important sites and for the conservation of biodiversity in general. More general provision for the environment and sustainable development which encompasses biodiversity is given under Section 10(5). With respect to Natura 2000 sites, The CDPs and LAPs will indicate the location of theses areas. The site synopsis (as outlined in the Management Plan produced by NPWS) will give an indication of the site's conservation objective(s) and this will alert planning staff and the general public to both the Natura 2000 site location and also the areas outside the site where development will have to be carefully screened and managed to ensure that there are no significant effects on the Natura 2000 site (DEHLG, 2009). Section 34(2)(a)(iii) of the Act states: When making its decision in relation to an application under this section, the Planning Authority shall be restricted to considering the proper planning and sustainable development of the area, regard being had to any European site or other area prescribed for the purposes of Section 10(2)(c).

Therefore, the Acts state that for all proposed developments requiring planning permission, the planning authorities must ensure that an appropriate assessment is undertaken regarding the implications of the proposal for designated sites. This applies to all development proposals, irrespective of location, likely to impact upon a designated sites (An Taisce, 2007). In deciding on a planning application for a development which is likely, individually or in combination with other developments, to have a significant effect on a European site, the planning authority may only grant planning permission where it is ascertained that the proposed development will not adversely affect the integrity of the site concerned. Under Article 28 of the

Planning and Development Regulations 2001 to 2007, various prescribed bodies must be given notice of any valid application for planning permission, and where it appears that the development might have significant effect in relation to nature conservation, the application should be sent to the Heritage Council, the Minister and An Taisce. Scannell & Turner (2009:45) claim that the purpose of Article 28 is to "integrate planning policy into other sectoral policies, to enable Planning Authorities to avail of the expertise of other bodies with environmental and specialist expertise and to ensure better and more transparent decisions". This requirement is reiterated within the Sustainable Rural Housing Guidelines, which notes that planning authorities must ensure that all planning applications for rural housing that involve sites located in, or that might affect, an SAC, SPA, NHA, Nature Reserve, National Park, refuge for fauna or flora or other areas of wildlife importance, are referred to the relevant regional office of the National Parks and Wildlife Service for comment (Scannell, 2006). Planning Authorities must then have regard to any submissions or observations made in response to such referrals.

While these Articles provide a pathway for consideration of protected sites, the wider countryside, biodiversity and provisions of Article 10 and the Habitats Directive are less than transparently dealt with. DEHLG (2009) recommends that regional planning guidelines, development plans and local area plans incorporate provisions for biodiversity. They suggest that these plans should refer to the implementation of the National Biodiversity Plan, through the preparation and adoption of Local Biodiversity Action Plans as part of integrated Local Heritage Plans, as the conservation of biodiversity is an essential component of sustainable development.

A number of issues should be considered at this juncture. First, critics have recognised some difficulties in managing environmental issues through the Planning Acts. While they mostly consider issues of pollution control, the general thrust of the difficulties apply also to more general land use planning matters in the area of nature conservation and biodiversity planning. First, Taylor (2001) and Flynn (2007) note that the Planning Acts were not designed for the task of environmental regulation, which has become ad hoc, and fragmented. While these critics discuss environmental matters such as air and water pollution, inclusion of the nature

Table 2.6 Planning guidance and powers with respect to biodiversity

(adapted from Woodrow Wildlife Consulting on behalf of Kildare & Sligo County Council)

Planning guidance with respect to biodiversity	Powers to implement biodiversity measures
Regional Planning Guidance - Regional Planning Guidance must address natural heritage protection - Regional Planning Guidance must contain information on the likely significant environmental effects of implementing the plan.	**Development control** Planning permission can be refused for certain specified nature conservation reasons without the need for compensation. The planning authority may impose conditions requiring: - provision of open spaces - planting and maintenance of trees, shrubs or other plants - the maintenance of open spaces - protection of features of the landscape which are of major importance for wild flora and fauna - acquisition of land for open space as part of a planning permission - Use of planning agreements - Areas of Special Amenity may be declared, which may include nature conservation considerations - Tree Preservation Orders may be made to protect individual or groups of trees - Provision for pre-application consultation with planning authority (under which a local authority can negotiate with a landowner to achieve an environmental objective as a quid pro quo for overall planning permission for development.
Development plans - Development plans must contain an overall strategy for sustainable development. - Development plans must contain policies for protection of natural heritage, including designated sites (Natura 2000 sites and NHAs) - Development plans must contain policies for landscape character preservation, including features of natural beauty or interest. - Strategic Environmental Assessment must be conducted on Development plans and the plan's policies and measures.	
Local Area Plans - Local Area Plans must contain information on the likely significant environmental effects of implementing the plan	
Development Control - The planning authority must consider the proper planning and sustainable development of the area. - The planning authority must also have regard to any European site or NHA. EIA is required in certain circumstances	

conservation directives and biodiversity more generally in the Planning Acts follows a similar pattern, with requirements 'added on' to already existing measures. Second, the integration of sustainable development terminology into the Planning Acts is a notable advance on previous iterations. But as Scannell & Turner highlight (2009:41) the ill-defined and diffuse nature of sustainable development, which is "unsuited to precise legal definition", and lack of guidance on how the term should be used, it may create problems. From their examination of sustainable development through the planning acts, they conclude that "it is fairly safe to say that legislative duties to 'promote' or 'have regard' to the principle of sustainable development does not necessarily mean that environmental interests must always triumph over other interests". They go on to say that while it is clear that environmental interests must be taken into account, by law, once is done in even a token manner, it is highly unlikely that the courts in the Republic will question whether the correct balance has been achieved.

2.4 - Biodiversity planning at local authority scale

In this section policies which are developed by the local authority are discussed, specifically, the County Development Plans (CDPs), Local Area Plans (LAPs) and the Local Biodiversity Action Plan (LBAPs). According to the NBP (DAHGI, 2002), local authorities have potentially a key role in the protection of biodiversity, they are, according to the NBP, in the best position to promote heritage conservation generally into local plans and programmes and to provide for the conservation and sustainable use of biodiversity at the local level. Two key measures have been put in place to secure this, namely, the preparation and adoption of Local Biodiversity Action Plans and the designation of Natural Heritage Officers in all local authorities. The primary functions of these officers is to promote and ensure the conservation of the natural heritage at the local level. The principal means of achieving this will be the formulation of the Local Biodiversity Plan by each local authority which will normally be prepared as part of integrated Local Heritage Plans. The NBP recognises that planning and development departments in local authorities now act as a node through which biodiversity decisions are made. Planners largely frame such decisions with respect to the hierarchy of plans discussed previously. Table 2.6 outlines how planners take into account biodiversity with respect to these plans, and their decision-making powers in development control.

Recently, the planning section also has a remit in Strategic Environmental Assessment (SEA). SEA aims to identify and assess the environmental consequences of certain plans and programmes during their preparation and before their adoption and implementation. The implementation of the SEA Directive will, according to the EPA, provide a further opportunity for integration of environmental concerns into the preparation of plans and programmes in agriculture, forestry, fisheries, energy, industry, transport and tourism (Lehane & Sheils, 2008). To put the responsibilities of the local authority in national context, integral part of national policy implementation with up to 40% of the National Development Plan 2007-13 will be by them.

2.4.1 - Local Biodiversity Action Plans (LBAPs)

To date, twenty LBAPs have been produced in Ireland (Hickie, 2008). The main function of the LBAPs are to translate international, European and Irish policies and obligations into effective local action. They are considered to provide a framework for the conservation of biodiversity which will identify and prioritize existing and future initiatives, assist in the sustainable planning and development at a local level in a manner which complements the County Development Plan and Local Agenda 21 initiatives. The production and implementation of LBAPs, the guidelines suggest, should provide an opportunity to increase public awareness and involvement in the conservation and collate information on the local biodiversity of importance. Lastly, it aims to provide a basis for monitoring the success of conservation of biodiversity at a local, regional and national level (Heritage Council, 2003). The Guidelines on the production of LBAPs (Heritage Council, 2003) clearly outlines the processes by which the Plans should be developed. First it suggests that a biodiversity working group should be formed. Overall responsibility for the production of the Local Biodiversity Action Plan lies with the Heritage Officer, though this may be facilitated by the appointment or designation of additional staff to assist the process. The production of the Local Biodiversity Action Plan is undertaken by a Biodiversity Working Group, set up under the auspices of the Local Heritage Forum. National co-ordination of this process is provided by the Heritage Council. A key function of the LBAP is to identify and collate existing information on local biodiversity.

To this end the guidelines suggest a data base is established and information audited to identify information gaps. It is suggested that information on designated sites will comprise a significant component of this database, but the focus of the local database should be to generate and make accessible information on the biological diversity of the wider countryside, outside designated sites. Following this, the Biodiversity Working group are encouraged to establish priorities and set targets, so that progress on implementation can be monitored.

A core element of the LBAP process is to promote and raise awareness of the biodiversity. The guidelines suggest that after the Biodiversity group has become familiar with the aims and objectives of the CBD, it should try and raise awareness in the wider community of the LBAP process. The Guidelines state "It is essential that as many people and organisations as possible are aware of the Local Biodiversity Action Plan process as their participation and support will be key to eventual implementation. Events such as workshops, presentations and competitions could be held and publicity through radio slots, newspaper coverage, etc will help promote the Local Biodiversity Action Plan process" (Heritage Council, 2003:12). Following this a process of consultation should be engaged in, to involve the community, and wider stakeholders not involved in the Working Group. The Guidelines suggest that this could take the form of "general call for submissions on the issues and concerns of the general public in relation to the conservation of biological diversity" (Heritage Council, 2003:13).

Awareness raising and consultation are recognised as key elements of The Local Biodiversity Action Plan process internationally. In England and Scotland, guidelines for the production of LBAPs emphasis action at the local level, through the bottom-up construction of plans and policies, based upon local expertise and institutional capacity through a partnership based approach. It is suggested that giving local people a voice in the content of the LBAP at an early stage in this process will broaden the ownership of the plan which, in turn, will influence how effectively it delivers its objectives. In addition, the aim of active public involvement is to raise awareness and engender greater understanding of both local priorities and wider biodiversity issues (The Scottish Office, 1999). Research from the UK suggests that biodiversity action planning represents an important arena of

sustainable development, harnessing local expertise to conceive of nature conservation across environmental, economic and social activities at the local level (Harrison & Davies, 2002). However, in Ireland, the LBAPs process has been conducted in a number of different ways. Some local authorities have initiated steering committees to over see the direction of the process, but have employed environmental consultants to produce the LBAPs. In the following section, the process by which Co.Clare, the case study area of significant for this research, conducted its LBAP will be discussed.

2.4.1.1 - Clare Local Biodiversity Action Plan

As discussed briefly in the Introduction, Co.Clare provides the primary geographical case study location for this project, it was also the first county in Ireland to develop a LBAP. Therefore it is relevant to examine in more depth biodiversity related policy within this area. The Clare LBAP and County Development Plan have been singled out for more discussion because they are the key biodiversity related plans for the county.

The production of the LBAP in Clare has been conducted by the Clare Biodiversity Group (CBG) in conjunction with the Clare Heritage Officer, and Clare Biodiversity Officer. Clare is one of four local authorities who have a Biodiversity Officer.14 The Clare Biodiversity Group is a multi-stakeholder partnership of individuals and representatives consisting of a core steering committee of twelve members and two employees (The Biodiversity Officer and Biodiversity Data Manager). The member's of the group comprise academics, governmental and non-governmental organisations, private sector and expert individuals from within the county.

The CBG is a voluntary steering body which finds it origins within Clare Heritage Forum (CHF), which is a requirement of Heritage Act (2002). The CHF was established to develop and manage the implementation of the Clare Heritage Plan (2003 – 2007) and comprises representatives of relevant groups, including local government bodies, development organisations, state agencies, landowners,

[14] The following local authorities also have biodiversity officers: Dublin City Council, Fingal County Council, Galway County Council.

heritage organisations and the community and voluntary sector. As part of the CHF, a Natural Heritage Working Group was established. This working group has evolved into the Clare Biodiversity Group. Research in the UK by Evans (2004) and Morris & Wragg (2003) on the process by which individuals were selected for Biodiversity Working Group, suggests that selection of participants, and their knowledge, has considerable impacts on the objectives and species considered for LBAPs.

In 2007 Co. Clare released its LBAP (CBG, 2007) and associated nine species action plans. In its opening preamble, the Clare LBAP supports the idea that biodiversity is what gives Clare its character and charm. Biodiversity is valued within the plan for its aesthetic and economic benefits. The LBAP has a six objectives and associated actions. This includes establishing priorities for the conservation of biodiversity of local, national and international importance, raising awareness and appreciation of biodiversity in Co.Clare. Identify, assess and mange the local biodiversity resource, through the Clare biological database and Clare Biological records centre. Promote the conservation of biodiversity in plans and processes affecting the county. Specified in the LBAP are the Clare Heritage Plan, the County Development Plan and Local Area Plans. The last two objectives relate to the co-ordination of existing and initiation of new partnerships and monitoring and reviewing the progress of the LBAP (CBG, 2007).

Nine habitat and species action plans were also produced by the CBG. These include Sand dunes, native woodland, fens, limestone pavement, roadside verges, salt marsh, cuckoo *(Cuculus canorus)*, Leisler's bat *(Nyctalus leisleri)*, Irish pollan *(Coregonus autumnalis)* and lungwort *(Pulmonaria officinalis)*. Each plan provides a description of the habitat and species, their distribution in Clare and identifies factors affecting or threatening the habitat or species. The substantive body of the species and habitat plans include a range of actions to be undertaken by the CBG in conjunction with a range of partner organisations who are detailed in the plan. Partner organisations include public sector, civil society and private sector organisations. In addition many of the partner organisations are not listed as members of the CBG. Estimated costing and time frames for each of the actions listed in each plan are also provided.

The Biodiversity Working Group and the Biodiversity Officer have produced a number of biodiversity related documents and initiatives through the LBAP process to raise public awareness of the LBAP and the biodiversity of Clare. These induce the 'Spot the 101 Habitats and Species in Co.Clare' (CBG, 2006) a document to increase awareness of species and habitats regarded by the group as important. A number of leaflets and a booklet, 'Recording the wildlife of County Clare' (CBG, 2006) have also been produced to encourage public participation in the monitoring of selected species. A diverse range of species are detailed in the booklet, including mammals, birds, flowering plants, moths, beetles, spiders and sea weed. These records contribute to the Clare Biodiversity Database. The records received from the public are then validated by experts. Critics of Local Biodiversity Action Plans suggest that the process by which they seek to engage the general public requires critical examination. One concern is that within LBAPs, the concept of biodiversity remains tied up with science, elites, conservation of rare species and habitats and a global public good. Locally relevant biodiversity issues, relevant to local people, get much less attention – to the extent that biodiversity planning processes may not even know how to ask the right questions at the local level (Vermeulen, 2004).

2.4.1.2 - Clare County Development Plan

The Clare County Development (2005-2011), recognising its commitments under the Planning and Development Act 2000, requires that plans include objectives for the zoning of land for particular land use purposes, in the interests of proper planning and sustainable development. To this end, a number of different land use zones are identified in the plan. One of the zones, 'The countryside' states that the principle land use aim is to "provide for the appropriate development of agricultural and forestry uses. To restrict residential development and to conserve and enhance the environment, biodiversity and landscape" (CCC, 2005:3). With regard to biodiversity beyond the statutory protected features, for example, sites and species of local importance, the CCDP states that "the Planning Authority acknowledges that it is important to maintain and enhance the character and quality of the urban and rural environment in its entirety as wildlife heritage is not confined to statutorily designated sites, but is found throughout the countryside and in built-up areas. All development proposals should respect significant wildlife habitat areas and corridors so as to protect flora and fauna and to conserve and enhance their

habitat" (CCC, 2005:64). Within this the Plan directs planners to only permit development where it can be clearly demonstrated that there are no significant adverse effects on local habitats and species.

It goes on to say that "development plans should identify such sites of local importance and endeavour to secure their protection. Any development on or near such sites should avoid any significant adverse impact on the features for which the site is considered to be of local importance". The CCDP specifically mentions hedgerows, ponds and small strands of trees that provide important habitats for a variety of species as examples of sites and species of local importance. This suggests that there is a familiarity within the CCDP of biodiversity both through protected areas and unprotected sites in the wider countryside. The relationship between the LBAP and the CCDP is clearly indicated in the following "In considering the affects of development on habitats and species regard will be had of the Local Biodiversity Action Plan when adopted by the Council" (CCC, 2005: 64). In 2006 the Clare Local Biodiversity Action Plan was passed through Council.

2.5 - Conclusions

This chapter clearly indicates that biodiversity has achieved a high status and profile at a range of scales, from the international to the local. Since the 1980s, in particular, there has been a vast amount of policy, documents, and initiatives with the aim of protecting biodiversity, however, current estimates suggest, that biodiversity (genes, species and ecosystems) is suffering dramatic declines. This would suggest that problems of biodiversity protection lie beyond plan formulation, but on their implementation.

In this policy review a number of key trends were identified. First, the emphasis on integration of biodiversity protection to sustainable use, manifesting through cross sectoral integration of biodiversity into those sectors concerned with economic development. Policy increasingly acknowledges that biodiversity protection has become the responsibility of an expanded range of organisations and actors, from farmers to foresters, planners to politicians. In Ireland this is recognised in the NBP, which calls for cross sectoral integration of biodiversity through government departments and agencies. However, biodiversity integration requires that sectors

traditionally associated with the causes of biodiversity loss, become the solution to halting its loss, by actively engaging and participating in changing practices. Integration of biodiversity across sectors requires that an expanded array of individuals interact, potentially contesting each others views, or forming alliances over particular positions to advocate for and further their views. Therefore, understanding how individuals think about biodiversity and its impact on human well-being across these sectors is of crucial consideration. Biodiversity integration however, is not simple or straight forward; it signals fundamental tensions which belie the notion of sustainable development and sustainable use of biodiversity, tensions which exit between economic development on one hand, and biodiversity conservation on the other.

Secondly, the chapter also clearly indicates the importance of scalar considerations. Biodiversity policy formulation happens across scales, as Buckley (2004) indicates, "Ireland seeks to participate in, and influence the development of, EU and international biodiversity initiatives, as well as adopting and implementing these initiatives here in Ireland" (Buckley, 2004:107). Once an intergovernmental process produces an agreement, it sets into motion a domestic response to implementation. Many of the international policy documents call upon states as the key route to implementation, or more specifically, the Department of Environment, Heritage and Local Government. However, the task of implementing polices, primarily drawn up at national scale, falls to the local authority. Indeed, the processes at both national and sub-national levels, and the interaction between these scales, requires a close examination, with internal dynamics, negotiating process, and political apparatus responding to the obligations of international policy. International biodiversity policy therefore, can be reinterpreted at national and local scales, it is adapted to and manifests within the existing political and policy framework. This interaction between new policy and old institutions of governance, across scales, is of crucial importance. As Agrawal & Ostrom (2006) state, strengthening governance systems at relevant scales to halt the loss of biodiversity is suggested as one of the most important challenges facing biodiversity conservation. The importance of scale is reiterated by the Ecosystem Approach, for example, which suggests that governance authority and responsibility for biodiversity should be delegated to the lowest possible level with relevant capacity. Within this a key consideration which

the policy review highlight the role of the local authority. It would appear, that policy pertaining to biodiversity and its management is drawn up at international and national scale, and then implemented through the functions of the local authority.

Third, within this expanded array of actors and organisations which biodiversity policy seeks to include and engage in biodiversity decision-making, publics' knowledge and involvement is also increasing sought. From the international documents such as the CBD and MA, through EU biodiversity policy, national and local, public involvement is called for, through awareness raising, education and decision-making activities. In addition, the views of resource managers and users, as highlighted in the discussion of agri-environment schemes and the Habitats Directive, are of crucial consideration to the reception and implementation of biodiversity polices. As Ledoux et al. (2000) suggests a more participatory and deliberative means of decision-making may result in more effective implementation of biodiversity policies. What is less clear is how publics should be engaged, why, or how publics themselves feel about efforts to increase their participation in biodiversity matters. Bringing biodiversity messages to a wider audience and facilitating involvement of the general public in decision-making through the structures of public participation requires that the politics of decision-making around biodiversity be examined at the community scale.

To summarise, this chapter identified significant delays and deficiencies in the implementation of biodiversity policy in Ireland, for example the National Biodiversity Plan and the EU Natura 2000 sites, suggesting failure in biodiversity governance. This chapter identified ways in which biodiversity policy has sought to create tools which strengthen biodiversity governance, through multi-sectoral and multi-scalar integration and public participation. This calls for an expanded array of organisations, actors and publics to become involved in biodiversity, each with their own interpretation of biodiversity, biodiversity issues and biodiversity governance. In the following chapter, the Literature Review, these issues of biodiversity understandings, biodiversity governance and participation will be examined in theoretical terms, using the vast array of academic literature on these subjects.

Chapter 3 - Literature review

3.1 - Introduction

It has already been established that the term biodiversity, defined at Rio as "the variability among living organisms from all sources, including, 'inter alia', terrestrial, marine, and other aquatic ecosystems, and the ecological complexes of which they are part: this includes diversity within species, between species and of ecosystems" (Article 2, Paragraph 1, United Nations Convention on Biological Diversity, 1992), has emerged onto the policy scene. But, biodiversity is a highly contested term. Biodiversity conservation therefore has a clear political dimension. Biodiversity politics can be described as the process by which decisions regarding biodiversity are constructed, negotiated and implemented at a range of scales, by a variety of actors including publics; each with differing conceptions and understanding of biodiversity (O'Riordan, 2002). The previous chapter's review of policy identified three themes around which these negotiations and contestations play out, and therefore, demand further reflection in this chapter. Each of these three themes will be considered in turn (i) policy makers and public understandings and values of biodiversity (ii) the ways biodiversity has been governed, and leading on from this (iii) the challenges of greater stakeholder engagement in biodiversity governance, including public participation.

The first section of this chapter addresses biodiversity understandings and values. This section provides a review and critical analysis of existing literature on biodiversity understandings and values, which is contextualized by the broader environmental values literature. This approach is pertinent because wider understanding of biodiversity by both policy makers and publics is suggested within policy to contribute to more effective policy implementation (e.g. McNeely & Mainka, 2009; Smith & Maltby, 2003), but also it illuminates the complex human–environment relationship in decision-making (e.g. Smith, 2003; Innes & Booher, 1999). Other commentators suggest that within decision-making processes differing biodiversity understandings and values can influence the way in which discourse develops and personal relationships which are built, which is an essentially political subject (Torgerson, 2003).

This second section addresses biodiversity governance; discussion in this section draw together key themes within the governance literature, environmental governance, and literature relating specifically to biodiversity governance. Governance literature highlights current debates concerning the role, structure and authority of the state in policy making. Following this, literature concerning scale in governance is discussed, tracing a path from global through local and into current research relating to multi-level governance. These issues provide a platform and context for the literature which addresses environmental governance. Key themes raised in this section again highlight issues of scale, but also the modes or mechanisms of governance, specifically networks and partnerships. Following this, literature relating to biodiversity governance draws on previously discussed themes of scale, the state, networks and partnerships and illustrates their use and outcomes in relation to biodiversity governance research. Lastly, this section highlights some of the wider social issues related to governance, and policy making, such as ecological modernisation.

The third section examines the challenges to wider participation, of both stakeholders and publics in biodiversity governance. As seen in the previous chapter key within the foundational biodiversity policy framework at international level (e.g. CEC, 2006b; MA, 2005; Smith & Maltby, 2003) is the need to integrate stakeholders, including publics, into biodiversity decision-making. This section contextualises these policy prescriptions within the academic literature on public participation, and community-based conservation, in order to highlight the political nature of these endeavours.

The chapter concludes with a discussion of literatures relating to Irish politics, economy and social landscapes, which are important to the following analysis of biodiversity governance. Drawing on multiple disciples, this chapter will highlight the contribution made by this thesis to each of the themes raised and the area of biodiversity politics in Ireland.

3.2 - Understandings of biodiversity – What is it?

'Understanding' is a challenging concept to accurately define, but within this research it is seen as the process by which an individual builds information and knowledge into comprehension, meaning and potentially action. Understanding therefore, is considered to be an ongoing process, subject to change and influenced by a wide variety of factors. Within the process of understanding biodiversity and biodiversity-related issues is built on a foundation of pre-existing concepts which individuals have internalised and developed in interaction with their social, cultural, political, economic, lived experience, and also, crucially, with the natural environment. In this building process "individuals related new knowledge to relevant concepts that are already known" (Palmer & Suggate, 2004:208). As highlighted in Chapter 1, within the concept of biodiversity lies a plethora of different ecological entities and interactions. But also, as the policy review highlights, biodiversity has become increasingly associated with ecosystem services on which human life depends. Therefore, what is understood as biodiversity is not only ecological; it is associated with a variety of cultural, social, aesthetic and economic meanings.

A wealth of literature exists through which to frame understandings and related values of biodiversity. These literatures provide a basis for the detailed examination stakeholders and publics understandings and values of biodiversity in Chapter 5 and 6. In the first instance, the ecological underpinnings of biodiversity, and scientific understanding of the term will be explored. This is followed by a review of the literature pertaining to publics understandings of science, and biodiversity.

3.2.1 - Scientific understandings of biodiversity

Traditionally information and knowledge concerning biodiversity has arisen from the scientific field of ecology. However, it is important to note that ideas have evolved within this disciple over time, leading to different scientific understandings of what biodiversity is, and consequently, how it should be managed. These scientific understandings will now be briefly traced, followed by a review of literature which examines biologists, conservationalists and policy makers understandings of biodiversity.

The precursor to modern, scientific understandings of biodiversity lies in a path from natural history, through the theory of evolution by natural selection, to broad ecological notions of species, their interactions with environment, and ecological process (Mulder & Coppolillo, 2005; Wilson; 1988; Worster, 1993). Early ideas about ecology were predicated upon the notions of stability, equilibrium and balance. But the growth of ecology over the past 50 years has seen scientific revision of earlier ecological theory, overwhelmed by complex interactions and environmental variation. In addition, anthropogenic effects and natural disaster which are associated with disturbance have lead ecologists to believe that disturbance itself may be a key factor or process structuring natural communities. Through this emerged the "intermediate disturbance hypothesis" which held that ecological communities based on disturbance and heterogeneity, not equilibrium, generates biodiversity diversity. These debates within the discipline of ecology have significant implications for conservation and an analysis of human effects on biodiversity. Such disequilibrium makes the diagnosis of human impacts difficult, in that, if an ecological system is inherently noisy then observed changes in species abundance may reflect environmental variation rather than anthropogenic effect.

This recognition of coupled human-environmental systems has seen research increasingly focus on socio-ecological views of conservation. This is evidenced in work of Gundersen (1995) and more recently Folke et al. (2002) and Olsson et al. (2004), and which draw on a non-equilibrium paradigm and have a particular view of conservation which calls for increased flexibility and responsiveness to the natural environment in management which sees reflexivity and adaptation in these coupled systems as crucial. In addition, ecological concepts of habitat fragmentation and meta-population dynamics create problems for the traditional notion of 'protected areas' as the sites of biological conservation. The intellectual shifts outlined here have had significant reverberations for policy and management of biodiversity.

In the light of these changing ideas within the discipline of ecology, the term biodiversity was deliberately introduced in the 1980s as part of a campaign to draw attention to the dramatic rate at which species were becoming extinct. The term biodiversity can be used to describe particular aspects of nature (for example, the

diversity in the levels of genes, species and ecosystems) or to describe the entire variety of living organisms, in which case, it often equates to and is used as a synonym of nature. But, unlike nature, which is generally used in a politically benign manner, biodiversity as a concept, is inextricably linked to conservation; to the idea that species and habitats are under threat. Therefore biodiversity is a politically charged concept implicitly expressing the need to protect nature (Takacs, 1996). The rise of biodiversity on the policy agenda, predicated on lobbying by particularly influential scientists points to the authority of scientific knowledge, and its interaction and negotiation between scientists and policy makers (Macnaghten & Urry,1998).

This discussion reflects the idea that biodiversity is a scientific, social and political topic. Therefore, it may have multiple meanings to those who are tasked with providing plans and policies for its protection. Studies which have been conducted into policy makers and ecologists views of nature conservation and nature conservation decision-making offer a useful entry point within which to contextualise specific literatures relating to biologists, scientists and policy makers understandings of biodiversity.

A number of studies in the UK and Ireland have attempted to examine how professional ecologists and conservationists apply their knowledge and values in the decision-making process. For example, Rydin (1999) and Harrison & Burgess (1994) have studied how discourses of conservation and development are negotiated amongst different stakeholders in a planning and wildlife conflicts. Harrison & Davies (2002) discuss stakeholders contributions the decision-making processes in a brownfield development in London. This research examined the role of ecological science, as purveyed by ecological scientists, in identifying and categorising wasteland habitats, uncertainties about how best to evaluate the conservation importance of such sites, and the strategies and tactics employed by different practitioners as they seek to mobilise a range of knowledges and practices to secure ecologically sensitive proposals. In an Irish context, there are a limited number of studies which have examined the role and perspectives of policy makers within particular biodiversity decision-making contexts. Collier & Scott (2009) is one notable exception, and follows in a similar vein to studies conducted in the UK. Collier & Scott (2009) examine the process of decision-making around the

restoration of a degraded peatland landscape, revealing stakeholders views, knowledge and values of the ecosystem. Their findings are based around three significant discourses, ecological, utilitarian and social. Within the ecological discourses stakeholders see natural regeneration of the habitat as being highly important and closely related to ecosystem services.

In the wider international research a number of scholars have investigated scientists and policy makers personal, versus institutionalised, views and understandings of biodiversity and the environment. Craig et al. (1993) and Butler & Acott (2007) reveal a dichotomy between personal and institutionalised perspectives towards nature and the environment. These scholars have found that policy makers and scientists tend to hold personal beliefs about biodiversity and the environment which relate to moral, intrinsic reasons for its protection. The biodiversity should be protected through policy for its own worth. However, these studies indicated that these particular understandings are rarely, if ever, articulated in policy making arenas. Instead, the subjects in these studies tended to favour rational and pragmatic arguments for the protection of biodiversity and the environment based on economics and ecological science.

Perhaps one of the most comprehensive pieces of work into biologists and ecologists perceptions and understandings of biodiversity has been conducted by Takacs (1996). This study reveals an array of different biodiversity understandings, values associated with biodiversity, and rationales for its protection. From his discussions he concludes that for the scientists he interviewed, biodiversity acts as an umbrella term for a range of different ecological concepts, a "biological totality" (Takacs, 1996:50). They use the term biodiversity to represent the multiple levels of biological hierarchy, genes, species, communities and ecosystems, as well as the interactions between these levels, for example, evolution, predation, adaptation or pollination. But, these ecological understandings did not encompass the range and complexity of views and values held by the scientists towards biodiversity and through which they create meaning of the term. Takacs notes that his interviewees "attempt to speak for values that go far beyond what one might think of was falling within their realm of expertise" (Takacs, 1996:115). In other words, while the ecology and scientific understandings of biodiversity are important to scientists in

this study, they tend to agitate for biodiversity protection on the basis of a much broader array of subjective values. Before moving on to consider the notion of value and biodiversity values raised in this section, publics understandings of science and biodiversity will first be considered.

3.2.2 - Publics understandings of science

Considerable focus in the area of public understanding of science, research and practice, has revolved around the dynamics between lay and expert knowledges. This body of literature has sought to examine the ways in which experts seek to provide scientific information to publics and publics contestation of this knowledge. Acknowledging the deficits in this pathway of knowledge transfer, a body of work has developed with highlights differences, and relationships between, experts and publics knowledges. This has resulted in a number of conceptualisations of lay knowledge, as it relates to nature, the environment, and also biodiversity. This section provides an overview of these issues, drawing on a vast literature in sociology, geography and environmental education.

Scientific literacy is described by Falk et al. (2007:457) a "generalised body of scientific understanding and capabilities, historically described as a combination of knowledge and a set of scientific practices and habits of mind". Science literacy has become viewed by policy makers and educators alike, as key to supporting a modern, technology based economy and democratic society. With respect to environmental science, for many years it was thought that increasing literacy of policy makers and publics, through improved, more and better ecological science, as communicated by expert scientists, would lead to more informed policy choices and better policy implementation (Jasanoff & Martello, 2004; Wynne, 1996). This linear relationship between science, publics, better policy, and policy implementation was predicated on the assumption that publics are disinterested and scientifically illiterate. This reflects the dominant deficit model of the public understanding of science, where publics are seen as lacking expertise and knowledge, to the extent that their knowledge is viewed as "parochial, subjective and emotional" and thus effectively disqualified from participating in scientific debates (Wynne, 1996:62). This divide dichotomises the knowledge of expert scientists and lay people, prioritises expert contributions over lay and thus

legitimates only the former to speak for the environment in policy debates (Eden, 1998). Irwin et al. (1999) caution the implications of this dichotomy between scientific and lay forms of knowledge. They suggest, that disagreement and contention are rife between each group, neither is a homogenous entity, with one coherent body of knowledge. They can instead, be conceived as different, representing different routes to knowledge and understanding. These differences will now be discussed.

Scientific knowledge can conceived of as deriving from objective measurements, verifiable, tested, and using particular techniques or processes in its generation. Expert knowledge generation is institutionalised and shared through peer-review processes. Local, lay or public knowledge instead, can be viewed as a complicated set of concepts, which may differ significantly from expert knowledge, or at least knowledge that manifests and is sought to be implemented in policy (Harrison et al.,1998). Ordinary or lay knowledge, is conceived of as more casual, place-specific and historically-embedded. As such it can be viewed as a culturally specific body of knowledge that fosters a particular way of thinking and acting in the world, derived from the conditions of everyday life and constructed through their social and cultural practices (Lindemann-Matthies & Bose, 2008). Both Harrison et al. (1998) and Wynne (1996) highlight the importance of identifying and analysing social practices based on local knowledge, which mediate between forms of scientific knowledge.

With the heterogeneity within and differences noted between both groups and their forms of knowledge acknowledged, the terrain of expert-lay knowledges is still not easily traversed. Harrison et al. (1998) Irwin et al. (1999) present empirical evidence which describes cases where experts and expert knowledges are at odds with, and countered by, the knowledge of local people, in local environments. Empirical research conducted by Petts (1997) claims that publics both value and demand expert knowledge in decision-making. The crux of the matter lies in the assumptions which underpin communication between the two groups. Publics also wish to contribute and provide their own knowledge, and also to have the opportunity to question, and check expert claims, rather than be informed of an expert derived course of action.

3.2.2.1 - Publics understandings of biodiversity

Research into publics understandings of biodiversity which measures publics' understandings of biodiversity quantitatively or against scientific criteria has concluded that public may have an awareness of the term biodiversity, but have little knowledge about scientific or ecological matters (e.g. Hunter & Brehm, 2003; Elder et al., 1998; Spash & Hanley, 1995). Hunter & Brehm (2003: 318) through an examination of American understandings of biodiversity conducted through semi-structured interviews, claim that "biodiversity may represent another environmental arena in which the lay public expresses general concern, but possesses little underlying knowledge of the ecological principles related to the environmental issue". However, their findings did demonstrate that publics had a knowledge of local species, particularly charismatic and/or game species.

Recent quantitative surveys which assess Irish publics' views towards biodiversity conducted by Gallup (2007) and Barry (2008) follow a similar pattern. These reports point out that while publics are aware of the term biodiversity, they are largely unfamiliar with its meaning and the broader causes and consequences of its loss. Both reports provide particularly stark statistics on the lack of understanding, and inability of Irish adults to come to any definition of biodiversity.

However, such findings based on scientific views of biodiversity and quantitative techniques are contested and their findings extensively critiqued by qualitative research which presents publics as knowledgeable about biodiversity concern (e.g. Buijs, 2009; Buijs et al., 2008; Fisher & Young, 2007; Burgess, Morris & Wragg, 2003; Hull & Robertson, 2001; Clark & Harrison, 2000; Harrison, Burgess & Clark,1998; Harrison & Burgess, 1994). Buijs (2009) in a qualitative study of publics images of nature conducted in the Netherlands, found five orientations towards nature associated with how nature is viewed, understood and valued. For example, the wilderness image is based on an image of pristine nature, defined as real nature, absent of human influence whereas the aesthetic image focuses on recreational or aesthetic values of nature. While these forms of understanding are not related directly to scientific or ecological concepts, Buijs (2009) claims that, each had different implications for natural resource management. Fisher & Young (2006), in their examination of publics understandings conducted in Scotland

through the format of focus groups, also suggests that publics form and express rich mental concepts of biodiversity, irrespective of their scientific knowledge (Fisher & Young 2006). These researchers claim that rather than possessing little understanding of biodiversity, their respondents have different conceptions of the term and its wider meanings which extend beyond a narrow scientific or policy definition of the term. In a more applied study, Harrison & Burgess (2000), examine the values of farmers charged with the implementation of conservation schemes to fulfil UK government and EU nature conservation objectives (SSI – sites of scientific interest). The findings of this paper draws on previous work conducted in 1994 and 1998, to conclude that conservation prescriptions based only on expert science alone, runs the risk of ignoring legitimate concerns a wider public has about what nature should be conserved, or why and how it should be conserved. For example, one of the case studies highlights that local residents are somewhat baffled by the conservation designation, questioning what it was for, and how it would benefit local people. They also point out that local residents viewed the science on which the designation was based as suspicious, but also the purveyors of conservation more generally, who became viewed as 'outsiders', unwilling and incapable of prioritising local peoples concerns. The research of Harrison and Burgess (2000:1123) indicates the "cultural plurality, between local and expert", recalling the necessity, as previously discussed by Lindemann-Matthies & Bose (2008) and Wynne (1996), to understand publics perceptions and understandings of biodiversity and biodiversity decision-making in a broader, social, cultural and political context.

Within this wider framework of public understandings, which calls for context specific examination of social, cultural and political meanings, a useful body of work can be utilised contextualise publics biodiversity understandings through perception of landscapes (Geider & Garkovich, 1994) and place (Brandenburg & Carroll, 1995). Place is defined as "a physical space imbued with meaning" (Low & Altman 1992:5). Geertz (1983:12) puts it succinctly, "no one lives in the world in general, we live not in generalised space, but rather in a specific place, where local knowledge presents locally to locals a local frame of mind".

Research into perceptions of place and landscape suggests that individual's encounters with place are complex, often varying from person to person, across

contexts and within social groups (Brandenburg & Carroll, 1995). In the case of particular social or cultural groups, similar shared experiences may allow a collective to share common definitions and descriptions of place that become a shared way of knowing. Building on this notion of socially constructed place, meanings emerge through negotiated social interaction, which result in shared ways of knowing and normative images of the landscape (Cheng et al., 2003). Understandings, therefore, can be a reflection of the group themselves, and used as a way in which to assert their collective identity as well as their historical and cultural relationships to that place (Geider & Garkovich, 1994).

This indicates what Carlson (2009:125) calls a landscape pluralism, "what we perceive [as] the mythical, symbolic and aesthetic uses of landscapes, make and remake, not the landscape, but the landscape images of individuals, groups, or whole cultures". That is landscapes look different from different cultural standpoints. Therefore, landscapes can be said to be promiscuous, indeterminate and ambiguous, they lend themselves to and allow themselves to be appreciated in terms of the different images that individuals and cultures bring to them. The work of Geider & Garkovich (1994) asserts that natural environments assume different roles to different groups, depending on how a group defines itself. Conceptions of place, can be considered as expressions therefore, of social but also self identity. Put more directly by Cheng et al. (2003:93) "how one understands, evaluates, and acts in a geographic setting directly reflects ones self-identity".

Kelly et al. (2007) provides a good example of this in an Irish context. Findings of this research which examine nature understandings in different social groups, indicate that where farmers had romantic views of nature, these were weak, discussed in terms of a closeness to nature as a motivating factor in their commitment to farming. Other groups, such as urban professionals had very different interpretations, and held romantic and aesthetic views of place. Emotional attachments to place can be are generated through identity and social identity, positioned within the needs of the person, and the needs of the social group. These interpretations of place, constructed through individual and social identity, have repercussions for the way in which biodiversity is understood, can reveal what different publics consider to be important features of landscape and place. They

also can have implications for the way in which expert and their knowledge is considered and contested.

3.2.3 - Reasons for valuing biodiversity

Values are discussed and described in the literature pertaining to environmental, ecological wildlife and biodiversity values in a variety of different ways. Kellert (1995) for example, reflecting his social-psychology background, regards them as a combination of affective (emotional) and cognitive (intellectual) perceptions and understandings. Values are viewed as an emergent phenomenon involving the convergence of emotion and intellect, which are inherently linked. Values consist of both cognitive and emotional elements that allow personal evaluation of an object represented in the individual's mind. The cognitive component, beliefs, can be regarded as the knowledge an individual has of a particular issue; as such it can be subjective. The emotional component is often described as the evaluation of the object; the feelings and/or importance one attaches to an object. Kellert (1995) summarises this to describe values as broadly integrated beliefs and feelings possessed by individuals. Foster (1997) reflects this complexity, writing that "value... is a word with all the complexity of life itself. What we value, and how we value it, depends on both our values and on the value of things in themselves" (Foster, 1997:2). Building on this definition, Burgess (2003) puts the definition of value in very simple terms, thinking of values as reasons given for actions.

Values are generally considered durable (Hitlin & Piliavin. 2004: 361) "holding a high place in a persons internal evaluative hierarchy". It is broadly recognised that some values are considered long term and universal, such as security, achievement, and self direction, important life goals or standards which serve as guiding principles in a person's life or personal attributes, such as obedience and honesty (Rokeach 1973). However the idea of value durability is debated, particularly in relation to environmental values. The kinds of values possessed and expressed for nature and wildlife are much more diverse according to Rolston (1994). Environmental values, in other words, do not stand alone; they find different means of expression passing through meanings and practices already in place such as social, political and/or economic "lenses" (Rolston, 1994). As such environmental values must be "lived through, experienced" (Rolston 1988: 29).

Scholars have developed typologies of environmental values which elucidate the human relationship with the natural world, encompassing diverse fields of environmental economics, ethics and philosophy and social-psychology, the following examples illustrate this point.

Burgess (2003) broadly categorise two types of environmental values, instrumental and non-instrumental. Instrumental values, Burgess (2003: 259) explains, reflect "the utility of a good or service to the individual for the satisfaction of a personal need or want...they privilege the rights of the individual to seek maximum happiness for themselves without necessarily having regard for the needs of others". However, Foster (1997:58) points out that there is a difference here between needs and wants, instrumental value establishes a dynamic social value principle with provides for continuity of human life. Therefore, instrumental values are borne of self-interest, but also, may represent a concern for the welfare of 'humans' as a group. Instrumental values can be broadly equated to use-values, which are used in ecological economic to describe values which arise from the use of a particular natural resource for example. They include those goods which can be sold or bought, and thus have an economic or market value. More refined use-values include option use, which refers to an the potential of an entity to act as a resource at some future date.

Non-instrumental values, in contrast, are described by Burgess (2003: 259) as values "individuals tend to attribute to nature or certain kinds of landscapes which reflect experiences, shaped by social and cultural values of society". Within this category, value may be based on moral duty or a sense of an entities intrinsic worth. Non-instrumental values underpin a code of conduct, or behaviour, which determines what an individual perceives to be the proper course of action when relating to other people, or with nature. Non-instrumental values can be related to non-use values, ascribing value on entity entirely outside, or in the absence of, a market worth. Burgess includes existence value within this category as a way of expressing the intrinsic worth of an entity. The intrinsic values are generally used to describe value whereby an entity is considered to have a right to exist, for its own sake, independent of any value for human beings. Hinchliffe & Belshaw (2003) also include ethical, and aesthetic values within the gambit of non-instrumental values.

They position these values in this category on the basis that they reflect a person's fundamental or moral beliefs.

A key scholar in the area of environmental ethics and philosophy is Holmes Rolston (1988, 1994) who has developed a number of typologies which describes the range of qualities that characterise the human relationship with the natural world. These are based on material and physical dependence to emotional, psychological and spiritual foundations. Table 3.1 details Rolstons thirteen categories in more detail, from material and physical dependence to emotional, psychological and spiritual foundations. Critics, such as Farham (2007), claim that Rolstons typology is a useful starting point through which to examine human-nature relationships in terms of the identification and categorisation of values, but that they may not be as useful in describing why people seek to protect biodiversity.

Perhaps more useful in this regard is the work of Stephan Kellert (1986, 1995, 2002, 2009). Kellert has based most of his work on empirical data producing a variety of typologies based on social-psychological conception of attitudes. Broadly based on a typology of nine basic values these have developed and been adapted to the examination of different contexts. Kellert (2009) describes his nine values as 'biophilic' reflecting the range of physical, emotional and intellectual benefits or advantages that each value potentially confers to the valuer. These nine values, or preferences of nature, collectively reflect the richness of the human reliance on natural diversity which emerges from a greatly expanded understanding of human self-interest in sustaining a healthy and abundant environment. An additional feature of Kellerts work is that he recognises that local cultures will find different ways to express environmental values, depending upon cultural meanings and practices already in place. Environmental values, according to Kellert, do not stand alone; they are often linked to values associated with family, community, economy, and work. Table 3.2 below briefly reviews Kellert's typology of values (1986, 1995, 2002, 2009).

Also in the area of socio-psychology and sociology is the New Ecological Paradigm (NEP) theorised by Dunlap et al. (2000; 1978). This presents another approach which positions humans as just one part of a larger ecosystem and considers that

human affairs are influenced by nature as well as society. Equally, the NEP recognises that the biophysical environment sets material limits to human action. The NEP is based on a standard set of questions, which can be used, according to its proponent across cultures. Through this, Dunlap & van Liere aim to facilitate a sociological approach that would consider the impact of nature on society, and how social processes affect the natural world around us.

These various conceptualisations and typologies of value are useful in providing context through which to examine how humans view and value biodiversity. They can also provide some indication about how people come to understand and value the natural world. However, as Smith (2003:20) contends, there are a "plurality of different types of biodiversity and a plurality of values and knowledges which are associated with the non-human world." Individuals view biodiversity and biodiversity-related issues through pre-existing concepts which they have developed in interaction with their social, cultural, political, economic, institutional and with the natural environment itself (Buijs, 2009; Campbell, 2006; Fisher & Young, 2006; Rolston, 1994). These values and knowledges are likely to conflict with each other and with non-environmental values. It is in this sense that 'understanding' of biodiversity is constructed in an on going fashion.

This review of the literature relating understandings and values has revealed a number of crucial issues, which this thesis seeks to address. First, there has been limited research conducted into stakeholders understandings and values of biodiversity, in an international, and particularly, in the Irish context. In the discussion of biodiversity policy in Chapter 2, it was clearly demonstrated that broad engagement of sectors, actors, institutions in biodiversity decision-making is now required. Therefore, examination of stakeholders views and values of biodiversity, across a range of different sectoral interests is pertinent at this time. Second, given the calls made in policy for publics to become engaged in biodiversity, in biodiversity decision-making, the reliance on public support for biodiversity policies, it is also important to pose, and answer the question, what do publics understand biodiversity to be. Discussion in this chapter, drawing primarily on international research, highlights that the answers to this question are contested, with some claiming publics have little by way of scientific knowledge of biodiversity.

Table 3.1 Rolston's categorisation of environmental values

Life support value	Humans depend on healthy, functional global and local ecosystems to provide 'life support' for our needs and the needs other living things we depend on
Economic value	Value for the natural world as provider of raw materials, which human use produce products with utilitarian value
Recreational value	Enjoyment of the natural world either through engaging in physical activity or more passively as observers.
Scientific value	Experience of intellectual pleasure by examining the natural world and its components
Aesthetic value	Appreciation of nature to appreciation of art
Genetic diversity value	Largely utilitarian in terms of its role in agriculture - contains elements of economic and life support values.
Historical value	The natural world's role in the cultural evolution of particular societies; or the worlds evolutionary past
Cultural symbolisation value	Cultures adopt elements of the natural world to symbolise certain key characteristics particular to each one. Nature provides an expressive medium
Character building value	The natural world provides us with an opportunity to exercise and hone personal qualities of value, and to develop our sense of identity
Stability and spontaneity value	The natural world provides us with stable conditions that allow life to prosper and with dynamic mechanisms that spur continual renewal and adaptation
Dialectical value	Humans experience of nature, as a challenge that builds our sense of self and (as in character building) and as an awareness of what we're not
Life value	This category acknowledges the intrinsic value of the life. Recognises the normative good of life
Religious value	Nature provides an opportunity to ask and explore questions that ultimately may be beyond human comprehension. This value is realised in our consideration of more 'spiritual concerns'.

Table 3.2 Kellert's categorisation of environmental values

Utilitarian	Value associated with the potential and practical material and commodity benefits associated with wildlife and its use; equates natural diversity as a source of agriculture, medicinal, industrial and other commodity advantages;
Scientific	Reflects the potential for the study of animals to advance human understanding; values natural diversity as a source of systematic study of structure, function and relationship in nature. Natural world equates to intellectual stimulation.
Symbolic	Values natural diversity as a source of language, imagination, and communication. People employ the sights and sounds and symbols of nature through language, story, imagery and other representational forms.
Aesthetic	Associated with the physical properties of animals, including their beauty; Physical appeal and beauty of nature; development is instrumental in a child's emerging capacity for perceiving and recognising order and organisation, for developing ideas of harmony, balance, symmetry, and for evoking and stimulating curiosity imagination, creativity.
Humanistic	Values natural diversity as a source of emotional relationship and attachment; emotionally bonding with nature; important in developing capacity for intimacy, companionship, trust, social relationships; enhance self confidence and self esteem through giving, receiving and sharing affection.
Negativistic	Views natural diversity with avoidance, anxiety, aversion and fear. Many elements in nature provoke this response with little provocation (snakes etc). Evolutionary perspective – based on distancing self from the potentially injurious features of the natural world. Kellert relates "fear of nature can provoke feelings of awe and respect. People defer to and respect powers greater than themselves" (Ibid, 2009:118). Distinguishes between good and bad species.
Spiritual	Moral or existence value includes the belief that all animals have rights and/or spiritual importance, and that there is value in knowing whether or not species exist, regardless of whether or not they are seen by humans; Spiritual reverence and ethical concern for nature; Adaptive benefits include inclination to protect and treat nature with kindness

	and respect, and enhanced sociability from shared moral and spiritual conviction. People obtain a feeling of purpose and meaning by cultivating their sense of connection and relation to the natural world. Commonality uniting life on earth; web of relationships which unites organisms. The willingness to protect natural diversity can emerge as much from moral and spiritual inspiration as from economic calculus or regulatory mandate.
Naturalistic /outdoor:	Reflects the "enjoyment gained from direct contact with wildlife while taking part in some outdoor activity" Expresses as desire for close contact and immersion in nature. Values natural diversity for its engendering of curiosity, imagination and discovery; a source of knowledge and discovery. Adaptive benefits: heightened awareness, increased attentiveness, exploratory urges, a sense of wonder, a desire to discover and greater inventiveness.
Dominionistic	Mastery, physical control, dominance of nature in children and adults. Adaptive benefits associated with this value include safety and protection, independence and autonomy, the urge to explore and confront the unknown, and the willingness to take risks, be resourceful and show courage. People can hone their physical and mental fitness, through subduing and mastering nature they can emerge surer of themselves and their ability to deal with challenge and the unknown. Modern society may no longer rely on besting prey, eluding menacing predators, or surviving in the wild but the strengths obtained from confronting the natural world continue to function as a source of adaptive fitness.

Others suggest a broader frame through which to examine publics understandings, placing them social, cultural, political, economic frames. Interpretations of biodiversity meanings through place and landscape offers some potential in this regard. With the exception of three quantitative surveys, biodiversity understandings, and particularly their broader context have gone unexamined in Ireland.

3.3 - Biodiversity Governance

An explanation of what constitutes governance is a somewhat complicated matter. Definitions and applications of the concept can be drawn across the academic disciples from political science, economics, development studies, international relations, and geography. This has spawned a substantial body of literature, and resulted in subsets of research with inter-disciplinary appeal, such as environmental and participatory governance (Chhotray & Stoker, 2009). One commonality between these disciplines and topics, governance research seeks to understand the increasing complexity of social, political and economic change. This section draws attention to key themes within the literature which are relevant to the study of biodiversity governance. The section begins with a description of governance definitions which attempts to present a overview of how governance is broadly framed within the literature, and the key concepts raised by scholars in an analysis of governance. The second section concentrates more closely on a key site of debate in governance studies, the role of the state. This is followed in the third section with an over view of environmental multi-level governance. In the forth and final section, the body of governance literature which seeks to address nature conservation and natural resource management is considered. The intention is to present the literature in this fashion to allow discussion of important themes in the governance literature which have a bearing on biodiversity governance.

As Jessop (1998) outlines, academic interest in governance has re-emerged in response to paradigm crises in the social sciences. He suggests that wider patterns of social change, have dissolved traditional disciplinary boundaries and conceptual units of analysis. He provides the following example, whereby traditionally, economics focused on markets, political science on sovereign national states, international relations on inter-state politics, and sociology on civil society. 'Governance' has bridged disciplines and provided alternative ways of understanding the complex arrangements which manage life.

The following definitions reflect this complexity, and also highlight some of the key themes apparent in current governance literature. First, governance can be considered as "all of the ways that individuals and institutions plan and manage their common affairs, and consists of formal institutions and informal arrangements

and what citizens know and do" (Meganck & Sauiner, 2009:3; O'Brien et al., 2000). One of the key concerns here is that governance examines institutions and individuals, including citizens, rather than, for example, the workings of the state in isolation. Building on the definition above, the following definition lends some clarity to who is involved in the process of governance. Davies (2008:15) suggests that "there is common acknowledgement, whether focused on a few individuals, community groups, business organisations, governments or the whole of humanity, that governance analyses are directed towards understanding processes of rule making and decision taking". In this definition governance, and the practice of governance research encompasses private, public and civil society spheres and publics, and the process of rule making and decision taking. These processes of rule making and decision taking can be considered both formal and informal, but through which, common affairs are managed. Therefore an examination of governance calls for an investigation of the formal arrangements that exist to structure decision-making and the more informal practices, conventions and customs, what Ostrom et al. (1999) call the rules in use. A social-political approach to governing calls for ways to analyse governance in a broad perspective; that is to look at the roles and functions of the different actors involved, such as stakeholders, but also a wider range of citizens, and therefore investigate governance in the context of social, economic and political forces, as highlighted in the work of Kooiman et al. (1999) for example.

Given this focus on participants, and the rules and practices of decision-making, Kooiman (1993) recognises and emphasises the idea of the collective. In these terms governance can be seen as a process of joint decision-making and implementation of those decisions by a range of organisations, which, crucially, are not necessarily in equal partnership. Kooiman's definition highlights the notion of power, a central consideration in an analysis of governance processes. While it is recognised that outcomes of decision-making in a democracy will not necessarily reflect everyone's wishes, this definition is important as it suggests that despite the somewhat egalitarian meanings embodied in the term governance, not everyone has equal access or influence in the process of rule making or decision taking.

The last definition is taken from Rhodes (1997:15) who considers governance as the "self-organising, inter-organizational networks characterised by interdependence, resource-exchange, rules of the game and significant autonomy form the state". This last definition raises questions of 'who is in charge' or 'who manages' the process of governance. Within Rhodes' definition, there is no formal control system that dictates the relationship and outcomes of the process, it is self organising (Chhotray & Stoker, 2009). This raises a key consideration within governance pertaining to the management of governance processes.

3.3.1 - Governance, the state, and scale

Davies (2008) highlights that in analyses of governance, both empirical and conceptual[15] the shift from government to governance raises the questions around the authority and power of the state.

Through the process of governance, commentators suggest, the role of the nation state is eroded. Globalisation, for example, is creating new geographical dynamics through which nation states are hollowed out, via the transfer of power to supranational institutions such as the EU and to the local to sub-national regions and cities through a process of glocalisation of governance (Swyngedouw, 2000). Kooiman (1993) follows suit, pointing out that governance has resulted in the withdrawal of government from spheres of social life and the devolution of responsibility for service provision from central ministries to a variety of other actors and agencies.

Drawing these vertical and horizontal lines together, Pierre & Peters (2000) contend that state control is displaced upwards to regional and international organisations such as the EU and downwards to regions and devolved localities, but also,

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[15] Pierre & Peters (2000) discusses empirical analysis which describe processes that relate to the governing within contemporary social systems. The conceptual literature highlights two divergent bodies of work, the first examines the role of the state in influencing social and economic development (state-centric or old-governance) and the second, analyses the formal and informal associations and participation through networks and partnerships (society- centred or new governance).

outwards to international corporations, non-governmental organisations and other private or quasi-private bodies.

Pierre & Peters (2000) and Swyngedouw (2000) point out that a hollowing out of state unnecessarily equates state structures to state power. Rather, as Bevir & Rhodes (2003:45) contend, governance is "a change in the nature or meaning of government". A key theme for these commentators is the notion of dynamism in the relationship between government and governance, which changes over time and space. That is, these commentators suggest that the movement from government to governance relates to a process of state transformation rather than a decline in state authority.

Commentators in the disciple of international relations such as Rosenau (1992) maintain that government is linked to activities backed by formal authorities, whereas governance refers to larger processes, including informal mechanisms and multiple actors. These ideas are supported by global governance theorists, such as Saunier & Meganck (2009) who points out, that despite shifts from government to governance, that government generally still holds regulatory powers and the majority of the fiscal responsibility, in addition to normative and political legitimacy which helps to create and sustain the structures that organise collective life. However, Kjaer (2004) is critical of the normative aspects of this view, claiming that the creation of values is not the sole preserve of the formal state, but results from the interaction between the state and the multitude of actors and institutions within public, private and civil society.

Within these debates on the role of the state, lies the popular distinction between 'steering' (setting policy goals) and 'rowing' (delivering those goals through the selection and use of instruments), government is considered to steer as well as row (Pierre & Peters, 2000). However, most scholars, according to Jordan et al. (2005) associate governance with a decline in central government's role in steering society. As Fairbrass (2003) contends, within the framework of governance, the state often takes a facilitating and enabling role rather than directing, helping to establish and sustain the institutions of governance. According to Stoker (1998:17), a range of "governing styles" emerge as a result, a complex set of hard and soft

governing tools, relationships and arrangements "in which the boundaries between and within public and private sectors have blurred". This shift, it is argued, can allow the state to use its regulatory capacities in limited form and harness the capacities of non-state actors to realise service provision (Birner & Wittmer, 2004).

A second point which warrants attention is the very nature of what constitutes state government. Commentators such as Paavola (2007) draw attention to the fact that the state is not a homogenous entity, but is instead a complex array of different actors and agencies operating at different levels, who both govern, and are governed. Therefore, within the structures of government, it must be recognised that issues of power and practice arise. A large number of agencies, for example, state-related bodies or QUANGOs have sprung up which operate somewhere between the central and local state and the between public and private spheres. These intermediate bodies comprise of a range of different types of organisations with a variety of functions. They are characterised by a degree of distance from central government departments and a relative autonomy. The shift from government to governance rather than a dichotomous either/or, can be viewed as dynamic, dialectical, transformative and reflexive, it is a process, rather than static arrangement (Chhotray & Stoker, 2009).

A branch of research which examines the process of European integration has also had scalar reverberations through out governance literatures. The ongoing process of European integration has provided scope and substance through which scholars have addressed the notion of multi-level governance. Hooghe & Marks (2001) have devoted considerable attention to multi-level governance, which they see as the dispersion of central governmental authority across multiple jurisdictions both vertically and horizontally. Other studies into the process of multi-level governance suggest that authority is drawn away from national governments, empowering supra and sub-national actors and increasing the role of non-state actors (Bache & Flinders, 2004). Multi-level governance, so described, has three characteristics. First, decision-making at territorial levels is characterised by the increased participation of non-state actors. Third, the role of the state is transformed from regulator to coordinator of power and authority. Finally, the multilevel character of

governance is draws attention to the nature of accountability (Bache & Flinders, 2004).

3.3.2 - Environmental governance

Concerns posed by environmental changes have led to serious consideration of how environmental issues ought to be governed, that is how the complex and contested process of policy making and implementation is managed. Some commentators have noted that environmental governance is now a discrete area of policy and research, as the following outline of the vast literature in this area clearly demonstrates.

Governance, as adopted and applied to environmental issues has concentrated on a range of different environmental problems, for example, climate change and waste (Davies, 2008; Davies, 2007; Bulkeley, 2005; Bulkeley, et al., 2003;) and indeed biodiversity (Kluvánková-Oravská et al., 2009; Baker, 2003; Fairbrass & Jordan, 2001a/b). Environmental governance research has also examined a diversity of topics of fundamental importance to governance studies more generally. These include, but are not exclusive to, the participation of non-state actors in environmental decisions (e.g. McCarthy, 2005) and the manner in which decisions take place through deliberative forms of democracy (Hajer & Wagenaar, 2003; Smith, 2003). Studies have also specifically addressed the types of policy and tools that might characterise the shift from government to governance (Jordan et al., 2005; 2003). Other studies have examined the interface of environmental governance and the market through concepts of ecological modernisation and neo-liberalism (Baker, 2007; Heynen et al., 2007; Bulkeley & Mol, 2003; Tatenhove & Leroy, 2003). In addition, a substantial body of environmental governance research has focused on issues of scale, with more recent endeavors considering notions of re-scaling and the multi-level nature of environmental governance. To begin this discussion, the literatures pertaining to specific scales of environmental governance will first be addressed. This will begin with global environmental governance, and local environmental governance. Following this, multi-level environmental governance will be examined. Jasanoff & Martello (2004) note that environment has become a focus for global governance research because of its transboundary nature. That is, the problematicisation of environmental issues as a global, rather

than bounded and specific to national interests. During the 1980s global environmental issues such as ozone layer depletion, climate change and indeed biodiversity loss came to fore as issues which could substantially affect humanity. Additionally, limits to growth hypothesis gained political credence at this time, focusing attention on the finite carrying capacity of the earth and the interconnectedness of ecological systems. These themes were highlighted within Our Common Future (WCED, 1987), and subsequently within negotiations and documents arising from Rio in 1992, becoming central to global environmental politics.

The body of literature which addresses global environmental governance can be understood as that the regulation of environments and the actors that are involved in the process of regulation at the global scale. This includes the plethora of international treaties and agreements, intergovernmental organisations, binding and non-binding norms and principles, and the actors and institutions involved in their negotiation. These actors, involved in politics at this global scale involve both state, local government and non-state actors, who operate through and at different scales (Dryzek & Schlosberg, 2005; Martello & Jasanoff, 2004). While this definition of global environmental governance clearly identifies multiple scales, actors and institutions, Chhotray & Stoker (2009) and Bulkeley (2005), highlight the inadequacies of state centered perspectives in the global environmental governance literature, by, for example underplaying the role of international organisations or the role of non-state actors in domestic politics, influencing negotiating positions, and thereby international regime formation and policy implementation.

The scales at which environmental governance takes place were traditionally treated as hierarchical and discrete, "as self-enclosed political territories within a nested hierarchy of geographical arenas contained within each other like so many Russian dolls" (Brenner et al., 2003:1). In this reading, the assumption is that governance of global environmental issues requires global solutions, which then trickle down through national, and sub-national arenas of governance (Bulkeley & Betsill, 2003:15/16). Within such conceptualizations of environmental governance the scales of governance remain bounded, and there is little consideration of the

possibilities that the governance of global environmental issues might emanate from the 'bottom up'.

Global environmental changes are often products of large numbers of small scale actions (e.g. actions that degrade critical habitat) or interactions between human actions at the local or sub-national level (e.g. the combustion of fossil fuels) and the behaviour of global ecosystems (e.g. the Earth's climate system). Increasing recognition of the local has lead to a refocusing of attention, and a concerted effort within environmental governance literature, to examine this scale and its interactions with others in the process of decision-making and decision taking. As Martello & Jasanoff (2004:5) highlight, "global solutions to environmental governance cannot be realistically contemplated without at the same time finding new opportunities for local self – expression". Despite increased calls for inclusion of local in the processes of governance (e.g. Agrawal & Gibson, 2001; Berkes et al., 2000), in reality local involvement in decision-making is problematic. As Carter & Howe (2006) indicate with reference to the Water Framework Directive, engaging non-affiliated locals in decision-making fora is a challenging task, and as Feichtinger & Pregernig (2005) discuss with respect to a Local Agenda 21 process, public involvement in decision-making can be marred, and eventually dissolved, as a result of perceptions of political interference at the local level. This point is illustrated by Ostrom et al. (1999) who highlight that tensions arise in translating international agreements into national policy strategies. They also argue that local governance solutions are tied to, and influenced by, other levels and areas of governance and therefore, cannot simply scaled up. It follows that any study of the role of institutions in causing and confronting environmental changes must take into account human actions occurring at multiple levels of social organisation (Young, 2002).

In the path between global and local, a more nuanced expression of governance has been formulated through environmental multi-level governance. Bulkeley (2005) and Bulkeley & Betsill (2003) clearly highlight that international regimes can be viewed as a means through which knowledge and values of environmental issues are constructed and negotiated, in turn, changing the ways states perceive their interests. These critics point to an evolution in environmental governance

which considers the reciprocity of scales that this has opened the boundaries of the state to an examination of the way in which domestic politics influence international and in turn, how the international influences domestic politics. Bulkeley (2005:876) argues for a multi-level analysis of environmental governance to provide better understanding of how "issues are created, constructed, regulated and contested between, across and among scales". As such, environmental governance can be thought of as operating within and through a variety of scales, which are fluid, and within which actors interact, challenging the' trickle down' from international to local as previously mentioned. Inherent within Bulkeley's conceptualisation of multi-level governance is the idea that relationships emerge between diverse actors operating at non-contiguous scales through networks. For example, networks of local authorities seek to influence debates about climate change in EU without necessarily going through state channels (Bulkeley et al., 2003). Networks and partnerships become the "sites where governance takes place".

3.3.3 - Modes of environmental governance: networks and partnerships

Pluralist explanations of decision-making posit that an unlimited number of groups compete (with more or less degrees of influence) for the attention of a largely disinterested state. The other main model of interest group representation: corporatism; highlights the privileged role of certain selected groups to the decision-making process, because of their elevated role these groups have a 'representational monopoly' (Schmitter, 1979). Critics of these theories of decision-making, Marsh & Rhodes (1992), suggest that corporatism is too narrow and applicable only in certain contexts, they suggest that policy making is more complex. Rather than seeking an overarching approach to policy making analysis they call upon a "disaggregated policy analysis" (Marsh & Rhodes, 1992: 4) to examine particular forms of interest group representation that characterise specific policy areas. They suggest that policy making will always be characterised by the involvement of a fairly restricted number of groups, but the precise nature of these groups will vary between policy areas.

Following in a similar vein, Leach & Percy-Smith (2001:30) contend that networks are a "defining characteristic of the new [environmental] governance". In recent years the notion of policy networks has arisen to prominence in governance

analysis, but is a widely debated field. First, some argue that networks should be viewed as abstract model or 'metaphor' (Dowding, 1994), an analytical perspective that helps us understand interest group politics, "a toolbox for analysing public policy" (Borzel, 1998: 254). Secondly, scale is also a contested topic in literature on networks. A considerable contribution to scale in network and partnership research has been undertaken by EU policy analysts, where states are seen as one among a variety of actors contesting decisions that are made at a variety of levels (Hooghe & Marks, 2001). This view of environmental governance as lacking clear hierarchical flows, "allows for the possibility that non-state actors and institutions can be active in seeking partnerships or associations to influence, or purpose policies at a range of scales form the sub to the supra national" Davies (2008:28). Commentators such as Jordan (2004) & Fairbrass and Jordan (2001a) have highlighted the reflexive nature governance with regard to environmental issues. For example, they suggest that engagement in EU policy making has empowered the Department of Environment in Britain and altered its internal management, tactics, identity and political interests. In addition they highlight how the British government has successfully influenced European policies where it had expertise, for example in biodiversity and nature conservation. This points to a reflexive multi-scalar dimension of biodiversity governance. Bishop et al. (2000) examine the impact of European Union policy on local authority planning in the UK, and found that in many instances EU membership did not have a direct impact on planning decision, with two notable exceptions related to sites and requirements of the EU Habitats and Birds Directives.

Policy networks are considered to exist along a spectrum, at one end of this spectrum is the policy community and at the other, the issue network. Policy communities are considered as "strongly institutionalised form of policy-making arrangement" where participants share values, world-views, and resources and "members tend to agree upon what specific problems justify a policy response and how, in turn, that response should be structured" (O'Riordan & Jordan, 1996: 74). Closed policy communities can structure participation in the policy process determining inclusion and exclusion of participants, and as a result, the policy issues that are seen as legitimate policy ideas (Jordan & Greenaway, 1998). Marsh & Rhodes suggest that "the existence of...a policy community constrains the policy

agenda and shapes policy outcomes" (1992:262). Through policy communities patterns of interaction can become institutionalised within the policy network structure (Marsh, 1995) institutions that become habitualised over time can attain a degree of permanence within society. Therefore policy communities are considered persistent and stable. However institutions are not immutable, they can be re-negotiated in the by participants and the wider social structure. O'Riordan & Jordan (1996: 74) suggest networks are considered to arise as interest groups gather around one or more government department in the hope of influencing policy, and are integrated into the policymaking process by the state which needs their participation "to make, legitimise and eventually implement policy". Institutions thus created are seen as constituted through social and political processes, which they in turn enable and constrain but also, embody social relations and rules, such as norms, values, and behaviour within the network (Jordan & O'Riordan, 1997).

At the other end of the spectrum is the more weakly institutionalised issue network which occupies the other end of the policy network continuum. This is characterised by broader access to the policy process, less permanence and stability, more than one government department involved, and less consensus on the issues at hand and how they should be addressed (O'Riordan & Jordan, 1996). Kooiman (1993) suggests that the different institutions involved in a policy network do matter, as they they become part of economic and social interaction. Not only that but institutions contain the capacity not only to restrict and control social interaction, but also to enable and encourage certain social outcomes by allowing or preventing access and thereby influencing decision-making.

Partnership here is simply defined as "an arrangement existing between two or more organisations [or individuals or institutions] in working towards a commonly defined goal" (Darlow & Newby, 1997: 74). Within this arrangement there is a degree of interdependency and shared working. Partnerships can take a number of different forms, between business and government (public-private partnership) or can also seek to include community-based organisations and NGOs. In some situations (e.g. Stoll-Kleemann & O'Riordan, 2002) publics are also considered to be partners, although when publics are involved the term 'participation' is used more frequently than that of 'partnership'. Partnerships are purported to have a

significant role to play in developing a more deliberative and inclusionary framework for environmental governance, but this is highly contested. As Chhotray & Stoker (2008) highlight, governance through network or partnership are not simply apolitical structures, they are rife with politics. Studies of partnerships call attention to the circumstances in which the partnerships are placed, the partners' relative roles and their responsibilities, and the transparency of the processes of decision-making.

The embeddedness of policy networks and partnerships in a broader social context is an important issue. Hay (1998: 35) has argued that network theory has produced an overly static theoretical framework that fails to acknowledge the extent to which networks operate as sites of contested or strategic action. Marsh and others acknowledge this problem and the need for more dynamic approach (Marsh, 1998: 196) which would examine the influence of exogenous factors not just on the structure and composition of the network but also on the shifting interest's power and resources of the actors within it. Understanding network formation, network structures and policy outcomes therefore requires interrogating the broader social, political and economic context in which they operate (Hay, 1998). Policy networks and partnerships can often reflect and embody structural inequalities within society along class, gender and racial lines. Also characteristics of a nation's political system including state structures (degrees of centralisation) organisational configurations, and the political party systems can influence network formation, structures and policy outcomes (Marsh, 1998). These inequalities not only influence who is included and who is excluded from networks, but also affects access to and control of resources and thus the power to act.

Therefore patterns of power can manifest in the network which are derived from wider patterns of social organisation. The relative power of organisations can be used in different ways. For example, the more powerful can 'reach across' to weaker agencies and determine their policies and practices or to determine the pattern of the resource flow within and between networks. Power can be used to block the claims of agencies with different or competitive organisational paradigms or control the service delivery of weaker agencies. It follows that within governance, factors such as policy histories, political culture and dominant elite interests and

beliefs as well as socio economic and demographic conditions play an important role in policy choices and in the way institutions and institutional arrangements function. As Hay (1998:39) points out "policy networks may exhibit hierarchical dominance and involve hegemonic struggles to impose a particular policy conception. Thus policy networks are linked to rather than separate from hierarchical modes of governance".

There is also lack of unanimity about the extent to which and ways in which the operation of networks affect policy outcomes. Marsh (1998) suggest that networks have a determining influence; others such as Hay (1998) suggest they have a partial effect. Dowding (1995) claims that networks themselves, as opposed to those in them, have no influence in policy making. Finally, policy network literature has debated the relative importance of patterns of interpersonal relationships between key actors and bargaining in influencing policy outcomes (Dowding, 1995) or the structural relationships between institutions which shape the way networks operate and affect policy within which actors are situated (Rhodes & Marsh, 1992). Initially Marsh & Rhodes (1992) took a structural rather than the interpersonal perspective to policy networks but more recently they consider favouring either approach in isolation is misguided (Marsh, 1998).

The role of the state in modern governance is especially important if one turns to the difficult task of influencing environmental integration into a diverse range of sectors. In this increasingly complex arena of environmental governance, the question of final responsibility for solving the relevant environmental problems has become crucial. In this light, the role of the state can be considered as changed rather than diminished, in fact, it may even be required to grow as a result. In research conducted by Jordan et al. (2003; 222) the UK environment ministry recently devoted seventeen people to negotiating forty-two voluntary agreements. The total administrative load that is required to develop new modes of government can be "surprisingly high". Additionaly, public accountability and responsibility rests with elected governments at different political levels. The nation-state can also play a role in multilevel environmental governance through the distribution of financial resources and professional competencies. Also, it has the highest visibility and is the first address in case of complaints.

3.3.4 - Concepts of biodiversity governance

The transboundary nature of environmental problems has meant that they have become an important arena for environmental governance. Forests, wildlife, climate change, pollution, amongst other things, are increasingly subject to international forms of management (including international conventions). Since ecosystems cross human created national borders, it seems clear that good ecosystem management and conservation requires co-operation between neighbouring states. With specific regard to the role of the state in governance of biodiversity, Sampford (2002) suggests that the shift from government to governance of biodiversity arose with the recognition of divergent interests and collective (environmental) problems which extend across boarders governed by the state. As mentioned in the introduction the multi scalar and multi actor nature of the biodiversity problem has necessitated 'multi level governance', a term used to describe the interaction and rapidly changing relationships between global, multinational, nation state, regional and local actors visible in biodiversity policy (O'Riordan, 2002). Like the literature in environmental governance, issues of scale, networks and partnership are key themes within the literature pertaining to biodiversity governance. As highlighted in Chapter 2, biodiversity governance operates through global, EU, national and local tiers of governance.

Decentralisation is a key issue in biodiversity policy. Batterbury & Fernando (2006) consider the decentralisation of state activities and associated implications for the enhancement of public services and promotion of more open and accountable forms of government through biodiversity and natural resource management in developing countries. They discuss the diffusion of power through political decentralisation of decision-making powers downward to local institutions with the principle of accountability and representation of local people. Selman (2004), Evans (2004), Morris & Wragg (2003) Harrison & Davies (2002) provide examples the development of Local Biodiversity Action Plans in the UK. These studies illustrate the experience of a wide range of stakeholders included in a cross-sectoral partnership. In each case the LBAP develops through a process of consensus building, to create mutual understandings, coherence and a common general vision, which includes a set of specific targets for conservation. These studies examine the way in which international agreements which normally address governance issues

at a very general level, are translated into strategies which respond to the actual situation at a local level.

However, there are calls within the biodiversity governance literature to look beyond national governments or local systems when thinking about ways of conserving biodiversity. Ledoux et al. (2000) for example, suggest that governance at inappropriate scales leads to difficulties in the implementation of biodiversity policy. It is therefore necessary, according to these authors, to examine the scale at which governance processes intersect with the dynamics of ecological systems. This draws attention to cross-scale interactions, and suggests the failures in governance, in part, are due to the scale at which decisions are taken, with neither purely local-level management nor purely higher-level management working well by itself. Instead interaction between complex social and ecological systems can be understood as a process of evolution and co-evolution (Berkes, 2004; Olsson et al., 2004; Berkes et al., 2003; Olsson & Folke, 2001). As Olsson (2003:4) puts it, "ecosystem and landscape management is neither local nor central in origin, but requires multilevel management and matching of social and ecological dynamics across scales". This is described by Galaz et al. (2006) as a 'problem of fit' between governance systems and the dynamic behaviour of ecological systems. If ecologically rational outcomes are to be sensitive to complexity, uncertainty and variability of ecological circumstances definitive once-and-for-all outcomes are not possible. Strengthening governance systems at relevant scales is perhaps the most important challenge of the next century for biodiversity conservation. (Agrawal & Ostrom, 2006). The polycentric multi-level approach emphasizes that governance systems that manage to distribute capacities and duties across many levels will achieve better outcomes than either highly or fully decentralised systems or centralized systems. It can thus be understood as a governance system under which actors are able to organise multiple governing activities at and across different scales (Newig & Fritsch, 2009).

When governing biodiversity, issues of dynamics, complexity, instability are of central concern. Societies too can be characterised by their increasing diversity, dynamics and complexity of socioeconomic, political, cultural and natural environments (Kooiman et al., 1999). Therefore, authors suggest more flexible and

thus more efficient modes of decision-making are required to govern biodiversity. Instead of relying on co-ordination as in the marketplace, or co-ordination through command and control principles as in the hierarchy, networks and partnership rely on co-operation, mutual adjustment and communication as co-ordinating mechanisms. This echoes Kooimans representation of governance where there appears to be a growing manifestation of governance approaches "such as co-steering, co-managing, co-producing, and co-allocating" (Kooiman 1993: 2). Kooiman's discussion of fisheries management suggests that co-governing arrangements based on these principles are seen as a necessity in order to manage fisheries for example, as a mechanism of coping with the highly complex, dynamic and diverse set of actors and issues within the socio-political context of natural resource governance. "Pooling of resources and expertise in a co-operative system can, in theory only serve to enhance the quality of management" (1999: 90).

Adger et al. (2005) relate governance to the local management of coastal biodiversity suggesting that such an approach can spread risk of ecological collapse by diversifying patterns of resource use and by encouraging alternate activities and lifestyles. In addition, this research presents the case for increasing social resilience though local institutions which are knowledgeable and responsive to the natural environment. Edelenbos & Klijn (2005) examine the role of elected officials in interactive processes, in which citizens, societal groups, and private companies are engaged in local decision-making in the Netherlands. They conclude that an adaptive management process, which seeks co-ordination between political officials and the decision-making process increases the legitimacy of the outcomes. These examples suggest that the institutional framing of environmental decisions has complex consequences for the behaviour of actors involved. Institutions influence the goals which actors pursue, and what choices and choice processes they will consider legitimate.

However, biodiversity governance based on increased public participation, policy networks and partnership, has the potential to create conflicts and tensions generated by the impact of newer forms of policy making and political mobilisation which are discursively debated (Hajer, 2003). To examine these tensions and conflicts, Hajer (2003) suggests examining the process of governance as a way to

find solutions for preconceived problems, and as the dominant way in which modern societies regulate latent social conflicts. This highlights ideas of power and politics in biodiversity governance, and operationalisation of governance to manage these conflicts. Hajer (2002) explains that such methods operate through discourses, as a collection of claims, counter claims and concerns brought together by a variety of actors (within a network, for example). Discourse analysis looks at how problems get defined, by whom and the political consequences this has through an analysis of the discussion of the ecological crisis and those factors that influence the way in which we conceive of the environmental problem. Relating such issues to governance of nature conservation areas, Goodwin (1998) and Harrison et al. (1994, 1998, 2002) examine governance through social practices of those involved in nature conservation partnerships, the experiences and perceptions of conservation and participation, within policy makers and local community in sites across the United Kingdom.

Important to discussion on policy networks and partnerships is how decision-making operates. The process can either reaffirm the existing power relationships or demand change of governance institutions. Watts & Peet (2004:15) suggest "struggles over resources lie at the centre of struggles over power. Power is unequally held by institutions, clustered at centres or dispersed across peripheries". Governments and their bureaucracies, fearful of upsetting stable patterns of support by antagonising powerful groups may actively seek to avoid alternative ways of working, or inclusion of alternative ways of thinking (Dryzek & Schlosberg, 2005). Maintaining inertia and protection of the status quo is a prime objective of many formal institutions (Adger et al., 2003). In response, new partnerships and networks are challenging and changing patterns of access, influence and the distribution of power and authority. These problems of politics within the working of governance are often the primary issue when natural resources are managed in an unsustainable way (Dietz et al., 2003)

However, there are also clear difficulties in devolving power across the tiers and spheres of governance and incorporation of a wider body of actors. Co-operation and co-ordination are difficult to pursue in situation where "diversity and conflict pose significant barriers to the successful devolution of responsibility" (Kooiman et

al., 1999:20). Given legal responsibility of the state and its commitments to international policy agreements, the OECD (2009) suggests that this is the responsibility of the state to integrate biodiversity considerations in the work of diverse governance stakeholders and to ensure that the ultimate goal of biodiversity policy is finally reached. Environmental decisions made by individuals, civil society, and the state involve questions of economic efficiency, environmental effectiveness, equity, and political legitimacy (Adger et al., 2003). These issues are of key concern to biodiversity governance, particularly economic efficiency and environmental effectiveness, which has not been addressed thus far. In order to this, the literature pertaining to ecological modernisation will be utilized.

Drawing on the work of Hajer (1995) the origins of ecological modernisation can be traced to the 1980's. It was during this time that 'old' thinking, which assumed protection of the environment would necessarily bring economic costs, was replaced by a new ideology, which married environmental protection to economic growth. This shift in perspective is reflective of a redefining of the relationship between state and the market at the time, the recognition that environmental protection measures originating from the state were failing in their purpose, and not developing technological innovations, and thirdly, the very nature and conceptualisation of environmental problems as a multi-scalar, inter-generational and interconnected highlighted deficiencies in the contemporary single issue 'react and cure' modes of management (Bulkeley & Mol, 2003). McCarthy & Prudham (2004: 276) succinctly paraphrase these developments as the rise of "free market environmentalism", where elements of environmentalism and neo-liberalism were seen to have incorporated elements of each other.

Baker (2007) outlines four pillars of ecological modernisation. First, as already stated, environmental protection and economic growth are self sustaining, in that policies to protect the environment can accelerate innovation, thereby providing an engine for further economic development. Second, ecological modernisation requires the integration of environmental policy into other areas of government activity. This process, known as environmental policy integration (EPI), is a core feature of both ecological modernisation strategies and those directed at the promotion of sustainable development. Third, promoting ecological modernisation

requires the development of new environmental policy instruments (NEPIs). These include voluntary agreements, eco-audit and management systems and reform of fiscal measures along ecological lines (Jordan et al., 2003). Fourth, ecological modernisation takes place through sector-specific activity, particularly in the industrial sector where it involves the invention, innovation and diffusion of new technologies and techniques of operating industrial processes.

Through ecological modernisation, theory suggests, new structures open up in environmental governance, new alliances between state and its target groups and new ideologies on environment – economy trade offs, as highlighted by Janicke (1997). Within this framing, consideration of the environment moves towards an 'anticipate and prevent' model based on the precautionary principle. This shift in policy approach "opens up spaces for, and makes possible, the development of new alliances and new roles for states, market actors and the environmental movement" (Bostrom, 2003: 177; Spaargaren et al., 2000). Tatenhove & Leroy (2003) suggest that there is increasing evidence of 'marketisation' and 'socialisation' of environmental politics. Through marketisation, the private sector, economic interest groups and consumers and individual firms are involved in the creation and implementation of environmental policy; the current focus within biodiversity policy for the creation of partnerships between business and state are an example of this (e.g. business and biodiversity initiatives; land banking, and mitigation measures). The literature on neo-liberalism is also critical of market based approaches to deliver sustainable development and environmental outcomes, as has been discussed in the area of water governance (e.g. Swyngedouw, 2007), development (McCarthy & Prudham, 2004; Watts & Peet, 1993). There is a growing volume of research which coalesces neo-liberalism with nature (e.g. Castree, 2008a/b). As Heynen et al. (2007:4) have discussed, environmental protection within the neo-liberal agenda very often leads to degradation of resources, ecosystems and biodiversity, rather than its conservation. They suggest any discussion of these matters must be situated in the geographical and historical context so as remove the possibility of "poorly defined abstraction...[potentially] reinforcing the taken-for-granted character of free-market discourses and the typically idealist ways they are championed". For some authors, these changes reflect broader trends between the relationship between state and

society, marked by the transition from government to governance, as the roles of public, private and voluntary sector are restructured. Peters & Pierre suggest that "political power and institutional capacity is less derived form formal constitutional powers accorded to the state, but more from a capacity to wield and co-ordinate resources from public and private actors and interests (2001:131).

Following this brief introduction, to issues within governance, environmental and biodiversity governance research, it can be concluded as Pierre & Peter (2000:7) suggest that the concept of governance "is notoriously slippery". This raises questions of appropriate application to discussion of environmental and biodiversity decision-making. But Chhotray & Stoker (2009:15) contend, through their inter-disciplinary and multi-sectoral review of governance literature, that despite "shortcomings, inadequacies, omissions and confusions that have dogged governance... none is so problematic as to lead to wholesale rejection of the governance perspective". Indeed, others such as Kooiman (1999) call for more targeted empirical analysis of theoretical constructs with Jordan et al. (2005:26) contributing to this debate suggesting that better analytical focus can be gained by more attention to "relevant temporal, spatial and sectoral patterns".

3.4 - Public participation

A general definition of public participation "is the practice of involving members of the public in the agenda setting, decision-making, and policy-forming activities of organizations/ institutions responsible for policy development" (Rowe et al., 2005:253). This definition of participation is broad, leaving ample room for interpretation of what constitutes the particulars of involvement, which is a key concern in the literature related to public participation in environmental decision making.

As noted in the previous section, due to an emerging understanding of ecosystems as complex adaptive systems in which human societies are necessarily an integral part, many of the new priority environmental problems, such as biodiversity loss, are not conducive to centralized hierarchical decision-making, rather, they often require the knowledge, commitment, and action of multiple levels of government, special interests, and the general public over long periods of time (Berkes, 2004). With

growing scientific evidence that many species and habitats lie outside protected areas, biodiversity policy has moved from protectionist conservation to a framework with sustainable development at its core, calling for broad spectrum public support and involvement (Campbell & Vainio-Mattila, 2003). Within this ideological shift 'participation' is now seen as key to protecting the integrity of biodiversity (McNeely & Mainka, 2009).

Policy documents have proposed, or assumed, that more public participation is a 'good thing' for communities and biodiversity rather uncritically. The experience of recent biodiversity participation initiatives has started to raise questions about the process and the scale at which participation takes place and outcomes of these processes for decision makers, communities, and biodiversity alike. In the following section the concept of 'participation' is considered and its use in environmental issues is considered, before discussing participation in context of biodiversity governance.

3.4.1 - Key themes in public participation

Within the body of work since the 1960's which has sought to examine public participation in the context of community development, planning and education, research has focused on relations of power between participants in the process, and also, how the process of participation is organised and public engagement sought. Each of these themes will be discussed in turn.

Various typologies have been developed which evaluate the degree to which publics have power over a decision making process (Finger-Stich & Finger, 2003; Davies & Gathorne-Hardy, 1997; Wilcox, 1994; Arnstein, 1969). These typologies present ways of defining the power relationship in participation, from manipulation and tokenism where publics are informed of decisions and have no recourse for feedback, to a situation where there is full control of decision making by the participants. Between these two extremes are various degrees of consultation, collaboration, and partnership or joint decision making. While some level of power lies with 'external interests', in each of these forms of participation, this varies according to the type of participation process engaged in (Burgess et al., 1998a/b).

The question of who has the power to make final decisions in a participatory process is closely aligned to the process and the intensity of participation. In fact, the choice of methods used to organise and facilitate the process can been seen as a political act in itself as it will have a direct bearing on how much people can participate in and influence decisions.

Participation draws on an analytic tradition rooted in the communicative or argumentative turn in policy studies (Hajer & Wagenaar, 2003). Participation draws on theories of deliberative democracy, and rests on the norms of openness and inclusiveness. These norms, theoretically, are purported to enable identification of shared values and build the foundation for cooperative rather than confrontational decision making. However, public participation does not equate to consensus decision making. Instead, when parties cannot resolve a particular issue, it can be viewed as a process which assist in creating transparency in decision making, and help participants understand the goals and perspectives of others by fostering communication and building relationships (Smith, 2003).

The way in which a public participation process is organised and facilitated throughout its duration will have a direct bearing on how the process evolves and the degree to which publics can participate in and influence decisions (Sidaway, 2005). One of the key issues, with regard to choice of methods, is the degree to which they facilitate and provide space for deliberative exchanges through which participants can openly express their opinions but also shape and revisit their views or preferences by interacting with others. Theoretically participation based on deliberative processes have potential to critically and holistically consider the ends and means of decisions, to innovate in seeking solutions to problems, and to enhance social capacities to collaboratively adapt to change in the longer term (Stirling, 2001). They can promote social learning insofar as they not only seek preferable solutions to practical problems, but also question the underlying social values, the institutions, and the power relationships of which they are a part (Pimbert & Wakeford, 2001).

While it is difficult to dispute the potential of participatory processes, their success in reality also rests on the manner in which organisations wishing to facilitate and

engage publics in participation interact with the local community and the underlying assumptions and expectations, of both organisers and participant, which underpin the participation process. Owens (2000) examination of public engagement is useful here. She describes instrumentalist and civic models of participation. In the latter, civic models, participatory approaches offer opportunities to utilise and enhance local knowledge while also enabling increased accountability of state agencies and public officials. This rationale of participatory perspectives has been in part related to the dissemination of beliefs in democracy and human rights (Peet & Watts, 2004). Participatory approaches are expected to improve the democratic process of decision making and empower people to contribute to the development of their society, espousing values of citizenship. Participation in this framing as justice and equality for local people forms a core principle of participatory mechanisms which allows communities control over resource management, strengthens decision-making locally, increases involvement in development, and improves welfare of local people (Wainwright & Wehrmeyer, 1998). In a more instrumentalist vein, participation is thought to benefit from and take ownership of the process and thus will be more likely to support its outcomes (Campbell & Vainio-Mattila, 2003), providing important opportunities for improving both the effectiveness and equity of conservation programs (Brown, 2003; Walker, 1999). In this framing participation becomes an issue of creating legitimate policy decisions. For example, the MA (2005:93) highlights that "Laws, policies, institutions, and markets that have been shaped through public participation in decision-making are more likely to be effective and perceived as just". Participation potentially offers opportunities to bridge the gap between bottom-up and top-down decision making, creating opportunities for more effective methods of management and providing an antidote to the perceived ills of top-down, command-and-control, regulatory regimes, counteracting apathy (Hutton et al., 2005).

Participatory approaches have also been seen as ways to address pragmatic concerns about attempts to manage and effectively use scarce natural resources and build prosperous and sustainable societies (Lockie & Sonnenfeld, 2008; Murphree, 2005). However, economic benefits alone may not be enough to secure local support for participatory mechanisms (e.g. Western & Wright, 1994; Wells & Brandon, 1992) the way in which the participation process evolves, who is involved,

and when, whether participants communicate effectively, and the locus of control over decision making can be critical to the success of participatory endeavours.

Success of such initiatives, for communities, can be related to features of the participatory process, such as good deliberative processes with an emphasis on joint decision making, good two-way communication between participants and government agencies and an obvious commitment by key decision makers or external agents to the process. Interestingly, all of these attributes can be highly influenced by the actions of lead agencies. Gurtner-Zimmerman (1996) argues that communication and commitment, beyond merely providing resources, can play a legitimizing function in the process of public participation. It signals to participants that they have the necessary political support to affect policy or decision making. However, this is a reciprocal process as the quality of communication between participants and an agency, commitment, and even the quality of the internal participatory process are all affected by agency decisions and support.

Finally, given suitable agency commitment, turning over substantial amounts of control to the public may not be required for participatory processes to be successful. Situations where participants have a high degree of freedom over the process, and influence over decisionmaking can also be successful. This suggests the while the typologies discussed at the outset of this section provide a framework through which to view public participation, there are also often subtle, context specific issues which are not easily generalised to.

Lastly, public participation call for shifts in governance towards greater direct democracy and local information and calls for improving the democratic process of decision making; empowering people to contribute to the development of their environment and society. So, as Pretty & Smith (2004) suggest, when publics are genuinely engaged, their knowledge sought, incorporated, and built upon during planning and implementation of conservation and development activities, positive outcomes for biodiversity and for the community can result. Mobilisation of more local knowledge and community participation sees local communities as holding part of the solution to biodiversity loss (Eden, 1998; Goodwin, 1998; Harrison, Burgess et al., 1998).

3.4.2 - Public participation in biodiversity

Interest in public participation within policy and biodiversity management has grown primarily as a result of the realisation that the strict preservationist approach is not viable on socio-economic grounds and is difficult to implement. This has resulted in a plethora of new conservation approaches, and innovations such as ecosystem management, community based natural resource management, partnerships, adaptive management, adaptive co-management, to name a few (Beirle & Konisky, 2000). Despite differing terminology, contexts and definitions, all of the above involve, or seek to involve publics in biodiversity decision making, thereby falling under the broad umbrella of community based conservation (CBC). As Brechin et al. (2002:44) suggest, CBC refers to people-oriented conservation as "the suite of strategies... [which] seek to increase the development options of resource-dependent rural communities as a means of increasing nature protection".

The core of research into CBC, and it analogous terms, according to Western & Wright (1994), arises from its focus at community, rather than national or international level. CBC type approaches, therefore, attempt to reverse previous top-down command and control driven conservation by focusing on the people who bear the costs of conservation. In the broadest sense, CBC includes natural resources or biodiversity protection by, for, and with the local community. Berkes (2002: 293) adds to this definition, taking scale and ecosystems as the starting point, describing CBC as "biodiversity protection by, for, and with the local community, taking into account drivers, institutional linkages at the local level, and multiple levels of organizations that impact and shape institutions at the local level".

Pimbert & Pretty (1997) highlight the importance of CBC as a conventional conservation rhetoric which is increasingly being embraced by states, international and national conservation organizations. They note that the top-down prescription and nominal participatory measures have been ineffective in biodiversity management, instead, they argue for a long term process of dialogue, negotiation, bargaining and conflict resolution, with a strong emphasis on capacity-building amongst local institutions and individuals, combined with new professional concepts, values and practices.

Dudley et al. (1999) describe some of the key elements of this new conservation paradigm to include a shift from government to civil society, accompanied by a shift from centralized to decentralized planning and management. Analogously, they suggest that this will accommodate an increased array of values, including social and cultural needs. Within this they note a changing role for conservation managers, with the emphasis moving from direction to facilitation. Campbell & Vainio-Mattlia (2003) suggest that CBC has two broad objectives, to enhance wildlife/biodiversity conservation and to provide incentives, normally economic, for local people. Wells & Bradon (1993) claim that there has been an increase in projects attempting to link the conservation of biodiversity in protected areas with local, social and economic development, and Ostrom (1990) notes that CBC natural resource management has thus emerged as a third way between government administration and market-oriented management. Other commentators support this claim, suggesting that many CBC programmes attempt to balance and enhance conservation goals and local livelihoods. However, Wells & Brandon (1992) suggest an air of caution, they claim that where economic components which have been tacked onto CBC programmes, the success of such undertakings for conservation and community has been limited. For example, Wainwright & Wehrmeyer (1998: 934) examine community eco-tourism initatives, and conclude that communities have not been encouraged to participate and a relatively small number benefit financially from the initiative. Berkes (2004) has suggests that incentives for on-going participation process need to look beyond solely addressing economic needs, to a broader issues of politics, equity, empowerment and the heterogeneous nature of community. Ballet et al. (2007) and Agrawal & Gibson (1999) raise similar concerns, suggesting that within the 'community' requires detailed attention, particularly, to actors and institutions of influence within the community.

Berkes (2004) consideration of CBC takes ecosystem dynamics as the starting points. Berkes suggests that because natural processes are non-linear and not predictable, but are dynamic therefore management of such systems also calls for flexible management. He also suggests that conservation issues are complex-systems problems, which require action at a variety of scales. However, ecosystems and social systems tend to be organized hierarchically and as Folke et al. (2002) state, centralized management is a poor fit for complex systems. Berkes

(2004) suggests that addressing CBC in a cross-scalar manner requires that institutions are linked horizontally (across space) and vertically (across levels of organization). Olsson & Folke (2001) suggest that co-management involves these vertical linkages.

However, Berkes, 2004) advises that within this multi-scalar framework, CBC initiatives should start with the bottom-up, rather than top-down. He suggests that CBC approaches require differences sources of ecological knowledge and understanding as may be available. Using knowledge and perspectives from the community level can help build a more complete information base than may be available from scientific studies alone (Berkes et al., 2000). Working from this knowledge perspective CBC can be seen as a learning process. Folke et al. (2002:20) have drawn on this and the multi-scalar, and horizontal ideas to propose a form of CBC, adaptive co-management. According to these scholars, this is a process by which "institutional arrangements and ecological knowledge are tested and revised in an ongoing process of trial–and-error". Adaptive co-management requires a sharing of management responsibilities and power through institutional linkages, which may involve as variety of actors and organisations across scales. But also, reflexivity and learning, are essential components for the process, building of trust among the partners.

Despite the positive potential for meeting community and conservation needs, CBC does not receive unqualified praise. Researchers have alluded to numerous implementation problems. Leach et al. (1999) has discussed a number of these issues which include issues where beneficiaries were treated as passive recipients, the short-term nature of projects, and lack of clear criteria to judge sustainability or success. In addition, these scholars claim that CBC approaches are based on flawed assessments of communities and environments. On of the key concerns is that CBC will only benefit a powerful minority. Dressler et al. (2006) have examined the politics of decentralising CBC. Their results find that decentralisation to the local level is subject to power and influence. They claim that decentralization may offer empowering results, but only when upper-level policies and political networks tie into sufficiently organized institutions at the local level. A further note of caution with regard to CBC is sounded at this point. That is, to affect genuine participation

authorities, across scales, must relinquishing a degree of power, while still maintaining a degree of support, and place trust in communities (Selman, 2004).

3.5 - Positioning research in the Irish political, economic and social landscape

This section examines some of the key issues within Irish political system which are relevant to an analysis of biodiversity governance in Ireland. It first outlines the workings of the state in terms of centralism and neo-corporatism. It then considers the role of neo-corporatism in economic development in the era of the Celtic Tiger. The section then considers the relationship between politicians, business and publics through issues of corruption, clientelism and brokerage. Following this, the social landscape is discussed through contemporary literatures which focus on ecological moderisation and the position of environmental civil society in environmental governance.

Politically, Ireland is a parliamentary democracy. The Oireachtas is the national parliament and consists of the President and two houses, the Dail (House of Representatives) and the Seanad (The Senate), the Head of the Government is the Taoiseach. The fifteen Departments of the State are run by civil servants, appointed through public competition. The political institutions in Ireland are broadly based on the Westminster model. At its formation in 1922, the Irish Free state is said to have inherited an "almost complete administrative system", with little change after the new constitution in 1937 (Collins, 2004:601)[16].

The Irish system of government is regarded as one of the more centralised bureaucracies within the EU. Many local services are controlled and administered by government departments and their various regional offices (e.g. NPWS). Additional evidence for the centralised nature of the state has come through the recent political endeavour of decentralisation. Although Ireland has followed New

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[16] However, there are obvious differences between the Irish and British model. First, the Irish is a written constitution, second, it and can only be amended by referendum and third, it also provides for judicial review.

Public Management type reform of civil service, becoming more consumer focused, espousing 'joined up government' and directing service allocation to local level as in other countries (e.g. New Zealand and Britain), decentralisation has resulted in geographical relocation of government departments to regions outside Dublin, but with little devolution of power to these dispersed departments (Collins, 2004). Centralisation is also evident in relation to funding and the absence of a comprehensive system of local taxation which means local authorities are reliant on the exchequer to fund their activities.

Despite the reliance on central funding, the remit of the local authority is substantial, performing many different roles, such as the embodiment of local democracy, service provider, local regulator, but also an important element of the executive apparatus of the state (Callanan, 2003). The multitude of services provided by local authorities are traditionally grouped around programmes. These include housing and building; roads and transportation; water and sewerage; recreation and amenity; agriculture, education, health and welfare; miscellaneous services and lastly planning and development. Also falling within the remit of local authorities is the requirement to secure economic development. So, while local authorities are required to implement and monitor environmental regulations, they are also responsible as Taylor (2005:151) claims, for "courting the investment of multi-national companies". This duel role has led to problems in regulating environmental concerns in the past. In addition, in other environmental matters, difficulties in regulation were compounded by a chronic lack of resources. As a result, in many matters pertaining to environmental regulation, the local authority are required to bring in expertise from other areas, as most did not have the knowledge of the technical requirements for which they were responsible.

Within the local authority structure there is a representational and an operational role, with formal separation of powers between the elected councillors and the executive of the council. The elected council is the policy-making arm of the local authority, who act by 'reserved functions'. Reserved functions are defined by law and comprise decisions establishing the parameters of policy such as adopting a development plan for the local authority. The council also has a role in the oversight of the work of the local authority itself, the day-to-day management of which is

vested in a full time chief executive –the county or city manager. The manager and/or staff to whom functions are delegated discharge what are termed 'executive functions' – in effect these involve the day-to-day running of the authority within the policy parameters as determined by the council. The most senior administrator in the council – the City or County manager - are not elected directly, but normally approved by the democratically elected Council members for a period of 7 years following a recommendation by the public appointments service, which interviews and selects candidates.

While there is a regional layer of governance, this was not specifically addressed in this research, as they have a minimal focus, in comparison to local and national government. As Davies (2008) notes, it has been a weak legislative force within Ireland politically centralised administration. There are eight regional authorities and two regional assemblies. The Authorities co-ordinate certain activates of the local authorities and monitor use of EU Structural Funds, while the regional assemblies manage the regional programme of the National Development Plan.

While there is clearly a centralist leaning with the Irish political structures, there has, as Davies (2008) claims, "also been a tradition of partnership between government, industry and social actors". Ireland has a corporatist institutional arrangement, which is to be found in other small European countries, whereby, business, labour and government make a concerted effort to establish consensus on major economic policies. Corporatism in Ireland, which has more recently become known and formulated as 'social partnership' or 'partnership government' finds it origins in the drive for economic development of the early 1960s. At this time then Taoiseach Sean Lemass was driven by a commitment to economic development which served both state and nation. Believing that a small, open economy could flourish best through a partnership between state, capital and labour, he sought to co-opt the main representative organisations in national agreements, designed to both foster a competitive economy and to ensure a fair share of the rewards were deployed between employers and workers alike (Adshead, 2008). To this end, the National Industrial Economic Council was created in 1963, which was succeeded in 1973 by the Economic and Social Council (NESC). NESC contained representatives of employers associations, trade unions, farmer's organisations and senior civil

servants. Its mandate was to seek agreement on issues of economic and social policy and to advise government through the Taosieach (O'Donnell, 2008). A key moment in the evolution of Irish social partnership and economic development came in 1986 when, against the backdrop of deep economic, social, political and cultural crisis, NESC produced a report, 'A Strategy for Development', which formed the basis on which the the first social partnership agreement, The Programme for National Recovery (1987–1990). Following the success of this first endeavour, each subsequent partnership agreement has been preceded by a NESC report, which outlines the shared analysis of economic and social trends and the parameters within which a new programme should be negotiated. Since 1987 there have been 6 NESC reports, and Partnership agreements. Social partnership is now the key process of macro–economic policy formation in Ireland, and has developed as a way to "organise development planning and provide a system of consultation and conciliation between the state and major interest groups" (O'Connor,2002:160). As Adshead (2008:68) notes "[the agreements] illustrate successive governments' commitment to reaching a consensus regarding the appropriate levels of growth and agreed measures to achieve them".

Social partnership has been widely critiqued. Critics of the effect of neo-corporatism in Ireland suggest that a small group of peak organisations have come to exert particular influence in the direction of public policy. Peillon (1992: 22) for example states that these organisations have been "co-opted as privileged partners in the dialogue between state and society. Trade unions, employers associations, farmer's organisations and some professional bodies have come to enjoy privileged access to the state" and the process of policy formation and implementation. This access allows the selected interest organisations promote a particular vision for development, while simultaneously relegating others. Of particular interest to biodiversity governance is the wealth of previous research in the area of environmental and rural governance which has critically evaluated the close political contact between agricultural lobby, the Department of Agriculture and social partnership. The Irish national farming organisations have enjoyed a close working relationship with the Department of Agriculture since the mid-1960s (e.g. Greer, 2005; Taylor, 2005; Evans & Coen, 2003; Adshead, 1996). Lobbying was not limited to politicians, since the lobby was acutely aware that while the minister may

have been the political figurehead, "the real substance of policy" lay with the senior civil servants, to the extent that that formal meetings only served to "tie up loose ends", the real decisions having been made at informal meetings held earlier (Adshead, 1996:593). Critics suggest that this contact and privileged access has often ensured that the farmer's views were aired in the political corridors that mattered. Adshead (1996) and Greer (2005) have characterised this relationship as a closed policy community (following Marsh & Rhodes, 1992) between the farmer's representatives and DAFF. Taylor (2005) suggests that as a result of the established links between the department and the farming lobby, the activities pertaining to the agricultural sphere have virtually become self-regulatory. This prominent role of the agricultural lobby in Irish politics has had a critical bearing on environmental and biodiversity governance. As discussed by Laffen & O'Mahoney (2008), for example, the farmers used their engagement in social partnership to secure a financial compensation package that would take into account the possible devaluation of land values as well as loss of actual and potential income as a result of the need to implement the Habitats Directive. This brought biodiversity governance, in the form of the Habitats Directive, into the heart of public policy making in Ireland.

Interest groups such as the farming lobby, therefore, enjoy access to the corridors of policy formulation and implementation through social partnership, while the state seeks to minimise political and social disturbance and establish continuity in policy (Tovey & Share, 2003). Adshead (2008) suggests that through social partnership the state has sacrificed a degree of autonomy for an increase in its capacity to deliver on the goal of development and implementation of economic policy. The cost of this trade off, according to O'Cinneide (1998), has been an erosion of parliamentairism, and by extension, democratic accountability. Given this drive for consensus, Tovey & Share (2003) draw attention to the groups allowed participate in social partnership. In 1997 the membership of NESC, and subsequent partnership agreements, was widened to include the community and voluntary sector, representing marginalised interests, such as the unemployed and those living in poverty. This expansion and institutionalisation of the state sponsored neo-corporatist project has been presented as proof that Irish governments are now committed to the development of a more participatory model of democracy and the

recognition of previously marginalised interest groups. But the Social Partnership model has been extensively critiqued for its exclusion, or limited inclusion on non-market interests, such as the community and voluntary sector (Meade, 2005). Meade argues that the recent economic success, couched in social partnership, has bred an almost pathological fear of dissent within government circles (Ibid., 350). Indeed, the ascendancy of the Irish economy throughout the 1990s and 2000's, belies "a major paradox at the heart of Irish development" (Reynolds & Healy, 2004:v). These critics suggest that there has been a marked failure to address issues of social cohesion and balanced infrastructural development, characterising Ireland's prosperity as one without fairness. Ireland of the Celtic Tiger was an uneasy juxtaposition of economic wealth and social problems. As Reynolds & Healy (2004) reveal, while the economy grew, the number of long term unemployed increased, a wider gap developed between rich and poor, and by 2004 Ireland had one of the worst poverty rates in the OECD. Collins & O'Shea (2004) point out the reluctance to address these issues raised tensions within the 2003 Sustaining Progress Partnership agreement talks. The Saint Vincent de Paul Society, the anti-poverty agency and the housing charity, the Simon Community, which were key components of the 'social pillar' or community platform (now representing 26 separate organisations) openly expressed their dissatisfaction with the agreement, stating insufficient attention had been paid to the poor and the homeless. The Saint Vincent de Paul Society dismissed Sustaining Progress as little more than a glorified national pay agreement. These calls for justice and equality had little affect, by the end of the twentieth century the Republic of Ireland was lauded as one of Europe's leading economic lights, with near full employment, and a per capita Gross Domestic Product which was among the highest in Europe.

As noted above, the social partnership agreements comprise one facet of the complex range of factors responsible for this dramatic economic growth during Celtic Tiger years (House & McGrath, 2004; O'Donnell & Thomas, 2002). In the introduction to his book 'Negotiated Governance in Ireland', Taylor discusses the rapid growth of the Irish economy during the 1990s as might be seen from the perspective of political scientists as "puzzling" because it occurred "against the backdrop of a period dominated by a succession of macro-political bargaining

agreements" (Taylor, 2005:i). Critics of such structures have reservations about the compatibility of these political arrangements with the global structures of capitalism. O'Malley & McGrath (2008:1) contend that much of the economic growth was "based around Foreign Direct Investment from multinational companies and an unsustainable property and construction boom". They also suggest that Ireland opened itself up to foreign investment, offering low corporation tax rate and liberal trade markets, so that it was no longer reliant on the British agricultural export market. Demographic and social factors also assisted inward investment. Multi-nationals were attracted by a young, English speaking and well educated population. The ascendancy of high-technology sectors in the late 1980's and early 1990's also stimulated inward investment and growth in the Irish economy, such that by 1998 Ireland had become the world's second largest exporter of software, after the US. Substantial investment in infrastructure from the EU, such as a doubling of structural funds for the period 1993-1996, also assisted growth, as did the stability afforded by the consensus driven system of social partnership.

Collins & O'Shea (2003) write that "Ireland's political system has shown an ability to incorporate significant pressure groups through corporatist relationships by which tangible benefits are received by privileged interests. Individual citizens also seek to gain advantage, or overcome disadvantage, via privileged access through the intervention of their local representatives (either County Councillors or Ministers)". In Irish literature clientelism has primarily been used to describe the latter relationship between individual citizen and politician, but as Collins & O'Shea (2003) clearly outline, the term can also refer to the relationship between interest groups and political representative. Komito (1984:173) defines clientelism as a process by which "voters seem to obtain state benefits through a politician's interventions and, in return, become the politician's clients, that is electoral support is traded for the real or apparent granting of favours or assistance by politicians". Commentary on Irish parliamentary processes is particularly influenced by issues of clientelism and brokerage.

In their analysis Collin & O'Shea (2003) highlight the distinctive characteristics of clientelism in the Irish context. They suggest that it manifests as an instrumental friendship, which is based on a discrepancy in social status, specifically in Ireland,

related to unequal political access. The currency of clientelism in the Irish context is generally information about bureaucratic procedures and politicians access to the bureaucrats themselves. Politicians' interventions on behalf of constituents generally concern minor administrative decisions, but cumulatively, represent a significant proportion of inquires to state departments. For example, the Department of Social Welfare receives 40,000 representations and 4,000 parliamentary questions from politicians each year about its daily operations. In comparison, the ombudsman, established in 1984, receives approximately 3,500 complaints each year. Citizens, it seems, involve their representatives as a rational use of free assistance involving the politician presenting a constituents case to the appropriate bureaucratic channels with no inducement or money changing hands.

Given the propensity of this type of representation, politicians hope to secure some electoral advantage, from the individual concerned or by enhancing their reputation in the community more generally (Collins & O'Shea, 2003). Less discernible however is the effectiveness of clientelism, that is the proportion of administrative decisions that are made as a result of representation. Accordingly, Collins (2004:606) suggests that "denunciations of clientelism in the literature on Ireland are common, though these are often based on a confusion about how significant it is in terms of public policy". Key commentators argue that clientelism in the Irish context involves voters seeking a politicians assistance on certain matters, but, this assistance does not necessarily guarantee individual voters' electoral support (Komito, 1984; Collins, 2004).

A facet to clientelism in Ireland is the nature and importance of localism. Collins (2004) uses the example of government decentralisation to support this. The geographical distribution of decentralised departments ignores the 2002 National Spatial Strategy, the primary policy document to support regional development. Instead the pattern of decentralisation follows that of ministerial constituencies in office at the time of the decentralisation announcements. This suggests the persistence of Garvin's (1981) description of Irish politics as a "periphery dominated centre", a political system in which central government is captured by local priorities. That is, to be re-elected, a minister must remember to adequately cater for his local constituents.

Some critics suggest that clientelism is a form of political immaturity that dampens collective political action. Indeed, O'Rourke (2005) has discussed the persistence of clientelist relationships and influence in decision-making at local and community level in the Burren. O'Rourke contends that these relationships are woven into the fabric of society and everyday life as a consequence of the socio-political legacy of authoritarian colonialism, Church and state power. Her research contends that, in the community of the Burren at least, there is a general belief that most things happen behind the scenes, by those who have 'pull' or connections. This resonates which O'Carrolls (1987:81) description of Irish politicians as "cute hoors" that is, "to be successful in politics aspirants to office have to be able to show they have power... and can deliver material favours". One of the consequences of this historical and cultural context, is that Ireland has a strong representative, but weak participatory democracy. As a result O'Rourke (2005) argues that there is a general public suspicion and mistrust of the political system which is further fuelled by perceptions that policy decisions may be influenced by political corruption, which in recent years, the political system has done little to dissuade.

In discussion of political corruption, Collins (2004:608) describes corruption as "the misuse of public power for private profit or political gain". It is a covert activity that occurs when politicians have a direct role in deciding specific, individual policy decisions of high value to wealthy business, when civil servants routinely exercise discretion over commercially valuable decisions, and when ministerial decisions are both commercially charged and the policy criteria are insufficiently explicit. Collins & O'Shea (2003) recount a range of different pubic enquires that have been established to investigate political corruption since the mid 1990s, however, irregularities within the planning system are the most frequently cited examples political corruption. At the Flood Tribunal, for example, Dublin based TDs and councillors were found to have accepted money from developers via a lobbyist for re-zoning of agricultural land for housing, commercial or business use. Furthermore, one senior local government official was found to have received substantial payment from a developer to whom he had given advice. At the subsequent Moriarity Tribunal which also addressed planning issues, former Taoseach, Charles Haughey was found to have been given £8.5 from private sources, denoting that

corruption occurs at the highest political levels. Outside planning the link between politicians and officials and business has been more difficult to establish, but speculation is rife that it exists (Collins, 2004). The impact such revelations have had on the electorate are clearly discernable. A 2003 poll asked voters to describe Irish politicians, 50% said they were corrupt, 46% said self-serving, 37% said incompetent and 22% said lazy. In contrast, 17% responded that Irish politicians were hard working, 8% public spirited and 5% said honest and efficient. However, these harsh judgements sit alongside the popularity of individual TD's in their local constituencies, as Collins (2004:611) notes "Irish politicians, [both local and national] are close to their electorates and sensitive to their opinions and individual problems".

Given the political context, predicated upon economic development and consensus, it is important to address how environmental protection has been politically institutionalised. Motherway et al. (2003) note that political discourses about the environment have evolved significantly in the past ten years, particularly through the advent of the politics of sustainable development as embodied in the ecological modernisation paradigm. With the rise in sustainable development, environmental and economic goals have become closer aligned, and environmental protection was seen as essential to economic growth. Motherway et al. (2003:10) argue that ecological modernisation in the Irish context is "a reformist, regulatory discourse, based on scientifically developed technologies and managerialist controls, that subscribes strongly to the proposed synergy between environmental protection and economic growth, and the positive-sum game it offers". The paradigm is reforming but not radically so, in that it appears not to have fundamentally challenged current political and economic institutions in Ireland, but calls for their adaptation to new priorities through integration and realignment. Irelands move towards ecological modernisation according to these critics, is fundamentally linked to membership of the EU.

Critics of the ecological modernisation-sustainable development policy rhetoric claim, that in reality, the central element of ecological modernisation, that environmental protection becomes integral to all aspects of the economy and society, has not taken hold in Ireland (Motherway et al., 2003). The goal of

environmental policy in Ireland is environmental management not protection, environmental goals are subservient to economic goals (Taylor, 2005). As is often the case, arguing for economic and environmental goals to be combined can be read as an excuse for keeping old economic priorities, and relegating environmental concerns. While this maybe the case, it should be mentioned that there are increasing attempts at horizontal integration of environmental goals into broader policy areas, which is a significant element of the ecological modernisation paradigm.

Another recent initiative is the incorporation of measures within the Local Government Acts (2001) which oblige local government, both political and executive wings, to pay due regard to heritage and environmental protection and sustainable development when carrying out their functions. However, a critical issue can be raised here drawing on the work of Ewing et al. (2008) who examined public participation in local government decision-making. These critics highlight that the final decision on both County Development Plans (CDP) and Local Area Plans (LAPs) is vested in the elected Councillors by the relevant legislation. Of key consideration here is that Councillors have the right to overrule both professional advice and public input when making decisions regarding both the CDPs and the LAPs. Also, unlike planning professionals, there is no requirement for the elected representatives to show if, and how, they have made decisions with regard to the Local Area Plans or County Development Plans. This indicates a lack of transparency, given the complicated and diffuse nature of sustainable development within the planning acts, and existing lack of trust in decision makers and political elites, this may have repercussions on the ways in which it is operationalised within planning decisions.

3.6 - Conclusions

A number of conclusions pertaining to the current research can be drawn from the previous literature review. The body of international and Irish research which has examined environmental and biodiversity understandings and values was presented at the outset, providing a summary of the vast wealth of research which falls within the remit of environmental understandings and values. This research has been applied in a variety of contexts, to address specific environmental issues, or,

examine demographic variables such as age and gender for example, and to examine how and why certain claims to nature are made and formed. However, there are a limited number of studies have been conducted which specifically target the views and values related to biodiversity, particular in Ireland. Given that policy increasingly calls for public and stakeholder engagement in biodiversity, it is timely examine what these groups understand the term to be and how it is valued and managed.

The literature pertaining to governance is equally vast. Previous research has focused on specific levels, or tiers, or governance, and indeed particular spheres, such as civil society, public or the private sector. Cross-cutting themes have emerged, such as environmental governance, which has focused on variety of environmental issues such as climate change, waste, particular scales, for example, local or global, and specific institutions. With regard to biodiversity governance, scholarship examining the EU Directives has been particularly active. Studies at the local scale of biodiversity governance, particularly in the UK, have previously examined the processes local biodiversity planning. In this regard, previous scholarship in governance and environmental governance conducted in Ireland is important. This research has primarily been aimed at transposition and implementation of policy arising from the EU, such as the Habitats Directive, or the role of particular environmental governance actors and organisations, such as the EPA and social movements it provides an important entry point. However, given that policy making arising from the CBD now focuses on integration of biodiversity across sectors, and tiers of governance it is timely to examine biodiversity governance through this wider lens. In Irish scholarship, there has been relatively little attention paid to biodiversity policy arising from the CBD, and its implementation at local government, particularly in the context of multilevel governance. This thesis therefore, will contribute here.

Policy now encourages the inclusion of publics in biodiversity planning. This chapter presented the rationales and mechanisms of public participation, before addressing public participation in biodiversity. This body of research highlights the importance of examining the interactions and relationships of power in participation, suggesting that the process of engaging publics warrants careful attention. While a number of

studies have examined publics views of participation, this has been relatively limited in the Irish context. Given the increasing body of community-based conservation research, it is appropriate to examine both policy makers and public views of participation in Ireland.

The themes which this thesis seeks to address, falling within the realm of biodiversity politics, requires careful thought and consideration of methods. The following chapter examines previous research which has sought to address this topic, and presents the research strategy developed for this research project.

Chapter 4 - Method

4.1 - Introduction

This chapter outlines the methodological approach taken in this study, detailing and critically evaluating the methods applied to the process of data collection and analysis. Initially a review of methods employed in previous biodiversity, environmental governance and public participation research is provided as the entry point into the methodological design. This is followed by an examination of the qualitative case study approach adopted. Then an account of the methodological process that took place is detailed. Finally, some reflection on the research experience is presented.

4.2 - Related research methodologies

Studies in biodiversity have traditionally been dominated by the positivist approach and quantitative methods in the natural sciences, with research in the social sciences initially following suit. One such body of literature can be categorised as the socio-psychological survey which quantitatively examines attitudes, values and self-reported behaviours of participants towards nature, biodiversity and nature conservation. Academic studies in this area are numerous, but a number of examples are given to illustrate general points regarding the quantitative approach. One of the most widely recognised surveys of this kind is the New Environmental Paradigm[17] (Dunlap & van Liere, 1978) and related New Ecological Paradigm (NEP) (Dunlap et al. 2000). The new ecological paradigm presents humans as just one part of a larger ecosystem and considers that human affairs are influenced by nature as well as society. Equally the biophysical environment sets material limits to human action. Through this, Dunlap & van Liere were hoping to facilitate a sociological approach that would consider the impact of the natural on society, and how social processes affect the natural world around.

Socio-psychological surveys have also been used to address attitudes and values towards nature and biodiversity more specifically through social and cultural

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[17] For a review of literature critical of the NEP see Lalonde & Jackson, 2002

variables, for example, gender (Walsh-Daneshmandi & MacLachlan, 2006; Dougherty et al., 2003; Tindall et al., 2003; Kellert & Berry, 1987), and age (Tarrant & Cordell, 2002; Kellert, 1985). In broad terms socio-psychological surveys are useful in explaining variations in public knowledge, attitudes, values or behaviour toward the environment and have benefits in terms of their ability to generalise across populations and to be replicated. This allows for direct comparison across contexts, be they geographical, temporal, social or cultural. Social-psychological research of this kind is increasingly used as a tool in policy circles, for example, by Gallup (2007) and Barry (2008) in revealing Irish publics' biodiversity awareness and knowledge. The quantitative social survey is also a prominent source of data with regard to political preferences, for example, Irish Times/MRBI opinion polls which are used to generate trends on political representation. More recently, quantitative questionnaires are being used by policy makers to inform policy decisions, for example on invasive species (Europa-IPM, 2009) or strengthening the policy science interface on biodiversity and ecosystem services (IPBES-IUCN, 2008).

The use of economic valuation techniques have also become an increasingly prominent tool in biodiversity policy decision-making as a way to gather information on public support for, or objections to, particular policy decisions (Bullock et al., 2008; Christie et al., 2006; McCauley, 2006; Soma, 2006). There are a range of techniques associated with economic valuation of biodiversity. Contingent valuation is commonly utilised as an aggregate of public preferences, such as willingness-to-pay (WTP) for environmental functions and features. Willingness to pay is said to indicate the value an individual places on a 'good' (for example a feature of biodiversity) and its continued existence via the amount they will be willing to pay for its conservation, or, less often, the amount of money they would be willing to accept to forego the benefit (Burgess et al., 2000). Natural features are normally considered nonmarket goods, because there is no conventional market for measuring the actual supply and demand for them. Through WTP, environmental economists attempt to create a hypothetical market in which environmental goods may be priced, valued, and thus conserved (Brouwer, 1999). This technique has been critiqued with respect to biodiversity valuation. Nunes et al. (2001) raise issues with respect to which scales of biodiversity are under economic consideration,

genes, species or ecosystems. The difference in valuing ecosystem function versus ecosystem services is considered by Spash (2008) and concerns with exclusion of non-monetary values from such processes (ethical or moral principles) are raised by O'Neill et al. (2008) and Foster (1997).

Both socio-psychological surveys and economic valuation approaches share benefits associated with quantitative research more generally, which provide obvious advantages to policy makers. Marshall et al. (2007) suggest that quantitative findings are often easier to communicate to natural scientists and resource managers who will ultimately use the data produced. As data is collected from a large randomised sample, individual views are amalgamated with resultant statistics used to construct simplified, generalisable claims about populations (Flick, 2002). However this strategy removes research from the lived context of the respondents and focuses analysis toward identification of the causal relationships between variables, not the processes involved in their construction (Denzin & Linclon, 2005).

With respect to willingness to pay studies in particular Burgess et al. (2000) and Clark et al. (2000) have illustrated how survey respondents had trouble framing meaningful replies regarding monetary values. This points to one of the key issues in quantitative research the role of the researcher in formulating restrictive questions. There is a second issue raised by Spash & Hanley (1995: 203), in the context of biodiversity with regard to information provided; they concluded that "information assimilation within a survey context is restricted and will only be able to initiate respondents as to what is being addressed. Under such circumstances. the information given will be helping to form preferences rather than inform [about] existing preferences". This indicates some difficulties in the construction of quantitative questions, their administration and the quality of ensuing data. Furthermore, Burgess et al. (2000:506) highlight that "different knowledges, meanings, and values are exchanged between researchers and respondents" suggesting that the researcher cannot be entirely removed from the research process. Such findings critique the basic tenets which underpin WTP, to create objective information on which and subsequent statistics are produced. This issue has also been raised in terms of socio-psychological surveys which rely on

respondent self-reporting. With respect to environmental behaviours actual activity may be over-reported, and surveys have often proven an inadequate predictor of environmental action (Fransson & Garling, 1999). So while quantitative techniques may strive for objectivity, allow for simplicity, replication and generalise findings, as with any research strategy claims made must be carefully considered in the light of the methodological shortcomings.

In contrast to quantitative research, the aim of qualitative research is to understand the processes which underpin phenomena rather than to obtain a representative overview of attitudes held or to compare the views of groups with statistical means. Qualitative research accepts that people may interpret the same natural phenomenon, such as biodiversity, very differently and that an individual's representation of the natural world should be considered based on the individual's own perspective. The goal of qualitative research therefore is not to produce quantitative data and test hypotheses in a strict sense, but to explore phenomena in depth. In essence, it is an approach which uncovers complexity, subjective human perception, and attempts to understand the social structures and processes at play in people's lives (Macnaghten & Urry, 1998). In essence a qualitative approach emphasises process and context (e.g. Fisher & Young, 2007). From a practical perspective the qualitative approach emphasises flexibility, allowing the interviewer to develop questioning as new ideas and themes emerge with the research participant (Rubin & Rubin, 2005).

Qualitative methods have been used extensively to examine the social, political and economic dimensions of biodiversity and biodiversity related areas, such as natural resource management. This methodology is particularly appropriate to the study of the political nature of governance, which involves a relatively small number of individuals engaged in negotiation (e.g. Laffan & O'Mahony, 2008). Stakeholders' values of nature in the context of policy making have also been examined by Kempton et al. (1995). Additionally, qualitative methods have been used to elucidate perceptions of publics towards biodiversity and biodiversity governance. For example, adult groups' conceptualisations of biodiversity were examined by Fisher & Young (2007) and perceptions of biodiversity and biodiversity loss by Hunter & Brehm (2003). Focus groups have been used to uncover young people's

attitudes towards environmental issues and biodiversity (Connell et al., 1999) and semi-structured interviews in examinations of values in natural resource conflicts (Trainor, 2006) and national park biodiversity governance conflicts (Stern, 2008).

4.3 - Governance research methodologies

With respect to governance research specifically, research methodologies that span quantitative and qualitative spectrums have been adopted. For example, Lynn, Hendrick & Hill (2002:11) point to the relative advantages of both saying that "the quantitative empirical research is far from our only source of useful knowledge about governance... qualitative research involving field observation and interviews often provide instructive insights into the workings and results of government." They advocate a mixed method approach which utilises quantitative surveys which are augmented by qualitative data, to provide social, economic and political context. For example, mixed methods have been used by Marshall et al. (2007) in examining wildlife management conflicts in Scotland. In this study the outcomes of initial interviews with key stakeholders where utilised as the basis for a wider quantitative survey which gathered a large quantity of data from publics.

While quantitative and mixed method approaches both have advantages and disadvantages, the focus on process and context is of particular interest in governance research. According to Blaikie (1993: 64) governance research "require[s] us to look beyond what is said to what is being taken for granted while it is being said". It is a research area which is inherently political and deliberative and calls for the researcher to look beyond the immediate arguments to discern the hidden motives behind rhetoric and rationality.

The research presented in this thesis seeks to identify how perspectives differ over biodiversity, and decisions taken in the policy arena. Therefore, in order to interpret the meanings of the policy actors and publics, it is also necessary to understand the frame in which these meanings are interpreted (Blaikie, 1993: 188). To this end, research on stakeholders' views in conflict situations has tended towards a qualitative perspective (Stoll-Kleemann, 2001). This enables the research to uncover meanings constructed by actors in specific social, cultural, economic and political, contexts. Contexts which are continuously constructed and re-constructed

through discursive processes (Connelly et al., 2006). Like biodiversity policy, literature relating to biodiversity governance has traditionally focused on elites and top-down decision-making. But with calls for increased public participation and responsibility in biodiversity management a stronger voice for publics in policy making is now suggested, through, for example the ecosystem approach (Smith & Maltby, 2003). Research has followed suit, with more research now conducted on adaptive management and community-based or people-focused conservation (e.g. Algotsson, 2006; Berkes, 2004; Campbell & Vainio-Mattila, 2003).

However, the qualitative approach, like any research strategy, has its limitations particularly in relation to questions of subjective generalisability, replicability, and positionality. Much of the criticism levelled at qualitative research centres on questions of the role of the researcher in the research process. The positional nature of the researcher does inevitably influence research findings; the key issue is to be cognisant of how this may affect research findings and endeavour to ensure transparency in final analysis and reporting. Incorporating reflexivity into the research processes assists in reducing some such concerns, and will be discussed in greater detail at the end of this chapter. Equally endeavouring to ensure clarity and incorporating reflexivity in the data collection and analysis process develops rigour and assists in minimising such limitations (Rubin & Rubin, 2005).

Issues of replication in qualitative research are often cited as a critique of the qualitative approach. As qualitative techniques often rely on the researcher's ingenuity, in terms of research question formulation, data collection, and analysis the researcher can be considered the main instrument of research. It is therefore almost impossible to conduct an exact replication of research since it can be idiosyncratic; what is observed, heard and what the researcher decides to concentrate on, is in part a product of their own person. The responses that people give may also be dependant on the researcher-researched relationships in terms of social characteristics, personality, age, gender or race for example, making it difficult to replicate qualitative findings (e.g. Howarth, 2002). However such criticisms of replicatability have also be levelled at the positivist scientific approach (see Maynard, 2004).

As the aim of this research was to examine the understandings, values and policies of biodiversity governance and because some limited quantitative surveys had been mooted at the beginning of this research (e.g. Barry, 2008) the qualitative approach was selected. The next section outlines the approaches used and sets out a reasoned justification for their adoption.

4.4 - Research approach

A multi-method approach was selected for the research including case study, interviews and focus groups. In this section, the rationale for this research approach is provided, and its limitations highlighted.

4.4.1 - Selection and profile of the case study area

County Clare and Inis Oirr were chosen as the case study location for two reasons. Firstly, this research project is part of the larger BioChange (www.biochange.ie) research initiative which has as a common feature a focus on this region. County Clare and Inis Oirr were selected because it these are areas of national and international ecological importance, but also subject to threats in the form of development, invasive species and climate change. While the case study location was a prerequisite of the BioChange project, the multi-scalar nature of this thesis did not mean that data collection was restricted to this geographical location. It did however provide a local focus for the research with publics and local stakeholders. Secondly, this case study area was useful because of its wide and diverse biodiversity. Many internationally renowned species and habitats are associated with the Burren and Inis Oirr, an area of karst limestone landscape, and the Kilrush area, which hosts a variety of habitats of national importance, in addition to significant marine species.

Clare is situated on the west coast of Ireland in the province of Munster, covering an area of some 318,784 hectares. It is bounded by the counties of Galway to the north, Tipperary to the east and Limerick to the south. Its natural boundaries comprise Galway Bay to the north, the River Shannon and Lough Derg to the east and the Shannon Estuary to the south. Together with North Tipperary and the City and County of Limerick, it constitutes the Mid West Region of Ireland. Ennis is the county largest town and its administrative centre. It is also designated as a Hub

Town in the National Spatial Strategy (NSS). Shannon is a large town in the south of the County and is a major industrial and employment centre, not only in the County, but in the Region as a whole. In conjunction with Limerick, it is designated a Gateway under the NSS. In the remainder of the county, Kilrush, Kilkee, Ennistymon, Scariff and Killaloe act as service centres for the surrounding hinterland.

The population of Clare at the time of the most recent census, 2006, is 110,950. This is expected to grow by 26% to 139,650 by 2022. 61% of the County's population reside in rural areas but only 6.5% of the workforce work in the agriculture, forestry and fishing sectors. While the predominant land-use and economic activity has focused on farming activities in the past, industrial development is becoming of increasing importance in the Ennis and Shannon Areas. This is reflected in the Clare County Development Plan which states that agriculture is "not exclusively responsible for the vitality and viability of rural areas", and that "the sustainable development of rural areas will rely on the availability of a wide range of employment opportunities, the provision of services as well as infrastructure to enhance the quality of life in these area".

Commerce and trade are now the greatest sources of employment in Co. Clare, with 21% of the people employed in the County working in this sector in 2006. The linked Gateway of Shannon and the international airport play a key role in driving regional economic development in Ireland and has established Shannon as a focus for Foreign Direct Investment. Shannon Free Zone is located adjacent to Shannon International Airport and has currently over 100 companies employing 9,000 people highlighting its importance to the local economy. These companies generate exports in excess of €3.3 billion each year and internationally traded service activities now account for 60% of companies and 40% of employment at Shannon.

In terms of its natural resources, Co. Clare is the fourth most afforested county in Ireland, and as a result, Clare County Council suggests that there is significant potential for job creation within the forestry sector and related industries such as Biomass energy development. Clare County Council is committed to supporting the diversification of appropriate lands to forestry and the establishment of associated

enterprises, subject to landscape and ecological considerations. Other natural resources of the County include significant aggregate deposits of sand, gravel and limestone and, along the coastline of the County, significant potential for commercial fishing/aquaculture. The tourism industry is one of the main contributors to the economy of Co. Clare and this is reflected in the considerable investment provided by the Council in tourism infrastructure throughout the County including the Cliffs of Moher Visitor Centre.

However, outside of the industrial/business, retail and administrative employment centres of Shannon, Ennis and Kilrush, tourism and agriculture remain the two primary industries in the County. Historically, extensive areas of Clare have relied on the agricultural industry for employment and income. Although agriculture remains an important part of the local economy, its share of economic output and employment continues to decline. While advances in technology and farm consolidation are lightly to increase output, agriculture-based employment is likely to continue to decline. Therefore employment opportunities must be created in alternative agricultural development to supplement farm incomes and regenerate the rural economy and sustain rural communities. In the case of north Clare, high conservation value habitats, co-created by humans and the natural environment, are dependant on the survival of this sector.

The population of North Clare, where the Burren is situated, stands at 17,284, and is estimated to increase to 18,093 by 2011. Recent trends for the North Clare area indicate rural depopulation, which was halted in 2002 by Ireland's economic boom. CLÁR (Ceantair Laga Árd-Riachtanais/Programme for Revitalising Rural Areas) is a Government investment programme established to tackle the problem of depopulation as well as the decline and lack of services in rural areas. The areas included in the CLÁR programme cover parts of north county Clare. The areas selected nationally are those which have suffered the greatest depopulation since 1926. On average, these areas have lost 50% of their population in the last 76 years. Despite such initives, depopulation remains a serious concern in this area. Despite national economic growth during the years of the Celtic Tiger, North Clare has seen a severe decline in its local economy. This is due in part to the decline in its traditional farming economy as a result of changes in agricultural practices

brought about by technological advances, European policy and consumer trends. In the past this industry would have supported families and a local population in employment, but currently it is now often sustained by a single member of the farm-owning family, in many cases on a part-time basis. Coupled with levels of unemployment above the national average and little prospect of significant employment growth in the future, younger members of the community in particular, have moved away from the area in order to avail of employment opportunities elsewhere.

Tourism, which was heralded in the 60's and 70's as a new source of income to Clare, is an important economic opportunity in this area. As Shannon airport developed, overseas tourists, in particular Americans began to see Ireland as a tourist destination. Currently Shannon International Airport caters for over 2 million passengers per annum providing flights directly to the UK, US and Europe. The coast of West Clare, stretching from Loop Head on the south, to Galway Bay in the north, with a necklace of small coastal towns and villages, embracing the Burren and the Cliffs of Moher, is the main international-level tourism area in the region. The attraction of flagship sites in the Burren brings huge numbers of visitors. The Cliffs of Moher (the largest visitor attraction in the country) and Aillwee Cave received 911,000 and 200,000 visitors respectively in 2008. However, the capacity of these sites to retain these visitors is low. Equally, there is significant untapped potential in the Burren because of the areas natural and cultural heritage which is considered to have great appeal for eco-tourists and specialists alike.

Inis Oirr, the smallest of the three Aran Islands, approximately 4 square miles, situated approximately 10km off the west coast of County Clare. The population of the island is 275 most of whom live in the eastern portion of the island. Various state agencies, such as the Department of Community, Rural and Gaeltacht affairs and Udaras na Gaeltachata are addressing the issue of island depopulation and economic marginalisation. Aran islanders are recorded as being resourceful, having farmed, fished, sealed, took kelp seaweed, for iodine production and other material from the beaches in order to make a living. In the past islanders may also have smuggled and made illicit spirits, although official records do not suggest this (Royle, 2003). This indicates that islanders turn to every opportunity as means of

earning or saving money. From this a conflict arises for the people of the island; the floristic wealth and subsequent designation of a large part of the island as SAC places stringent restrictions on the islands' inhabitants in terms of planning and use of the limestone as a resource, a situation complicated by the generous grants for housing offered through rural development funding.

In contrast to the previous case study areas, Kilrush is the urban centre of West Clare with a population of 2,657 (CSO, Census 2006). Recent estimates suggest that the population of the town will increase to 3,245 in 2020 (Kilrush Town Plan, 2008). As stated in the plan, "Kilrush and its hinterland possess a rich diversity of natural and cultural heritage... This heritage is one of the foundation stones of local identity, contributing to the quality of life of local people and attracting visitors and tourists to the area" (KTP, 2008:80). In recent years Kilrush has not realised the level of economic growth achieved elsewhere within the county or nationally. During the second half of the twentieth century the West Clare railway was closed and there was also decline in the traditional industries resulting in closures and high unemployment in shipping, fishing, milling, ceramics manufacturing and seaweed processing. The loss of income to the local economy resulted in the closure of shops, hotels, dance halls, and the cinema. The construction of Moneypoint power station provided temporary respite, but following its construction the local economy went into decline and out-migration continued. A recent retrofit of Moneypoint has proven to be a major employer, generating many additional jobs which has drawn a large additional workforce from outside the town. According to the Clare Learning Network (2008) West Clare is an area, where population is older than the county average, where women are not participating in the labour force, where unemployment rates among men and women are higher than the national average and where higher than average number of the population are in the lower social classes. The proportion of Local authority rented housing in the West Clare area is at 5.1%, greater than the county average of 4.4%. This situation illustrates the issues of social inclusion and exclusion for the area. The hinterland surrounding Kilrush is largely agricultural, focusing largely on intensive dairy farming. Many of these farms are not in, or have recently joined the Rural environmental protection scheme (REPs).

This diversity in social, economic and ecological potential for each of the three case study sub-areas provides an interesting cross-section of issues for consideration within this thesis.

4.4.2 - The case study: a research approach

The use of the case study in environmental governance research is well established. In a recent review Newig & Fritsch (2009:4) state that "countless single case studies on (participatory) environmental governance have been published, varying greatly in scope and quality. It is virtually impossible to cite even a representative fraction of these". The case study is an attractive approach because it allows an intensive investigation of a phenomenon, in this case environmental governance, in its lived context in a particular geographical region (Yin, 1994). It is particularly applicable to qualitative research where an in-depth understanding of the processes, interactions and construction of meaning is required. The case study approach provides a geographical context through which to explore the focus of interest, in this case biodiversity governance and public participation. However, as with all research methods case study approach does have some issues which must be addressed in relation to claims made from ensuing data. The approach has been critiqued due to its lack of external validity or generalisability (Bryman, 2008).

Where quantitative research purports to generalise to whole populations or across populations, the findings of qualitative case study research is to generalise to theory, to other research, and the people contained and lessons learnt within those cases (e.g. Shoreman & Haenn, 2009; Collier & Scott, 2008; Gibbs et al., 2007; Evans, 2004; Goodwin, 1998; Newig & Fritsch, 2009 for review of case study literature in multi-level governance). As Adger et al. (2003:1100) in their environmental governance acknowledge "specificity does not necessarily mean a surrender of any attempt at generalisation" arguing that critiques of specificity can be overcome by paying attention to the role of institutions, scale, and context in analysis. Maintaining an emphasis on context in this sense draws on the work of Geertz (1973:25/26) who calls for generalisation through the identification of connections and general patterns that are characteristic of a certain context. External validity can be built in to the process of analysis by understanding the differences and similarities between cases paying attention to the role and influence

of context in different locations. The case study provides the context for the qualitative research, but it does not specify the data gathering tools to be used. In this research interviews and focus groups were adopted to ascertain the views of stakeholders and publics respectively.

4.4.3 - Stakeholder interviews

It is often suggested that one of the most efficient and reliable methods for ascertaining people's opinions, thoughts, motivations and attitudes is to simply ask them and hence the interview is regarded as an important source of evidence in case study research (Yin, 1994). There are a variety of formats of interview which form a continuum from structured to unstructured interviews. The former utilises a discrete question schedule from which the interviewer does not deviate while the latter comprises a series of topics which develops a more flexible conversation. Semi-structured interviews offer a median between the two, resembling a structured conversation focused around a particular research topic and question schedule while also allowing scope for the interviewer to improvise, probe, clarify, explore contexts, and provide in-depth information about the complexities of a situation (Wengraf, 2001; Rubin & Rubin, 1995).

Semi-structured interviewing is appropriate and widely used in policy research (e.g. Laffen & O'Mahoney, 2008; Gibbs, 2007) particularly when research situates policy debates in terms of their deeper political, social and cultural roots, rather than simply the 'facts' of arguments. They are seen as offering an opportunity to uncover hidden agendas, political conflicts and relationships between different policy actors. They are, as Hertz & Imber (1995) claim, appropriate in studying multiple stakeholders in wide ranging policy communities to focus their responses on the specific topics of interest and also to accommodate many interviews in a short amount of time.

The goal, undoubtedly, of the interview process in this project is to understand how the research subject sees biodiversity policies. But conducting a semi-structured interview is not straight forward. One criticism levelled at interviewing is researcher bias, that is, the leading and shaping influence of the interviewer on the interviewed with subsequent concerns that "data obtained from an interview are as likely to

represent the preconceived ideas of the interviewer as the attitudes of the subject interviewed". (Rice, 1931: 561, quoted in Kreuger, 1994: 7). The researcher-researched relationship is of central importance and can be affected by variables such as age, gender, social status, but also the values, agendas and political and ideological stances of each participant (Arksey & Knight, 1999). Some argue that this makes interviewing a somewhat unreliable method of compiling information as memories may be uncertain, interviewees may not tell the truth or might tailor their responses depending on how they react to the researcher (Arksey & Knight, 1999). But these criticisms could equally be levelled at more quantitative research (Bryman, 2008). Others suggest that this very criticism is one of the strengths of the semi-structured interview, at it replicates social settings where knowledge is co-produced via the two way processes of a dialogue (Fontana & Frey, 2005; Hardy & Bryman, 2004). These arguments are met within this research project by the careful interpretation of interviewees perspectives and due regard paid to reflexivity in the research process, issues which are raised in more detail towards the end of this chapter.

While the semi-structured interview was seen as appropriate to use with stakeholders who are familiar with policy environments it was felt that a different method would be better to ascertain publics views of biodiversity and their perception of the biodiversity decision-making process. Group interviews are beneficial in generating discussion with publics as they provide a more natural social environment than that of the individual interview while also giving the opportunity for participants to influence and in turn be influenced by the knowledge and experience of others (Finch & Lewis, 2003).

4.4.4 - Focus groups with publics

On pragmatic grounds conducting individual interviews is a time consuming process, and following Burgess' (1996) suggestion, focus groups are considered advantageous when time in the field is relatively short. A focus group can be defined as a carefully planned and organised discussion designed to obtain perceptions on a defined area of interest in a permissive, non-threatening environment by a selected group of participants sharing and responding to each other's views, experiences, ideas, feelings, and perceptions (Collier & Morgan,

2002; Krueger, 1994). Focus groups have been widely used in marketing, medical/psychology practice, and in particular since the 1980s, in the social sciences and environmental arena (e.g. Davies, 1999; Burgess et al., 1996, 1988a, 1988b). The disparate roots of the group approach are reflected in the manner by which the groups are conducted. Market research tends to use one-off groups while medical or psychology groups work within an in-depth approach. Both formats have been used within biodiversity understandings and governance research (Buijs et al., 2008; Fisher & Young, 2007; Marshall et al., 2007; Burgess et al., 1996; 1988a; 1988b) and like other research methods each has advantages and disadvantages. In-depth group discussion allows a group dynamic to develop over a number of meetings and provides the researcher time to revisit views and qualify statements, thereby avoiding criticisms of superficial results. However, they demand considerable time commitment on the part of participants and researcher. Conversely once-off focus groups are subject to criticisms of superficiality, but can be valuable for qualitative research in promoting conversation and debate, and in terms of providing a forum for people to share and test out their views with others.

One of the primary rationales underpinning the group approach is that it provides socially-oriented interaction in which participants feel free to influence one another, build on one another's responses stimulating shared interaction. Focus groups differ from interviews in that instead of asking questions to each person in turn, questions are asked to the group and participants are free to interact with other group members informing responses. The discussion in a focus group is coloured by a process of collective sense-making that inevitably encompasses a formulation of the individual participant's prior knowledge. The qualitative focus group methodology "produces descriptive data, people's own written or spoken words" (Taylor & Bogdan, 1998:4) allowing access to the cultural categories and assumptions through which people view the world, as opposed to testing a preconceived hypothesis or theory (Krueger, 1994).

The interaction between participants creates incentives for initiating learning processes, since participants exchange experiences, question each other, challenge each other to develop their arguments and sometimes even modify their opinions and arguments during the course of the discussion (Wibeck et al., 2007;

Myers, 1998; Wilkinson, 1998). The participants can also be made aware of their mutual interests or their need for further knowledge (Yoshihama, 2002). This emphasis on the group as a site of social learning will be explored in analysis chapters through the elaboration of individual accounts in helping to forming a web of socially shared knowledge emerging through group discussion (Wilbeck et al. 2007). The focus group taken in terms of social learning has the potential to explore individuals' cognition within a social group arrangement where a common background stimulates each individual to develop thoughts and arguments. In this process, ideas interpenetrate and often contradict or confirm each other. This is useful for biodiversity politics research with the current emphasis in policy circles on notions of adaptive management and social learning at community scales. The focus group technique is also used as a public engagement tool in public policy, a significant theme of this thesis (Kreuger, 2004).

The benefits of the focus group approach in terms of participant communication, facilitation of social learning and the validity of data collected therein can all be constrained by the extent to which participants feel comfortable about openly communicating their ideas. The process of conducting focus groups raises important issues regarding power relationships inherent in groups. Those who are perceived to have the social or institutional power can influence the group dynamic, often in a manner whereby influence is both given and received without either party consciously recognising it. In such circumstances dominant individuals can impose their own interpretations and representations on the group or at least constrain open dialogue (Smit & Cilliers, 2006). Such dynamics are important considerations for the research and can influence the type of data received from the group and can be overcome where individuals within the group have some 'common ground' by belonging to particular 'communities of interest' or are drawn form natural groupings (Holbrook & Jackson, 1996). Natural groupings are useful in that they are already established, which negates the necessity to develop a group dynamic, relieving time pressures. But there are still unavoidable power relationships within these natural groups, which may remain hidden or come to the surface through the discussion. The researcher does need to be particularly alert to established hierarchies and patterns of interaction, the effect of which has been seen as being potentially detrimental to the results obtained from the focus group (Krueger, 1994).

4.5 - The research process

The following section provides an account of the research process. In the initial phase of research a literature review of policy and academic documents relating to biodiversity from international to local scale was undertaken. The results of this form the basis of chapters 2 and 3 and a user manual for policy makers wishing to engage in public participation entitled 'Increasing public knowledge and awareness of biodiversity: A reference manual' (Kavanagh & Davies, 2007; see www.biochange.ie). This literature and policy review also provided the basis for identifying key figures to interview in the second phase of the research.

4.5.1 - Interviews

Semi-structured interviews were conducted with stakeholders at EU, national and local government scales and across a number of sectors. In total, forty-five stakeholders[18] were selected for interview (see Tables 4.1a, 4.1b and 4.1c). Individuals were drawn from national and local scales of governance, but also from EU institutions and selected across three spheres of governance, public, private and civil society. Interviewees were broadly categorised as 'national' and 'local', while in reality these categories are somewhat blurred[19].The former refers to interviewees positioned with the national headquarters of a particular organisation and working primarily, but not exclusively at the national scale of decision-making; local refers to interviews positioned within local or regional offices of an organisation, and also refers to individuals who work primarily at the local scale of decision-making.

Interviewees were selected from different sectors that intersect with biodiversity including agriculture, planning, tourism, business, construction/development and environmental organisations. An initial group of stakeholders were selected because of their involvement in some form of biodiversity governance, for example, the Biodiversity Forum at National level or position within the Clare Biodiversity

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[18] 'Stakeholder' indicates those individuals, groups and institutions who have an interest in a particular issue or project (ODA, 1995); in this case biodiversity decisions or decision-making.
[19] It should be noted that interviewees are categorised in relation to the scale at which they predominantly focus: 'supra-national', 'national' and 'local'. In reality many individuals acted at simultaneously in policy making at a number of scales.

group at local. At the end of the interview, each interviewee was asked to suggest additional stakeholders who would be useful for the research. This process of snowballing was repeated until no new suggestions for interviewees were ascertained. As a result, in certain cases, more than one individual was selected for interview from the same organisation e.g. NPWS and the Botanic Gardens.

In these instances each individual had a different role within their organisation and therefore in biodiversity governance. Each individual was initially approached by an e-mail (or phone calls if known personally) giving some details of the researcher, research interests and request for interview. Individuals were subsequently telephoned to arrange dates and times of interview. Fortunately in this research, each individual contacted was available to participate.

Each individual was engaged in a semi-structured interview at a venue of their choosing (generally the office in which they work) lasting between forty-five minutes to one and a half hours. The interview followed an interview schedule (see Table 4.2) which had previously been piloted with five individuals involved in biodiversity policy making. While the question schedule ensured commonality between interviews it also provided scope for probing and questioning, both on the part of the interviewer and the interviewee where clarification of questions and understandings were sought. Each interview was recorded on a tape recorder and subsequently transcribed for analysis.

Analysis was conducted using NVivo qualitative software package, which was beneficial in terms of organising data and allowed for the development of a flexible coding scheme and cross referencing system that could be redeveloped as necessary throughout the analysis process (Bazeley, 2007). The interpretive and conceptual task of analysis of course remains the researcher's responsibility. The overall goal of analysis was to categorise data into meaningful themes which best fit the experiences and understandings of the interviewees. This was accomplished drawing on the constant comparison method (Lincoln & Guba, 1985). Analysis began with a familiarisation process, which was achieved by listening to tapes, reading the transcripts in their entirety several times and reading the observational notes taken during interview and summary notes written immediately after the

interview. The aim was to immerse in the details and get a sense of the interview as a whole before breaking it into parts. During this process major themes began to emerge. Each interview question then formed a category under which individuals' response were filed. Descriptive analysis was then conducted which identified differences and similarities in participants' responses to each question. Following this process, the descriptive analysis was viewed in the context of the research questions. This produced a number of conceptual themes which form the basis of the analysis chapters. In the text of the analysis chapters illustrative quotes from interviews are presented. Each interview was initially allocated a numerical identifier according to the order in which they were interviewed. They are then categorised according to their scale of governance, EU, National, Local and sphere of governance public, private or civil society. A further categorisation is assigned through the sector which the interviewee works within (agriculture, environment, tourism, planning and business). This is to ensure anonymity of the interviewee, although it is clear that there may well be difference in opinions within spheres of governance. These identifiers are used with reference to each quoted extract in the analysis chapters, as follows:

> *I just like to see a fully functioning habitat, of which we have very few in this country now. I enjoy seeing that variety of life; it's just something I like to see. I like it for what it is. Interview N9, State: Fisheries*

4.5.2 - Focus groups

Twelve focus groups were conducted in total, four in each case study sub-area.[20] See Fig. 4.1 Field study areas. Within the BioChange case study area of Co. Clare a number of sub-areas were identified to further refine the geographical location for focus group selection. The Burren was selected because it has been the site of significant ecological interest for a prolonged period of time and subject to much scientific investigation. It has also been the site of a number of overt community – biodiversity conflicts. Inis Oirr was selected because it is floristically similar to the

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[20] The average number attending each group session was 6, with the minimum number 3 and the maximum number of attendees 9. (For a full listing of groups involved and individuals in each, see Table 1).

Burren, but with very little scientific investigation, and overt community-biodiversity conflict.

Table 4.1a List of national interviewees

According to numerical identifier, organisation name, sector & sphere of governance

Sphere	ID	Organisation name	Sector
Public	1	National Parks and Wildlife Service	Environment
	2	National Parks and Wildlife Service	Environment
	3	Department of Agriculture	Agriculture
	4	Department of Agriculture	Agriculture
	5	Department of Agriculture	Forestry
	6	Heritage Council	Environment
	7	National Biodiversity Data Centre	Environment
	8	Botanic Gardens	Environment
	9	Botanic Gardens	Environment
	10	Environmental Protection Agency	Environment
	11	Marine Institute	Marine
	12	Marine Institute	Marine
	13	Coilte	Forestry
	14	Failte Ireland	Tourism
	15	Teagasc	Agriculture
Private	16	RPS Environmental Consultancy	Environment
	17	RPS Environmental Consultancy	Environment
	18	Irish Farmers Association	Agriculture
	19	Chambers Ireland	Business
	20	Construction Industry Federation	Development
Civil Society	21	An Taisce	Environment
	22	Birdwatch	Environment
	23	Coastwatch	Environment
	24	Irish Rural Dweller Association	Rural Development
	25	Irish Planning Institute	Planning

Table 4.1b List of EU interviewees

According to numerical identifier, organisation name, sector & sphere of governance

Sphere	ID	Organisation name	Sector
Public	1	DG Environment	Environment
Civil Society	2	European Environment Agency	Environment

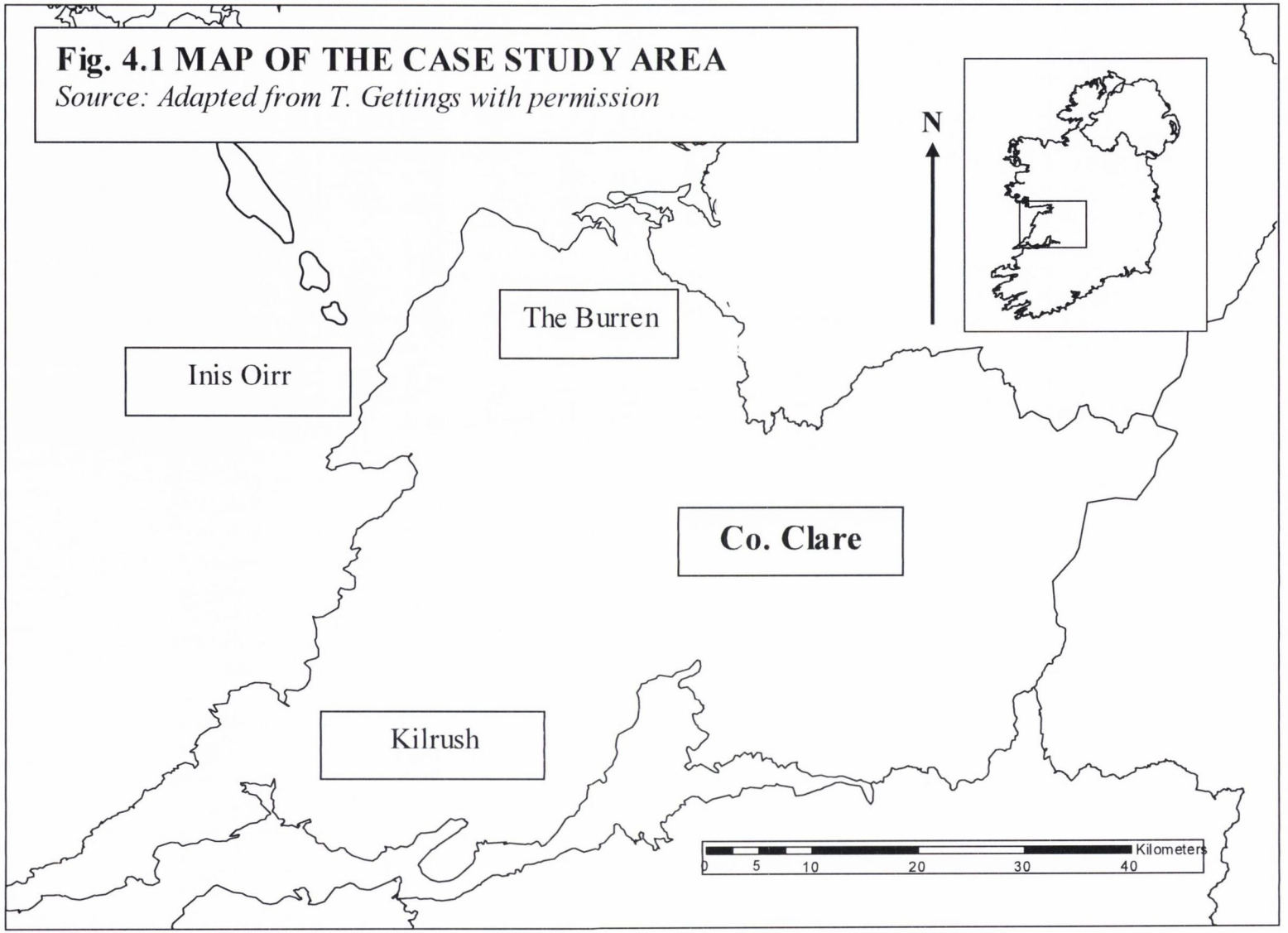
Table 4.1c List of local interviewees

According to numerical identifier, organisation name, sector & sphere of governance

Sphere	ID	Organisation name	Sector
Public	1	National Parks and Wildlife Service	Environment
	2	National Parks and Wildlife Service	Environment
	3	National Parks and Wildlife Service	Environment
	4	Clare County Council	Planning
	5	Clare County Council	Heritage
	6	Clare County Council	Heritage
	7	Department of Agriculture	Forestry
	8	Teagasc	Agriculture
	9	Shannon Regional Fisheries Board	Fisheries
Private	10	Independent Consultant	Environment
	11	Independent Consultant	Planning
	12	Independent Consultant	Development
	13	Michael Cusack Heritage Centre	Tourism
	14	Irish Farmers Association	Agriculture
Civil Society	15	Burren LIFE	Environment
	16	Irish Rural Dwellers Association	Rural Development
	17	Birdwatch	Environment
	18	Irish Whale and Dolphin Group	Environment

Table 4.2 Stakeholder interview schedule

Theme	Question
Organisation and identity	What organisation do you belong to and what is your role within the organisation
Change	What changes have taken place in your area of work with regard to biodiversity?
Policy	What are key structures in place to protect biodiversity? What are their strengths/weaknesses? Why, despite these measures, are we still seeing losses in biodiversity?
Implementation and enforcement	Who is and should be responsible for implementation and enforecement?
Trust and power	Can you talk me through an instance/ negotations where biodiversity came into conflict with other policy/environmental issues? Do some groups have more influence over the outcome of a decisions than others?
Public participation	What does the term public participation mean to you? In what ways does your organisation or the work that you do engage people in biodiversity? How would you rate public understanding of the term biodiversity?
Communication	What does biodiversity mean to you? What are the threats to biodivesrity? Why should we protect biodiversity and halt its loss?
Ending	Are there any questions I should have asked? Do you have any questions for me?


Fig. 4.1 MAP OF THE CASE STUDY AREA
Source: Adapted from T. Gettings with permission
N
The Burren
Inis Oirr
Co. Clare
Kilrush
0 5 10 20 30 40
Kilometers

Due to its island status it is subject to heightened conservation pressure, with approximately 90% of the island protected under the EU Habitats Directive. Lastly, Kilrush was selected due to its significant marine wildlife and its urban location, to contrast with the previous two sub-case areas. Within each area, focus groups were selected from a variety of pre-existing, or natural groups (Holbrook & Jackson, 1996; Davies, 2001). The aim was not to provide a representative sample of the publics as a representative survey had already been conducted in Co. Clare (Barry, 2008). Rather the purpose was to identify different types of publics in different locations who might have different understandings and experiences of biodiversity. Kitzinger (1994) advocates the use of pre-existing groups, as acquaintances could relate to each other's comments and may be more able to challenge one another. Each grouping has some common interest, for example as members of resource management associations, cultural and social interest groups or young people's groups. Groups were identified by integrating with communities over a period of ten months. A full list of focus groups in each area, information on their location and social profile are detailed below in Table 4.3.

A consideration in the selection of groups was to identify and contact groups traditionally marginalised from the decision-making process (such as elderly, young people and economically disadvantaged), but which are often identified as exactly the types of people who should participate in policy making (MA, 2005; CBD, 1992). They were accessed in a variety of ways, through 'gatekeepers' such as community development officers or through direct contact by visiting local community centres, libraries and post offices. The groups are not intended to form a representative sample of the population, but indicate views from different sections of society.

Access to young people's groups was conducted through gatekeepers; such as the Head Teacher or youth leader. Selection of focus group participants was determined by these gatekeepers, rather than the researcher. In one group the youth worker sat in on the focus group as "crowd control" but did not participate. This issue is considered further in the following section which reflects on the research process. Unlike other focus group studies there was little difficulty in accessing groups with such divergent social, economic, gender and age difference in each location. A consideration which may have assisted the researcher was prior

agreement with each focus group contact to conduct one focus group and ensure it was completed in a given time period, each focus group lasting in duration between forty-five minutes and one and a half hours. Each focus group was audio taped and transcribed. The topic/ question outline is provided below (Table 4.4) however, after conducting the first focus group it became clear that a flexible approach would be necessary to gain insight to the personal experiences of group members. This process included discussing changes agricultural prices with farmers groups, speaking in Irish with elderly ladies on Inis Oirr and talking about the town of Kilrush, rather than its biodiversity, with young people of that area. Unlike the interview data, focus groups were analysed without the assistance of NVivo. The primary reason for this is due to the transcription process. Unlike the interviews, the researcher transcribed each focus group into Microsoft Word. The transcription process was conducted in two steps; in the first the entire tape was transcribed and in the second, the tape was listened to with transcribed texts to ensure accuracy. During this process detailed notes were taken (in the form of comments in Microsoft Word and in a second notes document). This process highlighted differences and similarities between participants in each focus group and also points on which focus groups differed. The central aim of data analysis, according to Robson (2002), is to reduce the volume of data. Therefore on the basis of this descriptive information key conceptual themes were derived and extracts illustrative of these themes were chosen. This type of analysis involved focusing on the agreements and divergences among participants in each group and between groups. Phrases such as 'Several participants indicated that...' or 'There was consensus that...' are used to convey the level of agreement with a statement in the following analysis chapters (Krueger & Casey, 2000). Krueger (1994) also suggests continuing with focus groups until a clear pattern emerges and subsequent groups produce only repetitious information (theoretical saturation).

Table 4.3 List of focus groups
According to numerical identifier, organisation name, natural grouping type, gender, age and number of participants.

ID	Name	Grouping	Gender	Age	No. of particpants
1	Kilrush Dairy farmers	Resource use	Male	35 – 55	8
2	Kilrush Art group	Recreation	Female	30 - 75	7
3	Kilrush Family Resource Centre	Community	Mixed	30 - 45	8
4	Kilrush Youthreach	Youth	Mixed	15 - 18	8
5	Inis Oirr Lobster fishermen	Resource use	Male	25 – 55	3
6	Inis Oirr Ladies retirement	Recreation	Female	55 – 75	7
7	Inis Oirr Renewable energy	Community	Male	30 - 45	4
8	Inis Oirr Secondary School	Youth	Female	12 – 17	5
9	Burren Farmers group	Resource use	Mixed	35 – 55	4
10	Burren Drama group	Recreation	Mixed	30 – 65	7
11	Burren Angling Association	Community	Mixed	40 – 55	4
12	Burren Youthgroup	Youth	Mixed	13 – 17	5

Table 4.4 Focus groups question schedule

Theme	Question
Introduction	Can you tell me how life has changed for you in recent years?
Change	Can you tell me about any changes in the environment / nature?
Understanding	Have you heard of the term biodiversity before? Guess:'biological diversity' Can you guess what it might mean? What it might relate to?
Explanation: Biodiversity is short for biological diversity, which means the variety of life. Biodiversity includes all living things, the interactions between them and the environment of which they are part.	
Values	Do you think that biodiversity is important? Why might we want to protect it?
Threat and loss	What threats might biodiversity face?
Participation	How do you feel your voice is heard in matters that affect your area? Do you feel you have a say in these decisions? How should decisions about biodiversity be made? What would you include?
Ending	Is there anything that you feel I should have asked that I haven't? Do you have any questions for me?

4.6 - Reflexivity and positionality in research

Reflexivity in the research process, particularly in terms of how the biases, knowledge, assumptions and identity of the researcher impact on the research was a consideration over the course of empirical data collection and analysis (Hoggart, Lees & Davies 2002; Maynard, 2004). The situatedness of the researcher (and the capability of the researcher to understand their own situatedness) or positionality, is considered fundamental to the qualitative research process (Denzin & Lincoln, 2005). The researcher comes to the research field with their experiences and history; layered upon this is the political and ethical context of the research project and the history of research traditions. This coupled with the particular research question provide different perspectives to the research process (Bryman, 2008).

What became apparent over the course of this research project was the importance of multiple, constructed identities of researcher and researched (Gunasekara, 2007; Cassell, 2005). Postmodern critiques of qualitative interview research methods, for example, insist that the researcher's multiple identities and their embedded social contexts influence the validity and reliability of 'data' collected and their interpretation (Fontana & Frey, 2005). This section examines the influence that researcher identities might have had on the data collected in this study. At the same time, it is recognised that accounting for positionality and reflexively generally in the research process is a difficult task (Rose, 1997). Identities are conceptualised as fluid, multiple and changing; co-constructed by the researcher and respondents during the interviews and focus groups. Those co-constructed identities in this research may be friend/former colleague, environmentalist, novice-researcher and city girl. At the centre of these questions lies the general issue of whether the outcomes and interpretive conclusions would differ significantly if the study had been conducted by a different researcher.

There has been considerable debate about how far researchers can penetrate cultures and settings other than their own. There is little agreement on whether or not "researchers should be members of the groups being studied, in order to have the subjective knowledge necessary to truly understand their life experiences" (Miller & Glassner, 1997: 105). Positioned as a friend, and in some cases former colleague in ENGO circles, placed me firmly as a 'member' of some of the groups

encountered over the course of this research. This not only opened doors to certain stakeholders with whom I had previously worked or socialised, but also created a conversational and amenable interviewing atmosphere. In her research Finnegan (1989: 343) expressed concern that she may be 'too much of an insider' when she studied her own village community. Certainly failing to establish distance may lead to the problem of 'over-rapport' as participants' views merge with the researcher's analysis. This sense of rapport was not lost on me, particularly in cases where the interviewee felt free to ask personal questions which would not have been appropriate with other stakeholders. However, issues of over-rapport were navigated in the interview process by adherence to the topic guide and questions. This provided a degree of uniformity throughout all interviews.

Where my identity as friend, colleague and environmentalist positioned me as 'insider' with the some groups, with a second cohort this identity firmly placed me as 'outsider'. Differences between researcher and researched can lead to explanation and illustration in the research process or encourage distrust and suspicion as discussed by Howarth (2002) and Wengraf (2001). My previous employment history and identity as a novice researcher appeared to create an air of caution and slight unease with some representatives of state bodies in particular. For example, when asking clarification on a particular issue in one interview where the interviewee had contradicted themselves, the interviewee suggested that I had only asked the question because I was 'one of them'; positioning me as 'against' his own organisation, as an environmentalist, an academic and a voice of criticism (Gunasekara, 2007). As a result of this and other responses I became more aware of how interviewees might perceive me. I was especially careful about my appearance, for example, wearing a suit when interviewing public sector officials. In addition, while having read an interviewing text book of the various stances a researcher can take when interviewing (e.g. feminist approaches) I became aware of the need to distance myself from my own beliefs in order to allow interviewees space to discuss their feelings on particular issues. Like Conti & O'Neill (2007) I feared that voicing my beliefs when they conflicted with that of an interviewee could lead to either defensiveness or overt disagreement in the interviews.

In another instance, an interviewee openly admitted to having searched my name in web search engine in an effort to make more equitable the interview relationship and "to find out what you were about before you know about me". The open availability on the internet of my previous activities, including employment history, was used by at least one interviewee to rebalance power in the interview process. Issues of power in the interview process are well documented in the literature (e.g. Bryman, 2008; Henry, 2003; Wengraf, 2001). Upon gaining access to such settings, researchers who have successfully studied policy makers or elites describe how the interviews are often shaped by the interviewee's sense of authority and, in response, how they devise strategies for mitigating that authority (Odendahl & Shaw, 2002; Hirsch, 1995; Fitz & Halpin, 1994). In this case it was more important to acknowledge how the availability of such information may have allowed interviewees to tailor responses to particular questions, for example, concerning biodiversity communication and participation, given my previous work experience in environmental education. This had to be carefully considered at the analysis stage as it may have lead certain respondents to overstate their concerns around this topic.

While my identity was subject to some scrutiny within the stakeholder interviewees, based on issues of power and identity, throughout the ten months spent living and conducting research in Co.Clare, I was consistently met with varying degrees of surprise and curiosity on sharing that I was from Dublin and conducting research on the relationship with wildlife and people. This 'outsider' position, coupled with my identity as novice researcher, positioned me as a holder of expert knowledge and privy to the corridors of power. Although I tried to position myself as 'non-expert' and preferentially interested in local knowledge the participants in focus groups viewed my position as privileged. In a discussion with an Inis Oirr group it was mentioned if I 'could put a word in' for them with the 'powers that be'. Another group viewed me with a good degree of suspicion as the following extract illustrates:

Mod Would you like to see more trees about where you live?

Alan No, there's enough trees where we live. What are you going to do? Are you going to put more of them into the estate?

This raises questions of how much information to provide focus group participants at the outset of discussion. While I made it clear that I was conducting research, if I had not, it is possible that misunderstandings could arise based on expectations for what the group discussion could achieve.

4.7 - Conclusions

This chapter has outlined the qualitative methods employed to achieve the aims of this research. Using the case study approach provides a degree of flexibility in the research process. It is both geographically situated while also facilitating multi-scalar analysis and it allows a deliberative approach to the collection of data reflecting the aims and research question.

However, there are a number of ways in which the methodology in this research project could be built upon. This study is geographically situated and takes a very broad spectrum approach to biodiversity policy making. It would also be possible to focus, for example, on a particular biodiversity issue as a case while broadening the geographical focus. The approach taken in this research was to work initially with policy makers and then publics, following the trajectory of policy and its implications in a top-down manner. Potential for future work lies in addressing biodiversity politics from the bottom up; in working from publics to policy and policy makers. Taking such an approach would perhaps reveal greater detail of publics' views concerning biodiversity and biodiversity policy. Significantly, such an approach would lend itself to the use of participatory methodologies in focus groups. Drawing on action research methodologies, participatory approaches offer the potential to address and potentially input publics' views of a policy making process. Using participatory approaches would also lend itself to an analysis of experiential learning techniques. For example engaging with different groups 'in the field' such as farmers, policy makers or young people.

Part 1

Chapter 5 - Stakeholders understandings of biodiversity

5.1 - Introduction

This chapter explores stakeholders understanding of biodiversity in Ireland through the views and experience of forty five individuals invested in, or affected by, biodiversity policy making (see Tables 4.1a, 4.1b and 4.1c.) Fundamentally, the aim of the analysis presented here is to answer two questions, the first, 'What do stakeholders understand biodiversity to be?' and the second 'Why should we protect biodiversity and halt its loss?'

As highlighted previously in the literature review, biodiversity is a highly contested term because its definition is vague, ambiguous and value-laden. It is also inherently political given its inception was designed to establish a new, pro-active discourse in conservation. This has led to substantial negotiation between political and scientific communities, and publics, over the appropriate means of its management (Takacs, 1996). Therefore it is useful to begin by clarifying what people are talking about when they refer to biodiversity.

Gaining an understanding of stakeholders and publics views towards biodiversity is considered a useful exercise for both pragmatic and ideological reasons. Firstly, biodiversity policy, such as the EU Communication on Halting the Loss of Biodiversity by 2010 and CBD Ecosystem Approach, now focuses on mainstreaming biodiversity throughout economic sectors, calling for "engagement of diverse sectors of the economy and society" (Smith & Maltby, 2003:4). Thus a diverse array of stakeholders are now required in biodiversity decision-making, all potentially having differing views on what constitutes biodiversity and its protection. Policy and guidelines suggest that clarifying what stakeholders and publics consider biodiversity to be will contribute to more effective policy implementation (e.g. McNeely & Mainka, 2009; Smith & Maltby, 2003)

In a more ideological vein, research into new forms of deliberative participatory practices in biodiversity protection suggest that stakeholder value clarification is an essential aspect of deliberative policy frameworks because it creates understanding of different perspectives and it illuminates the complex human–environment

relationship in decision-making (e.g. Hendriks et al., 2007; Smith, 2003; Innes & Booher, 1999). Other commentators suggest that within such processes differing biodiversity understandings can influence the way in which discourse develops and personal relationships which are built (Torgerson, 2003). Therefore, gaining clarification on the range of perspectives towards biodiversity is considered important in order to better construct inclusive participatory processes. However, it is also important to understand how people come to their understandings of biodiversity.

Understanding is a somewhat problematic concept to define, but is used here to describe the process by which an individual builds information and knowledge into comprehension, meaning and potentially action. It should be pointed out that understanding in this sense is on-going process, subject to change and influenced by a wide variety of factors. This definition reflects that biodiversity itself is a term which has relatively recently been developed, and hence, subject to evolving understandings, both scientific and within the policy arena, as highlighted in literature review. As Kollmuss & Agyeman (2002) suggest, a complex mix of factors can influence the building of understanding. These can include, but are not exclusive to institutional, economic, social and cultural environments, in addition to personal factors such as prior knowledge, awareness, values, attitudes, emotion, locus of control, motivation, responsibilities and priorities. Put simply, at the core of the complex process of understanding "individuals relate new knowledge to relevant concepts that are already known" (Palmer & Suggate, 2004: 208; see also Hungerford & Volk, 1990). It is in this sense that understandings of biodiversity are constructed. Individuals view biodiversity and biodiversity-related issues through pre-existing concepts which they have internalised and developed in interaction with their social, cultural, political, economic, institutional lived experience, and also, crucially, with the natural environment. A wealth of studies, as discussed in detail in the literature review, have taken a similar approach to gauge biodiversity understanding and environmental understandings more generally (e.g. Buijs, 2009; Buijs et al., 2008; Campbell, 2006; Fisher & Young, 2006; Takacs, 1996).

International research into policy makers' perceptions of biodiversity most notably perhaps, conducted by Takacs (1996) reveal a vast array of different biodiversity

understandings of the term, values associated with biodiversity, and rationales for its protection. Other research has revealed the dichotomy between personal and institutionalised perspectives towards nature and the environment (e.g. Butler & Acott, 2007; Craig et al., 1993). In an Irish context, there are a limited number of studies which have examined the role and perspectives of policy makers within particular biodiversity decision-making contexts, for example, peatland management (Collier & Scott, 2009). Research presented here takes a somewhat different approach, explicitly examining stakeholders' understandings of biodiversity, as a term, in addition to its broader values and rationales for its protection.

The chapter is structured around key themes arising from the interviews, with quotes utilised for illustrative purposes. First, the different definitions of biodiversity that emerged in interviews are explored, derived from the data in response to the question of 'what does biodiversity mean to you?' Responses to this question were clearly demarcated along ecological and non-ecological lines of biodiversity understanding. An emergent theme from the data is also discussed in this section which considers the origins of biodiversity understandings, outlining key elements which underpin stakeholders' conceptualisations of the term and its wider values. This reflects the underlying principles which govern stakeholders' motivations towards the management of biodiversity. The second theme examines the diversity of values attributed to biodiversity through stakeholders' reasons for protecting biodiversity. These values are categorised as instrumental, ecological and economic/resource use values, and non-instrumental, aesthetic reasons and moral/ethical arguments. Together these two sections reveal the wide array of biodiversity understandings and values, inherent within the term, and that stakeholders' embody within the decision-making arena. The fourth section presents stakeholders views on biodiversity management decisions, which further illustrates how values manifest in decision-making and serve to highlight the discrepancies between stakeholders personal and institutionalised values. The final theme addresses stakeholders' views concerning public's understandings of biodiversity and is followed by conclusions to the chapter which draws out key points.

5.2 - Biodiversity definitions and involvement in decision-making

In this section stakeholders' responses to the question 'what does biodiversity mean?' are examined and analysed. These results are drawn from the initial statements provided by stakeholders, without any further prompting by the interviewer following the question. The analysis reviewed these statements in the context of the overall interview, revealing a clear distinction between definitions based on ecological or environmental science terminology, and those which can be called non-ecological. Non-ecological definitions are broadly characterised by an absence of ecological or scientific terminology, whereby stakeholders draw on more familiar terms such as nature or life to describe understandings. The division reflects different constructions of meaning, but also distinctions between stakeholders themselves. Categorising different stakeholders' views in this way clearly reveals how different stakeholders in the biodiversity decision-making understand the term, and how they come to these understandings. Perhaps unsurprisingly, those with ecological understandings tended to have a third level qualification in ecological or environmental sciences, agri-environment or planning. Additionally, such individuals had been involved in the biodiversity decision-making process for an extensive period of time or had a long standings interest in ecology from childhood or early adolescence. In contrast, some of those with non-ecological definitions were relatively new to biodiversity policy making, for example, becoming familiar with the term as a result recent initiatives such as the Biodiversity Forum and Notice Nature campaigns at the national level, or local biodiversity initiatives such as the Local Biodiversity Fund at the local level. The definitions founded in ecological terminology will be addressed first, followed by an examination of non-ecological understandings.

5.2.1 - Ecological understandings

The majority of the stakeholders interviewed expressed their understanding of the term biodiversity through a range of ecological concepts. These stakeholders work within public and civil society spheres of governance and the private environmental sector. Most prominent in discussions with these stakeholders were notions of interconnectedness and interdependency of species, but also, clear emphasis was placed on the centrality of humans to definitions of biodiversity. Different ecological representations of biodiversity will be discussed in turn, first, biodiversity as a

system, then biodiversity understanding as ecosystems, and building on this, biodiversity as ecological processes. Central to these understandings of biodiversity is the human-environment relationship. Lastly, representations of biodiversity as a complex and difficult term will also be discussed.

Stakeholders' ecological understandings of biodiversity were expressed in a variety of different ways. For example, public and civil society stakeholders from tourism, heritage and planning sectors at national and local scales used the analogy of food chains to explain the term, as the following interviewee illustrates:

> *I think it's that ecological idea that we're all part of a system, like the food hierarchy idea; the bird eats the worms, and the cat eats the birds. It's actually a very clear way of illustrating that we're all part of the system and it's interdependent. Interview N25, Civil society: Planning*

The concept of interaction and interdependency is represented in terms of a holistic, systems view of biodiversity in the extract above. This holistic ecosystem view was elaborated upon by other stakeholders in fisheries, marine, forestry and environmental sectors at national and local scales to include non-biological entities as illustrated by an interviewee from the public sector below:

> *Biodiversity, it's about interactions and interdependence between habitats and species, it's in the interactions between these different elements of the environment, the landscape, air, water, geology. It's about water quality, air quality, soil, like if something gets into water it has an impact on us. Interview L12, Public: Marine*

By building on a systems view of biodiversity this stakeholder is typical of stakeholders with an ecological or environmental science academic qualification. Prevalent in these understandings of biodiversity is the central role of humans in both impacting on, and in turn, being impacted upon, by biodiversity. Through this definition humans explicitly become part of the concept of biodiversity, through notions of ecological interaction and interdependence. This statement recalls the vast literature on the human-nature divide, specifically discussed in relation to the term biodiversity by Haila (1999), who suggests that biodiversity advances upon previous concepts such as nature or nature conservation by offering resources to analyse the dynamic dependence of human activities on natural processes and vice versa. In both extracts above stakeholders illustrate the broad trend amongst

stakeholders to veer away from the standard definition of genes, species and ecosystems terminology as defined in the Convention on Biological Diversity and Ireland's National Biodiversity Plan (DAHGI, 2002).[21] However, as the following extract illustrates, certain stakeholders, particularly those in the public environment sector, adhered more closely to official policy definitions. But at the same time modifying their language to reflect more commonplace understandings of life on earth and highlighting the importance of ecological processes:

> *It is variety of life on earth in all its forms. It is variation at the gene, species and ecosystem levels. It is the insects and the plants, but it's also the action of pollination, that's biodiversity and that is essential to the planet and essential to all life... Interview N9, Public: Environment*

In this definition biodiversity comes to mean more than simply genes, species and ecosystems, or indeed the variety of life. Instead the term biodiversity is revealed as an umbrella concept for a plethora of other terms and concepts which occur in the natural world, as Takacs (1996) has previously claimed. This understanding of biodiversity also resonates with research conducted by Farnham (2007) who suggests that since the terms inception in the 1980s, the processes associated with each of the tiers of biodiversity (genes, species, ecosystems) have become broader and more inclusive, blurring the notion of hierarchy.

As connections between the tiers have became more apparent the term biodiversity rises as a single concept that encompasses genes, species and ecosystems, ecological processes such as pollination. This understanding of biodiversity has become a central aspect of biodiversity policy, and indeed ecological research, more generally. In particular the Millennium Ecological Assessment (MA, 2005) prioritises biodiversity and ecosystem functioning and Naeem et al. (2009) have highlighted the importance of scientific research to further understanding of the relationship between biodiversity and ecosystem functioning. It is this aspect of biodiversity which has become "essential", not only to the plant, but to all life,

---

[21] "the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems" (Article 2, Paragraph 1, United Nations Convention on Biological Diversity, 1992)

including human life. Therefore, instead of biodiversity representing a quantitative variety of life forms, described in terms of the diversity of genes, species and ecosystems, the term has come to represent a complex web of ecological processes and human dependency on the natural world. By suggesting that biodiversity is essential, that it has importance, this stakeholder reveals that biodiversity has value. As Takacs (1996:194) points out "the range of meanings we seem to find in biodiversity find neat parallels in the multiplicity of reasons biologists tout to preserve biodiversity". In essence, despite efforts by scientists to the contrary, it is difficult to untangle values even from seemingly objective scientific definitions of the term biodiversity.

While most interviewees within the group who defined biodiversity ecologically provided ecological answers to explain their understandings of biodiversity, they simultaneously expressed a certain degree of uneasiness with what they considered the vague and complex nature of the term. Two individuals, one from forestry and the other from fisheries sectors, specifically refused to define biodiversity, although both have postgraduate degrees in zoology:

> *It's a difficult term, there are a number of definitions for the term biodiversity, normally the one thrown around this variability of life inter alia within and between species, genes, blah blah, blah. I mean, what does that mean? Interview L9, Public: Fisheries*

These two interviewees were reluctant to define biodiversity, particularly in highlighting their dissatisfaction with the standard policy definition of biodiversity described previously. They also pointed out that the term biodiversity is difficult to explain, despite providing detailed ecological explanations to certain questions throughout the interview. The problematic nature of the term biodiversity as described in the extract above acknowledges that biodiversity is a difficult term to articulate, because it is all encompassing, it is vague and ambiguous as Takacs (1996) puts it, but also, that it is value-laden. The findings of this research suggests that for stakeholders, particularly those proffering ecological definitions of the biodiversity, the sum of what constitutes and is understood by the term biodiversity is far more than its parts. That is, while not particularly explicit in the definitions given thus far, stakeholders' associate a vast array of values to biodiversity. Before exploring these values in more detail in section 5.3, the following paragraph

addresses stakeholders with ecological understandings of the term motivations and rationales for becoming involved in ecology or related academic endeavours. It emerged over the course of the interview processes that their involvement in biodiversity decision-making, ecological science, or related academic qualifications was informed by deeper experience. These experiences provide context for the discussion of biodiversity values in the following section, and therefore deserves some attention here.

Some stakeholders referred to experiences, particularly in early adolescence, through scientific or recreational pursuits which lead to an interest, and later to a career, in ecology or conservation:

> *I think we would've been encouraged into the outdoors quite a lot, [by my parents]... I guess that's where it came from. Certainly through school too, I would've got involved in the Rhododendron clearance projects up in Donegal or in Kilarney, at 5th and 6th year school. So I would've been quite keen to be outdoorsy from early on. Interview N22, Civil society: Environment*

In the case of this stakeholder, an early direct experience of the natural world engendered an emotional relationship with biodiversity, leading to an interest in conservation in teenage years, and then onto academic qualifications in environmental science and applied ecology. It has been argued by some authors such as Kellert (2002) that a child's willingness to engage and interact with the natural world greatly depends on emotions it generate. In many, if not most learning situations, emotional precedes cognitive processes as a basis for maturation and development. In addition to these internal processes the stakeholder also indicated that family members (parents and siblings) were also 'outdoors people'. Chawla (1998; 2006: 367) reviewed literature in environmental education to assess formative influences on environmental behaviour, these include "positive experiences in natural areas, usually over a sustained period of time; family members who set examples of attention and respect for the natural world; teachers; books and other media; environmental organisations; and experiences of habitat destruction".

Experiences in, and of nature, was repeated by several other interviewees and lead to a career or interest in biodiversity. Of particular note is the following extract which turned a fisheries scientist working in the public sector into an active advocate for biodiversity conservation:

> *I saw them blow up with a lump of gelignite, a rock, a limestone rock formation in the bed of the river where I caught my first fish. Now, it was so emotional, I couldn't describe to you how insulting that was. I'll never forget how I felt to see that whole area just blown up, something that was 10,000 years at least in the making was just in flitters on the river bank... Interview N11, Public: Marine*

The stakeholder who spoke about this experience clearly indicates an emotive response to the experience of habitat destruction illustrated in the extract above. As noted previously, this type of experience is considered by Chawla (2006) as a formative influence on the construction of environmental values and behaviour. It is interesting to note that adult memories of childhood often emphasise the emotional significance of experiential relations to nearby nature that seemingly become a legacy carried into adulthood (Schultz, 2004). As Iozzi (1989:5) suggests: "significant evidence [exists] that the affective domain is the key entry point to learning and teaching". The evidence available (Kellert, 2002; 1996) suggests that contact with the natural world, especially during middle childhood occupies a surprisingly important place in a child's emotional responsiveness and receptivity. Similar conclusions were drawn by Palmer & Suggate (1996) who examined the significant life experiences of active, informed, conservationists in the UK. The purpose of this study was to highlight the kinds of experiences that produce adults who are informed about and actively promote environmentally positive behaviour. One of the interesting results was that prime importance of childhood experiences of nature were mentioned by 55% of respondents, Higher education courses and the demands of work were also common influences (Palmer & Suggate, 2004).

As in the Palmer & Suggate (1996) study, for the group of stakeholder expressing biodiversity primarily in terms of ecological understandings, there appeared to be link between early interest in ecology, based on experiential learning or significant life experience, with subsequent career involvement.

5.2.2 - Non-ecological understandings

A second group of stakeholders expressed biodiversity primarily in 'non-ecological terms'. Non-ecological definitions are broadly characterised by an absence of ecological or scientific terminology as discussed previously. Some discussion of the spheres of governance and the sectors represented by non-ecological understandings is warranted here. In the main, these stakeholders come from the private sphere at both national and local levels, across business, development, tourism, agriculture and planning sectors. In addition, non-ecological understandings were held by both national and local stakeholders from the rural development sector within the civil society sphere of governance, and those who work in the agricultural sector within public and private spheres. Notably, in order to mainstream and better implement biodiversity policy, it is these spheres of governance and sectoral interests who are increasing called to participate within biodiversity decision-making processes (e.g. CECa/b, 2006; MA, 2005; Smith & Maltby, 2003). Given that the stakeholders interviewed in this research all hold some position within policy making or biodiversity planning more generally, this section provides an insight into these stakeholders perspectives towards biodiversity. In particular, understandings of biodiversity for these stakeholders draw very much on the social, cultural and institutional context through which they are developed. The section is structured around four themes; generic, non-specific understandings of biodiversity, biodiversity as awareness and action, biodiversity as life and biodiversity as environmental and countryside management.

Each of the stakeholders expressed some difficulty in articulating conceptions of the term biodiversity, noting that it is a complex term which seemed unfamiliar and scientific. However, following this all proffered some explanation of the term, drawing on concepts more familiar to them by way of explanation. A typical example of this type of response to the question 'what does biodiversity mean to you' comes from the following interviewee who, at the time of the interview in 2006, had recently become a government appointee to the Biodiversity Forum:

> *To me [biodiversity] has been linked to being here. So to me it's about... I don't know, that's a really good question. maybe, nature? Ireland's green image? Interview N24, Civil society: Rural development*

Part of the difficulty in articulating an understanding of the term biodiversity and the degree of uncertainty expressed in the extract above stems from the unfamiliar nature of the term biodiversity from the stakeholder's day to day life. Prior to her involvement in the national Biodiversity Forum this stakeholder suggested that she had little knowledge or experience of the term biodiversity, or indeed, cause to learn about it. Drawing on her rural background the stakeholder calls upon the more generic description of biodiversity as nature and "Ireland's green image". Associating biodiversity to a green image of Ireland in this manner recalls a cultural representation of Ireland as a predominantly agricultural, unpolluted and un-industrialised country (Howe, 2000). This indicates that people tend to draw on what they are familiar with when attempting to find meaning or understanding in the unfamiliar.

In a similar manner to the stakeholder above, a stakeholder from the private sector positioned her understanding of the term biodiversity through her role in the Construction Industry Federation. Part of her role within this organisation was to create guidelines and offer advice on environmental issues of concern to the Federations' members. Biodiversity issues were only raised previously by members of the organisation when requesting advice on planning disputes in designated sites. Therefore, it was because of her role in the organisation that this interviewee was targeted by the Notice Nature campaign manager to collaborate on and produce biodiversity guidelines for the construction sector. Prior to her involvement with Notice Nature this stakeholder suggested that she was unfamiliar with the term biodiversity, and the contribution of the construction sector to biodiversity loss, despite her interest and qualification in environmental issues such as waste management and climate change. As a direct result of her interaction with the Notice Nature campaign, for her, biodiversity came to be understood in terms of awareness, as the following extract illustrates:

> *It [biodiversity] was something I didn't even consider before and I would always have thought myself to be fairly in tune with nature and with what's going on. I suppose for me, the Notice Nature campaign just sums it up; it's just something to be more aware of... you know, how you effect things. Interview N20, Private: Development*

Despite a lengthy engagement with Notice Nature staff on the production of biodiversity guidelines, this stakeholder had difficulty in being specific on what biodiversity represents, beyond suggesting that it is something to be aware of generally. However as this stakeholder remarked, as biodiversity becomes something to be aware of, it draws t humans impact on the environment into focus. The extract resonates with the origins of the term biodiversity, as a rallying cry to subsume many different strand of nature conservation or as Takacs describes "a weapon to be wielded" in the battle between human needs and those needs of the other species which inhabit the planet (Haila, 1999; Takacs, 1996:3). A second stakeholder involved in the production of guidelines for the business sector as part of the Notice Nature campaign articulated her understandings of biodiversity in terms that her audience within the business community would be familiar with and receptive to:

> *When I'm talking to companies [about biodiversity]... to me it's about childhood and learning about the effects of red squirrels and grey squirrels in school. It's those kinds of ideas that I link into, cherishing Irish plants and Irish animals... Interview N19, Private: Business*

Instead of drawing ideas learnt through the Notice Nature campaign to inform understandings of biodiversity based on awareness of human impact as the previous stakeholder had discussed, this individual presents an understanding of biodiversity as something to be "cherished" or looked after. In effect this biodiversity understanding positions humans as stewards or managers of the natural world, actively making decisions on, and valuing, certain entities over others. As the extract suggests, not all species are to be cherished, rather Irish plants and animals have priority over introduced species. Another example, of this form of understanding of biodiversity is provided by a local stakeholder who came to understanding the term biodiversity through his experience of the Local Biodiversity Fund and his attempts as irradiating Knotweed, an invasive species, from a local park:

> *What's biodiversity? Well, I just put in a 5,000 euro grant for it [biodiversity] about 3 weeks ago, for controlling Japanese knotweed... So in terms of what the word means? Well, I suppose to me it would mean life, all life. Interview L12, Private: Development*

These two extracts from the private sector, where one suggests certain native species should be "cherished", while others should be eradicated, automatically bring understandings of biodiversity into the realm of value; that is some aspects of biodiversity have value, and therefore warrant protection, while others do not. As the latter stakeholder suggests, biodiversity to him means all life, but this is not to suggest that all life is equal; based on the extracts above, grey squirrels and Japanese knotweed appear not to be. However, examining the latter stakeholder's motivations for participating in the biodiversity fund provides some insight here, as they were based on a desire to make a better park for the community. He then sought support from other local residents committee; in particular one woman who he suggested was involved in "all that eco-stuff". This implies that understandings of what biodiversity becomes can be influenced by what aspects of nature we value, and wish to surround ourselves with.

Biodiversity as 'life' was also raised by a rural development stakeholder. In the following extract biodiversity is equated with life, but, as the stakeholder suggests, when decisions have to be made on what life to protect humans and human concerns should be prioritised above all others:

> *Bio means life, humans are at the top of the life scale, humans are number one. All other creatures are subservient to Homo sapiens if we are to believe anything about ourselves as human beings. That's not diminishing them, but it certainly diminishes us if animals are put first. Interview L16, Civil society: Rural development*

In other studies (Kellert, 2002; 1996) these views might be associated with a doministic view towards nature. Campbell (2006) suggests this type of view is associated with a spiritual value based on Western stewardship philosophy which positions other life forms as subservient to humans, and views wild nature as desolate. Drawing on these researchers understanding of biodiversity in the extract above comes to define a particular type of relationship with the natural world, one in which human interests should be prioritised over other species. However, some context must also be provided here, as the views of this stakeholder above arise from a perception that biodiversity and environmental interests dominate the rural countryside acting in opposition to rural culture, and therefore, have power over human interests. While these issues will be dealt with in more detail in subsequent

chapters, it is worth noting here the importance of context in the development of biodiversity understandings. In this case, understanding of biodiversity has complex basis in cultural and social change and a perception of power which informs how this stakeholder views and internalises what biodiversity means to him. That is, this clearly suggests that we pick up much of our value systems without realising it from the various social contexts that we pass through on the course of our lives (Rolston, 1994; 1988). Over the course of analysis it became quite clear that the non-ecological understanding of biodiversity were deeply intertwined with social and cultural context and circumstance of their recent forays into biodiversity decision-making and policy. Therefore, the relationship between biodiversity definitions and the manner in which these understandings were constructed was quite apparent in most cases.

While both categorisations of understanding addressed here appear very different, some using scientific or ecological terminology to describe the term, others using more familiar words such as nature or life. However there is a common thread connecting these different understandings. Biodiversity has come to represent stakeholders' relationship with nature. In a sense the term can be considered as redefining the human-environment relationship by acting as an umbrella term for a vast array of values and decisions of how we should relate or act towards non-human entities. In the following section biodiversity values are further teased out and explored.

5.3 - Biodiversity values

In the previous section stakeholders' ecological and non-ecological understandings of the term biodiversity were analysed and presented. However, while these meanings were first recounted by stakeholders in response to the question 'what does biodiversity mean', additional questioning revealed stakeholders', aesthetic, spiritual, heritage, moral and ethical values towards nature. These values were particularly recalled in relation to the question 'Why should we protect biodiversity and halt its loss?' However, stakeholder's values towards nature were not restricted to this question, but appeared throughout the interview via anecdotes and descriptions of nature. Therefore, results presented in this section are derived from an analysis of responses to the question 'why protect biodiversity and halt its loss',

in addition to a subsequent analysis of the entirety of each stakeholder's interview which identified additional categories of value and presents a more complete picture of stakeholders' biodiversity values. Conducting the analysis in this way serves two purposes; first it serves to illustrate the multitude of values inherent within the term biodiversity, and secondly, it suggests that each individual holds an array of values towards biodiversity, often beyond what they initially articulate as understandings of what the term means, or beliefs as to why it should be protected. Uncovering both explicit and latent values sheds further light on human-environment relationships, in particular those which are held personally and those which are institutionalised within the decision-making process.

Before engaging with biodiversity values, which is discussed in more detail in Chapter 3, the Literature Review, it is first useful to clarify what value means. Building on the definition, provided by Foster (1997), which suggests that value is a highly complex term, Burgess (2003) puts the definition of value in very simple terms, thinking of them as reasons given for actions. However, it is also useful to realise how values are considered to be created, passing through cultural, social, political, spiritual, and/or economic lenses, values have to be "lived through, experienced" (Rolston, 1994; 1988:29). In this section analysis of values is subdivided into two sections. The first section focuses on instrumental values and the second non-instrumental. Instrumental values section is subdivided into direct use/life support values and economic value, and the non-instrumental value section is subdivided into aesthetics and moral/ethical values. The section is structured in this manner for two reasons; first, it illustrates the diverse range of values inherent within the term biodiversity from highly human focused instrumental to intrinsic, and secondly, it illustrates the multitude of values stakeholders posses, and related to this, illustrates which values stakeholders rely on in decision based on their institutional and rational values, which contrast to their personally held beliefs and motivations based on non-instrumental values.

5.3.1 - Instrumental values: Ecological

Initial responses to the question 'why protect biodiversity and halt its loss?' by stakeholders from across tiers and spheres of governance draws heavily on instrumental or use values of biodiversity. However a host of values are situated

within this overarching frame of instrumental value, they broadly equate to and appeal to a self-interest rationale for the protection of biodiversity. Burgess (2003: 259) "Instrumental values privilege the rights of the individual to seek maximum happiness for themselves without necessarily having regard for the needs of others". However, Foster (1997:58) points out that there is a difference here between needs and wants, instrumental value establishes a dynamic social value principle with provides for continuity of human life. Therefore, values in this section are borne of self-interest, but also, can be suggested that they represent a concern for the welfare of 'humans' as a group. Initial responses to the question were presented in terms of ecological value. Officials in national public sector tourism and agricultural, and in civil society environmental organisations, used the analogy coined by Ehrlich & Ehrlich (1981) which likens biodiversity loss to loosing rivets on an aeroplane:

> *It's the analogy of rivets on an aeroplane. It might not be one or two rivets falling out that make the wings fall off, but eventually one rivet will fall out and the wing will fall off. If we're continually loosing species eventually we'll loose one, a key one, that'll be key to the operation of the ecosystem. Interview N14, Public: Tourism*

Preventing biodiversity loss, where the unit of biodiversity is species, is couched in terms of the resilience of an ecosystem; that is species diversity is perceived as a function of ecosystem health. The interviewees drawing on the Ehrlich & Ehrlich (1981) analogy suggests that species are 'rivets', are equal in the functioning of the ecosystem and it is the cumulative impact of species removal which essentially weakens the system, pushing it towards a tipping point from which it cannot recover. However, scientists have little understanding of the role of different species in ecosystem function, although this body of work is growing (see e.g. Naeem et al., 2009). This scientific uncertainty of the relative importance of species has implications for policy making, in that it is difficult to make a species-by-species case for conservation due to a lack on information on the functional roles of species in ecosystems. In this sense focusing on 'biodiversity' in conservation may be important to sustaining the overall ecosystem function provided by a multitude of organisms, plants, bacteria, insects; the unknown and undocumented which 'run the world' which are not protected as species, but under the term biodiversity may gain

protection. In this sense 'biodiversity' can be regarded as a conservation device or a strategy (Takacs, 1996).

However, also part of the value of biodiversity is that it addresses the functions that keep ecosystems going, and also the threats. For example recent reviews highlight that human disturbance is causing loss of resilience in ecological systems to the extent that many are pushed close to thresholds or into alternate states with lower capacity to generate ecosystem services (e.g. Folke et al. 2007; MA, 2005). One of the key questions to be asked at this juncture therefore, is what is being valued? That is, are healthy, functioning and resilient ecosystems of value of themselves and for other species, or does their value lie in what humans may obtain from them.

In addition, national private sector actors who had difficulty in explaining understandings of biodiversity did explain species loss as having unknown detrimental effect on humans, and that biodiversity should be protected to protect against this risk:

> *I think there will be a knock-on effect if huge amounts of our habitats and wildlife species are made extinct. There has to be a knock-on effect somewhere that we actually don't know, we couldn't possibly determine. So I think there's a balance there at the moment, we're interfering with that balance every day, and something has to give somewhere. Interview N20, Private: Development*

The value of biodiversity in the extracts above are linked to notions of uncertainty and risk, with the underlying utilitarian objective of human survival. In particular at the stakeholder above notes, it is humans which are disrupting biodiversity balance, essentially contributing to risk. However, the prevalence of value of biodiversity as an insurance against risk, as balance and resilience, are important in management and policy decisions. As Adger et al. (2005) suggest, resilience in ecological and socio-ecological systems incorporate diverse mechanisms for coping with change and this resilience is itself valuable. In social systems, governance and management frameworks can enhance resilience, and spread risk of 'imbalance' or ecosystems collapse by diversifying patterns of resource use and by encouraging alternate activities and lifestyles. Underlying the extracts above was a sense of

enlightened self interest, a need to manage biotic processes to ensure the capacity of living systems to provide the resources upon which a quality human life depends.

Building on the notion of the precautionary principle, which points towards biodiversity value as underpinning human survival, are the direct-use or life support values. These were explicitly suggested as reasons for protecting biodiversity by all stakeholders, in terms of both food and oxygen provision. Environmental sector stakeholders at both national and local scales, in addition to national tourism, forestry, fisheries and marine and local authority stakeholders included medicine and broader ecosystem services such a climate change mitigation and flood control. Moving beyond notions related to risk, these stakeholders outline what it is humans would loose through biodiversity loss. Direct provisioning services are given as the reason for protecting biodiversity, in stark terms, as essential for human survival. For example, in the extract below:

> *Well, it is essential for life in a lot of ways. We need we need food, we need oxygen and we need medicine. All of these things come from wildlife. Interview L3, Public: Environment*

Using Rolston's (1998) ecological life support value is useful here. Life support values are those on which human survival depends, in that healthy, functional global and local ecosystems provide for our basic needs and the needs other living things we depend on. Kellert (2009) describes this type of value as nature commodity. That is, value is placed on the material benefits derived from exploiting the natural environment.22 This value draws on rationale for the protection of biodiversity based, as Stephan Jay Gould puts it, our "enlightened self interest" (cited Takacs, 1996:201), or as Takacs' puts it succinctly: "these ecological-value arguments for biodiversity... convey values...that biodiversity keeps the world's ecology running, which in turn keeps human civilization running" (Takacs, 1996:202). In a sense it obliges us to think about the value of biodiversity in our own lives. These reasons for the protection of biodiversity based on values pragmatic life support values appear frequently in biodiversity policy (e.g. SCBD, 2009; CEC, 2006; MA, 2005)

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[22] it should be noted here that value does not necessarily equate to price

5.3.2 - Instrumental values: Economic

Those with an ecological understanding of biodiversity (for example stakeholders from An Taisce, EPA, Heritage Council, Failte Ireland and Botanic Gardens) base arguments for the protection of biodiversity in terms a holistic interpretation of biodiversity which stresses interconnectivity and interdependency. Following on from this their reasoning for protection of biodiversity stems from ecological function which provides the basis for economic systems and human welfare. The extract below is representative of the views of this group:

> *The natural world is highly interconnected and interdependent and [that] benefits us economically. I mean if you take sterile soil and plant grass on it, cows feeding on it are going to be sick fairly quickly. The cow needs the micro-organisms in the soil, making sure that soil is fertile, making sure that soil doesn't get water logged, all that kind of thing is really important. Interview N21, Civil society: Environment*

The stakeholder above connects ecological value with agricultural systems which in turn produce an economic value. Similar economic values based on ecological processes were found in Takacs (1996: 206) study of biologists' values. However, he suggests that "when biologists and others assert that biodiversity has a vast economic value, they mean we can extract from nature materials and services that directly augment human wealth and well being. In this the ultimate selfish argument we are the valuers and we stand to benefit". Consistent with this is an underlying utilitarian philosophy, where care for others, including other species on the planet and ecological processes, are predicated on their contribution to human welfare.

Critiquing this line of reasoning de Paiva Duarte (2001:105/6) suggests that "mainstream environmentalists of the new millennium no longer propose to save the planet for its own sake, but tend to share the policy makers preoccupation with the economic development". While there can be little doubt from the extract above that biodiversity is valued as a basis of economic development, this is not to suggest that this was the only way in which biodiversity was valued by this civil society environmental stakeholder and others in this group. Economic value as suggested by the stakeholder above, is used as a device to obtain wider support for biodiversity protection, drawing on the ecosystem service concept. It is used as way

of communicating environmental concerns "by adopting the dominant form of power discourse in society, which is commonly perceived to be money" (Spash, 2009:253).

However, as highlighted in the literature review, numerous attempts have been made to estimate economic value of ecosystem services. Particularly notable is the paper by Costanza et al. (1997) on the value of the global natural capital and ecosystem services, which is considered a milestone bringing the economic reasoning of ecosystem services to the fore. Such approaches are widely critiqued however, as a recent review by Norgaard (2010) illustrates. For example, some critics suggest that integrating economic value of biodiversity into decision-making by establishing a monetary value has proved to be problematic, limiting, and possibly counter productive to the protection of biodiversity, because it tends to negate the more intangible values of biodiversity based on ethical or moral concerns over the loss of wild nature and biodiversity (Spash, 2008, McCauley, 2006, Soma, 2006; Spash, 2006).

However, monetary market based mechanism are increasingly finding their way into biodiversity policy. These documents emphasise that connections between biodiversity and economic value should be integrated into all areas of policy-making. For example, most recently, the 'Post 2010 global biodiversity strategy' conference, called for increased public awareness of the connections between biodiversity, ecosystem service and human well being, in addition to the economic value of biodiversity and ecosystem services thereby emphasising the use-value of biodiversity for humans (CEC, 2009; SCBD, 2009).

Given this policy and broader research context which positions economic values within the framework for biodiversity protection, decision-making and public awareness, it is unsurprising that stakeholders, particularly those involved in policy making, suggest it as a reason for biodiversity protection. In the following extract the stakeholders draws on economic value and relates it to quality of life and health:

> *Biodiversity is purely to do with people's quality of life... and that has a direct relationship to their health and a direct relationship in terms of where Ireland is positioned in terms of the economy. [The] economy, in the long term, is based on tourism and agriculture, that's what brings in the foreign*

> *money. If we can manage to get those balanced, looking at biodiversity as the product, then economically it makes sound sense as well. Interview N6, Public: Environment*

The stakeholder from the Heritage Council above positions biodiversity value as the protection of human quality of life and health, but also, in a similar manner to the civil society stakeholder previously discussed, as a product underpinning tourism and agricultural sectors. This valuation of biodiversity through its instrumental use is based on a win-win philosophy of biodiversity protection, whereby biodiversity can be protected and also utilised sustainably. Quality of life is raised linked to notions of human health, predominant in current policy literature where the ecological process provided by biodiversity tangible benefits which underpin human economic and social well-being, such as human health (CEC, 2009; SCBD, 2009).
An additional argument for the protection of biodiversity which draws on ecological life support and commodity values, but also economic value, is discussed here in the context of sustainable development. The stakeholder below suggesting that the protection of biodiversity should be predicated upon the needs of the current generation of humans, but also future generations' needs:

> *Biodiversity provides us with everything we need. It provides us with food, timber, medicine, places to live, it provides us with the future capital that the next generations will need too. Interview N9, Public: Environment*

Moving on from life support and commodity values as previously discussed, the stakeholder above suggests that part of biodiversity's value lies is its "future capital". Burgess (1993) provides an explanation for future capital as an instrumental option value, which refers to the potential to capitalise on a resource at some future date. However, the extract above also suggests an instrumental bequest value, which is the intention to hand the resource down to future generations for economic exploitation. However, it is difficult to disentangle life support and commodity values of biodiversity from economic exploitation, given the future use of resources are directly related to the life support and commodity values of biodiversity. Such sentiments reoccur in international policy, for example, according to the MA (2005) the human use of natural resources, based within the idea of sustainable development, should be efficient and far sighted so that 'option value' is maintained.

The underlying sentiment therefore in the extract above equates the protection of biodiverse ecosystems as the basis on which all current and future human life on earth depends. The notion of a future good to be derived from biodiversity draws on sustainability discourse, where biodiversity becomes the natural capital on which all current and future human life depends. Option and bequest values of biodiversity as described here in the context of sustainable development were a reoccurring theme through out stakeholders' discussions of halting biodiversity loss, in particular, those with ecological understandings of biodiversity.

Option value and instrumental bequest value were again raised by the following stakeholder, but this time in relation to the moral and ethical imperative for protection. This reasoning was particularly apparent for stakeholders in agricultural and rural development sectors. One interviewee from the rural development sector provided this as the sole reason for why biodiversity should be protected. In addition, this stakeholder presented little by way of ecological understanding of biodiversity, or more non-instrumental values over the course of the interview:

> *We owe it to our children and the future's to come to protect biodiversity, and it would be a shame on us if we don't do that. It's as simple as that. Interview N24, Civil society: Rural development*

Invoking the concept of future generations is suggested by Van den Born & Lenders (2006) as representative of a stewardship perspective towards biodiversity or nature. In this humanity is the caretaker and while nature's worth is recognised, it is borrowed from, and needs to be passed on to, future generations of humans. This resonates with the values of the stakeholder above who suggests that not carrying out this would be shameful. However, Farnham takes a somewhat harder line, relating stewardship to humans having a moral responsibility for protection of man, not nature. This calls into question arguments of intrinsic value of biodiversity, which on the basis of the interview with the stakeholder above were highly ambiguous and unclear.

While the findings of this research would suggest an emphasis on economic rationales for the protection of biodiversity, it also becomes apparent that these instrumental values form the first line of argument and do not express the totality of

stakeholders' reasons for protecting biodiversity and halting its loss. Importantly it should also be mentioned that instrumental value is not mutually exclusive to intrinsic value – something can be valued for the resource it provides while at the same time valuing it in 'itself'. Stakeholders who discussed biodiversity in terms of life support values and as an economic resource also talked about biodiversity from a spiritual, aesthetic, emotional or ethical perspective. While still utilitarian, these latter non-instrumental values are termed as such to denote values that individuals tend to attribute to nature or certain kinds of landscapes or to particular places that reflect personal experiences, shaped by social and cultural values of society (Burgess, 2003). Some authors suggest that one of the unique benefits of the biodiversity concept that distinguish it from other conservation ideas is this very ability to integrate diverse values presenting them as an integrated set (Farnham, 2007; Takacs, 1996).

5.3.3 - Non-instrumental values: Aesthetics

The aesthetic value of biodiversity was discussed by stakeholders in a variety of ways; linked to health and well being, scientific rarity and spiritual experience. However, despite this variety of aesthetic values, the importance of feeling emotionally connected to nature was a common theme. This emotional connection is grounded in the experience of nature, as Campbell (2006) citing Sandrisser (1992: 182) describes aesthetic value as the "sensuous qualities of environment, its sounds, colours, textures, and smells; its forms of mass, the shapes of volumes, the qualities and patterns of immediate experience".

After first suggesting ecological and life support values as reasons for the protection of biodiversity and halting its loss, a smaller number of stakeholders went on to suggest aesthetic reasons for its protection. Amongst these, national and local planning, tourism, forestry, marine, and private environmental sector stakeholders pointed out the mental health benefits to be derived from an aesthetic appreciation of nature. This experience of nature for mental well being was also suggested as important by the local NPWS rangers. The following extract from the stakeholder from the Irish Planning Institute is illustrative of these views:

> *I think that diversity is also very pleasant, and I think it's good for your health. There's nothing more peaceful than looking at a tree or a hearing a bird sing in a tree for mental well being. Interview N25, Civil society: Planning*

> *...we need it for the soul as well. there is something about natural landscapes [that] are tranquil and peaceful. I am sure people need those too. You know, sort of, I don't want to sound wishy-washy, but for your mental health and well being you need to be close to nature from time to time. Interview L2, Public: Environment*

The value of biodiversity is the two extracts above are associated with the tranquil, pleasant feelings to be derived from experience of being in natural environments and benefits for mental health. In a sense the value of nature expressed in the extracts extend beyond its beauty, or visual experience; these stakeholders value the sense of enjoyment to be gained from direct contact with wildlife. This is specifically stated in the second extract where being close to nature is equated with being necessary for the soul. Kellert (2009) describes such sentiments through outdoor/naturalistic value. However, the views espoused in the extracts also suggest a need to escape to nature for inner peace, drawing on romantic associations with nature discussed by Muir and Thoreau for example. Additionally, these extracts represent a deep and contemplative experience, which resonates with Rolston's description of aesthetic value. The stakeholders' association with aesthetics and mental health differs somewhat from findings in Takacs' interviews who associate aesthetic values with "difference, variety, complexity, heterogeneity, intricacy of individual organisms, and organism interactions, ecological and evolutionary processes", an appreciation which drives their scientific work (Takacs, 1996:275). So while the stakeholders represented in the extracts above expressed aesthetic appreciation in terms of mental health, drawing a distinction between these two studies illustrates how different groups come to aesthetically value biodiversity in very different ways. However, in common with the findings of the Takacs' study is the sense of joy and satisfaction stakeholders described above derived from the experience of feeling connected with the natural world.

A second point can be made from the second extract above. The stakeholder states that being close to nature is good for the soul, but cautions that such views might be considered "wishy-washy". Other stakeholders in the environment sector, across the

three spheres of governance shared this view, and were quick to say that reasons for halting biodiversity loss, outside the pragmatic instrumental views were fringe values which might not widely held by other stakeholders and publics. Similarly, a deep sense of connection to nature was only uncovered through discussion, rather than explicitly stated as a reason for protecting biodiversity and halting its loss, by public sector environmental stakeholders. The extract below provides an example of this, with the stakeholder's sense of awe and wonder at the natural world providing the basis of an aesthetic value of biodiversity. This value is also grounded in 'rarity' as the following account of a wetland by a policy maker working within the public sector describes:

> *Pollardstown Fen is this amazing wetland that's been there since the ice age and it happens to have these three rare, genuinely very rare snails... They don't turn up in many places and they're representative of this wonderful wetland...Interview N1, Public: Environment*

The extract above which describes the wetland habitat through feelings of awe and wonder resonates with some descriptions of sublime landscapes, which are referred to as awe inspiring, humbling and at times overwhelming or frightening (Carlson, 2009). There is no suggestion here of the latter two expressions of the sublime, instead, the more adverse expressions of this concept are replaced by familiarity and attachment which reflects a particular cultural interpretation of the place in question. The cultural interpretation expressed in the extract above is couched in terms of scientific rarity, the history of the place in question (i.e. its association with the ice-age) and linked to a humanistic value of biodiversity. Humanistic value can be described as a sense of attachment to the natural world formed through direct experience which is linked to personal identity. Sagoff (1988:28) suggests that such humanistic statements of awe and wonder stem from "our character as a people, which is not something we choose, but something we recognise, something we are". Humanistic value is a reoccurring theme in the writing of 'deep' ecologists (e.g. Leopold, 1949; Noss, 1990), which according to Farnham's interpretation of humanistic value, creates motivation to conserve biodiversity. This stakeholder is a key policy maker, and has a long occupational history with conservation in the public sector. Humanistic value informs the stakeholders view and scientific understanding of the wetland, a view which runs contrary to more populist perceptions of wetlands in Ireland. Collier & Scott (2008) for example in their

research which focused on a similar type of habitat, peatlands, points out that historically such area have been described as wasteland or in other negative terms. However, it should be reiterated here that the aesthetic value, interpreted through notions of the sublime and humanistic value, were not explicitly stated by this stakeholder as a rationale for biodiversity protection. Instead, this individual expressed instrumental values, both ecological and economic as discussed previously, in response to this question.

Like the previous stakeholders from the public environment sector, the following stakeholder from a civil society environmental organisation also prioritised instrumental values when discussing reasons why biodiversity should be protected. However, peppered throughout the interview were accounts of aesthetic, spiritual and humanistic values, as the following extract illustrates:

> *I remember about a year and a half ago I was out walking on the Hook, I was in heaven. There were two harbour porpoises gently jumping up and down in the water below, there was a chough nest right beside me with a chough looking out at me, and down below me on the rock there was a wave cut platform...circles cut out [of the rock] by man, hundreds of years ago, with honey comb worm weeds inside, they were like baby fish nurseries. And you know, you just feel...you feel... you're the minutist {smallest} little thing, there in the most beautiful place to imagine. Interview N23, Civil society: Environment*

The sense of awe, humility, privilege, insignificance and yet belonging at the beauty and wonder experienced in nature is clearly apparent in the extract above. Comparison of such terms with the word of Rolston is useful here. Rolston states that nature provides "rich experience. of awe, mystery, vastness, aesthetic beauty. We gain a sense of proportion, place, identity; we are humbled in some ways, exalted in others" (1988: 221). As Butler & Acott (2008) suggest, such moments are important because of their ability to provide a sense of humility and respect for nature's value, and thus a reassessment of our relationship with the natural world. Leopold too writes of a sense of wonder over the magnitude and duration of the biotic enterprise and of a need for "intellectual humility" in order to see the cultural value of wild nature (1949: 200). In this sense, the experience described above takes on a spiritual value. Takacs (1996) provides additional clarity here, suggesting

that people turn to spirituality when confronted with vast unknowns that defy logical explanation, in a way, spiritual power is linked to our lack of knowledge of the natural world. This certainly resonates with the stakeholder above who has extensive knowledge of ecology, and yet, is inspired not by this scientific knowledge, but by the experience of nature. As Takacs (1996:255) suggests, "the gaps the scared world of science can't fill, leave further room for values and spirituality and aesthetics to rush in".

A second point to be made from the two extracts above is their relationship with intrinsic value. Intrinsic value is a somewhat contested topic, with a variety of interpretations in the values literature. As Butler & Acott (2008:159) state, it is "hard to distinguish between intrinsic values of biodiversity and experience values – it is a grey area when human interaction with nature slides into human use of nature". Focusing on the concept of wonder, which is evident in both extracts above, is of some use in this regard. Citing Hepburn (1984: 205/6) Butler & Acott (2008) suggest that wonder highlights virtues such as respect, humility and compassion which are "notably and essentially other-acknowledging". Such an attitude is considered to be non-exploitative and non-utilitarian, thus one is "wondering at and respecting the values truly belonging to the object in question". It could be argued that the latter extract in particular, with its descriptions of various species behaving naturally, would suggest such an intrinsic value. However, the extract might also be interpreted as an instance linked to aesthetic utilitarian appreciation of nature.

An alternative view of aesthetic value appeared particularly in discussions with stakeholders from the agricultural and rural development sectors, in addition to those with family attachments to land from private sector and civil society organisations. Biodiversity heritage value, like aesthetic values previously discussed, draws on experience and feelings of connection to nature which inculcate a sense of wonder and awe. However, in contrast with stakeholders from the environment sector, this wonder acts as a means of connecting to previous generations, imbuing a sense of ownership, stewardship and responsibility for land:

> *There is nothing like walking across my land and seeing the different [aspects of] natural heritage. It's linking to my own family history; my people would have walked across that land... it's about being attached to it and having responsibility to protect it, you feel part of it. Interview L5, Public: Heritage*

Heritage value here is strongly liked to personal and cultural identity which inculcates a sense of attachment and responsibility, or stewardship (Kellert, 2002; Rolston, 1994). Schwartz (2005) links the notion of stewardship to the creation of a biodiversity ethic, however, the notion is not unproblematic in an Irish context. In fact some commentators would suggest that the very notion of stewardship has political connotations, enabling this powerful lobby group determine the overall trajectory of biodiversity policy in Ireland. In essence stewardship positions farmers as managers of the environment and the countryside acting as a powerful discourse which represents a multitude of views on how lands, particularly privately owned agricultural land, such be managed (Flynn, 2009).

This idea of rights, which rights and whose rights take priority is discussed in more depth in the following section with addresses stakeholders' moral and ethical values of biodiversity.

5.3.4 - Non-instrumental values: Morals and ethics

Ethics is not only concerned with the dichotomies of good and bad, right and wrong but also with the commitment to act. As such the concept of ethics is linked to beliefs that influence the choices actors make and is underpinned by cognitive and emotional understandings of biodiversity. Here, interviewees across the three spheres of governance discuss human's ethical responsibility to protect biodiversity drawing on ecological reasoning, non-instrumental values for current and future generations, and biodiversity's intrinsic worth.

The idea that biodiversity should be protected because it creates balance and stability in ecological systems was expressed by national public sector and civil society organisations environmental stakeholders and ENGOs at the local level. The following extract is typical of the ethical considerations of biodiversity loss provided by this group:

> *[Biodiversity is] exceptionally important because it's the basis of whether or not things are right or things are wrong. If biodiversity is either stable or increasing it means that you've got an equilibrium. If biodiversity is declining then obviously something is going wrong. Interview N6, Public: Environment*

Drawing on understandings of biodiversity based on interconnectivity and interdependence, the extract above suggests that biodiversity acts an ethical barometer, that is, actions which contribute to biodiversity loss are 'wrong', whereas those which create stable or increasing biodiversity are 'right'. This ethical view resonates with the writings of early deep ecologists such as Aldo Leopold (1949:262) who suggested that "a thing is right when it tends to preserve the integrity, stability and beauty of the biotic community. It is wrong when it tends to do otherwise". On the surface the references made in the extract to stability and equilibrium may also be associated with the romantic portrait of a balanced homeostatic nature, notions wilderness, nature untouched by humans, which are prevalent within the writings of Leopold and other early deep-ecologists such as Theoreau and Muir. However, this would negate the importance of disturbance in structuring natural communities', as discussed by these stakeholders, who recognised that ecological communities have co-evolved with humanity producing complex, uncertain, dynamic and interdependent human-environmental systems as found in the work of Berkes et al. (2003) and Folke et al. (2002). As Pimm (1991) suggests, ecologists group a multitude of different ideas under the term 'stability' or balance.

A second argument for the protection of biodiversity which falls within the non-instrumental moral or ethical remit is that related to sustainability, and more specifically, protection of biodiversity for future generations. Protection of biodiversity for future generations as 'future capital' was already touched upon in relation to instrumental option use. However, a second non-instrumental value related to future generations appears in discussions with planning, development, tourism stakeholders. For these stakeholders humans' have an ethical or moral responsibility to protect biodiversity for the aesthetic and experiential values it could provide to future generations. The following extract from a stakeholder working locally in Co. Clare in the private tourism sector is typical of such views:

> *We should protect it [biodiversity] for the sustainability arguments that we should give the next generations the same starting point that we got; so if a particular species' that we've enjoyed is no longer there, then I think we haven't acted responsibly. Interview N25, Civil society: Planning*

The extract above may appear somewhat ambiguous, and could be interpreted as indicating instrumental or non-instrumental values, but it has been positioned in the latter section given the overall context of the interview in which it took place. This stakeholder, and the others in this group, while certainly suggesting instrumental values were important reasons for the protection of biodiversity, also clearly indicated that these values should not be the only ones used to advocate for biodiversity protection. Additionally, evidence for the stakeholder's non-instrumental leanings are given in the word "enjoy", which he had previously used extensively to describe experiences in nature, experiences which were clearly important to him. In this sense the extract confers more closely to what Burgess (1993) describe as non-instrumental bequest value, which represents the rights of future generations to experience the qualities of nature experienced currently, without converting them to monetary assets. This value invokes the concept of protection on the basis of future generations, the current generation of humans becomes the responsible caretaker for resources and for species, providing motivation for their conservation. There is a sense that this responsibility has a moral impetus, value takes on a moral sense of duty, creating a code of conduct for what that individual believes to be right and proper behaviour in relation to others and to nature (Burgess, 2003).

In contrast the idea of intrinsic value was explicitly developed by a small number of individuals within civil society and semi-state environmental organisations as the ethical responsibility of humans to protect biodiversity for its own right, outside of human need or wants. The following extract is illustrative of intrinsic value as suggested by this group:

> *It has to be said that there is an ethical responsibility to pass on the planet to the next generations in as close to a state as we found it, but I don't think we can just see it [biodiversity] just in terms of being even needed; there is awareness that it has an intrinsic value, and people need guidance and assistance to help preserve it and to see what its value is, and how they can help. Interview N8, Public: Planning*

The above extract is taken from an individual who had previously suggested instrumental values however, in this extract the interviewee moves beyond these strictly instrumental values of biodiversity, beyond what is needed by humans, towards the notion of intrinsic value of biodiversity. While previously suggesting that future generations need future capital in the statement above she relates bequest value to the intrinsic value of biodiversity. Research conducted by Craig et al. (1993) into policy makers' private and institutional understandings of biodiversity found similar values which extended beyond a pragmatic perspective, taking a more emotive or ethical slant. Takacs (1996) also found that scientists he researched possessed intrinsic values, but did not often use them as such understandings can be limited or curtailed by the institutional setting in which the individual finds themselves. This hinders their ability to act on or voice such alternative reasoning.

Research conducted by and Butler & Acott (2007) specifically looked as policy makers' intrinsic values towards biodiversity, as non-utilitarian value, in that they excluded spiritual, aesthetic or cultural values which although non-consumptive, were still considered as uses. This research project did not specify between utilitarian and non-utilitarian intrinsic values, but similar accounts of intrinsic value, such as that above, appear in both studies. Indeed other studies suggest that intrinsic values may be hard to detect, as they may link into other values, and underpin the biodiversity policy, in an implicit manner. For example, Spash (1997:182) points out that intrinsic value principles maybe linked with scientific objectivism as "an interesting possible explanation for the motivation behind supposedly 'fact' based decisions e.g. designation of protected areas". Also, Craig et al. (1993) clearly showed that intrinsic value principles may be at the heart of environmental legislation, but that the application and implementation of policy takes a more utilitarian form.

Suggestions of moral responsibility and intrinsic value raise key ethical questions about what it is we are conserving within the gambit of biodiversity and why we 'want' or 'need' to conserve. It also raises questions as to what can or cannot be appealed to in policy making on the basis of ethical arguments. Difficulties arise with the suggestion of 'intrinsic value', as it brings in ethical concerns; ethics is not only concerned with the dichotomies of good and bad, right and wrong but also with the

commitment to act. Intrinsic value of biodiversity outside its instrumental and utilitarian value is considered by some scientists as an unscientific basis by which to view biodiversity (Takacs, 1996). This may explain why it is only raised by a very small group of individuals in this study. However, intrinsic value, and moral or ethical responsibility is only mentioned in this study by those interviewees with a scientific or ecological background, those who appeared most politically committed to biodiversity conservation. Scientists have grappled with their values, their credibility and their position in policy making, but a number follow in what Noss (2007:20) believes is one of the key roles of science, "to make a powerful case for biodiversity". His beliefs follow that of E.O. Wilson (1984:191) who comments "love the organisms for themselves first....". While such ethical views are not commonly found in policy literature, Evanoff (2005:8) suggests that "By avoiding questions of value we merely lend support to the status quo and fail in our imaginative ability to propose viable alternatives".

5.4 - Values in biodiversity management

The previous sections illustrated the multitude of biodiversity values inherent within the term, but also embodied by individual stakeholders. This section illustrates in a practical way value conflict in the implementation of biodiversity decision-making.

One stakeholder working in the forestry sector at the local level noted that decisions on what aspects of biodiversity to protect, and which to develop occur on a daily basis for the conservation professional. In this extract an ecologist working in forestry highlights everyday trade-offs and choices that define which aspects of biodiversity are kept or lost:

> *It depends on what you're comparing to conserve as to why you want to halt its loss. Managing a river to 'salmonid' quality means managing a river to maximise salmonid production, everything else is secondary. If that means removing trees, which is a loss of habitat for nesting birds then so be it. On the other hand if you have a rare animal that's only in one area, you should manage that area appropriate to the survival of that animal and at the expense of other animals, which are perhaps widespread throughout the country. But it's a difficult balancing act. Interview N13, Public: Forestry*

This extract highlights the choices and trade-offs which are made in biodiversity management, resulting in the prioritisation of certain species over others. As indicated above, if the goals of river management are to produce salmon, then other species such as trees and the ensuing loss of habitat for birds are a functional necessity. In addition, if the goal is to manage an area to preserve a rare species, at the expense of other animals, then the rare takes precedent. Such trade-offs between conservation and economics need to be acknowledged, the challenge in negotiating these trade-offs is determining levels of acceptable biodiversity loss, rather than 'win-win' outcomes (MA, 2005:133). The work of Jepson & Canny (2001) can be applied here. Although the context is somewhat different, in that these scholars discuss biodiversity hotspots as a conservation strategy, they reveal that within conservation decision making, species are not treated equally. As in the extract above, certain species are prioritised over other. Such decision-making propositions were also examined in the study by Butler & Acott (2007). As in the extract above, this study which specifically examined intrinsic values also found that some respondents had no problem with the idea of felling individual trees or culling mammals for the sake of wider habitat conservation. Other stakeholders similarly prioritised and singled out certain species and habitats for better protection over others. However, in contrast to the extract above, the following stakeholders suggests that it is those habitats which are currently unprotected and unvalued which warrant most protection.

Stakeholders in the environmental sector stressed that there are difficulties facing the protection of marginal and unprotected habitats in the face of economic development. The following extract is typical of those stakeholders who prioritised their concerns for marginal lands:

> *There are aspects of biodiversity that are not being addressed, for example, marginal land non-designated sites. There's been a failure to kind of recognise the value of these marginal second-class type habitats. The designated sites, well, at least there's some mechanism in place [to protect them], but this other category of site is just not on the radar; and if you look at it, its prime land for development, afforestation, for infilling, to drain it to put an industrial unit on it. Interview N7, Public: Environment*

Concern for biodiversity, raised in the extract above, falls within two distinct lines; that biodiversity is is provided protection within policy, and that which falls outside policy regulation. Specifically, 'marginal areas' are discussed, unprotected wetland or woodland habitats, which are vulnerable to commercial exploitation. These habitats are not described by the stakeholder in non-instrumental terms, as areas of intrinsic value, or their aesthetic qualities. They are recognised for the threats which they face. Interestingly, in response to previous question which reveals stakeholders values, the stakeholder prioritised instrumental values, specifically direct-use life support values, followed by economic values. This extract reveals a prioritisation of biodiversity in terms of scientific value and its conflict with economic development rather than other values. As Jepson & Canney (2003) note, reliance on this narrow framing of values risks alienating other forms of knowing nature.

But as the interviewee from NPWS suggests below, circumstances arise where, despite his own values, the requirements of a protected species under the Habitats Directive are difficult to manage due to their environmental requirements:

> *This is where the whole business of sustainability comes in, it's about balance. It's accepted then that the whole country can't be a national park. The pearl mussel, for example, I think it needs much bigger designation areas than it has, but the problem is that it is very, very sensitive [to water quality] so you have to nearly protect entire catchments. You would have to say no more forestry, no more agriculture, do nothing here, and just have the water clean. That's just not feasible at all in this day and age, it just can't happen. Interview N1, Public: Environment*

This extract, and coupled which those which precede it ask fundamental questions about how biodiversity is managed, and which values guide its management within the paradigm of sustainability. Evidence from the extracts would suggest that the balance in decision-making tends to neglect holistic biodiversity understandings and non-instrumental biodiversity values. Such values are marginalised in favour of the strict regulatory prescriptions from the EU built on a narrow scientific framing, and through the marriage of conservation with economic development. But, as stakeholders discussed ecological understandings of biodiversity that become institutionalised within formal protected areas for 'rare' or 'special' species and habitats, do not always ensure their survival. One of the reasons for this, as the

stakeholder above suggests, is because it is not feasible to exclude economic activity in such areas. As the MA (2005:133) states:

> Rather than the ''win-win'' outcomes promoted (or assumed) by many practitioners, conflict is more often the norm, and trade-offs between conservation and development need to be acknowledged. Identifying and then negotiating trade-offs is complex, involving different policy options, different priorities for conservation and development, and different stakeholders. The challenge in negotiating these trade-offs is determining levels of acceptable biodiversity loss and stakeholder participation.

This raises a number of thorny issues with respect to biodiversity management. First, it calls into question what types of biodiversity management works, and for whom (or what should it be working for). Since the 1990s, integration of sustainable development with biodiversity management has seen a rise in community or human focused biodiversity management strategies which sought to integrate biodiversity protection with economic and social development. But as discussed by Hutton et al. (2005) there has been a resurgence of the 'back to barriers' style approach to biodiversity management in Africa and elsewhere. Within this, the more traditional, presevationalist approaches to biodiversity conservation are being called for. However, the stakeholder above does not see this approach as feasible, as he indicates "It's accepted then that the whole country can't be a national park".

This brings us to the second question raised from the extract above concerning balance; that being, can biodiversity management through the paradigm of sustainable use achieve the 'win-win' balance of social, environmental and economic concerns. Numerous critics suggest that it can (e.g. Campbell & Vainio-Mattila, 2003; Brechin et al., 2002), but that the success of the sustainable management of biodiversity is predicated on "interventions that adopt the core principles of justice, full participation, self-representation, and self-determination and which allow both nature protection and human development needs to be negotiated in context without imposing a priori economic development goals" (Brechin, 2002:54). Such goals are predicated on an equitable distribution of power in biodiversity management decisions. By levelling the decision-making playing field and incorporating an increased number of stakeholders, the sphere of values necessarily increases and potentially leads to value conflict. As this chapter clearly

demonstrates, stakeholders possess a multitude of values of biodiversity, which at times leads to internal conflict, but they must also compromise within the wider political and economic context into which biodiversity management decision-making are operationalised. So, as the stakeholder above suggested, not only would the required measures to protect the pearl mussel be economically unfavourable, it would also be politically contentious. It was suggested by stakeholder above that public perception of such actions would be very negative, or another civil society environmental stakeholder put it, be interpreted as placing greater value on a mussel than human beings. While these statements might be correct, they are nonetheless, assumptions, predicated on a particular belief of what constitutes 'the public' and their views and values.

These issues of sustainability, equality, value conflict, and perception provide some context for the following section which examines stakeholders views towards public understanding and perception of biodiversity in more detail.

5.5 - Stakeholders perceptions of public understandings of biodiversity

The following section examines stakeholder's perceptions of public's biodiversity understandings. Investigation of these perceptions is important for a number of reasons. From a policy making perspective, understanding the assumptions that stakeholders make regarding publics understandings, and indeed, what constitutes 'the public', is important as it informs the manner in which stakeholders seek to engage publics in biodiversity decision-making. Also, these assumptions will also inform what kinds of knowledge and information stakeholders believe the public to require, particularly given the dominance of scientific explanations of the term and instrumental values as discussed in the previous sections. However, perhaps most significantly given the previously discussion of the sustainable use which now underpins biodiversity policy, humans are now considered central to biodiversity management. This is reflected in a plethora of policy documents which call for publics, to be brought into and have their knowledge incorporated into, the decision-making process (e.g. Smith & Maltby, 2003 in terms of the Ecosystem Approach). Research literature also suggests that the knowledge base for biodiversity decisions needs to be broadened, for both practical policy and for equality reasons. Therefore, a range of different kinds of knowledge and understandings are needed

in making decisions around biodiversity. As Burgess (2003) goes on to say, these knowledge include scientific knowledge, economic knowledge, and practical, lay, local, traditional, or commonsense knowledge, which comes from everyday experience.

When asked to rate public understanding of biodiversity all forty-five interviewees initially suggested public understanding of biodiversity was low. Those working in the public sphere environment and agriculture, forestry and tourism organisations, in addition to private sphere and civil society environmental organisations went on to suggest that reasons for low levels of public understanding of biodiversity related to the word itself. They suggest it is an intangible and inaccessible term which is difficult for the general public to understand. For example, as one public official commented:

> *It's a terrible word... its weakness is that it's not easily understood it's too scientific-sounding. Interview N22, Public: Environment*

The difficultly in understanding the term biodiversity may lie in its inaccessibility as a scientific concept. Hunter & Brehm (2003) in their research on public understandings of biodiversity in the US suggest the term is not widely understood due to its scientific nature and ambiguity. However, this is countered by a growing body of research which claims that publics do have knowledge and understanding of biodiversity, but that this is based on a broader conceptualisation of the term (e.g. Buijs et al., 2008; Fisher & Young, 2007) beyond a narrow scientific definition. However, as the following extract implies, there is a degree of uncertainty regarding the level of public understanding of biodiversity, as the public official comments below:

> *It's [public understanding] very low or abysmal; I think the number of people who understood the word biodiversity a few years ago was nil and now it's probably about 10%, it is growing. Interview N6, Public: Environment*

While there is a degree of uncertainty in this response, there is also an optimistic suspicion that the level of understanding is increasing. Studies conducted since this interview would tend to confirm the perceptions of this stakeholder, for example, results of the 2008 Clare County Council, states that 58% of individuals had heard of biodiversity before. In a wider study, the 2007 Eurobarometer survey of European wide biodiversity attitudes revealed that 48% of Irish respondents had heard of the

term biodiversity previously. However, these results indicate only awareness of the term, and not understanding of its meaning. Results from the Eurobarometer survey in Ireland which address this question state that only 22% of those having an awareness of the term understood its meaning. This would suggest, that the level of public's biodiversity understanding in Ireland is quite low. However, stakeholders agreed that it might be the word biodiversity that publics are unfamiliar with. That is, they suggested publics may understand biodiversity as nature, or in terms of different plants and animals, but perhaps not the interaction of biodiversity as a whole, and the services it provides.

Individuals involved in agriculture and the private sector stress the importance of public understanding in leading to improved personal behaviour for biodiversity and sense of responsibility:

> *I think the more people know about biodiversity the better... so many people do the wrong thing because they don't know the implications of their actions. Interview N15, Public: Agriculture*

The place of knowledge in generating action for biodiversity is contested in the literature, as discussed by a variety of authors (e.g. Barr & Glig, 2005; Barr, 2003; Owens, 2000; Harrison et al., 1998; Iozzi, 1998; Macnaghten & Urry, 1998; Hungerford & Volk, 1990) and accorded a relatively minor role in closing the gap when placed within the wider context of cultural and political contexts and constraints. In the Chapter 8, where stakeholders and publics views towards public participation are analysed, these ideas of biodiversity knowledge, understanding and their utilisation and incorporation within the decision-making processes will be examined further. What is clear for this brief discussion, stakeholders feel that publics understandings and care of biodiversity are generally poor. The following chapter will put these assumptions to the test, by examining publics knowledge and understandings of biodiversity.

5.6 - Conclusions

Analysis of stakeholder interviews with regards to understandings of biodiversity revealed five key points. The first, that interviewees articulated a variety of understandings of the term primarily based upon scientific or ecological definitions.

Secondly, biodiversity was also understood as a broader normative concept which encompassed multiple, but predominantly utilitarian reasons for its protection. Thirdly, that the complex and multiple meanings of biodiversity are not fully explored in the decision-making processes which is predicated upon conservation of rarity. Interviewees did recognise however, that in the light of sustainable use, biodiversity management now has to be balanced with economic and social interests. Lastly, decision-makers assume publics' have a low understanding and interest biodiversity and its conservation.

Predominant amongst interviewees with a personal interest or an academic background in ecology, agri-ecology or planning were ecological definitions of the term biodiversity, based in holistic ideas of dynamic, interconnected and interdependent systems, of which humans are an integral part. Research suggests that biological diversity has come to be associated with science and the scientific understanding of the natural world. This association with science has likely surrounded the term with an aura of objectivity and knowledge, a manner of representing of the natural world that is not only free of bias but also representative of the most accurate information that scientists can provide (Takacs, 1996). A second group of interviewees provided non-ecological definitions, more closely relating biodiversity to recent learning experiences through interaction with the policy making process. This points to the constructed nature of biodiversity; the concept being underpinned by experience constructed via cultural, social, political, spiritual, and/or economic lenses as well as scientific understandings (Campbell, 2006; Fisher & Young, 2006; Buijs, 2005; Rolston, 1994).

The second point to be made is that biodiversity represents and envelopes a wide range of values, which were categorised along instrumental and non-instrumental lines. There was also little difference between the two initial groups of stakeholders to be found in this section, all stakeholders held multiple values. However, while they held multiple values most were more comfortable articulating instrumental values, with non-instrumental values less frequently mentioned. This indicates a predominantly utilitarian instrumentalist trend where biodiversity is conserved due to its importance as a basis for human existence and as an economic value for society (Worster, 1994; Craig et al., 1993; Merchant, 1992). These findings find parallels in

the wider literature, which shows that biodiversity acts as an umbrella term for a multitude of understandings and values (e.g. Farnham, 2008; Takacs, 1996; Craig et al., 1993). Therefore, following Macnaghten and Urry, it can be suggested that "there is no single nature only natures" which are discursively constructed through economic, political and cultural processes (Ibid, 1998:1). However, this complexity has implications for decision-making and presents significant challenges. Both natural and social scientists have suggested the term biodiversity has a vagueness and ambiguity which has generated active brokerage between the political and scientific communities over the appropriate means of conserving biodiversity. How this plurality of values are contested within decision-making processes, and which understandings are incorporated and influential in decision-making raises interesting questions of balance in the context of sustainable development (Campbell, 2007; Burgess, 2000; Van den Born et al., 2000).

Findings from discussion of decision-making with stakeholders suggests that biodiversity management prioritises certain species and habitats based primarily on rarity. Other areas which have less protection, such as marginal wetlands, are valued because they lack this protection, but also have intrinsic value. However, this section also indicated the prevalence of sustainable development discourse in biodiversity decision-making. These extracts suggest that stakeholders non-instrumental values were largely absent in their pragmatic work decisions, leading to difficult decisions and a degree of dissatisfaction with the outcomes of policy processes. These findings correspond to other research which has been conducted in the area of biodiversity decision-making. Jepson & Canney (2003) highlights that the prominent policy processes at the international level routinely fail to acknowledge wider values. Sagoff (1998) recommend that a wider variety of values be explicitly incorporated into environmental policy analysis and decision-making frameworks. However, biodiversity values and biodiversity policy are ever changing, as evidenced by Lawrence & Molteno (2009) who present research on UK biodiversity planning which is evolving and incorporating reflexivity and policy learning.

The discussions around sustainable development suggest the importance of understanding not only the goal of biodiversity decision-making, but also the

process through which it is negotiated, and who is included at the negotiation table. Of particular note are decisions taken which potentially adversely affect biodiversity and are legitimised through the paradigm of sustainable development. Analysis of stakeholders interviews in this project suggest that in land use conflict, economic interests such as forestry, transport, planning and development, it tends to be prioritised over biodiversity. The issue of sustainable use of biodiversity is a reoccurring theme through this thesis and will be address in more depth in following chapters.

Chapter 6 - Publics understandings of biodiversity

6.1 - Introduction

The previous chapter concluded that stakeholder's understandings of biodiversity are variously constructed through cultural, social, political, spiritual, economic and scientific contexts. These plural understandings of biodiversity are contested within biodiversity decision-making, which strives for balanced sustainable development. But also, stakeholders suggested that due to complexity inherent within the term biodiversity, publics understandings of the term is poor. The aim of this chapter is to address and clarify what publics' understand by biodiversity, and second, how publics view biodiversity conservation.

These questions are pertinent for a number of reasons. Firstly, international quantitative surveys which assess Irish publics' views towards biodiversity conducted by Gallup (2007) would tend to support the views of stakeholders, suggesting that while publics are aware of the term biodiversity, they are unfamiliar with its meaning and the broader causes and consequences of its loss. A quantitative survey in Ireland conducted by Barry (2008) replicates these findings.

International research which measured publics' understandings of biodiversity quantitatively or against scientific criteria has come to similar conclusions (e.g. Hunter & Brehm, 2003; Elder et al., 1998; Spash & Hanley, 1995). However, criticisms concerning the limitations of quantitative approaches and the narrow, scientific interpretation of biodiversity therein have been extensively critiqued, for example, Buijs et al. (2008), Fisher & Young (2007), Burgess et al. (2000), Clark et al. (2000), Harrison (1998), Harrison & Burgess (1994).

With the exception of the quantitative studies conducted by the OECD, Clare Country Council and the Heritage Council (2010), little research has been conducted in Ireland on public's views towards biodiversity. In addition, while such surveys are useful for identifying what publics' views might be, they do not provide any indication on how such views are formed or justified. As outlined in the literature review, research using qualitative methods would suggest that publics, rather than possessing little understanding of biodiversity, have different conceptions of the

term and its wider meanings which extend beyond a narrow scientific or policy definition of the term. Research exists which specifically explores these wider publics' perceptions to biodiversity (e.g. Buijs et al., 2008; Fisher & Young, 2007). In addition, a diverse array of research explores publics' perceptions to particular features of biodiversity such as attitudes towards endangered species, brown bears and insects (Kellert, 1994; 1993; 1986; 1985), landscapes (Geider & Garkovich, 1994), nature (Buijs, 2009), images of nature (Van den Born et al., 2001), place (Brandenburg & Carroll, 1995), and nature and knowledge (Harrison et al., 1998; Harrison et al., 1994).

While this research project shares similarities to this body of qualitative international research, it also marks a departure in an Irish context. The research seeks to clarify what publics understand as biodiversity within its broader social, cultural, and political context, and also, how and why publics have these conceptualisations. This research also has practical implications. Firstly, with regard to the successful implementation of biodiversity protection policies, biodiversity policy documents would suggest that more and better public understanding of biodiversity will increase legitimacy and ease of implementation of conservation plans and policies (CEC, 2006; MA, 2005; CBD, 1992). Secondly, although contested, there is a growing body of policy and research literature alike which suggests that incorporation of lay knowledges into the biodiversity decision-making process is a necessary component of emerging people centred approaches to conservation.[23] Given the results of Chapter 5 which suggested that despite rhetorical support on the part of stakeholders, and within the policy arena more generally, for any inclusion of lay knowledges and increased public participation in biodiversity

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[23] These different approaches are discussed at length in the literature, but include for example, the ecosystem approach: Hovik et al., 2009; Smith & Maltby, 2003; Grumbine, 1994; Adaptive management: O'Rourke, 2005b; Berkes, 2004; Dietz et al., 2003; Campbell, 2002; Norton & Steineman, 2001; Community based conservation: Brown, 2003; Campbell & Vainio-Mattlia, 2003; Brechin et al. 2002; Agrawal & Gibson, 1999; Community Based Natural Resource Management: Collier & Scott, 2008; Flint et al., 2008; Collaborative natural resource management: Connick & Innes, 2003; Participatory conservation (Goodwin, 1998)

decision-making, limited practical engagement of publics in biodiversity management takes place.24

In summary, this chapter presents more nuanced understandings of what publics in the case study area of Co. Clare and Inis Oirr consider biodiversity to be, how they come to these understandings, and their views on biodiversity protection. This chapter is subdivided into four sections: an analysis of publics' attempts to define biodiversity, publics' views of the value of biodiversity, the threats relating to biodiversity loss and finally, publics' views of current protection measures for biodiversity. The concluding statement draws out key themes focusing on the construction of biodiversity understandings through place, landscape, and the social, cultural and political forces at play in the local context.

Table 6.1 List of focus groups (copy of Table 4.3, included here for clarity)
According to numerical identifier, organisation name, natural grouping type, gender, age and number of participants.

ID	Name	Grouping	Gender	Age	No. of particpants
1	Kilrush Dairy farmers	Resource use	Male	35 – 55	8
2	Kilrush Art group	Recreation	Female	30 - 75	7
3	Kilrush Family Resource Centre	Community	Mixed	30 - 45	8
4	Kilrush Youthreach	Youth	Mixed	15 - 18	8
5	Inis Oirr Lobster fishermen	Resource use	Male	25 – 55	3
6	Inis Oirr Ladies retirement	Recreation	Female	55 – 75	7
7	Inis Oirr Renewable energy	Community	Male	30 - 45	4
8	Inis Oirr Secondary School	Youth	Female	12 – 17	5
9	Burren Farmers group	Resource use	Mixed	35 – 55	4
10	Burren Drama group	Recreation	Mixed	30 – 65	7
11	Burren Angling Association	Community	Mixed	40 – 55	4
12	Burren Youthgroup	Youth	Mixed	13 – 17	5

6.2 - Biodiversity definitions

This section illustrates the diversity of biodiversity knowledge held by publics who participated in the focus groups. The research revealed individuals and groups who

[24] See for example, Collier & Scott, 2008; 2008; O'Rourke, 2005 for Irish examples; Goodwin, 1998; Harrison & Burgess, 2000; 1993 in the UK.

had significant difficulty in articulating the term, those who drew on life experiences to explain the term and those who drew on detailed ecological understandings of biodiversity. Each of these categorisations of knowledge will be discussed in turn.

All of the focus groups (listed in Table 6.1 above) were asked explicitly, without prior prompting or provision with definitions, for their explanations of the terms 'biodiversity' and/or 'biological diversity' in order to ascertain their initial conceptualisations and association with the terms. While many participants claimed they had heard of the terms before, their definitions varied widely. Of the twelve focus groups, four, the Inis Oirr lobster Fishermen, Inis Oirr Ladies Retirement and the two youth groups from the Burren and Kilrush, while acknowledging some awareness of the term, had significant difficulty articulating any definition of biological diversity, as illustrated in the extract below:

Inis Oirr Ladies Retirement Group

Mod	Have you heard of the word 'biodiversity' before?
Mary	Yeah, I've heard of it.
Aine	Yeah, I have, but I don't know what it means exactly!
Mod	It's a short word for biological diversity, could you have any guess as to what it might mean?
Meabh	Diversity means plentiful anyway. I don't know what the biological is.
Fiona	I'm not sure, I read about, it but I can't remember it now.
Mary	You'd need a dictionary for that one.

The difficulty individuals had in defining the word biodiversity might initially tend to support the results of the stakeholders in Chapter 5, and other research, for example, recent quantitative surveys such as the 2007 Eurobarometer and 2008 Clare biodiversity surveys.25 However, the reasons behind the difficulties individuals face in explaining the term is further indicated by Meabh's statement, "I don't know what the biological is". In attempting to explain biological diversity Meabh has no difficulty in relating the word diversity to plentiful, but the word biological presented two problems. First, it was unfamiliar and second its scientific

[25] In the Eurobarometer survey 48% and in the Clare Co. Council survey 58% of individuals asked had heard of the term biodiversity previously. A further detail of the Eurobarometer survey states that of the 48% who were familiar with the term, only 22% knew what the term biodiversity meant.

underpinnings were seen as somewhat intimidating. Similar findings reflecting publics concerns with scientific terminology can be found in the literature. For example, research conducted in the UK by Goodwin (1998) revealed publics' concerns about their own competence in speaking about scientific matters, pointing out that "competence... is both technical, in terms of a person's skills and knowledge, and also social, through a recognition of their capacity and entitlement to speak and have a viewpoint" (1998:487). The four groups who had difficulty articulating any meaning of biodiversity in this research felt that they lacked technical, but also social, competence to make informed statements about the topic. This is indicated in Mary's suggestion that "you'd need a dictionary for that one". That is, to explain biodiversity, or the scientific sounding term biological, expertise derived from books rather than day to day experience of knowledge and learning is required. As Jepson & Canny (2003:273) have pointed out, the term biodiversity is technocratic term, which is "difficult to integrate with culture and does not represent the feelings, meanings and practices of everyday life". This may have impacted particularly upon the Inis Oirr groups, with their older age profile and limited formal educational training, particularly in science. In contrast, the Burren Youthgroup, while similarly baffled at the meaning of the terms, were more willing to expand on what biodiversity might mean, as illustrated below:

Burren Youthgroup

Mod	Have you heard of this term biodiversity?
All	Yeah
Mod	Could you tell me what it means? There's no right or wrong answers to this.
Gill	Biodiversity, I don't know, it's just a big word
Paul	It's hard to get your head around.
Alan	It sounds like a word that someone made up
Paul	Has it anything to do with the fossil fuels, like diesel?
Patrick	Trying to get out of using all the bad stuff and trying to use biofuels more? Like getting the environment cleaner so that there isn't a big hole in the atmosphere?

Initially the participants above follow in a similar vein to the Inis Oirr Ladies Retirement Group, suggesting that biodiversity is a difficult, unfamiliar and elitist term, as Alan says, "It sounds like a word someone made up". This statement raises the question of who would make up the term. Buijs et al. (2008:70) suggest that this kind of explanation of biodiversity indicates that in the minds of publics biodiversity

has become a "fuzzy, unclear" concept, a "political instrument", thereby associated with science and policy making. This view reinforces the previous assertion held by the Inis Oirr Ladies Retirement Group that biodiversity is seen as an intimidating term, outside the realm of ordinary knowledge and competence, becoming associated with an elite, scientific or policy making group. However, unlike the Inis Oirr Ladies Retirement Group and the Inis Oirr lobster Fishermens Group, the Burren Youthgroup go on to attempt to locate the term biodiversity in a range of environmental issues, such as fossil fuels and the depletion of the ozone layer. This is reminiscent of research examining publics' understandings of climate change conducted by Kempton et al. (1995). This study found that public understanding of global warming was often confused with the problems of ozone depletion and of air pollution. It appears that for the Burren Youthgroup, any meaning of a complex term such as biodiversity was easily lost within a plethora of other, equally complex environmental issues.

The view of biodiversity as scientific and intimidating by Inis Oirr Lobster Fishermen, Inis Oirr Ladies Retirement Group and two youth groups from the Burren and Kilrush is based on the assumption that the only way of understanding and articulating biodiversity meanings is through a narrow scientific definition. Instead, Fisher & Young (2007) and Buijs et al. (2008) have shown that publics may understand the concept of diversity in nature, although they are not familiar or comfortable with articulating it's more scientific or technical aspects. Certainly, the four groups who faltered at the technical or scientific sounding nature of the term biodiversity outlined specific knowledge of the local environment, for example knowledge of local plants and animals, in addition to their distributions and changes in populations. Crucially they also revealed wider meanings of biodiversity beyond its scientific or ecological underpinnings, as will be explained later in this chapter. Therefore like the findings of Buijs et al. (2008) representations of biodiversity encountered with publics in this research project are built from, and embedded within, a range of concepts several of which are related to more familiar objects like nature and landscape. These more everyday terms anchor the somewhat abstract notion of biodiversity.

An example of anchoring of biodiversity in the familiar can be found in the following extract from the Burren Farmers Group. The two farmers groups in the Burren and Kilrush drew on their experience of REPS to illustrate their understandings of biodiversity. However, as the following extract indicates, even within publics of similar social background and age, a range of perspectives exist, suggesting publics understandings of biodiversity are unpredictable and difficult to generalise:

Burren Farmers Group

Breda I've heard of it [biodiversity], I think. It's in the REPS. I had to do a course, 3 hours every night for 5 nights, but I couldn't tell you what it is.

Morris God I don't know, probably the simplest thing you'd think of.

Breda Is it like planting a hedge or that kind of thing?

Rich Yeah, or making grass for the birds, like linnet?

Morris Oh yeah, linnet. The tillage farmers have to sow that now. There was a fella I used to know and he used sow linnet. You know, you'd have a field for the habitat [referring to REPS], like you can leave it there and it grows for years and years.

Rich Is it to do with the food chain as well? You have a tiny little insect or worm that's working in the ground to the biggest animal that's on the farm, and if you take one of those out, you're going to cause a problem?

The variety of perspectives in the extract above reflects the diversity of publics even within the same social group, in this case the Burren farmers. Both Morris and Breda, for example, initially follow in a similar vein to the Inis Oirr ladies and fishermen, and the Burren and Kilrush youth groups, providing a limited response to the question of what is biodiversity. After indicating their uncertainty, they turn to their own experience and knowledge of measures within REPS. However, in comparison Rich uses an ecological analogy of food chains, and suggests unprompted, that loss of interconnectivity between species is in someway problematic. Rich's more holistic perspective holds more in common with those of environmental stakeholders provided in the previous chapter than with other farmers participating in this research. In an informal conversation Rich suggested that his knowledge of biodiversity in these terms stems from his experience of farming with his father from which he gained an understanding of the natural capacity of the land. Other farmers in this group attended agricultural college and were trained to farm for maximum productivity. This is significant in relation to the training course of REPS, which aims to foster a "culture of conservation" among

participants (Gorman et al., 2001:143). Evidence from the participants in the Burren and Kilrush Farmers Groups would indicate that this "culture of conservation" is superimposed onto the mindset of productive farming, this is indicated in Morris's statement "you'd have a field for the habitat", indicating that areas for biodiversity, in the form of habitats are removed physically, but also ideologically, from the productive part of the farm. This distance indicates a "cultural response to a cultural form of intervention that embodies a particular set of normative models regarding the relationship between human activities and nature" (Wynne, 1996: 67). These views of biodiversity as separate and external are interpreted in response to farmers existing cultural and social norms of productive farming and land rights. Similar views of nature management through agri-environment measures were found in a study by McHenry (1997) in southern Scotland. The Scottish farmers who were engaged in extensive agricultural activities, like the farmers in the Burren and Kilrush, also viewed nature management through agri-enviornmental measures in a purely productivist and instrumental manner, with the nature management aspect viewed as superimposed and external.

In contrast to the previous groups the Burren Drama Group, Inis Oirr Renewable Energy Group and Kilrush Family Resource Centre Group consisted of well educated middle class individuals, between the ages of thirty to sixty. These groups indicated a greater willingness and more confidence in articulating ecological understandings of biodiversity. For example, in the following extract, Lauraand Sean from the Burren Drama Group relate the term biodiversity to variety in nature, within and between species:

Burren Drama Group

Mod	Could you hazard a guess as to what biodiversity might mean? There's no right or wrong answers.
Trish	Oh, I wouldn't know now…
Laura	Is it just like, there's a cow, but there's also many different types of cow, but it's the same species?
Sean	To me it means that you have all the different animals living together.
Mod	So is it about the different animals and the interactions between them?
Sean	No, I wouldn't have included interactions, it's just that they're there, they mightn't be dependant on each other, they mightn't be part of the same food chains

While proceeding with a degree of hesitancy, Laura and Sean both draw on the notion of variety to express understandings of biodiversity, but based on different interpretations of variety. Laurawho in a previous conversation had expressed an interest and affection for frogs due to their "different types, colours, sounds", expresses biodiversity in terms of genetic diversity and the variability within a species. Unlike Laura, Sean spoke of variety between animals. He suggests that more species equates to more diversity, also indicating understanding of the ecological concept of food chains. However, he limits the degree of interconnectivity between species to that analogy, as he says, species are "just there... not necessarily connected". In interviews conducted into publics understanding of biodiversity in the US Hunter & Brehm (2003) found similar findings, with interviewees indicating a general familiarity with biodiversity and its loss, but missing any further scientific or ecological details. Sean's view of interconnectivity contrasts with definitions of biodiversity given by environmental stakeholders, particularly those within the environmental sector, who emphasised interconnectivity as interrelationships between species, habitats, ecosystems and ecosystem services in their explanations of biodiversity. Different understandings of biodiversity are not only restricted to differences between lay and elite knowledge, but can also be attributed to different values which are embedded in the term biodiversity itself.

The following groups from Kilrush, the Burren and Inis Oirr provided quite different understandings of biodiversity. The Burren Angling Association Group, for example, considered themselves well acquainted with the term biodiversity and were confident that they knew its meaning due to their professional background as secondary school teachers and their interest in environmental issues more generally. However, despite this, biodiversity still proved difficult to articulate as the following extract illustrates below:

Burren Angling Association Group

Mod	I just want to turn for a second to the term biodiversity, have you heard of it before and could you hazard a guess at what it means?
Noel	I think we'd have a rough idea...
Eddie	...yeah, yeah we'd have an idea...
Mary	...from teaching you see...

Eddie	...and because we've applied under the biodiversity scheme for funding to basically to try and restore the lake we would be aware of it, the whole of the lake ecology.
Mod	So is that what it means, ecology?
Mary	It's more, its natural habitat and the importance of creating the right habitats for wildlife. But its not just wildlife...
Noel	...discovering what wildlife is there?
Mary	But that's only part of it....
Noel	...its about protecting it?...
Mary	...yeah, it's about protecting the balance of nature; the balance of man and how he works within the environment by maintaining the right balance and being aware of the importance of our environment.

This group struggles to define the term, despite their previous confidence, recalling the views of professional stakeholders who suggest that biodiversity is a difficult term to articulate. This difficulty is particularly evident in Mary's interaction with the other two group members, Noel and Eddie. Taking a holistic view, Mary, using the term natural habitat, recounts the role of the group in creating habitats for wildlife, but also the need to create a balance between humans and nature. It is this latter aspect, her feelings of environmental concern and protection that she struggles with most, feelings which are also shared by Noel and Eddie, but which are notably absent from previous groups discussed in this chapter. Drawing on the relationship between nature and humans, in Mary's words, biodiversity becomes a problem to be solved. This is the basis of the difficulty Mary faces in describing biodiversity. Despite biodiversity's inherent connections with the science of ecology, as Eddie suggests in his interpretation of biodiversity as "the whole of the lakes ecology", for Mary, biodiversity is also about "being aware of the importance of our environment". This brings understandings of biodiversity from the realm of science into that of values. As Paul Wood (2000:35) notes, those engaged in the act of conservation, such as this group, "are generally in full agreement that the world's biodiversity should be conserved, but they are not exactly clear *why* biodiversity should be conserved" [emphasis added]. It is this normative element of biodiversity, the element which denotes personal interaction with the natural world and stems from daily practice of experience and emotion that proves difficult for Mary to articulate. Indeed, research into public's connectedness to nature in the field of environmental psychology suggests that a "person's sense of connectedness to nature is not a conscious one, or at least not a belief that is thought about on a regular basis or

readily available for retrieval" (Schultz et al., 2004:33). As noted in the previous chapter, biodiversity is a complex and value laden term, and in this extract, the difficulty in articulation rests on intangible and difficult to articulate values associated with the act of protecting biodiversity.

But this is not to generalise that all individuals will have difficulty in articulating the definitions of biodiversity which are associated with their connectedness to the natural world. Like the Burren Angling Association Group, the individuals in the Kilrush Art Group were well-educated professionals between the ages of forty and sixty-five. However, unlike the Burren Angling Association Group, the Art Group are confident in their interpretations of biodiversity, comfortable in their discussion of the human-environmental interactions and draw on each others ideas to construct definitions of biodiversity, biodiversity loss and the causes and consequences of this loss, as the extract below reveals:

Kilrush Art Group

Lisa	I think it means to be more friendly to the environment.
Justine	I thinks it's to be aware of the nature that's around us.
Edel	I would have thought it means trying to preserve all that's there in nature. Rather than, say, conserve bluebells and let primroses go, try and keep all that we have.
Justine	To me it means balance. Man [sic] is the enemy but nature carries on regardless, nature does her own thing.
Beth	To me what it means [is that] the biological ecosystem, everything is connected... we need to preserve these things, for our grandchildren and our grandchildren's children.

Like the Burren Angling Association Group, this focus group related biodiversity to the interactions between humans and the natural world, for example, being engaged in the act of being "friendly" towards and "aware of" biodiversity. Edel raises a slightly different issue, suggesting that diversity in nature should be preserved, as she says, "keep all that we have". This understanding outlines the connection between the number and difference of species in creating biodiversity. A common theme within such action orientated interpretations of biodiversity is that they reflect concern for the demise of biodiversity, positioning individuals as stewards of a fragile nature. In contrast Justine, represents biodiversity as robust and constant in her claim that despite human influence and damage "nature

continues on regardless". In similar research Buijs et al. (2008) has highlighted the diversity of public's views of the relationship between humans and nature, particularly drawing on differences around the notion of balance between human activities and the natural environment. Again, proffering a slightly different interpretation, Beth specifically mentions interconnectivity, of ecosystems and future generations, which resonates with views held by public and civil society stakeholders in Chapter 5. So while the overall perspective of this group is similar to that of the Burren Angling Association Group, there are also subtle differences in each individual's understanding of biodiversity. These extracts point to the wealth of different conceptions and interpretations of biodiversity, particularly in definitions of the term which are grounded in individual relationships with the natural world.
The Inis Oirr Secondary School Group also utilise the notion of balance in coming to their definitions of biodiversity, but rather than couching understandings in the human-environment relationship, as the Kilrush Art Group and Burren Angling Association Group did previously, the young people highlight ecological patterns, a balance which creates and maintains biodiversity:

Inis Oirr Secondary School Group

Mod	Have you heard of the word biodiversity before?
All	Yeah
Mod	Well what does it mean?
Jacqui	Something to do with plants?
Aoife	Animals and plants, what's the word? Like a diverse ecosystem.
Nicola	Loads of different animals and plants living in harmony
Aoife	But they don't really live in harmony, they're all killing each other…
Mags	… then animals and plants sort of depending on each other?
Nicola	…but competing…
Aoife	…well, they have to balance each other as well, otherwise they'd just die out

After initial discussion of animals, plants, ecosystems, and their numbers, this group were quick to discuss the ecological notions of balance, competition and interdependence, in distinct contrast to previous groups who revealed little by way of ecological or scientific understandings of biodiversity. Not only did the group provide nuanced ecological understandings of biodiversity, they were also confident in their understandings of ecological processes, challenging each other as the discussion progressed. This evidence sheds some light on previous research which

has concluded that publics have little knowledge of the science underpinning terms such as biodiversity (Hunter & Brehm, 2003; Elder et al., 1998). While this is certainly the case in prior focus groups, this extract suggests that publics are not easily generalised to.

The group went on to suggest that they benefited from some awareness of the term and its ecological connotations through their formal education and an enthusiastic science teacher. Environmental education studies have found that while knowledge of biodiversity may increase through formal education system, other factors such as the life experiences and local environment play a role in the cultivation of understanding and interest (Chawla, 2006; 1998; Palmer, 1998). While not explicitly stated, further discussion suggested that their interest and knowledge in ecology comes from exposure to and connection with the landscape of the Island. There is possibly an interplay between both different forms of knowledge, and affective dimensions of learning, as Carlsson (2008:113) suggests, "scientific knowledge deepens and enhances the aesthetic appreciation of landscapes that is initiated by common knowledge".

This focus groups analysis suggests that publics understandings of biodiversity are diverse. Understandings ranged from those who viewed the term as intimidating, expressing uncertainty in their own competencies of interpretation, to others who conceptualised biodiversity in a similar manner to environmental stakeholders, while others based their understandings on the direct observation of species or particular cultural and social formulations. In the following section publics wider conceptualisations of biodiversity will be examined.

6.3 - Publics understandings of biodiversity benefits and threats

This section presents an analysis of publics understandings and perceptions towards the benefits of biodiversity and threats which biodiversity faces. This section is divided into two subsections, the first examines publics' understandings of the benefits of biodiversity and the second their perceptions of threats to biodiversity and causes of its loss. It is suggested in the literature that such discussion reveals a greater diversity and wealth of associations, as Buijs et al. (2008:70) found in their study of publics' conceptualisations of biodiversity, "an

important component of biodiversity representations consisted of the benefits, functions and threats to biodiversity".

6.3.1 - Publics understandings of biodiversity benefits

Publics views of the benefits provided by biodiversity were examined in response to the question "Why might we want to protect biodiversity?" The analysis presented here is structured around instrumental direct benefits, aesthetic interpretations of biodiversity, which focus on the themes of personal identity and the social and cultural constructions of place and landscape.

In the Eurobarometer survey (Gallup, 2007) respondents were asked a similar question to that posed to focus groups in this study, but were provided with a pre-determined list, and from which to pick the answer that most strongly appealed to them. Based on this quantitative survey 50% of European and 51% of Irish respondents strongly agreed that the key reason for halting the loss of biodiversity was due to its provision of goods such as food, fuel and medicines. In contrast, individuals in this research project volunteered their preferred option after an explanation of biodiversity.[26] Each focus group initially mentioned similar preferences to those indicated in the Eurobarometer survey, specifically mentioning direct-use services provided by biodiversity, such as providing food and oxygen, and resources such as timber and medicines. These preferences indicate that when providing reasons for the protection of biodiversity groups prioritise biodiversity services which support human survival, as the following extract from the Inis Oirr Ladies Retirement Group illustrates:

Inis Oirr Ladies Retirement Group

Mary You couldn't survive without plants or animals…

Joanne …the trees don't they take in the carbon dioxide and give out oxygen or something?

Sue Timber, medicines

Joanne We have to grow a lot of things to eat and to live, [like] the cattle grow and we eat the meat. So it's all connected up.

[26] "Biodiversity is short for biological diversity, which means the variety of life. Biodiversity includes all living things, the interactions between them and the environment of which they are part"

Despite having difficulty in providing any definition of biodiversity, as shown in the previous section, the Inis Oirr Ladies Retirement Group were quick to suggest that animals and plants are important due to their provision of direct-use services. In fact, these services were discussed by all of the groups, including the Inis Oirr Lobster Fishermens Group, the Burren and Kilrush youth groups, each of which had previously encountered some difficulty in describing the term biodiversity as highlighted previously. This indicates the prioritisation of practical, instrumental, utilitarian concerns based on human survival over other benefits accrued from biodiversity.

For a number of groups, however, biodiversity benefits, extended beyond direct-use provisioning services which support human survival towards aesthetic values of biodiversity. After initially discussing biodiversity in terms of the goods and services, the Kilrush Family Resource and Art Groups, Inis Oirr Secondary School Group and the Burren Drama, Youth and Angling Association Groups, departed from the theme of necessity to consider biodiversity in terms of aesthetic and experiential attachments. Forms of aesthetic interpretations of biodiversity were subtly different between these groups, revealing different patterns of values to which the individuals and groups subscribe to, as the Burren Drama Group demonstrate below:

Burren Drama Group

Sean	Apart from the necessity thing there's the aesthetic value of nature as well. I know you can't eat the view but…
Laura	That does feed you in a kind of a way.
Mod	Can you explain that one for me?
Laura	Well, I went for a walk there today and I was just thinking this place is so beautiful, and it does, it just makes you feel better, its grand.
Edel	The sound of the water, it's very tranquil.
Sean	If you go now, you've probably heard of Mullaghmore [in the Burren National Park], out the road there, I mean that used to be fantastic, it was a really nice place to visit and to walk. And then with all the controversy and publicity, it used to be crowded and you don't get the same value it at all then.
Laura	There's still a good view though

The pattern of prioritisation seen above whereby direct-use benefits associated with biodiversity are given precedence over aesthetic benefits is well rehearsed in the

literature, with Brady (2003) (highlighting the work of (Porteous 1996: 7)) claiming that "aesthetics belong to the area of human concerns that are attended to only after we have secured the fundamental necessities of life, e.g., food and shelter". However, it is also interesting to note the particular aspect of biodiversity being discussed and valued in the extract above. It can be inferred from Laura's and Sean's statements that aesthetic values are not gleaned from biodiversity, defined in the scientific sense as variety of life on the planet, genes, species and ecosystems, or using Sean and Laura's own terminology, the variety within and between species as discussed in the previous section. Instead, it is particular properties of their experience of landscape or place that determines value here. For these individuals biodiversity and the values which are associated with the term, are interpreted through and embedded within the Burren landscape. As such, it is the place, the Burren landscape in this context, rather than an abstract notion of biodiversity which is imbued with meanings of importance and provides beneficial experiences.

There was general consensus across the Kilrush Family Resource Centre and Art Groups, the Inis Oirr Secondary School Group, and the Burren Angling Association, Youthgroup and Drama Groups, that the aesthetic benefits of particular places provide spiritual and beneficial feelings of peace, quiet and tranquillity leading to feelings of personal well being. This is exemplified by Laura's statement "...this place is so beautiful...it just makes you feel better". This view of landscape as restorative resonates with psychological studies, which have outlined the health benefits from seeing and experiencing nature (e.g. Herzog et al., 2003; Herzog & Barnes, 1999; Herzog et al., 1997). However, there is also a deep rooted belief in western society that the engagement with nature brings with it a range of personal health benefits. Therefore, the statement above can also be interpreted through the biophilia hypothesis which asserts that people have a basic tendency to associate themselves with nature (cf. Kellert, 1996; Wilson, 1984). As Wilson (1984) claims, contact to nature promotes well being and affords an opportunity to recover from the stresses of modern, urban, unnatural environments.

For example, Wordsworth and Thoreau, to name but two, are well known for their writings which are based on firsthand experience of the uplifting qualities of contact

with nature or landscapes. The romantics, as David Pepper (1996:91) explains, maintained that science was inadequate to explain all the phenomena with which humans were confronted, understandings was also derived through intuition, instinct and emotionally based knowledge. Certainly these focus groups developed connections to biodiversity and ascribed meanings of importance to particular place through such experiential means, but this is particularly revealed through discussion with the Kilrush Art Group, as illustrated below.

Kilrush Art Group also consider the aesthetic values of biodiversity, but their interpretations are slightly different to those of the Burren Drama Group previously discussed. The Art Group interpret reasons for protecting biodiversity through their sensitivity and respect for the natural world as highlighted in the previous section, rather than solely visual aesthetics:

Kilrush Art Group

Lisa We love nothing more than to get out for a breath of fresh air, sit on the side of a cliff, or sit say in a wooded area or where ever, with the birds singing, and paint. So we'd be totally tuned in, sensitive to the whole thing.

Brenda I mean, if we see anyone doing anything harmful, it breaks our hearts you know. But I suppose that's because we're so into nature, and at a very young age we respected it.

April You'd almost think though, I've certainly had it flash across my mind, gosh, I must paint this or I must paint that because it may not be here in a few years time. You know we've got to really treasure what we've got now because who knows what's going to be around in 40 or 50 years time.

Clearly evident from Lisa's opening statement is the sense of enjoyment that she and others in the group gain from the sensory experience of being outdoors, as she mentions, sitting in nature, the feeling of fresh air, the aural experience of hearing birds sing, coupled with the activity of painting. In contrast to the Burren Drama Group, the Kilrush Art Group value the natural world in a holistic way rather than simply its visual aesthetic or restorative powers associated with particular places. Evidence for the origins of the group's appreciation of the experience of nature can be taken from Brenda's statement "at a very young age we respected it". So, in addition to their interest in painting and concern for the environment, Brenda suggests that she, and other members of the group, share an identity which has

been constructed and mediated through similar upbringing, instigating a particular set of values towards the natural world. These values are embedded in the group's shared respect for nature as a result of common childhood experiences. For example, the members of the group are all of a similar age, female, and grew up in similar rural environments. Literature which clarifies the process of shaping of the self with respect to nature, and which directs attention to the relationship between self and empathy with nature can be found in environmental psychology. The work of Schultz et al. (2005) and Schultz (2000) is particularly useful in this regard. Schultz suggests that the types of environmental concerns people develop are associated with the degree to which they view themselves as connected with nature. Schultz goes on to claim that individuals socially construct landscapes as reflections of themselves, their personal, but also shared group identity. Meanings of nature for the Kilrush Art Group, in this sense, appear to be constructed through a myriad of experiences, so that they see nature as part of themselves, linked to their sense of self. The members of the Kilrush Art Group, therefore, have developed a deep sensitivity towards nature and a conservation ethic linked to sense of self. However, the sensitivity Lisa alludes to extends beyond a sensory awareness of nature, into a deep connection which strongly empathises with the natural world. Brady (2003) suggests that it is engagement with nature that may enable a caring attitude, and that this engagement can take many forms of active participation including painting but also, activities such as ecological restoration, gardening, and recreational activities like swimming and walking. As she says, the aesthetic appreciation of and practice of aesthetic engagement in nature, can act as a guide to shaping the self "directing one's life in positive ways" (Brady, 2006:282/3). This suggests that a complex variety of life experiences can converge to create value and emotional attachments to nature.

In a similar manner to the Burren Drama Group, discussions in the Burren and Inis Oirr youth groups were emotionally grounded. In the following extract the Inis Oirr Secondary School Group express their attachment to particular places they regularly visit:

Inis Oirr Secondary School Group

Aoife Well, my usual route is way out the west of the island.
Deirdre Me too.
Jacqui The lighthouse is better, you can just sit there, or you can climb over walls
Deirdre But over there [the mount] you can get near the sea.
Mags Yeah, but there's sea over at the lighthouse too.
Fiona Yeah it's more scenic
Mags And it's really peaceful
Jacqui Yeah, you'd never see other people

Through the discussion of the Inis Oirr school group above it becomes apparent that specific places hold certain personal attachments for individuals in the group. That is, it is the experience of beauty, peace and escape from other people define the areas which the young people consider important features of the island landscape. There is a vast body of literature which assists in the interpretation of these aesthetic and emotionally grounded interpretations of place. Again drawing on literature in the field of environmental philosophy, as previously highlighted with the Kilrush Art Group, critics have suggested that developing a relationship with nature through aesthetic experiences, engaging with nature firsthand, in a multi-sensory, emotional and imaginative manner, as the young people of Inis Oirr do, can encourage or contribute to an positive appreciation of nature (Brady, 2006). Additionally, research in the area of environmental education which is conducted specifically with young people provides further context here. Critics in this discipline have indicated that sustained contact with a given place, as evidenced in the extract above, can influence and cultivate young peoples' environmental knowledge and concern (e.g. Fisman, 2005). Indeed, scholars such as Miller (2005:430) has discussed the dwindling time young people spend outdoors as contributing to an "extinction of experience". Certainly, the ecological understandings of biodiversity held by the Inis Oirr Secondary School Group and their knowledge of species and habitats on Inis Oirr, for example, rare plants, seals and basking sharks would tend to support such arguments.

Accordingly, it should also be pointed out, that the different reasons individuals in the Inis Oirr Secondary School Group provide for visiting particular areas is also significant and indicates the importance of examining life stage in interpreting the perspectives towards biodiversity and biodiversity values associated with place.

Fiona and Mags who are twelve and thirteen respectively, value the same area for its scenic qualities and tranquillity. Using the work of Kellert (2009; 2006; 2002) is useful here to help explain the different values young people place on specific areas based on age group. He stresses that throughout development children and young adults seek out different experiences. As indicated by Fiona and Mags, in late childhood and early teenage years individuals focus on relatively ordinary and familiar settings and activities. Kellert stresses that as individuals move into adolescence, they move towards more challenging and undisturbed environments, or indeed, more adventurous activities. Jacqui, who is sixteen and the oldest of the group, illustrates this, valuing her experience of the area near the lighthouse as a space for reflection, but also to experience adventure and independence without adult supervision.

The group highlights another important facet which is discussed in the literature as being important in the creation of environmental values, that of freedom to roam. Van den Born et al. (2001) claim that freedom to roam may increase positive associations and values with nature. Therefore the role of childhood and adolescence can be considered important in developing connections between self-identity and the natural world. With environmental psychologist Peter Kahn suggesting that the genesis of estrangement from nature lies in childhood (Cited in Miller, 2005). However, largely absent from any of the discussions in focus groups was an aesthetic appreciation of particular physical aspects of biodiversity, for example species, derived from a natural science perspective such as those espoused by some of the environmental stakeholders.

The groups discussed thus far illustrate the complex nature of the aesthetic appreciation of biodiversity, associated with different places, experiences and emotions. The manner in which aesthetics were internalised to create conceptualisations of benefit was also examined in by the Kilrush Art Group and the Inis Oirr Secondary School Group. However, five groups (the Inis Oirr Ladies Retirement, Renewable Energy and Lobster Fishermens Groups; the Burren and Kilrush Farmers Groups) also discussed aesthetics of landscape and place, but positioned it as something external to their own framework of understanding. These groups tended to focus on instrumental benefits to be gained from biodiversity.

The Burren Farmers Group and Inis Oirr adult groups are particularly interesting in this regard because the landscapes they inhabit have been described aesthetically in this section through the voices of the Burren Drama Group and the Inis Oirr young people. This indicates what Carlson (2009:125) calls a landscape pluralism, "what we perceive [as] the mythical, symbolic and aesthetic uses of landscapes, make and remake, not the landscape, but the landscape images of individuals, groups, or whole cultures". That is the different interpretations of landscape or place are individually and socially constructed; landscapes look different from different cultural standpoints. Therefore, landscapes can be said to be promiscuous, indeterminate and ambiguous, they lend themselves to and allow themselves to be appreciated in terms of the different images that individuals and cultures bring to them. As the Burren farmers highlight in the extract below, aesthetic meanings and conservation values placed on the Burren, as highlighted by the Burren Drama Group earlier in this section, are very distinct from their own interpretations of the area:

Burren Farmers Group

Breda You just live in a place, we've grow up in it, we don't take that much notice

Morris Maybe this is a beautiful area, but you don't take any notice of the mountains or the stone or the sea. Like if we'd a couple of hundred acres of green flat land somewhere…

Breda …we'd be in heaven!

While the farmers in the extract above, specifically Sean, recognise the beauty of the Burren's 'lunar landscape', valued aesthetically by the other groups from this area, such views are also considered external to the group and associated with people from 'outside' the residential community, or Morris asserts, tourists who visit during the summer months. The work of Greider & Garkovich (1994:2) is of interest here as these researchers assert that natural environments assume different roles to different groups, depending on how a group defines itself. By distancing themselves from aesthetic values of place, the farmers define themselves as 'insiders', as Breda says, "we've grown up in it, we don't take that much notice". The meanings that the farmers go on to give the Burren landscape reflects what their cultural groups define to be proper and improper relationships among themselves and between themselves and the physical environment. The manner in which

individuals and groups view the benefits associated with biodiversity, through conceptions of place, can be considered as expressions therefore, of social but also self identity. Put more directly by Cheng (2003:93) "how one understands, evaluates, and acts in a geographic setting directly reflects ones self-identity". This helps to explain the view of the farmers have of the Burren is a working, agricultural landscape, removed from a romantic aesthetic appreciation. Similar perspectives were found in work by Kelly (2007), who found that where farmers had romantic views of nature, these were weak, discussed in terms of a closeness to nature as a motivating factor in their commitment to farming. Instead, an aesthetic appreciation of the Burren landscape is considered by the farmers to be ideologically and culturally removed from their lives and values, but yet, farmers hold deep emotional ties and connection to the landscape.

In contrast to the three other Burren groups, for the farmers, a more important interpretation of the Burren is the perceived condition of the land, as a resource and livelihood, as opposed to a place of beauty, scientific or recreational interest. The farmer's shared group definition of place defines the physical attributes of the Burren, connecting the group through a shared social identity, an identity which has at its core, a shared cultural interpretation of the Burren based on farming. For this group of farmers, the cultural interpretation of the 'crag stones' (limestone pavement) of the Burren, famed for its beauty and biodiversity, is indicative of poverty and hardship, rather than its aesthetic importance, views also recorded in a qualitative study of publics in the Burren by O'Rourke (2005). For example, in a subsequent conversation Breda recounts the efforts her father made to create green fields from the rock, as she said "killing himself", to remove stones so that the family could become more financially secure and he would have a better, more productive farm to pass onto his children. This view of the Burren stones provides context to the exchange between Breda and Morris in the extract above, where acres of green flat land are equated with heaven.

The Burren farmers, like the Kilrush Dairy Farmers and the Inis Oirr ladies, fishermen and the renewable energy groups, all suggested that protecting the integrity of the landscape should not come at the expense of the economic well being of the community. For these groups, restricting biodiversity to utilitarian,

pragmatic terms was an essential part of their identity, distinguishing them from tourists or environmentalists. In this sense, identity becomes of critical consideration as a powerful behavioural influence in the process of distinguishing oneself from others. Similar associations to place as a productive economic space was found by Brandenburg & Carroll (1995) in their research with natural resource users. Within this framing, and in contrast to other groups, emotional attachments to place are positioned as that which sustains the person and the social group. These views become increasingly apparent in the discussion of threats to biodiversity addressed in the following section.

An alternative identity to all of the other groups is explored through the view of the Kilrush Youthreach Group in the following paragraph. In discussion with the Kilrush Art Group and Kilrush Family Resource Centre Group the marina and walled gardens were both noted as recreational areas and places to experience wildlife and nature, and as supporting mental health and well-being. These areas are also noted for biodiversity within the Kilrush Town Plan. Both the woods and the gardens are within the Kilrush youth group's home range, easily accessible by foot. However, the Kilrush Youthreach Group reported that they spend most of their time on their own estate, socialising at walls and laneways or indoors watching television or playing computer games. The views of the group towards recreation areas, such as the marina and woodlands, were broached in discussion. In the following extract the group discuss these features of the local environment, comparing them to the urban landscape:

Kilrush Youthreach Group

Mod Do you ever go to places like the marina or…
Alan Whats down there? Nothing
Mod …out to the gardens, the woods?
Deirdre The walled gardens? I wouldn't go out there
Aisling There's nothing to do out there.
Mod But you mentioned that there's nothing to do in the town either?
Alan At least there's people in the town, there's nothing out in the country
Aisling All you see is cows out there
Deirdre We need more shops, and a cinema like in Cork or in Ennis.
Alan What's down there only a few trees, I only go when we're driving motor bikes.

In contrast to rural groups, the more familiar urban landscape is identified as more interesting and appealing, with Deirdre mentioning that Kilrush does not have the same attractions, such as a cinema and shops, like the bigger towns. This group in their late teens (older than the Inis Oirr Secondary School Group and Burren Youthgroup) and unlike other groups have no wish to escape to experience feelings of peace or tranquillity. However, Alan does suggest that he visits the woodlands to ride motor bikes which suggests adventure seeking. These views can partially be explained again drawing on the extensive work of Kellert who proposes that younger teenagers, such as the Inis Oirr Secondary School Group and the Burren Youthgroup have a greater appreciation for wildlife and justice issues with this interest waning in mid to late teens (Kellert, 2006).

The Kilrush Youthreach Group's recreational contact with nature is limited, with more emphasis on indoor activities, television, computer games, internet and social contact in the familiar urban setting. Other commentators suggest that this loss of experience in the natural world is one of the key contributions to the current ecological crisis (Miller, 2005), going so far as to say that this constitutes an extinction of experience, which is based on diminished and compromised possibilities for satisfying interaction between young people and nature.

One of the reasons given for this extinction of experience is increasing urbanisation. For example, the members of the older Kilrush community group (the Family Resource Centre Group) are from a diversity of urban backgrounds, with no prior experience of value for nature, having moved to Kilrush later in life. Also, one of the most vocal members of the Inis Oirr youth group who held detailed knowledge of species and provided anecdotes of experiential nature values lived in the centre of Dublin city, only moving with her family to Inis Oirr two years prior to the focus group. These individuals articulated that they had little contact with nature prior to their relocation to a largely rural environment, and also suggested that they only began to appreciate nature once living in it. Therefore, it may not necessarily be an extinction of childhood experience, but an extinction of experience at any stage of life.

The Kilrush Youthreach Group therefore also serves as a useful and realistic counterpoint to previous extracts, illustrating the variety and heterogeneous nature of publics and variety of interpretations of nature, both positive and negative. It also raises the issue that it is usual that not everyone will expresses value of biodiversity or nature, all the time and indicates that people have multiple needs, which are not necessarily consistent across the entire stage of life.

6.3.2 - Threats to biodiversity and perceptions of biodiversity loss

In this section the focus groups' understandings of the threats to biodiversity and perceptions of its loss will be examined. The range of public's views towards biodiversity threats and its loss is important from a policy perspective, as it can influence the manner in which individuals view decisions taken for biodiversity. As Stamm (2000: 220) researching public perception to climate change highlights "the ways in which people think about environmental problems, their individual understandings, are not necessarily accurate or complete. Nevertheless, these cognitive processes are likely to influence both their willingness and ability to participate in solving the problem." The findings in this section therefore, have practical implications for the communication of biodiversity loss, as Kellert's research into public perceptions towards endangered species claims "If people are to be persuaded of the necessity of saving species they must first perceive the problem" (Kellert, 1985:532). In the same way, research suggests that if publics are to conserve biodiversity, or want to conserve biodiversity, they must first be aware of 'the problem', the causes and consequences of biodiversity loss. The analysis of publics' understandings of biodiversity threats is structured around four themes. The first examines understandings of the causes and consequences of biodiversity threat which are based on particular representations of nature as resilient and adaptive, the second theme examines the variety of social and cultural interpretations of biodiversity threats based on interpretations of risk, place and community attachment, following on from this the third theme examines expressions of threat based on values and identity, while the fourth and final theme presents ecological understandings of biodiversity threats.

One of the most prominent themes to arise from discussion of the threats to biodiversity was publics understandings of the causes and consequences of threats

to biodiversity. Inis Oirr Ladies Retirement and the Renewable Energy Group, and both farmers groups each developed similar conceptualisations of biodiversity loss based on direct observation and knowledge of their local environment. As the following extract illustrates, the Inis Oirr Renewable Energy Group are also knowledgeable about species and identify losses, but are less sure of the drivers of these changes:

Inis Oirr Renewable Energy Group

Justin There's not really many [threats] are there?

Demot I suppose the fact that we're an island helps.

Matt When the air strip came the terns moved to the back of the island, so it's a very small colony now. But I think they're still there.

Demot Years ago if you walked through this place, [the birds] would be taking the head off you. When we were young there were still a few here.

Matt Then there's the shellfish, like the periwinkles have started to disappear, the urchins have started to disappear. There was a time they'd be a lot of them, but the black sea urchin, they're gone now more or less.

Justin It used to be that you could just walk out into the sea and get them. That's happening, but it's nothing to do with man like. It happened over the course of one winter. Unless they contracted some sort of disease like the rabbits and the myxamotis. I don't know.

Matt It might be something to do with the global warming, you wouldn't know like.

As the extract illustrates, the group positioned constructions of biodiversity loss through direct observations of the local environment. Evernden (1992) found similar findings in the research of perceptions to environmental change, concluding that most communities look at larger scale problems, such as threats to biodiversity, from their local viewpoints constructed through direct experience and observation of nature. These direct observations of changes in species distributions and abundance, highlighted above through discussions of bird and shellfish populations, were similarly described in other groups. For example, the Inis Oirr ladies group noted the demise of the corncrake and skylark and reductions in the abundance of wildflowers. So while these groups are able to describe biodiversity loss in terms of directly observable species decline, the causes of this loss are more difficult to define. Dunlap et al. (2000) suggests that the reson for this difficultly comes as a result of the complex forces behind environmental change being "geographically dispersed, less directly observable, and more ambiguous in origin" making publics'

detection or attributing cause to environmental change such as biodiversity loss problematic. Certainly individuals above express uncertainty in this regard, but in contrast to Dunlap et al.'s assertion, they also suggest climate change and disease as possible causes of shellfish losses, the origins of which are certainly ambiguous, geographically dispersed and less directly observable. Crucially, these causes are also positioned away from the island, and the personal responsibility of the islanders.

Similarly, Hunter & Brehm (2003) purport that observations of species losses and changes in abundance made by publics are not related to scientific rationales. They go on to suggest that the absence of scientific knowledge results in the causes and consequences of species loss going unnoticed. The previous discussion of biodiversity definitions with the Inis Oirr adult groups, and farmers groups, concluded that they are somewhat intimidated by science, or had limited ecological knowledge of biodiversity. This would seem to support Hunter & Brehms assertion that an absence of scientific knowledge has implications for public's understandings of the causes and consequence of biodiversity loss. However, a more subtle issue can be inferred from the extract above.

Close attention to Matt's ideas concerning the construction of the airport on the island would suggest that he views nature (as birds in this instance) as resilient and adaptive to disturbance. Certainly, this issue was raised in relation to biodiversity threats by one member of the Burren Drama Group, who equated species loss to survival of the fittest, that is, that species should evolve to adapt to the human environment and human disturbance. As Harrison et al. (1994) note, these statements resonate with the notion that nature is benign, that it recovers from human disturbance. The implications of this view for biodiversity management would suggest that biodiversity protection is therefore somewhat unwarranted; nature will recover.

Following on from the notion of nature as resilient to threat, and drawing on the idea of risk the Burren farmers discuss threats to biodiversity as a social and cultural construct in the extract below. As mentioned in the previous section the Burren farmer's interpretations of place were constructed through cultural associations and

pragmatic utilitarian relationships with the land. In the following extract they consider their own role, mediated by conservation policy, as a threat to biodiversity with the potential to cause biodiversity loss:

Burren Farmers Group	
Morris	But you're not going to totally destroy the Burren by taking a trailer of stone out. I've about 3 acres down around the sea and you take a couple of trailers of stone out of it and it doesn't change the place one bit in the world. It doesn't do any damage to it.
Breda	It not like you're not coming in a with a bull dozer like....
Sean	Or covering it over with clay, or just wiping it out or making a quarry out of it.

The group consider threats to biodiversity in terms of removal of limestone pavement, a protected habitat under the Habitats Directive. Morris introduces the idea of risk, that small scale, personal damage does not constitute risk to the habitat. These views indicate a power struggle between the landscape and the farmer, a power struggle which must prioritise livelihoods, economic efficiency and community welfare over nature conservation (McHenry, 1997). This prioritisation of economic efficiency, livelihoods and social bonds is an important parallel between the farmers, Inis Oirr adult groups and the Burren Drama Group. The work of Greider & Garkovich (1994) in rural environmental research suggests that new information, such as new conservation practices or ideas of biodiversity loss, are constructed into the lives of people so that it does not contradict with their ideas about themselves. For the Burren farmers biodiversity loss is distanced from personal activities, just as in the Inis Oirr extract Justin suggests that declines in shellfish have "nothing to do with man". Small scale, personal resource use are seen as unthreatening, whereas larger damage in the form of climate change, disease and quarrying, which are removed from the creation of livelihoods and the social identity of the community are. That is, information, values and personal experiences are all bound up together so that understandings of biodiversity loss are "social and cultural constructs, and therefore not matters of science or policy alone" (Harrison et al.,1998:46).

In fact, groups such as the Burren and Kilrush farmers, and adult groups on Inis Oirr, may not take into account how their relationship with the land has changed in

line with policy and economic concerns, or indeed how they might change in the future. For example, deconstructing the views of the farmers very clearly highlights the discrepancies between the farmers values and current EU agricultural policy, with its emphasis on diversification, multi-functional land use and production of biodiversity as a common social good (O'Rourke & Kramm, 2009). In addition, it also suggests that when policy develops in a manner which is at odds with local practices and social and cultural identities (for example, suggesting that particular species or habitats warrant protection, or that biodiversity for long term human survival) the idea will be rejected as it does not have relevance or grounding within the community. As Owens (2000) indicates, top down information predicated upon a construction of risk that is not shared by its intended audience is likely to go unheard and unheeded. In fact, what is considered as a threat to biodiversity by publics may be completely different to that considered by scientists and policy makers.

The Burren Youthgroup and Burren Drama Group offered a different interpretation of threat, which like the previous groups is socially constructed. It should be noted that both of these groups had extensive knowledge of plants and animals in their locality, specifically mentioning rare plant species such as Mountain avens and Spring gentians for which the Burren is famed. The views of the two groups shared similar views and are illustrated by extract from the Burren Youthgroup below:

Burren Youthgroup

Barry	People traipsing through, they're making a total mess of the Burren. Like some of the gentians and the orchids, they could be growing just by the side of the road and people can come along and pick them. It happens. People take away rocks for rockeries too. That's bad for the Burren
Sue	Like up at Paulnabroan, you'd see them making mini-dolmens. All the tourists do that.
Joanne	You see, you have to have an appreciation for it [the Burren]…
Barry	The spread of hazel as well, that's a problem because it's coming into where the farming happens, and if the farming goes, so do the Burren plants.

Barry identifies the threats to biodiversity as tourist pressure, quarrying and encroachment of hazel scrub, while Sue is concerned with the construction of mini-dolmens by tourists, a social bug-bear for communities in the Burren area. A place-

based interpretation of community may explain the prevalence of this reasoning. Research in this area suggests that individuals learn from one another and their environment when individuals see their private interests linked with the shared interests of other citizens (Daniels & Walker, 1996; Brandenburg & Carroll, 1995; Gunderson, et al., 1995). This is a way of maintaining social capital and social cohesion in small rural communities. Therefore, threats become external to the community, outsiders or tourists, who are considered in the extract as having no appreciation for the Burren, its landscape or the community. In the case above, the mini-dolmens are indicative of tourist pressure on the community of the Burren. Like the farmers previously, the youth group do not separate biodiversity threats from wider social issues in the area which are considered to affect the community.

The young people's knowledge of these issues, particularly the issue with construction of mini – dolmens raises interesting questions in how knowledge is constructed and communicated in communities. Like the understandings of biodiversity and its benefits discussed by groups in the previous section, interpretations of the threats to biodiversity for this group are interpreted through their immediate physical environment, and then further mediated through social interpretations of threats which face the community more generally, rather than specific threats to biodiversity. For example, the spread of hazel is well documented as a threat to biodiversity in the Burren, but perhaps more significantly for the group, it is also a threat to farmers livelihoods as hazel expansion restricts productive farming land.

In contrast to the groups discussed thus far, the Inis Oirr Secondary School Group, Burren Angling Association Group, Kilrush Art Group, and Kilrush Family Resource Centre Group, all provided different accounts of threats to biodiversity, based on very different social and cultural interpretations considered thus far. In contrast to the Burren Youthgroup, the Inis Oirr school group who had previously provided definitions of biodiversity using ecological terminology, and presented deep emotional connections with certain aspects of their local environment, drew on direct observation and ecological associations to provide examples of the threats to biodiversity:

Inis Oirr Secondary School Group

Deirdre Pesticides, they kill the bugs and then something eats the bugs, and that gets killed

Jacqui Taking away their habitat too

Aoife Or changing it

Mod Can you explain what you mean by that?

Aoife By planting different plants or by building roads or houses or whatever, you're changing the environment

These three individuals provide ecological explanations of biodiversity loss, Deirdre using the idea of bioamplification, and Jacqui and Aoife suggesting habitat change and destruction. The group draw on their knowledge of biodiversity loss generated through both direct observation of the local environment, which they discussed in terms of housing and infrastructure on the island, and neighbouring islands, as reducing space for wildlife, in addition to their knowledge of more abstract or theoretical ecological concepts. The results of the Eurobarmoter survey serves an interesting juxtaposition here. When provided a list of options which threaten biodiversity only 8% of the European population suggested habitat removal through construction as a threat to biodiversity, with only 10% of Irish responses considering this the most important factor in biodiversity loss. These relatively low percentages follow in a similar vein to previous qualitative research into publics' perceptions of biodiversity loss. Publics possess general wildlife knowledge, and maybe able to identify changes or disappearances in species populations, they are typically unaware of scientific detail and causes of these losses (Kellert, 1993; Kellert & Berry, 1987).

While habitat change and destruction was directly observable as a possible driver of biodiversity loss, and it was identified by other groups on Inis Oirr, it was not automatically considered as a threat to biodiversity. It is significant therefore, that the Inis Oirr Secondary School Group hold quite different interpretations of both benefits and threats to biodiversity when compared with the participants of other focus groups from the Island. As Brandenburg & Carroll (1995:381) concluded from their research into place attachments and landscape meanings, the "personal experience of a place can alter the values, beliefs, and wisdoms that individuals normally share with their primary social group". While it might be argued that the young people from Inis Oirr do share a common perspective based on their primary

social group as school children, it is also noteworthy that their perspective differs considerably from Inis Oirr adult groups. Whereas, the Burren young people, who held less clearly identifiable place attachments in terms of benefits to be gained from biodiversity were more willing to share similar perspectives to the adult groups in the area.

The Burren Angling Association Group, Kilrush Family Resource Centre Group and Kilrush Art Group couch their understandings of threats to biodiversity and explanations of its loss within a wider socio-economic and political framework, based on their personal values, identity and relationship with nature. The Kilrush Art Group also consider threats to biodiversity in a wider social, political, economic and geographical context as the following extract illustrates:

Kilrush Art Group

Carmel	Pollution
Maria	All the trees cut down to make books and paper, all the stuff used in making the commodities that we want.
Sinead	Packaging. Everything is over packaged, like if you buy biscuits they're in a packet and then you've a container inside that. Tomatos the same, everything.
Susie	And then you've got all the junk mail that comes in through the door. Every time I see it I think, there's another thing for our recycling bin.
Maria	And then there's the other side of that. What if we stopped it all, there's people going to be out of work? Its very difficult to come to an answer.
All	It is.
Karen	You're only mending one thing then there's something else [to fix].
Sinead	But then, where do you stop, there is certainly a case for not allowing farmers to cut down the forests of Brazil to make more burgers for Americans. But I think there's terrible damage being done you know, that we don't know about, like they're cutting trees in Indonesia, all these kinds of places, that we'll never be in even. But it is all impacting on the world.

Drawing on their holistic understandings of biodiversity and prevalence of aesthetic values previously discussed, the group identify and consider a range of different biodiversity threats with one common theme, sustainable development. Within this idea the group discuss commodities which are both wanted (e.g. books and paper) and unwanted (e.g. packaging and junk mail), the creation of which may threaten biodiversity, but also recognise the wider economic and social systems within which

biodiversity threats are managed. This reflects the policy alignment of biodiversity conservation with economic development. In Takacs' (1996:213) study the scientists he interviewed provide their reaction to what is termed, social amenity value, or ideas around sustainable development; many of whom suggest that the best hope for all species is "linked to a single, uncompromisable human goal – the improvement of human welfare". However, as the extract above illustrates, what constitutes human welfare is not clear cut. So, as outlined in this thesis in discussions of values and benefits from biodiversity, biodiversity contributes to human welfare via sustainable development (i.e. economic and social spheres) but it is not clear if sustainable development contributes to conserving biodiversity.

Two other groups mentioned economics as threatening biodiversity, but also, suggested that the interplay of power and politics is also problematic. The Burren Angling Association Group illustrated threats to biodiversity by providing examples of declines in local fish populations due to water abstraction. As a consequence of abstraction spawning sites dry out, but the causes of this threat, the group suggests, are increases in human population and housing in north west Clare, which they consider stems from poor forward planning by county councillors. The Kilrush Family Resource Centre Group take a similarly broad view of threats to biodiversity, and reflects the overall view of these two groups:

Kilrush Family Resource Centre Group

Dave When some rich developer comes in and just buys land without any care for the rest of the countryside or the environment and builds expensive houses and sells them to rich people. The excuse being that this is job creation for local people, this was being touted by a lot of councillors as a justification for that kind of housing. I'd have concerns about the over commercialisation of small towns.

Dave's view summed up the perspective of the group, who all held positions with a community development organisation working with marginalised and vulnerable groups such as travellers, early school leavers and single mothers in Kilrush. It is therefore perhaps to be expected that Dave draws on ideas of power and politics to illustrate threats to biodiversity, which mirrored threats faced by vulnerable communities. In the statement above, power comes in the form of economic and political actors, developers and politicians. Common themes in this and the previous

extract are ideas about sustainable development constructed in terms of equality, fairness and justice. In Dave's extract the less powerful, namely the environment and local people, are manipulated and exploited by more powerful developers and politicians. These extracts identify threats as deficiencies in the system of economics, and politics which form the institutions of governance.

6.4 - Publics perceptions of biodiversity governance

This section examines the reactions of the focus groups to biodiversity conservation measures, which emerged through discussion in response to questions which asked participants to talk about their experiences of changing policy, and the roles and responsibilities of biodiversity protection. Responses to questions reveal the groups views of the shifting policy environment and the implications of these change on their lives. Through this the groups reflect on their own relationships with nature/place/landscape/biodiversity and the various policy making entities which are seen to influence and instigate change. The section is structured around five themes, the first looks at the relationship between groups and policy making institutions of the EU, the second examines the notion of bureaucracy in the light of policy changes, the third theme develops on this institutional context to examine lay and expert knowledge's in biodiversity conflict, the fourth theme looks at joint decision-making and the last examines state versus personal responsibility in biodiversity decision-making.

One of the key issues to arise in focus group discussions was the degree of confusion concerning the roles and responsibilities of the institutions of governance. As the following extract from the Inis Oirr Ladies Retirement Group indicates:

Inis Oirr Ladies Retirement Group

Martha Fishing is a thing of the past. Its all about the rules, the EEC rules seem to hit Ireland hard.

Donna People can't really do much because of EEC regulations. You can't even take stones off the land now, they call it protected. Like even when they're doing the roads here they bring in the stones [from elsewhere], there's any amount of stones out there [on the island].

Amy There's too much stones in some of the ground.

Rose But is it really all protected? It is only God that has given us all we have.

It should be noted that this group are somewhat older than other groups, which is reflected in their use of the term EEC rather than EU, but also, this suggests a general lack of awareness of EU institutions. A report conducted into the 'Attitudes and behaviour of the Irish electorate in the referendum on the Treaty of Nice' claims that knowledge of the European Union and its institutions amongst Irish adult "shows a rather sorry picture". The report goes on to suggest that issues to do with the European Union are of a minority interest to publics in Ireland with less than half those polled expressing an interest in European affairs (Sinnott, 2003:ii). The adult groups in this study indicate a somewhat different picture. While certainly lacking awareness of the institutions of the EU, both rural and urban adult groups, landowners and non-landowners, traditional resource users and those not directly linked to resource use for livelihood generation were quite willing to talk about the impact of EU regulations on their lives.

The Inis Oirr Ladies Retirement Group, while not directly involved in resource management, indicate an awareness of the restrictions which impacted on their community as a result of EEC*(sic)* rules, pointing to the demise of the fisheries industry and constraints on limestone removal. This view and the lack of awareness of the institutions of the EU may in part be explained by the activities of national politics. Research such as that conducted by Laffen & O'Mahoney (2008:185) in the context of the Habitats Directive illustrates that policy makers and politicians have shifted the focus of blame for unpopular decisions upward to the EU. These critics go on to suggest that public pronouncements by national politicians in the context of Habitats Directives resonate with a "soft Euro-scepticism" (Ibid, 2008:185), in that they highlight the deficiencies of the European system, suggesting it is irrational and insensitive to local context.

It could be argued that the groups have taken on board some of the Euro-sceptic views expressed by national and local elites. Certainly, the adult focus groups across the three case study areas viewed the EU, and its regulations, as "something" that stops development, intervening negatively and sometimes irrationally in the lives of people. However, it must be stressed that the strength of this argument was held to varying degrees by different focus groups, and subject to different contexts. For example, the Kilrush Family Resource Centre Group, the

Burren Angling Association Group and the Burren Drama Group initially discussed EU regulations in positive terms suggesting that it had forced Irish farmers, and the Irish state to clean up the environment. It should be noted that like the Inis Oirr Ladies Retirement Group and the Renewable Energy Group, these three groups were not directly connected to resource use as an income. However, the Burren Angling Association Group and the Kilrush Family Resource Centre Group voiced opinions of opposition to planning restrictions in SACs and turbary rights on peatlands, EU regulations which impacted on the groups directly, constraining certain aspects of their lifestyle.

In the following two extracts the Burren Angling Association Group discuss the variety of ways they value peatlands and their views on the introduction of restrictions in the use of these areas. This is followed by an extract from the the Kilrush Family Resource Centre Group, who held very similar values towards peatlands, but more explicitly state their concerns with the way in which implementation of the restrictions has been conducted. To provide some context it should be mentioned that both of these groups are middle class professionals who previously expressed an interest in ecology and biodiversity conservation matters. For example, the Angling Association Group took this interest a step further managing a local lake for the previous decade, and positioned themselves as protectors of the lake, discussing passionately their efforts to maintain trout populations in the face of community conflict. But, despite these environmental leanings, they found themselves in a value conflict, between a way of life, conservation interests and environmental rules and regulations. The moratorium on peat cutting in the area had just been introduced at the time of the focus group discussions. In the extract below the group discuss their feelings about having to pay for something which was previously free, an activity which has social and cultural associations, but also the conflictual nature of their position as both proponents of the environment and as resource users:

Burren Angling Association Group

Eddie We'd have a lot of resentment that we can't cut peat. We would have traditionally cut peat, we would have saved turf. We would have done it on an annual basis and we can't do it now. You know I paid 2,000 euro for oil last weekend and that's a major, major cost.

Noel Why can't you cut peat??

Eddie The bogs are closed.

Noel But I've got loads of it up in my shed from the year before last.

Mary Well, they're becoming more restricted now.

Noel Is that a recent thing?

Eddie Yeah, if you can go to a landowner who owns bog and come to an agreement with him, you can cut peat once it's not within a restricted area. They've closed the bogs at the top of Slieve Elva and they have closed the bogs elsewhere, even down in west Clare…

Mary …and they only have bogs down there.

Noel Having to wave the flag of supporting environmental issues, I wish you hadn't said that. It's a shame because it's a very sociable way of getting to know your neighbours, going up on the bog, its all very pleasant, as well as being extremely nice to burn.

Eddie draws on an economic argument to express his dissatisfaction, or resentment, with the new rules and implicit within his and Mary's statements is the association of peatlands with poor land, unsuitable for other uses. Similar views of peatlands were found in the Kilrush Family Resource Centre Group discussion. Peatlands are an interesting case as public perception of them has changed over time as discussed at length in Collier & Scott (2009). Such utilitarian and negative associations with these habitats resonated with the views of early colonial descriptions, but also reflect later utilitarian values as a fuel and economic resource which benefited both local and national communities. However, as Collier & Scott (2009) indicate, peatlands are now recognised for their unique ecological and hydrological functions, their specialised biodiversity, and their non-market values and ecosystem services, for example, through their extensive carbon sequestration potential. These ecological values of peatlands are familiar to Noel, as he says, "having to wave the flag of supporting environmental issues". The complex relationship between ecological and cultural values associated with wetlands in Finland is discussed by (Saito 1998). Saito's research examines the aesthetic, and un-aesthetic, views of the publics towards these areas, it provides an interesting insight into Noel's value conflict. Saito (1998:103/5) argues that aesthetic

appreciation of wetlands must move towards an appreciation of wider un-aesthetic nature to promote aesthetic valuing of the "unscenic - even of the creepy-crawly". He goes on to say that this wider appreciation may be possible through "immediate, sensuous appreciation anchored in scientific understanding which provides a background ecological story to what might otherwise appear, superficially, as ugly" (ibid,103/5). However, there is a second background story associated with peatlands specifically. The activity of harvesting has embedded within it an interrelationship with rural communities, based on ideas of tradition and livelihood which offers a way of knowing nature, and provides connection to the natural world, and others such as family or community who share the experience.

So, despite Noel's ecological and scientific knowledge, for him the value of peatlands extends more towards its cultural and historical connection and as a place of social interaction. Within the restriction on peat harvesting two new forms of negativity have emerged, not directed towards the peatlands themselves, but firstly, towards the human denudation of these habitats through harvesting, and secondly, a negative perception towards those who instigate these rules resulting in a loss of a cultural and social experience.

The extract above illustrates relations between ecological knowledge and understanding, highlighting how perceptions towards biodiversity conservation policy is a complex, dynamic issue, and dependant on context. When it comes to something that constrains lifestyle, social and cultural activities, something focus group participants see as valuable to themselves, or the wider community, then the regulation is not popular. But, the way in which new regulations are introduced may also play a role in determining publics views of biodiversity policy, as the extract from the Kilrush Family Resource Centre Group below indicates:

Kilrush Family Resource Centre Group

MJ	They didn't make a big announcement on that [moratorium on peat cutting). *whispers* It was kept very, very quiet.
Pat	I mean, it unfair, there's so many of the older farmers, that have been cutting turf for 50, 60, 70 years maybe, it's what they know.
Viv	I reckon this is all going to impact on the Lisbon referendum. I feel because of directives coming down that people won't sign up to it again because they'll think, well, they're making us do this, they'll be able to make us do all sorts of other things as well.
MJ	I think its actually very damaging, these dictates.
All	yeah
Dave	And without any consultation. [It seems] that the country it's going to impact on most, doesn't have any say, in that, nobody seems to have said anything about it.
Paul	You're just given an ultimatum

The extract above offers another interpretation of public perception towards biodiversity regulations and management. The extract above indicates this group's sense that policies coming from Europe are didactical and unresponsive to local needs, as MJ says, "its very damaging, these dictates" which, as Paul and Pat note, appear to come in the form of ultimatums with no consultation. Explanation for these statements comes in three forms. First, research contends that the structure of EU institutions allows for only limited accountability and responsiveness from publics, producing a democratic deficit. This deficit is sometimes held to explain, but can at least in part be interpreted through the lack of enthusiasm for the European project among Europe's citizens. This certainly informs Viv's view that European treaties are rejected on the grounds that people feel dictated to. Secondly, this democratic deficit and sense of apathy and alienation from decision-making is not restricted to EU level, as summed up by Pat, one of the Inis Oirr lobster fishermen, "The government blame Brussels and Brussels blame the government, so you who are we going to blame? The whole lot of them I suppose." The structural impediments at EU and National level for public recourse have clearly resulted in a sense of apathy, exclusion and frustration for these individuals.

A third line of reasoning draws attention to the manner of environmental regulation and process of implementation. Of key consideration is the group's view of the national government responses to the implementation of EU regulation. The extract above highlights deficiencies in this regard, particularly a Pat says "nobody seems

to have said anything about it" and as MJ recalls, the implementation of regulations was "kept very, very quiet". This lack of transparency is problematic because it engenders a lack of trust. However, it is based within an EU and National regulatory framework, which Flynn (2009) contends, has placed too much emphasis on regulation in the environmental area. In the light of this, Flynn argues that the focus on environmental laws at EU level, in particular, has been overly restrictive and what is needed are broader social and economic measures. Certainly, the idea balancing social, economic and environmental needs was a reoccurring theme in focus group discussions and will be examined more in more detail in the extracts that follow.

While the groups discussed thus far highlight the difficulties in the nature of policy institutions, other groups, such as the Inis Oirr Renewable Energy Group, were equally disgruntled at changes in policy which govern their use of land and resources, but were less sure of who to blame:

Inis Oirr Renewable Energy Group

Sean A couple of years ago they'd come along and say, cut the briars out altogether, now all of a sudden you have to maintain it in some way. Before they said take all the cows from the Burren, now they're grazing it again to stop it being over grown. So I don't know… do they know what they're doing at all?

Mike No they don't. It's lurching from one thing to another. You were given money years ago to reclaim land and now there's people going to court for doing it. People have their way of life, then if what they always do is taken away from them, if it's illegal all of a sudden, there's no consistency.

Like previous groups, the Inis Oirr Renewable Energy Group did not depend on use of natural resources as a basis for their income, but yet, held strong opinions on the impact regulation had on their community. Both Sean and Mike suggest that it is the "undifferentiated mass of 'them' – professionals, experts, politicians" (Davies, 2001:205) that are to blame for the imposition of unwelcome and unwarranted regulations. Again, the previous analysis which suggests a democratic deficit goes someway to account for such perceptions. Changes in policy which are imposed in a top down manner appear to have eroded trust in the decision-making process, but also in decision-makers.

However, a second issue raised by Mike is that "there's no consistency" in policy. This positions the groups' perceptions towards regulations in terms of change. The views held by participants in these focus groups suggest that decisions should be certain, and objective, based on decision-makers' expertise. These sentiments are not unlike the traditional, and widely purported view that scientists had of science, as key interpreter of the natural world and a mechanism which would provide objective knowledge and in turn, would facilitate decision-makers to make sound and rational decisions (Song & McGonigle, 2000). Indeed, it was assumed that more, accurate, scientific knowledge would turn into power, a moral authority in political and administrative forums, to conserve biodiversity.

Unseen by Sean and Mike are the limitations of this view, and the highly contested interplay of scientific knowledge and political processes in decision-making. The idea stated above that policy is inconsistent, reaffirms a belief prevalent in adult groups across the island, that 'they' are inept, untrustworthy and incompetent. Perhaps then, one of the reasons for this poor public opinion in the decision-making, and decision-makers, is the lack of transparency and accountability in the decision-making processes itself.

The view of science and policy making as certain, static, infallible and objective which underpins the sentiments in the extract above are being challenged. Science, like the natural world, is increasingly recognised as dynamic and uncertain which brings in the notion of resilience, that is, the "capacity to lead to a continued existence by incorporating change" (Holling, 1986; cited Berkes et al., 2003: 352). Research which positions biodiversity management in terms of socio-ecological resilience stresses the importance of assuming change and explaining flexibility, rather than assuming stability and explaining change in the decision-making processes and in the production of scientific information itself (e.g. Adger et al., 2005; Berkes et al., 2003).

Therefore, building trust in 'them' is of key concern here, as publics base their judgements on "the behaviour and trust worthiness of expert institutions" (Wynne, 1996:57), and therefore attitudes to science are intimately connected with attitudes to institutions, politics, control and trust (Irwin & Wynne, 1996; Wynne, 1996). Critics

suggest that one of the key issues in the building of trust is the incorporation of lay knowledge, perceptions and concerns into the decision-making process. However, such views do not go uncontested, the subtle interplay between power, knowledge and politics in biodiversity decision making are highlighted in the context of the Burren farmers experience of conservation in the Burren.

In contrast to the groups discussed previously the Burren Farmers Group depended directly on the use of their land for their income. In the following extract the Burren farmers talk about changes which have taken place in the landscape of the Burren, due to the management and the authority structure who manage the Burren:

Burren Farmers Group

Rich The OPW made these rules 10 years ago but you see the government won't listen to the likes of me, they'll only listen to people with letters behind their names, and the people with letters behind their names don't know what they're talking about most of the time.

Sean You see it was passed down, all the farming practices were passed down. People didn't just wake up one morning and say, oh I'll just start farming the Burren this way. You know, its been tried and tested for 5,000 years, this won't work this will work, this is what will control scrub and this is what lets it go.

Rich But all of a sudden we had these green feckers coming along, don't know what they're talking about, never farmed and they're telling us how to do it. And you see the green people, they might have the right answer but they might not know how to get there properly. So the intentions may have been good, but…

Breda It's like the majority of them [scientist/managers] have never set foot on a farm in their lives. They went off to college and they learnt how to protect the environment; they just haven't got a clue, they have no relevance at all to the people that's living here.

Rich And now they're the authority protecting the Burren even though they've never lived in it. They don't know anything about it only what they've read out of books. Or they might have come down here for 8 weeks, 10 weeks during the summer time. Like who's an expert on the Burren? I suppose people that's studied it, but I wouldn't consider someone living in Limerick or in Dublin and coming down here for a few weeks to be an expert on something. You'd have to be actually living in the area and understand the whole way the community works.

In the extract above, the current ideas of conservation appear to be widely refuted, but on closer inspection, it is actually its practitioners and their knowledge which the farmers' reject. Rich succinctly sums up the feeling of the group when he says that

farmers perceive that they are the passive recipients of information from experts, and that their local or lay knowledge is not valued by these experts. In response to this external knowledge, the group expresses their distinctiveness from conservationists, their ideals and practices. For example, Sean strongly asserts that farmers have knowledge of traditional practices that have maintained the Burren and its diverse flora for the last 5,000 years, a widely held view within the farming community in the Burren. In a sense the farmer's geographical embeddedness forms their claim to local expertise which they use to challenge the dominance of scientific and official expertise, and so use to defend and renegotiate control over land management practices (Irwin, 2001; Harrison et al., 1998; Wynne, 1996). As indicated above by Brid, conservationist's expert knowledge is deemed irrelevant to the local community. It is suggested by a number of critics that this expert knowledge, which is based on a narrow, deterministic, inflexible prescription of and for biodiversity will not be accepted as correct by lay publics such as farmers (Harrison et al., 1998; Wynne, 1996).

But, this is not to say that the farmers of the Burren (or other groups) are irrational or ignorant of conservation concerns, they may in fact support them in principle, as Rich indicates saying "they might have the right answer but they might not know how to get their properly". This corresponds with more recent research by Bell et al. (2008) who studied the implementation of a ringed seal conservation management in rural Finland. In a similar findings to this thesis, the rural populations investigated in Finland were concerned with lifestyle changes and financial difficulties the conservation programme would bring. The Finnish study also found that while local people may support conservation in principle, they may not support conservationalists chosen means for achieving conservation outcomes, particularly, when experts fail to acknowledge local peoples' collective knowledge and personal experiences of place. Instead, as found previously by Harrison et al. (1998), the farmers of the Burren focus group want to contribute to setting conservation goals, not just implementing them, as Sean indicates, saying "this is what will control scrub and this is what will let it go". However, to fill the vacuum left in the wake of the power struggle over which knowledge will dominate, as Harrison et al. (1994) have also shown, local knowledge becomes positioned against experts' knowledge, as

the farmers employ their own understandings of the environment, coupled with their own cultural and historical identity to make sense of claims about its degradation.

The farmers clearly actively construct their own environmental knowledge and role in biodiversity management. But with this construction they also have the potential to create myths, negating the wider reality of the conservation problem. Rich in the extract above considers pressures exerted by external economic and political factors. Grazing systems, as noted by Brid, are an essential part of the ecology of the Burren keeping scrub and high grasses in check, so that the (conservational valued) light-sensitive plants and flowers can thrive (O'Rourke, 2005b). The regrowth of woody species such as hazel and blackthorn in the Burren is one of the key concerns for ecologists. But such overgrowth and closing in of the landscape is linked to a complexity of issues which can not easily be addressed with either lay or expert knowledge. These include, for example, recent changes in the farming system, in particular grazing practices, along with changes in cattle breeds, and seasonal changes in supplemental feeding patterns of cattle on uplands areas (O'Rourke, 2005b).

Therefore one must acknowledge that the farmer's argument, in which they position themselves as the best custodians of the Burren based on a long history of landscape management, does not match the evidence. Rather, research (O'Rourke, 2005a/b) indicates that the farmers of the Burren essentially respond to shifting policy and market economic incentives, which in turn have significantly altered farm management practices and has lead to scrub growth. Berkes et al. (2000) in their study of traditional knowledge in the context of adaptive management claim that local knowledge in itself is not sufficient to enable a transition to sustainable use of resources or biodiversity management in this context. They go on to suggest that it must be combined with expert knowledge and institutional changes to enable better decision-making. The findings of this thesis suggests that biodiversity management and policy making is not simply about educating the local about the importance of biodiversity or specifying actions which need to be taken. Nor is it about educating scientists and policymakers about local perceptions and social constructions of biodiversity. Instead there may be a need to find mechanisms whereby information can be shared and joint compromises found. But also, as Owens (2000) suggests,

where publics are sceptical about politics and distrustful of the competence and fairness of regulatory frameworks and regulators, as previously discussed, building trust is also deemed to be essential.

In contrast to the previous extracts, the Inis Oirr Lobster Fishermen are participants in a sustainable harvesting programme in which conservation has become a social norm. Within this programme the Inis Oirr lobster fishermen have been engaged in the joint management of lobster stock with two external agencies, Bord Iascaigh Mhara, the Irish Sea Fisheries Board (policy makers) and Galway-Mayo Institute of Technology (scientists). Working with these organisations the fishermen engage in carefully managed lobster quotas and population regulation. In the following extract the group talk about their knowledge and experience in monitoring the lobster resource:

Inis Oirr Lobster Fishermens Group

Mod	So are the lobsters as plentiful now as they were 50 years ago?
Ross	You'd often catch the same ones again a few times, but you put them back.
David	They'd be notched ones, we'd have done a lot of v-notching on Inis Oirr anyway over the years.
Andy	It makes sense to V-notch, when you don't you'll definitely clean out the place.
David	Yeah, but [in the past] they wouldn't bother to tag them, that's fairly new. But now they try and tag them to monitor them [as well]. It's all a learning process really.
Ross	There's plenty of places that have been cleaned out with over fishing, but it's not too bad here. I'd say there's more lobsters here than in other areas.

The lobster V-notching programme in Ireland follows the example of lobster resource management in Maine, USA. The programme was initially set up by the South Wexford Lobster Fisheries Co-op with assistance from Bord Iascaigh Mhara (BIM) in 1994, and later adopted by the Irish Lobster Association. The V-notching programme now operates through a network of approximately 30 local co-operatives, which includes the Inis Oirr Lobster Fishermens Group. In this programme the female lobsters that are caught are taken ashore, where a v-shape is cut in their tail and they are then released. This is usually conducted by a BIM or Department of Marine and Natural Resources (DM&NR) officer, and the fishermen are financially compensated for releasing the hen. However, as the extract above suggests, in many areas, such as Inis Oirr, fishermen are now notching voluntarily,

without getting financial compensation for released lobsters, as Andrew states above, this practice "makes sense".

The extract above highlights that in the process of sustainable resource use the fishermen actively participate in managing and collecting data on the stock, working in conjunction with state agencies and academic institutions. The fishermen become active collaborators in the project, which results in the complementary use of scientific and local knowledge (Berkes, 2004; Olsson et al., 2004; Folke et al. 2002; Berkes et al. 2000). In a sense knowledge is situated, that is "access to the information, and control over its use shifts from the experts and scientists to the people whose lives are being affected" (Campbell & Vainio-Mattila, 2003:425).

However, a number of other factors should also be considered. Firstly, the conservation programme aligns itself with the fishermens' utilitarian instrumental values towards biodiversity, or more specifically in this case, the lobster stock. Management of the stock provides ongoing economic benefits, because through the project the fishermen are provided with a storage facility for caught lobsters which allows them to sell to the market when it is most profitable. Understanding this cultural basis for conservation is pertinent to community dynamics and community relationship with its environment. As Haenn (2006:102) states "attempts to better understand people's visions of nature in place... are a prerequisite for ensuring identification and protection of valued environments". Therefore, based on the values of the group the programme of conservation is viewed as sensible and legitimate.

The Kilrush Art Group and the Inis Oirr and Burren youth groups did not directly use resources, although they were familiar with people who depended on natural resources for their living. These three groups suggested that the government and policy institutions should take more responsibility for the environment, but coupled this with the recognition that greater personal and collective responsibility was required. These views are clearly laid out and discussed by the Kilrush Art Group in the extract below:

Kilrush Art Group	
Mary	The government has to take a lead on protecting biodiversity.
Justine	But does it? We're always doing this, the government must do this, the government must do that....
Edel	But it isn't that they must, but we put them in, that's what their job is.
Mary	We elect the government
Edel	We elect them to do a job and they should do it.
Mary	But having said that we do need to take our own responsibility.
Justine	You are responsible, you are, you are. Everyone is. Each individual (points to people in the group)
Edel	Well, on our own small patch... but for the bigger issues?
Lisa	For outside our own square, I suppose we do need government, but inside the square, I do think we need to look after our own patch.
Mary	We do have to take responsibility for our own area,
Breda	And if everyone did, that would be quite an area.

The literature on biodiversity governance is littered with responses to the question of who is responsible for the protection of biodiversity, as raised in the extract above in the context of personal versus state responsibility. This extract raises the issue of perception of constraint in public's views of environmental matters. Perceptions of constraint include not only real constraints of time and resources, but a feeling that individuals have neither the prime responsibility to take action nor the agency to have much effect. Indeed, research into public's views of governments would suggest that many people believe that governments should deliver appropriate policy frameworks for environmental protection but have little faith that they will (Blake,1999; Burgess et al., 1998; Harrison et al., 1994). The views of this group differ somewhat from this body of research, in that they recognise the dichotomy between personal and government responsibility, and see it as a scalar issue. That is, government needs to take responsibility for the wider framework for action, while personal responsibility takes place in the everyday lived environment. Chapter 8 considers these issues in more detail, examing stakeholders attempts to engage public in biodiversity, and public views of these engagement processes.

6.5 - Conclusions

The aim of this chapter was to answer two research questions. The first, what are publics understandings of biodiversity, and the second, how do publics view biodiversity conservation. Past studies of public perceptions of biodiversity have

variously examined biodiversity as a stand alone topic or as a scientific concept, with more recent attention given to its social construction. This work differs, in that it examines publics understandings and perceptions towards biodiversity, built on ecological, social, cultural, historical and political associations inherent within the concept, and variously interpreted through personal values, identity and life experience. The findings of this chapter therefore reflect the complex interplay of these factors in creating publics understanding of biodiversity.

In response to the first question, the way in which the general public understands both the term biodiversity and the concept of biodiversity is an essential question for both science communication and policy making. Previous work has shown that many people understand the concept of biodiversity as diversity in nature though they are not familiar with the scientific details. Findings of this research would tend to concur with this view. While all individuals suggest that they have heard of the term before, most have difficulty explaining the term, suggesting that it is scientific and therefore difficult to understand. In cases when individuals are uncertain, they construct meaning from their own experience, such as the farm environment, or by linking to other environmental terms, such as recycling or biofuels. This is not to suggest that individuals are incapable of understanding the science of biodiversity, but that current communication methods may only reach those who are already interested in the subject, such as the art group in Kilrush. Confusion around the term also speaks to the multi-functional and value-laden nature of the term biodiversity itself.

This chapter has attempted to distinguish between understandings of the term biodiversity and publics associated concepts and constructions which inform understandings, but are not necessarily related to the word "biodiversity" itself. Findings from this research would suggest that the two are related. What people view as biodiversity (through the term) and the way in which people view biodiversity-related issues are based on the concepts they have developed in interaction with their social and natural environment. This speaks to an understanding of biodiversity beyond the purely cognitive, or the purely rational, towards an experienced understanding, which, on the evidence of this research, is interpreted through a complex interplay of personal values, self-identity,

attachments to place and landscape. Focusing on the meanings of biodiversity interpreted through place and landscape[27] in the focus group discussions warrants some attention at this point. Buijs et al. (2008) consider these concepts as 'anchoring' biodiversity in the lives and experience of publics. Findings of the research reveal a complex and intricate interplay between place or landscape, personal identity and values, in relation to the social, political, historical and cultural influences at play in publics lives. Indeed, each of these factors were, to varying degrees, brought to bear in their discussions. Each of the case study areas, the Burren, Kilrush and Inis Oirr were, as Clifford Geertz suggests, "imbued with a variety of culturally, socially, historically and politically defined meanings". These places assumed different roles to different groups, depending on how the group defined itself. So for example, the farmers, fishermen and adult groups of Inis Oirr distanced themselves from aesthetic appreciation of their local area, valuing it instead for it utilitarian and resource use. Whereas, in the context of threat to biodiversity, the Burren Youthgroup recounted socially constructed interpretations of threats which they share with adult groups in the area, and therefore define themselves as 'insiders', or of the Burren. Therefore, the "symbols and meanings that comprise landscapes reflect what people in cultural groups define to be proper and improper relationships among themselves and between themselves and the physical environment" Greider and Garkovich (1994:2).

However, this does not account for the full variety of interpretations discussed in this chapter. Drawing on the work of Brandenburg & Carroll (1995) and Cheng et al. (2003) is important as both these studies illustrate that experience of place can enable people to create and shape individual environmental values and landscape meanings. This certainly appeared to be the case for the Inis Oirr Secondary School Group and the Burren Angling Association Group both of whose members held strong attachments to local places of importance to them. Similarly, experience of place informed the Kilrush Youthreach Group which had attachments to urban, rather than the rural, places. Meanings ascribed to peatlands as economic resources, social interaction and cultural, historical practices variously informed

[27] Landscapes are places—socially constructed settings imbued with meaning (Cheng et al., 2003: 91; Geider & Garkovich, 1994).

perceptions of constraint in the Burren Angling Association Group. Therefore, one of the key findings of this research is that biodiversity, as interpreted through place or landscape, can be valued differently, and even in contradictory ways by individuals and amongst groups. This is because articulations of nature can be shaped by changing context (following Macnaghten and Urry, 1998). In fact one of the most important, and ever changing contexts, is that of biodiversity governance.

Values of biodiversity articulated by individuals and groups were frequently shaped socially by "argumentation, persuasion and information deployed by various people and institutions, implicitly and explicitly in day to day life" (Davies, 2006:100). With regard to biodiversity governance, despite stakeholders and policy calls to the contrary, policies to protect biodiversity are largely imposed on communities in a top down manner, with very little recourse or opportunity for publics to voice their opinions, values or knowledge. Most discussion in this research around biodiversity conservation positions the focus groups members as 'insiders' and policy-makers as 'outsiders'.

The findings here challenge two major trends in biodiversity and associated natural resource management policy. Findings suggest the importance of context, and the tendency to focus solely on material advantages as justifications for the development or protection of nature. Broader consideration of publics understandings of biodiversity, constructions of place, cultural identity and interpretations of sustainable use are also useful. This reflects a wider plurality of understandings, which influences interpretations of biodiversity policy. Makers of environmental policy need to recognise the links between these stands so that policies address the wider lived experience of publics' lives.

In this context, the idea of experience and social norms or values, are of particular interest to the manner in which publics' understand threats to biodiversity. Findings around this topic suggest that publics clearly identify biodiversity as providing the life support system, and also clearly identified loss of species through direct observation in their local area. So too were they able to suggest causes of these losses, although they tended to disregard their own observations. Notably a number of groups did not connect these two concepts. This indicates the value of

experience in generating understanding of biodiversity threats. Information, in the form of experts and expert knowledge, was discredited and rejected, particularly when it contradicted or threatened the livelihood or values of the individual or the wider social community.

Lastly, there were as many different understandings of biodiversity as there are publics. Therefore, this moves "debates away from human-environment relationships in terms of objective knowledge about environmental facts and dispel the myth in environmental policy that the public can be conceptualised as an undifferentiated blob" (Thompson & Rayner, 1998, in Davies, 2006:100). In Chapter 8 public views will be examined in relation to their perceptions of public participation in Ireland.

Part 2

Chapter 7 - Biodiversity governance

7.1 - Introduction

The aim of this chapter is to explore biodiversity governance in Ireland. The analysis in this chapter is firmly placed in within the literature pertaining to environmental governance. As highlighted in literature review chapter, biodiversity governance encompasses the range of actors and organisations involved in biodiversity "rule making and decision taking", in addition to the tools used to manage biodiversity, and the politics of both formal and informal negotiation. Therefore biodiversity governance, is "the sum of the many ways individuals and institutions, public and private, manage their common affairs" (Davies, 2008:15). This chapter seeks to elucidate the patterns of involvement by actors and institutions across the various spheres[28] and tiers[29] of governance. It deciphers how these patterns of involvement influence biodiversity decision-making, and also considers patterns of influence in biodiversity policy.

Analysis in this chapter draws on the interview data collected from forty-five stakeholders who operate in relevant areas of policy, such as the environment, agriculture, forestry, business, development and land use planning. This multi-sectoral approach is important as it engages with current trends in biodiversity policy, as demonstrated in Chapter 2, the policy review, from the international and EU, through to national and local, which increasingly recognises the need to integrate biodiversity concerns within a range of sectors for the conservation and sustainable use of biodiversity.[30] The chapter also engages with the range of tools and approaches used to achieve this end. Biodiversity policy, such as the

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[28] Public, private and civil society

[29] Local, national, EU and global

[30] For example: At international level the CBD (1992) acknowledges that stakeholder participation, traditional knowledge and innovations in ecosystem management are important. Approaches that promote sustainable development by building partnerships across scales and between stakeholder groups is highlighted within the UN's Partnerships for Sustainable Development, and the 2002 'Strategic plan for the Convention on Biological Diversity'. At EU level the 2006 'Communication from the Commission on Halting the loss of biodiversity' highlights the need for partnerships as one of its supporting measures. At National and Local levels, the 2002 'Irish National Biodiversity Plan', and Local Biodiversity Action Plans call for integration of biodiversity cross economic sectors.

ecosystem approach, also acknowledges that within these sectors are a range of different types of interest, civil society, private sector and public, and calls for this wide engagement of actors and institutions to be involved in decision-making.

Literature on biodiversity governance suggests that participation of an expanded array of stakeholders in decision-making is essential for identifying, and developing adequate and successful solutions to biodiversity management problems (Young et al., 2005; Rauschmayer & Wittmer, 2006). It has the potential to facilitate new definition of issues, solutions, or ways of governing, creating enhanced support for decisions and preventing implementation problems (Bulkeley & Mol, 2003; Hajer & Wagenaar, 2003; Meadowcroft, 1999). It can also identify values and practices of stakeholders, build trust, and clarify how participants view each other, which has been identified as an important issue in natural resource management (Marshall et al., 2007; Stoll-Kellerman & O'Riordan, 2002; van den Hove, 2000).

However, despite the positive claims made by policy and the literature, multi-stakeholder engagement is also problematic. For example, critical analysis has suggested that such approaches to decision-making create tensions between resource users, environmental organisations and state administration, leading to confusion in roles and responsibilities, and raising questions about democratic accountability, representation, legitimacy (Backstand, 2006; Paavola & Adger, 2006; Peters & Pierre, 2000; Kooiman et al., 1999). In addition, critics have pointed out that cross-sectoral engagement, with the objective of creating a "win-win" for society, the market and biodiversity conservation can be problematic, reinforcing existing patterns of power and politics, leading to inequitable decisions, and further degradation of biodiversity and ecological resources (Baker, 2007; Heynen et al., 2007; Bulkeley & Mol, 2003; Tatenhove & Leroy, 2003).

There is also a vertical or multi-level component to biodiversity governance, which according to the European Commission Communication Halting the Loss of Biodiversity by 2010 – and Beyond (CEC, 2006a/b) requires consideration. Therefore, integrating biodiversity across sectors and engaging multiple stakeholders in decision-making becomes a horizontal, and vertical, endeavour. Baker (2003) for example, suggests that tensions between international, European,

national, and local scales in policy making need to be addressed. Paavola et al. (2009) points out that the practice and analysis of participatory governance is becoming increasingly difficult because of the multi-level nature of governance frameworks.

The following analysis pays attention to horizontal and vertical processes of cross sectoral biodiversity governance. First, it examines the complex web of organisations and institutions considered by stakeholders important to biodiversity governance, coupled with stakeholder's critical analysis of these institutions. Through this patterns of involvement and influence in decision-making can be discerned, uncovering disparities in political and economic power. In the second section, stakeholder's perceptions of the most important tools for biodiversity governance are examined. This section brings to life the multi-scalar nature of biodiversity governance, and the various ways in which stakeholders view these tools, and how they operate, or fail to, in the Irish context. This section highlights the range of different approaches to biodiversity governance, including statutory policy, voluntary instruments, and advisory approaches. In the conclusions, the central question of governance interactions is addressed, drawing together key themes pertaining to biodiversity governance, outlining the variegated power of institutions and instruments and highlighting the evolving nature of multi-level biodiversity governance in Ireland.

7.2 - Governance actors and institutions

This section presents the analysis of stakeholders' perceptions of the key governance actors and institutions. Figure 7.2 outlines these organisations according to the sphere and tier of governance. The actors and institutions are discussed according to their sphere of governance, public sector, private sector and civil society. Presenting the results in this manner serves two purposes. First, it clearly indicates where stakeholders place importance within the spheres and tiers of governance, with stakeholders discussing certain organisations to a greater degree than others. Second, it identifies pathways of access and influence within and between the tiers and spheres of governance. Mapping out the institutions and their interactions is necessary at this point because very often these two issues were discussed jointly by stakeholders. Therefore, this section reflects the views of

stakeholders, but also points to the somewhat complex network of biodiversity governance. It must be stated that there are clearly additional organisations involved in the process of biodiversity governance in Ireland, which were not discussed as significant by stakeholders. Also, there are certain organisations who were discussed in passing, rather than in any detail. These hidden institutions are highlighted, and their absence from or limited forms of discussions considered in the concluding statement of this section.

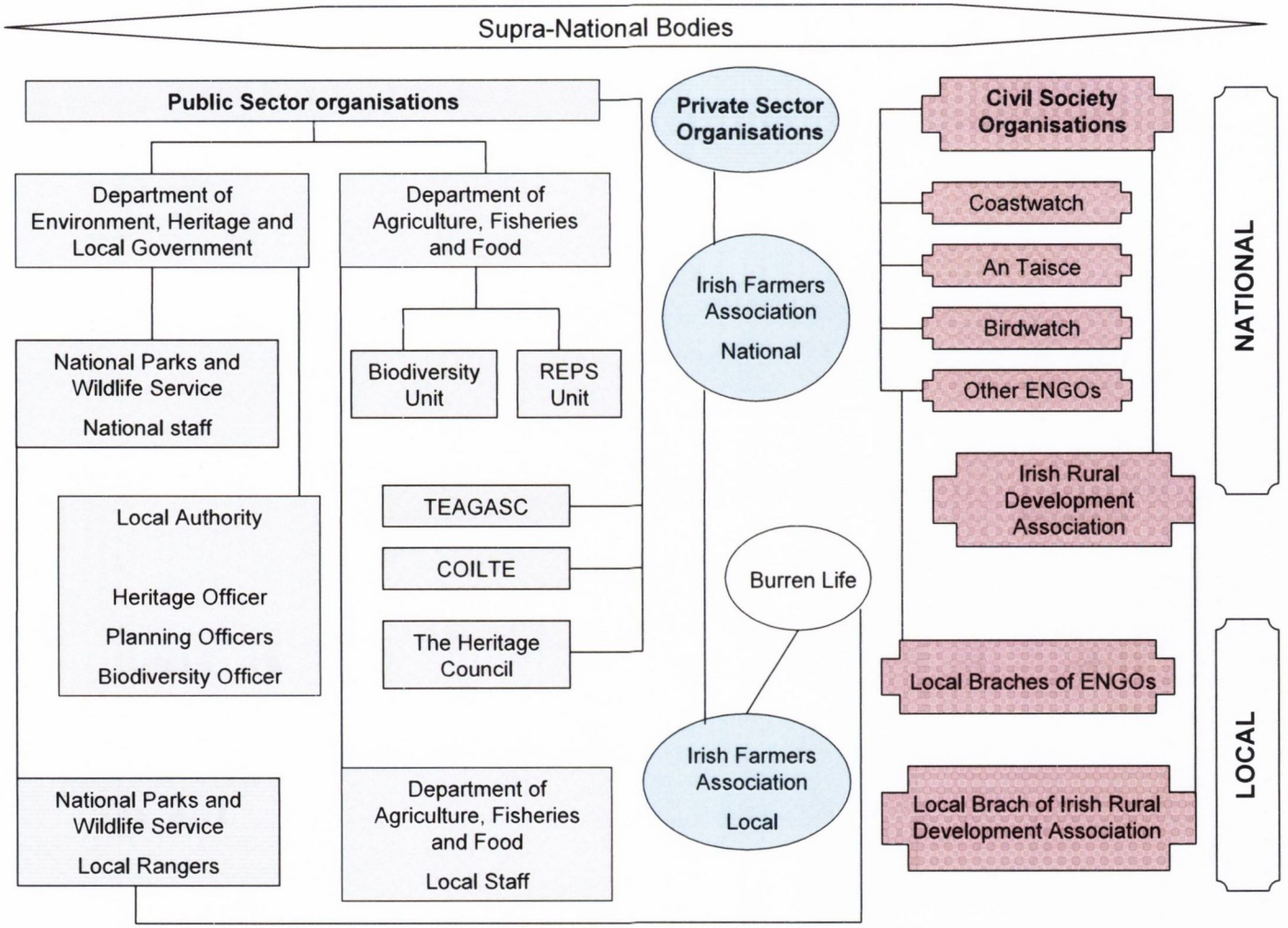
7.2.1 - Public sector organisations

A notable trend amongst stakeholders' discussions is the perceived importance of the apparatus of the state. However, within the state apparatus certain organisations were signalled out for considerable discussion, specifically: the National Park and Wildlife Service (NPWS), Department of Agriculture, Fisheries and Food (DAFF) and the local authorities. Each of these will be discussed in turn. This discussion draws out patterns of horizontal and vertical biodiversity governance, and efforts, concerns and opportunities in mainstreaming biodiversity across the institutions of the state.

7.2.1.1 - National Parks and Wildlife

As previously discussed in Chapter 3, the National Parks and Wildlife Service (NPWS) is responsible for the implementation of international and supra-national biodiversity policy. Due to its range of roles and responsibilities, environment, marine, tourism and planning stakeholders highlighted that the NPWS is a key organisation in biodiversity governance. These stakeholders uniformly discussed the importance of NPWS in the context of its statutory role to oversee the implementation of the EU Birds and Habitats Directives, and its role as a statutory consultee in the planning process. NPWS was considered by these stakeholders to be particularly important due to its legislative mandate, its policing and enforcement role. The following extract from a stakeholder working within the EPA is typical of these views:

FIGURE 7.1. Key organisations involved in Biodiversity Governance



> *The Parks and Wildlife are very important in terms of the powers they have under the Wildlife (Amendment) Act and Habitat Regulations. They're the body with responsibility to develop, implement and enforce those regulations. In planning too, they can see all planning applications, and they get an opportunity to comment on the them, so they have a job there... Interview N10, Public: Environment*

It is notable in the extract above that NPWS was mentioned as important due to its perceived powers in the context the Wildlife (Amendment) Act 2000 and its legal obligations under the Habitats and Birds Directive. These statutory instruments are thought of as lending weight to the work of NPWS. Marine, tourism, planning and environment stakeholders (with the exception of those working within the NPWS national organisation), placed less emphasis on the role NPWS in terms of the development of the wider biodiversity plans, such as those arising from the Convention on Biological Diversity. In contrast, national NPWS staff consider this as a central aspect of their remit, as outlined by a stakeholder working within NPWS who has considerable experience and knowledge of the workings of the organisation in this regard:

> *Nature conservation and biodiversity policy, we're in charge of the development and implementation of those. But the overall idea is that it wouldn't be our department implementing biodiversity policy, it would be Ireland Inc. All the government departments would have an [implementation] role. Interview N2, Public: Environment*

Two important points can be raised from these extracts. Firstly, they reflect the multiple roles and responsibilities of NPWS, which underpin stakeholders' perceptions of the importance of the organisation in biodiversity governance. Secondly, the latter extract in particular, highlights the role of NPWS as the key organisation responsible for biodiversity mainstreaming and integration across departments and sectors, as required under the National Biodiversity Plan (DAHGI, 2002).

While NPWS is considered important by environment, marine, tourism and planning stakeholders, the organisations was subject to substantial criticism from all sectors, including agriculture, fisheries, forestry, development, rural development and heritage. NPWS was viewed by all stakeholders, including its own staff, as constrained in its ability to fulfil its role and responsibilities. These views manifested

in a number of different ways. Firstly, there was considerable discussion amongst environmental, planning and tourism stakeholders in particular of what form a lead biodiversity institution should take.

A key concern for civil society environmental stakeholders at national and local level is the position of NPWS within the Department of Environment Heritage and Local Government. The following extract suggests that NPWS is constrained due to its position within this department:

> *I can't see how you can effectively implement nature conservation without having a body free to develop its thinking, instead of being very constrained as part of government. Interview L18, Civil society: Environment*

This statement must be viewed in the context of the recent organisational history of NPWS. Currently NPWS is part of the Department of Environment, Heritage and Local Government (DEHLG). However, NPWS was previously part of 'Duchas', the Heritage Service, which operated under the auspices of the Department of Arts, Heritage, Gaeltacht and the Islands. Duchas was established in 1997 as an executive agency under the Department of Arts, Heritage, Gaeltacht and the Islands, later moving to the DEHLG in 2002. According to Flynn (2007), the decision to move Duchas out of the Department of Arts, Culture and the Gaeltacht was as a result of political concerns resulting from the issue of land designations under the Habitats Directive, and as a way of gaining firmer political control over the agency. In fact, shortly after its arrival under the DEHLG in 2002, Duchas was disbanded altogether, and its wildlife function became the National Parks and Wildlife Service (NPWS). It should be noted that at the time of its integration into DEHLG in 2002, many civil society actors wanted Duchas to become a fully independent agency and come out from under the mantle of departmental control entirely (Irish Times, 2003; cited Cradden, 2007). Prior to its move to DEHLG, the National Heritage Plan (2002) which was published by the Department of Arts, Culture, Gaeltacht and the Islands calls for a greater more integrated and regionalised heritage service. Instead, on its move to DEHLG, Duchas was disbanded, and its natural heritage branch, NPWS remained highly centralised, with local services controlled and administered nationally by civil servants, state employed technical, ecological staff and contract ecologists (McDonald & Nix, 2005:159).

Following in this vein marine, planning and environmental stakeholders, again, with the exception of NPWS staff, discussed the organisation in comparison to the Environmental Protection Agency, which was viewed in a more positive light due to its perceived independence:

> *I think that the EPA are doing a fantastic job because they're independent, they're not part of a government department. It'd be great if NPWS became part of the EPA and if there was a wider remit for an environmental agency, or even a separate agency for biodiversity or nature conservation. Interview N22, Civil society: Environment*

While NPWS is part of the DEHLG, the EPA is an agency related to the Department, but with its own legislative mandate operating under the EPA Act (1992), and subsequently under the Protection of the Environment Act (2003). The EPA carries out a range of statutory functions, such as environmental licensing, support for local authorities, environmental monitoring and environmental research, but its biodiversity functions are largely through its monitoring and research remit. Biodiversity policy enforcement and regulation has remained within the auspices of Duchas (and now NPWS), the justification for this being that it is viewed as a 'heritage' rather an 'environmental' issue (McDonald & Nix, 2005).

A significant facet of the EPA Act (1992) is the provision of enforcement powers to the Agency. Public and private sector environmental stakeholders in addition to stakeholders involved tourism and planning sectors relate the independence of the EPA with these powers, suggesting that they provide the EPA with enhanced capabilities. Capabilities which the NPWS lack, as the ecological consultant illustrates below:

> *The NPWS should have teeth, they should be like the EPA. The EPA [are] independent, out there with their badges placing people under citizens arrest. Interview N17, Private: Environment*

The stakeholder above clearly suggests that the EPA has strong powers in its policing and enforcement role ready to prosecute when required, strengths which are associated with the organisation's perceived independence. However, as Davies (2008) notes, the agency's ability to impose substantial fines has largely gone unutilised, with Taylor (2005) suggesting the organisation has largely focused on negotiated agreements, rather than strict enforcement. Also, the perceived

independence of the EPA should not be viewed uncritically. For example, Taylor (2001) counters the stakeholders' belief of EPA independence, highlighting the problematic nature of the agency as subject to, and curtailed, by political pressures. In relation to international environmental governance research, Lafferty & Hovden (2003) suggest, a separate environmental body will rarely have the authority necessary to impose environmental objectives into the decisions of other authorities. That is, the organisation will not be able to secure "buy-in", to mainstream and enforce biodiversity policy throughout other sectors and departments.

This issue of mainstreaming and ability to integrate biodiversity policy across the state was a key issue of concern for marine and fisheries sector stakeholders. These stakeholders commented on NPWS in terms of its inability to effectively co-ordinate, monitor and integrate biodiversity activities across state agencies. The stakeholder from the Marine Institute is illustrative of these views, suggesting below that the work of other agencies, such as the Fisheries Boards or the Marine Institute, around biodiversity goes unintegrated, uncoordinated, and unmonitored:

> *I think we have an underdeveloped and unintegrated approach to it [biodiversity management] in this country. Other agencies, the Central Fisheries Board, the Marine Institute, we might be doing a lot of work that is very relevant, but there's no mechanism to track it or to audit it or co-ordinate it nationally. We are doing it more or less separate from one another. And no one asks us the question what are you doing about biodiversity. Interview N12, Public: Marine*

It is important to note that the stakeholders from marine and fisheries sectors are those which have previous knowledge and expertise in the area of natural resources management and nature conservation, and as such, may represent a "coalition of the willing" (Backstand, 2006:299). That is, those actors with most advanced capacity to engage in the process of mainstreaming, and willing to contribute and co-operate which may not be the case with all government departments. As Young (2002:33) claims, "states are complex actors whose constituent elements have different and sometimes conflicting interests with regard to individual regimes". Using the example of climate change, Young (2002), goes on to say that public agencies whose mandates cover environmental protection will react differently to the terms of an agreement than state organisations whose

objectives solely promote the interests of commerce or industry. However, some of the difficulties NPWS face in policy integration and cross-departmental co-ordination can be positioned within the workings and practices of the Irish state more generally. The work of Whelan et al. (2003) in the area of public administration is useful here. These authors suggest that constraints to cross-departmental work and integration of policy arise due to the "bureaucratic, centralised and hierarchical" nature of Irish government departments which exhibit "classic traits of a control mentality, formal procedures, specialised work and sharp divisions of labour" (Ibid:80). Such bureaucracies find it difficult to deal with issues of co-ordination and adaptation of new policy issues, such as that required in biodiversity policy integration.

Prevalent across all the stakeholders, including agriculture, forestry, development, rural development and heritage, in addition to those working in environmental organisations, is the issue of limited resources available to NPWS. Constraints on staffing were discussed by stakeholders with respect to the local, rather than national level of the organisation. This included NPWS local staff themselves, who outlined their many roles and responsibilities, and results in their sense of being unable to carry out their roles effectively:

> *We deal with wildlife areas that need to be protected, so that's NHAs, the Irish sites under Irish legislation, and then the European ones. So we monitor those on a five year cycle. Reporting, investigating any damage, and follow up prosecutions if needs be. So that's the main thing [when] there's no immediate deadline, that's what you do. Then there's the education work, management plans, REPS talks, and the stuff that you do for monitoring. But then you find that stuff just comes in without any warning, left, right and centre, and you have to just work around it. We are getting at least two planning applications a week at the moment, and they probably take up the most time... you have no time to do anything really, you're just constantly fighting fires. Interview L1, Public: Environment*

The extract above outlines the extensive role and responsibilities of local NPWS staff, a point that did not go unnoticed by stakeholders. Those who commented on, and criticised local staff, were also sympathetic towards them. Environmental sector stakeholders also pointed out that under resourcing had negative consequences for

biodiversity management as the following local stakeholder from a civil society organisation outlines:

> *NPWS are under-resourced, so there's only so much they can do. There's a huge amount of species and habitats which NPWS have to deal with, there's only so many management plans that can be produced, only so many places an individual ranger can be. That restricts what can be done and how efficiently. Having to pick and choose, purely focusing on designated sites in one area and not being able to do anything about bats and otters in others. Interview L17, Civil society: Environment*

The limited funding and lack of resources allocated to local NPWS outlined in the extract above is equated with an erosion of effective biodiversity management. With four rangers to monitor, implement and enforce national policy across Clare and the Aran Islands, environmental stakeholders at both local and national scales felt that the organisation faces considerable challenges in meeting their biodiversity conservation objectives. The OECD (2009:14) in their review of nature conservation policy in Ireland found similar, it states that "protection of the many Natura 2000 sites requires a far more active monitoring and management approach than is currently taken". International studies have found similar difficulties in national state environmental organisations. Fisher et al. (2007) for example, raises questions of government officials who, in legal terms, have the authority to control and curb over-exploitation of biodiversity, but also tend to be poorly equipped with little resources to exercise their authority with resultant difficulties in biodiversity management.

In contrast to the environmental stakeholders who suggested that local NPWS staff have difficulties in meeting biodiversity management objectives due to constrained resources, agricultural and rural development stakeholders commented that lack of resources had implications for consultation and communication between NPWS and local publics. A stakeholder from Irish Farmers Association (IFA) illustrates this view suggesting that due to a lack of resources, and the highly contentious and conflictual public consultation processes for the Habitats Directive, NPWS are now perceived negatively by farmers. He goes on to suggest that this negativity could have been avoided if more resources were in place for NPWS to communicate directly with farmers:

> *It's a very under resourced department, NPWS. They don't have people to go out and talk to farmers, and I think if they went out and explained the designations, it would take a lot of heat off them. Interview N18, Private: Agriculture*

While the stakeholder above suggests that a lack of resources curtails consultation, the statement above must be positioned in the context of the politics of the wider designation process, in Ireland and internationally. Specifically, in 2002 while a renegotiation of the Habitats Directive was on going, and with the IFA calling for increased consultation with farmers on the Directive nationally, the organisation simultaneously organised a 'Keep Out Campaign' to prevent access by NPWS (then Duchas) rangers to SAC sites owned by 15,000 farmers throughout the country in order to highlight their continued opposition to the Habitats regulations (Laffen & O'Mahoney, 2008). This conflict is not specific to Ireland, and occurred in other countries across Europe, as discussed by Paavola et al. (2009). Paavola claims that the implementation, effectiveness and legitimacy of the Habitats Directive suffered as a result of the lack of opportunity for stakeholder groups to participate and to voice their concerns in response to the Directive's provisions. As a result of this conflict, as the following stakeholders indicate, NPWS are still viewed with some suspicion in the farming community and the conflict over the Habitats Directive has coloured farmers' interpretations of NPWS values, roles and responsibilities. This type of response is typical, according to Sidaway (2005: 49) "as relationships are in part conditioned by the aftermath of a previous conflict episode" and further participation has been stalled due to a lack of trust in the agency.

In the context of this absence of consultation and its subsequent politicisation, NPWS are considered as having a problematic relationship with local communities in Co. Clare and the Aran Islands, as the following two stakeholders working at the local level indicate:

> *They [NPWS] don't have the background, the relationship on the ground with the people, and so they're seen as being very much external. Interview L15, Civil society: Environment*

> *You need a strong National Parks and Wildlife Service, where you have a sufficient strength of staff to be able to go around and actually raise dialogue with people. People need to be able to identify a face with an organisation so that it's not some*

> *faceless bureaucracy, it's an organisation where I pick up the phone and be able to speak to someone. But it's difficult to do this when there's a lack of local rangers and resources. Interview L10, Private: Environment*

These stakeholders suggest that through a lack of resources, NPWS can do little to redress the negative perceptions of the organisation, their perception as a 'faceless bureaucracy'. This in turn limits access and influence on the ground, but also their effectiveness. However, it must also be cautioned that it is not just the organisation itself which is viewed as external, but also the notions of conservation which it purveys, as discussed in the previous chapter. Similar issues regarding lack of staff and funds to implement the Birds Directive was also found by Fairbrass (2004) across Europe, particularly in Belgium, UK and southern states. In this study Fairbrass positions these resource issues as illustrative of the lack of interest in nature conservation within these states. She goes on to suggest that at the local level political leaders were reluctant to implement the Directive in case of "resistance to measures that would restrain local customs or traditions" (Fairbrass, 2004:14). In addition, problems with implementing the Birds Directive arose because Member States did not make radical changes in their habitat conservation law, most relaying on existing or slightly modified provisions, and as a result the CEC initiated infringement proceeding against Member States for not implementing the Directive properly.

The following extract from an environmental stakeholder, which is illustrative of planning, tourism, marine, forestry, fisheries, heritage and environmental stakeholders, relates the lack of resources, and ensuing issues of influence and marginalisation of NPWS, as reflective of the lack of prioritisation of biodiversity issues by successive governments:

> *NPWS can only do so much. They don't have any resources because national government doesn't consider biodiversity to be important. Interview L18, Civil society: Environment*

The work of Cradden (2007: 108), in his analysis of Irish public policy supports this view that the political environment has curtailed NPWS, as he says, "once it [Duchas] arrived under the direction of the Department of Environment and Local Government, it [NPWS] apparently began to be seen by its own minister as an obstacle to the development of desirable public projects". Similar findings have

been discussed by McDoneld & Nix (2005) with respect to a specific case study on the infrastructural project through Pollardstown Fen, an Annex 1 habitat under the Habitats Directive. These critics highlight that the development priorities of successive governments have had considerable implications for biodiversity conservation in Ireland, and hence, on the resources available to, and the wider influence of, NPWS. In the following quote a public official from NPWS describes how he hopes he will be able to secure further funding for NPWS just to carry out its day to day functions:

> *We're hoping that we may be able to get more resources, we're making the case that NPWS for the job that has to be done, we need at least twice the staff that we have currently. And it has to be said, that the pressure from the Commission and the court cases concentrate the minds wonderfully. Interview N1, Public: Environment*

Provision of funding for NPWS staff is clearly limited from national government. The OECD (2009:14) state that due to a lack of resources "National Parks and Wildlife Service has struggled to meet the workload resulting from the National Biodiversity Plan and EU nature directives". But it would appear that requirement of NPWS to implement the European Court of Justice findings and the threat of fines could provide a mechanism for NPWS to potentially secure more resources. Indeed, pressure from the Commission has had some effect in the past. Laffen & O'Mahoney (2008:190) discuss that in 2000, when Ireland was seen to drag its feet on the designation of sites for the Habitats Directive, the Commissions threatened that approval for structural and cohesion funds for Irish projects was a risk. This became a "credible threat", and resulted in the then Finance minister promising that the Habitats Directive would be implemented in six months.

While the majority of stakeholders pointed out the severe resource constraints at the local level, and political tensions between development and conservation, two stakeholders positioned this resources critique in the context of the wider structural arrangements of NPWS:

> *But I think the local NPWS have to come into the picture more, in terms of protection, in terms of support, advice, financial, and monitoring and enforcement. I feel a dedicated structure is really necessary, because all of the agencies, they are interconnected, but they don't operate in a joined up manner at all. Interview L15, Civil society: Environment*

Well I would think that its [NPWS] problems are institutional, I don't think its lack of resources, because it's how you use the resources. Interview N6, Public: Environment

The common theme in these two extracts is that NPWS needs to target resources to the appropriate scale. This significant given the considerable attention appropriate scale has garnered in both policy and academic literature relating to biodiversity governance. For example, in guidelines produced by IUCN for the implementation of the Ecosystem Approach, Smith & Maltby (2003:6) state that the most appropriate scale for management is best determined by the specific biodiversity problem being addressed. This suggests that a degree of flexibility with decentralised management is often required, but it is recognised that in practice there can be obstacles to this. Therefore they suggest a "combined bottom-up and top-down approach may be the best way to identify the most appropriate management scales and mechanisms." Similar sentiments are encountered in in the academic literature, for example the work of Olsson (2003:4) and O'Rourke (2005) claim that "ecosystem and landscape management requires multi-level management and matching of social and ecological dynamics across scales". However, Newig & Fritsh (2009) in a meta-analysis of biodiversity governance literature, caution this emphasis on appropriate scale, with their findings suggesting that scale is not an overwhelming factor in good biodiversity governance. However, this discussion does serve to highlight that NPWS is considered by stakeholders to be highly centralised, hierarchical, poorly resourced, and ill-equipped to tackle the socio-ecological dimensions of biodiversity management.

7.2.1.2 - Department of Agriculture, Fisheries and Food

From the previous discussion stakeholders clearly view NPWS as an important element of the state apparatus for biodiversity governance, albeit, weak, and lacking influence to pursue its remit. The Department of Agriculture Fisheries and Food (DAFF) was also discussed by stakeholders as a key player in biodiversity governance, but was subject to less criticism and debate concerning its organisational structure. Instead, DAFF was largely discussed in the context of its role in realising biodiversity conservation priorities through its policy, the considerable amount of land under its remit, and the stakeholders to whom it communicates.

The following extract is from a member of NPWS national staff. It is illustrative of the views of environmental sector more generally who emphasised the importance of the DAFF in enabling biodiversity protection through agricultural policies:

> *The Department of Agriculture is vitally important; not so much as a regulator, but their policy is a huge player in biodiversity protection interview. Interview N1, Public: Environment*

NPWS national staff in particular emphasised the importance of the DAFF in enabling biodiversity integration and mainstreaming through the various policies of the department. Therefore, NPWS require the co-operation of this department in the delivery of agri-environment measures such as REPS, and delivery of the Birds and Habitats Directives. The policies of DAFF will be examined in more detail in the following section which examines stakeholders' views of the tools of biodiversity governance. Both, agriculture and forestry are significant landuses in Ireland, comprising 80% and 10% of Ireland's land area respectively (Feehan et al., 2002). Therefore policy which affects these land uses can have important implications for biodiversity, and hence integration of biodiversity management activities into these sectors is significant. In addition, much of the 700,000 hectares (approximately 10% of land area) of land based SACs are supported indirectly by DAFF through agricultural subsidies.

Environmental stakeholders also considered DAFF as highly influential because of its role in biodiversity governance, through its policy mandate and as a conduit to reach landowners:

> *If we want to protect the countryside, if we want to protect nature, if we want to protect biodiversity there are potentially 100,000 farmers that can deliver for us. Now, if those 100,000 farmers don't do the work for us, who's going to do it? Park rangers? Not at all. Interview N7, Public: Environment*

This statement acknowledges the widely held view of environmental stakeholders that biodiversity cannot be protected by NPWS staff, or protected area type restrictions, alone. Instead, this stakeholder illustrates the views of the environmental sector more generally, which calls for a wider countryside approach to biodiversity conservation, calling for biodiversity protection to be operationalised in a sustainable way through the private farms and via the landowners of the country. This view is supported in the literature examining Common Agricultural

Policy reforms in the EU, for example, Siebert (2010:260) states "it is widely acknowledged that farmers' participation in undertaking conservation activities has a significant impact on the success of biodiversity policies." It must also be acknowledged that farming and forestry are sectors which impact negatively on biodiversity, as Sattler (2008; cited in Siebert, 2010) suggests, through "destruction, homogenisation, fragmentation and genetic isolation of habitats." So while farming practices clearly do offer a pathway of biodiversity protection, tacking issues of biodiversity loss and biodiversity integration, the extract above must be viewed somewhat critically. It positions and reduces farmers as instruments of biodiversity conservation, which as Jeanreanaud (2002) and Tovey (2009) suggest, detracts from their engagement and participation as a human right, a means of self-determination, or inclusion of their knowledge into the decision-making process.

At a local level, a stakeholders working in agriculture and environment made somewhat stronger statements for involvement of the agricultural sector in biodiversity governance, suggesting that the Department could take a proactive role, providing impetus for conservation, rather than waiting for input and direction from NPWS:

> *I think there's going to be a few major Departments in the future. I think Agriculture and Rural development can provide positive stimuli for conservation. Interview L15, Civil society: Environment*

Despite these positive suggestions for the role of DAFF in biodiversity governance, national environmental stakeholders strongly asserted while agricultural and forestry policy potentially offer an important route for biodiversity conservation, they are also somewhat problematic. Drawing on his experience of working with agricultural policy makers the following environmental stakeholder highlights this difficulty:

> *I did a lot of work with agricultural policy [makers] and one of the things that really annoyed me was that agriculture [DAFF] always saw nature conservation as... as almost the biggest threat to agriculture in the country. Interview N7, Public: Environment*

A number of points can be drawn from this statement. First, it reveals from the perspective of an environmental stakeholder the conflictual and difficult relationship between DAFF and public officials working for environmental agencies at the National level. Similar findings can be found in the work of Oravshá et al. (2009),

who identify tensions in mainstreaming biodiversity into agriculture in Solvakia. These authors suggest that conflicts of interest can arise when biodiversity competencies and values are dispersed through out environment and agricultural departments in traditionally hierarchical and bureaucratic states. This issue may become more significant in the future, given recent addition of a Biodiversity Unit to the workings of DAFF.

Public sector agriculture stakeholders pointed out that new initiatives have been forthcoming in the agricultural sector as a result of the National Biodiversity Plan. Specifically, they pointed to the establishment within DAFF of a Biodiversity Unit in 2003. The Biodiversity Unit, at the time of interview, was staffed by two people. In order to make their job more efficient and effective, they established an informal working group on biodiversity within DAFF:

> *One of the things about the Department is that it's huge. We found, when we set up the Biodiversity Unit first, that there's no way just the two of us were ever be expert on everything the Department is doing, so we set up an informal group. We have forestry involved, people from REPS, we've people from the genetic resources side, the plant testing and the animal genetics side, and one or two more that we call upon for advice. Interview N4, Public: Agriculture*

It would appear that within DAFF, the Biodiversity Unit suffers from similar resource and funding issues to NPWS. The Unit have a range of roles, one of which is to act as a contact point between DAFF and the DEHLG, for example, on issues regarding policy:

> *I suppose at the moment as a policy input we're [working] at the EUs Communication on halting the loss of biodiversity that has been circulated by the Department of the Environment. We've been asked for our opinions and observations on what the EU is proposing should be done or should be included. We've given them some informal observation, but we'll be giving them very shortly a more comprehensive reply to try and advice on what the DAFF can actually do, specifically, about point abc and d etc. Interview N4, Public: Agriculture*

The following stakeholder working in the Biodiversity Unit suggested that biodiversity was increasingly becoming an issue within the workings of DAFF, but significantly, not necessarily as a result of their role, but as a result of the increased focus on biodiversity at EU level:

> *There's much greater awareness of it [biodiversity] as an issue of itself... the REPS or the forest schemes, I suppose, have a much greater emphasis on biodiversity and its partly due to awareness, like, it's a much more important issue now the EU are pushing it as another agenda item. Interview N4, Public: Agriculture*

Despite the National Biodiversity Plan calling for the Biodiversity Unit to be established within DAFF, it would appear that the Unit has a marginal and minimal role, but acts as a contact point for NPWS and biodiversity policy. Far more resonant is the role of the EU in determining the direction of biodiversity mainstreaming within the Department. This is illustrated by the increased emphasis placed on biodiversity within agri-environment measures such as REPS.

7.2.1.3 - The local authority

The diverse roles and responsibilities of the local authority are discussed in Chapter 3. Until recently there was no specific biodiversity function within the local authority, however, this is changing. With regard to institutional structures an important innovation is within the local authority is the inclusion of Heritage and Biodiversity Officer positions in the local authority and the statutory requirement for the local authority to produce the Local Biodiversity Action Plan (LBAP).

The positioning of the Biodiversity Officer and the responsibility to produce LBAP within the local authority was considered a significant development by stakeholders from environmental civil society and public sector organisations, in addition to public sector planning, heritage and tourism. They take a positive view that some of remit for biodiversity governance have been decentralised to the local authority, specifically through the production of the Local Biodiversity Action Plan, and in the case of Co.Clare, the addition of a Biodiversity Officer:

> *The National [Biodiversity] Plan states that it's the responsibility of the local authorities to produce Local Biodiversity Action Plans. Some local authorities now have a Biodiversity Officer too. That's the first time that any kind of nature conservation biodiversity issue or policy has been taken away from National Parks and Wildlife. I think that's a huge step. It's a really positive way to go. Interview N8, Public: Environment*

The stakeholder above suggests the positioning of biodiversity concerns into the remit of the local authority represents a diffusion of responsibility for biodiversity from NPWS into the local authority. Ribot (2004) and Agrawal & Ribot (1999) believe that local elected authorities, such as the local authority in Ireland, are most downwardly accountable and are therefore most responsive to local needs. They consider such assemblies as formally institutionalised, making them sustainable over time. Such views also resonate with policy which claim decentralisation, at least in principle, provides better opportunities for natural resource and biodiversity management (Smith & Maltby, 2003; SCBD, 2000). However, this assumption is highly contested (e.g. Falleth & Hovik, 2009; Zachrisson, 2009; Dressler et al., 2006) with Bartley (2008:170) suggesting the decentralisation in reality is "complex, partial, and contradictory". Through case study research of decentralised forest management, Bartley argues that if decentralisation is to improve natural resource management, or in this case, biodiversity governance, it will require that new initiatives resonate with existing decision-making structures, whereby the responsibilities and capacities of actors at different levels are complementary, and where incentives for local politicians are aligned with broader objectives of environmental management.

While certainly viewed as an important step for a number of reasons, the role of the Biodiversity Officer within the Council structure was seen by environmental interests, nationally and locally, as important in bringing biodiversity considerations to the attention of the executive staff in the local authority, providing a physical presence in the Council and building personal relationships. As the extract below exemplifies, one of the key aspects of the role is to provide informal advice to planners, raising awareness of biodiversity issues:

> *I'm in with the planners and if they have issues, like, if planning application comes in next to a river or a marshland, they'll always come to me and discuss it first. I try and advise them, I don't tell them what to do, just advise. Interview L6, Public: Heritage*

The key function of the Biodiversity Officer within the local authority, particularly with respect to planning and planners is to provide an advice and education function. In other conversations the Biodiversity Officer outlined the positive reception planners have had to training schemes he has organised, which not only provide them with information, but introduce them to a network of environmental experts who they can

call upon for advice. Following Bartley's (2008) assertion, the claims of the Biodiversity Officer would suggest that there is a certain degree of congruence, co-operation and agreement between the Biodiversity Officer and the planners within the local authority structure. However, this is not universal, as a senior planner in Clare country council explained, some tensions exist between the role of the Biodiversity Officer and potential responsibilities:

> *We basically employ, through the Heritage Council, two consultants who are in turn contracted to the Biodiversity Forum of County Clare. From my point of view it [the structure] is not that successful in that I can't get what I want back from the Biodiversity Officer [all the time], for example, input to planning applications. But we have an informal arrangement. We had 'Vulnerable landscape and Habitat assessment' done for Ennis environs, and we asked the Officer to help us interpret the information for the study. Interview L4, Public: Planning*

So while positioned within the local authority structure, and seen as a useful addition in providing advice and input to biodiversity policy making and planning, the situation is clearly far from perfect from the perspective of this planning stakeholder. As the extract illustrates, tensions exist in terms of the responsibility of the Biodiversity Officer. As a semi-autonomous position the officer is not directly answerable to the executive and democratically elected council. Some clarification on the place of the Biodiversity Officer within the structure of the local authority in Clare is required here.

As the extract above suggests, both Heritage and Biodiversity Officers are co-funded by the local authority and the Heritage Council. However, in Co. Clare, the Biodiversity Officer is answerable to the Clare Biodiversity Forum (also called the Clare Biodiversity Group), who applied for funding for the position to the Heritage Council. The Clare Biodiversity Group is a multi-stakeholder group of public, private and civil society interests, which originated as a working group of the Clare Heritage Forum, and evolved to fulfil the function of producing the Local Biodiversity Action Plan for Co. Clare. The Biodiversity Officer is answerable to this group and not the local authority executive or council.

Environmental and agricultural stakeholders at the local level were also somewhat sceptical of biodiversity protection through the local authority structure. A local

stakeholder who was heavily involved in the production of the Clare Local Biodiversity Action Plan is illustrative of this more cautious position:

> *Local authorities have been proposed as agents of [conservation/ biodiversity] implementation, but it's hard to see that happening for a number of reasons. There's resource issues, they don't have any history of this sort of thing, it's not their area, and their capacity with the whole council structure is limited. Interview L15, Civil society: Environment*

Of key concern in the extract above are the issues raised concerning resources, history and knowledge of biodiversity within the council and capacity within the council structure. As mentioned previously, decentralisation of a biodiversity function from NPWS to the local authority is a recent move, and prior to biodiversity officers, there was no formalised ecological expertise within council structure. Recalling the work of Taylor (2005) is of interest here. His work highlights that these issues of resources and knowledge are not new in the context of the local authority, but, given the findings of this research would seem to be ongoing and persistent.

Environmental stakeholder emphasised the role the local authority, in particular, planners and the enforcement officer, to deal with issues of planning outside Natura 2000 sites. However, these stakeholders were concerned with issues of resources and knowledge of wildlife and biodiversity of Irish significance. The stakeholder below illustrates these concerns:

> *Are any planners going to come out from the local authority and actually look at the land? And if they are, will they actually know what a badger sett look like? Will they know they're protected? There's a gap there... Interview N22, Private: Environment*

Despite recent endeavours to integrate a wider range of species and habitat protection through the legislative framework of the Planning and Development Acts, as highlighted in Chapter 2, environmental sector stakeholders questioned the ability of planning officials to visit sites for pre-planning inspections and their ecological or legislative knowledge to assess the sites with respect to biodiversity issues more broadly. Also of concern is the role of the local authority in planning enforcement. Again, environmental sector stakeholders commented that sufficient legislation is in place, but enforcement is problematic:

> *The local authorities, they don't have the resources to keep an eye on everything all of the time. So I definitely think enforcement is an issue, I think that the legislation is there, it's not being enforced to a great extent. Interview N6, Public: Environment*

The stakeholder above outlines where resource deficiencies in the local authority contribute to a lack of enforcement of planning conditions. Issues of resources to the local authority are highlighted by Callanan (2005) who suggests it stems from the absence of a comprehensive system of local taxation which means that local authorities are reliant on the exchequer to fund many of their activities. This absence of enforcement has been particularly stark in the era of the Celtic Tiger with increased development pressures, as discussed by a stakeholder from the construction sector below:

> *Since the construction sector has been just booming and things just have to be built, there's a time limit, you have to meet project time lines, and nobody's checking [planning conditions], nobody's calling into site to ask the questions. Interview N20, Private: Development*

Taylor (2005) has revealed similar problems with respect to planning. He outlines a case study into local authority planning enforcement. This study revealed that of the local authorities investigated, many did not make a practice of inspecting units after construction, some were unaware if the building had been built, while other local authorities who did inspect said that they checked the facility was built, but not if it had successfully implemented its planning conditions. The stakeholder above from CIF suggested that this lack of obvious enforcement may lead to lack implementation of planning conditions.

Central to the criticism above, and also, leading to tensions between local and central government, is the issue of funding. The OECD (2009) also note that local authorities lack capacity (in terms of resources, expertise and access to information), or the motivation, to take up the challenge of the local biodiversity plans which they are expected to formulate and implement under the National Biodiversity Plan. Whelan et al. (2003) suggest that other countries have found success with devolution of cross-cutting activities, such as biodiversity, to local government, but it remains to be seen how effective the integration of biodiversity into the local authority structure will be. Certainly, research conducted into

decentralisation of biodiversity policy to local authorities by Dressler et al. (2006) point to the political and economic constraints mitigating against biodiversity protection at this scale.

With regard to the institutional context at local scale, of key concern to stakeholders, as illustrated previoulsy, is the "capacity within the whole council structure" for biodiversity protection. Stakeholders at the local level in environmental, planning tourism, forestry, fisheries and development point out that tensions have arisen around the area of biodiversity protection between the executive planners, and development interests acting in conjunction with the democratically elected councillors. The following extracts from a senior planner and the Biodiversity Officer are illustrative of these concerns:

> *There is a perception in the Council that the Heritage Office, and biodiversity in particular, is about stopping development. Primarily the people driving that perception are the developers because by the very nature of the business, they want to develop, and anything that gets in their way is seen as a negative for them. Interview L4, Public: Planning*

> *Biodiversity is not taken seriously enough by the people in power and in position. Some of the councillors are very good, others don't give a toss. It [biodiversity] is only something that gets in their way, in the way of their election, in the way of people in their communities getting planning applications. It's just seen as an issue that could stop their planning application from going ahead. That's why biodiversity and environmental matters are so politically sensitive, it's basically seen as restricting our rights to develop. Interview L6, Public: Heritage*

These extracts clearly indicate the tensions between the executive wing of the authority which is trying to protect biodiversity, and the political wing of the authority, coupled with development interests, which are focused on economic development and re-election. This battle between the political and executive is significant in the light of literature concerning natural resource management decentralisation and Irish environmental governance more broadly. With regard to the former, Bartley (2008), Falleth & Hovik (2009) and Dressler (2006) highlight the power of local elected politicians and development interests to impact on, or diminish the quality of, decentralised environmental governance. Particularly, where there is a legacy of a centralised regime, heavily institutionalised reciprocal arrangements with powerful

interest groups, as found by Flynn (2007) and Taylor (2001) who document the weak institutional capacity of state agencies, and local authorities, in enforcing implementation of environmental legislation against more powerful economic and political interests. There is also a sense, which is well documented in the literature (e.g. O'Rourke, 2005a; Collins & O'Shea, 2003; Komito, 1984), that local clientelistic relationships between local councillors, their constituents and the private sector persist, and remains an important facet of political life in Ireland.

However, there are also signs of change, even persistent power can shift. The Heritage and Biodiversity Officers suggested that the presence of their positions within the council may have catalysed new practices. They suggest that when dealing with planning issues some councillors take a proactive approach by organising pre-planning meetings between their constituents and the planning office or Biodiversity Officer in an effort to secure pre-planning advice on biodiversity matters:

> *Some of the councillors [have started to] recognise the biodiversity department and the heritage section... They will come in and say, look, we have [a constituent has]a site out here, it's full of trees, and we're planning to do this, can you come out and take a look, we need some advice. Interview L5, Public: Heritage*

The suggestion was made by the Heritage and Biodiversity Officers that councillors engage in this kind of meeting as a way of minimising conflict in the latter stages of the planning process. It can also act as a means of educating citizens on the role of biodiversity in the planning process, and increase awareness of the planning process.

7.2.2 - Private sector organisations

In this section stakeholder's perceptions of the roles, responsibilities and influence of the private sphere of governance will be examined. The policy and literature review highlighted the central role of the private sector in biodiversity governance. It is suggested that increased partnerships between private and public sector through the growth of public-private partnership arrangements is illustrative of recent changes in society and politics more generally, in a movement away from centralised, command-and-control style of governing (Pierre & Peters, 2000; Stoker 1998). There is also an expectation within policy that such collaborative

partnerships can offer a means of achieving better outcomes for biodiversity by addressing the root causes or drivers of natural resource degradation and biodiversity loss as highlighted by Stoll-Kleeman & O'Riordan (2002). However, the extended role of the private sector in biodiversity governance is also viewed critically, with Heynen et al. (2007), claiming that even with integration, private sector can have negative impacts on biodiversity, and the process of equitable and accountable decision-making.

Stakeholder's discussions of the private sector took three discernable directions. First, environmental private sector and civil society stakeholders discussed the private sector, in general as important, without specifying particular organisations. Second, stakeholders from the private sector considered their own role as important, but, in a manner which contrasts with other stakeholders. Third, public sector environmental, tourism, planning and agricultural stakeholders drew considerable attention to the importance of private sector farming organisations. Lastly, discussion with the local IFA revealed discernable differences between the objectives, power and influence of the lobby.

7.2.2.1 - General discussion of private sector

The following quote is illustrative of environmental private and civil society stakeholders who considered integration of biodiversity within private sector, in general, as important:

> *I think it will be hugely beneficial to have private sector involvement and integration, incorporating biodiversity into the day to day operations of different sectors. I think that's really important. I think once it's in the system, you know, businesses, agriculture, the construction industry will take it on because they are aware of it and just incorporate it into their mode of working. Interview N22, Civil society: Environment*

This extract illustrates the focus within the environmental sector on the integration of biodiversity concerns within private sector practices, built on economic arguments for the protection of biodiversity. This reflects the work of Motherway et al. (2003) who detected a discernable shift towards a coupling of environmental protection and economic development ideology in Ireland. Critics of this kind of thinking, such as Bluhdorn (2000) and Jepson & Canney (2003) suggest that it neglects the aims

and ideology that featured in early environmental debates which called for an ecological transformation of society based on value changes. Instead, this stakeholder assumes that once mechanisms for biodiversity protection are highlighted, private sector interests will incorporate it into their modes of working. As Pepper (1999) has pointed out, this is not always the case. Integration of environmental concerns into the private sector is highly contested, and critiqued, as enabling private sector interests, rather than progress towards a more sustainable society.

In contrast, stakeholders from the national private sector, farming, development and business, saw their remit in a very different light: as lobby groups for their members. The following two extracts from the Irish Farmers Association (IFA), and the Construction Industry Federation (CIF) are illustrative of these views:

> *A lot of the services we provide is to be the voice of the industry. Like objecting to things, preparing submissions or adding to policy changes that's going to affect the construction industry. CIF would speak on behalf of its members internationally... and nationally through social partnership. Interview N20, Private: Development*

> *We lobby obviously at national level with the government and the various Departments and we also have an office in Brussles where we lobby in the EU commission. At the national level we're part of the social partnership arrangement as part of the farming pillar since 1987. Interview N18, Private: Agriculture*

Both groups clearly have a multi-scalar remit lobbying at both EU and national scales. This has provided these organisations mechanisms of influence at local, national and Brussels, dispersing their political influence across scales, often to lobby against the environmental protection provisions. At national level, involvement of these organisations in the process of Social Partnership, which both extracts allude to, is significant. O'Donnell & Thomas (2002) claim that outside their own sectional concerns, the farming lobby's role in social partnership agreements has been somewhat limited. However, environmental policy is a sector of concern for Irish farmers, as evidenced by stakeholders lengthy discussion regarding this lobby.

7.2.2.2 - Irish Farmers Association - National

National public sector environmental, tourism, planning and agricultural stakeholders drew considerable attention to the importance of private sector farming organisations in decision-making. These stakeholders noted that social partnership was not the only forum through which the lobby has secured access to decision-making. Public sector agricultural stakeholders reflected on the access of the lobby to DAFF, and their influence on agricultural and environmental policy:

> *The farm organisations, they will meet with the Department of the Environment, but they are more likely to meet with the Minister for Agriculture or with a delegation from the Department of Agriculture and try to influence policy that way. Interview N3, Public: Agriculture*

> *I mean, that's the real politics of it, policy changes are changed by the way in which outside groups interact and affect it and shape it. Interview N5, Public: Forestry*

The close relationship between the farming lobby and DAFF civil servants is well rehearsed in the literature which concludes that the Irish national farming organisations have enjoyed a close working relationship with DAFF since the mid-1960s (e.g. Greer, 2005; Evans & Coen, 2003; Taylor, 2001; Adshead, 1996). Adshead (1996) and Greer (2005) have characterised this relationship as a closed policy community (following Marsh & Rhodes, 1992) between the farmer's representatives and DAFF, allowing privileged access to for the community members and crucially, limiting access to outsiders.

The strength of the lobby is such that outsiders to the policy community include other agricultural organisations. A stakeholder from Teagasc, the semi-state agricultural development authority, stated that the farming lobby are a highly influential and powerful group:

> *Generally the farmers have all of the power. They are unions, so they are going to lobby for the best deal for their members. Sometimes we might not like it, but that is their job. Interview N15, Public: Agriculture*

Despite waning public support during the 1990s for agricultural subsidies the agricultural lobby remains well organised, well connected, and more importantly

formally (through social partnership) and informally (through direct access to DAFF) institutionalised within the policy process. For example, access to DAFF is considered by Taylor (2005:195) to have allowed the agricultural lobby to exert a strong degree of influence in setting agendas and implementation of environmental policy within DAFF, "largely circumscribing the thrust, content and pace of change". This access has allowed farm groups and DAFF participate in policy making environment which seeks to minimise political disturbance and establish (a favourable) continuity in policy. These extracts speak to the stability and longevity of this policy community, which has endured for fifty years. Both direct access to government departments (traditional corporatism) and the formal national social partnership approach has had implications for biodiversity governance.

According to national environmental public sector, agricultural and rural development stakeholders, landowners, as represented by the farming lobby groups, are entitled to power, formal institutionalisation and representation within national decision-making, as illustrated in the extract below from an NPWS official:

> *The landowners of the country, represented through the farming organisations are extremely important. I think there 160,000 farmers in the country, so they are entitled to have very stout representation. Interview N1, Public: Environment*

The farming lobby groups, such as the IFA, are considered by these stakeholders as important in biodiversity governance because they represent a large body of farmers. In 2005, Murphy calculated that there were 23 farming organisations operating in Ireland, the IFA and Irish Creamery Milk Suppliers Association, being the largest groups with estimates of 200,000 members (Murphy, 2005). Therefore, taken on one level, there obviously a case to be made for interest group representation in decision-making, but Jordan & Maloney (2007) argue that group representation in decision-making has enabled privileging of business and other advantaged participants to enjoy disproportionate influence. These scholars observe that government will tend to respond to the organised and familiar. Not only are the IFA highly organised and well resourced, but they have a long historical role in policy development and implementation.

7.2.2.3 - Irish Farmers Association - Local

Agricultural stakeholders at the local level highlighted the importance of the local IFA. The following stakeholder from the Burren IFA reveals differing interests between the national and local organisation. As a stakeholder from the Burren IFA states below, the IFA has divided interests:

> *Burren IFA, we are different and at cross purposes with the [have different priorities to the] national level. So we have been given permission by the national organisation, the responsibility to be spokespersons for the Burren in our own right. We work in tandem with them, but we blaze a trail really on this. Interview L14, Private: Agriculture*

Differences in priorities discussed by the Burren IFA in the extract above are important. The national IFA emphasises a productivist approach to farming, whereby the primary vocation of farmers is as a food producer, operating in a commercial and market setting. This finds support and represents the larger, more lucrative farmers of Ireland (Greer, 2005). In contrast, the Burren is an area of the country characterised by part-time farmers, poor farming conditions and high conservation value land. In response to feelings of in-action on lobbying positions of particular concern to the Burren, and a sense of powerlessness in the face of policy changes, the Burren IFA has actively reconstituted its identity. The Burren IFA has become a semi-autonomous organisation which has distanced itself from the productivist leanings of its national organisation (and wider farming culture), repositioning itself through claims to the ecological register (Hajer, 1995).

One of the key differences between the national and the local scales of the organisation are their views towards biodiversity, and therefore, their reaction towards agricultural and environmental policy. The following extracts illustrate these differences:

> *Sure, it's important to have land managers there and that the farmer does the work for the state in terms of biodiversity. But you have to be practical. You can't live off the fresh air you can't live off the flora and the fauna, you need an income. Interview N18, Private: Agriculture*

> *From now on we will be farming the stock [cattle] to provide the environment. The flora is a bi product of 7,000 years of farming, from now on farming will be a bi product of the flora. Interview L14, Private: Agriculture*

In the first extract, a representative of the national IFA clearly outlines the productivist position of the organisation. In direct contrast a Burren IFA member recognises that the payments received to the farming community from EU derived multi-functional land use policy will secure the future of the farming community. This illustrates wider shifts which have taken place in agricultural and rural development policy at a European level encouraging the diversification of farm environments from a narrow productivist philosophy to incorporate other interests such as tourism and ecology (Seibert, 2010; O'Rourke & Kramm, 2009). This changing policy landscape is finding a receptive audience in smaller farming lobby groups In Ireland, such as the United Farmers Association, and organic groups as discussed by Greer (2005). These findings resonate with the work of Flynn & Lowe (1996:13) who suggest that environmental issues identify the "myth of unity between Irish farmers", and indeed, within a single farming organisation such as the IFA.

After seeking unsuccessful representation in decision-making, through the national IFA, the Burren IFA became a semi-autonomous organisation. With this independence secured, the Burren IFA sought access the corridors of power directly, seeking negotiations with DAFF. In the following extract the Burren IFA suggest they were largely unsuccessful in their representations:

> *We had been knocking on the Department [DAFF] door for a good while, the Department officials are very sleek negotiators and very often they'd say, there's only two years left in REPS 2 put a submission to REPS 3. So you do and nothing. And so on, until REPS 4 comes out, in a blaze of glory, and you discover your piece is still missing. Interview L14, Private: Agriculture*

In response to these challenges, the Burren IFA changed the focus of its representations. First, it secured funding for scientific research from Teagasc to analyse the requirements of agriculture and ecology in the Burren, and secondly, following the production of this data, engaged in direct negotiation with a former adversary, NPWS.

NPWS was highly unpopular in the Burren, due to their involvement in the implementation of the Habitats Directive. However, due to the lack of support from DAFF and the National IFA, the relationship changed, as the Burren IFA stakeholder explains below:

> *I think we were the first farming organisation to sit down with National Parks and Wildlife, but it was out of necessity really. It was a very bold step as an organisation, because Duchas, as it was at the time, was not trusted. We said, look, we have been fighting with you, so be it, you have a responsibility, and now we have a document that outlines what has to be done if you want to maintain the flora of the Burren. You're not able to maintain it yourself, so it's in your interest to go to government and Europe with us for funding to do more research. So together we sat down, and they put 50,000 quid into funding an application for the LIFE project. It was a great leap of faith going in as partners but we have worked extremely well together. Interview L14, Private: Agriculture*

The diminishing power of the environmental state, but also local branch of the private sector organisation, lead to a new partnership and discourse coalition, involving the Burren IFA, NPWS, Teagasc and the EU. This has resulted in the formation of a civil society agri-environmental organisation, BurrenLIFE. It follows Marsh & Rhodes (1992) assertion that no policy network is ever fully closed, recognising that the government is an undifferentiated whole, and the policy framework may change.

7.2.3 - Civil society

Global and European agreements have placed the inclusion of civil society actors in policy-making at the heart of the sustainability and biodiversity governance agenda. National policy also recognises that sustainable development and management of biodiversity requires the participation of all sections of society (Comhar, 2004). Civil society can be defined "as the set of institutions, organisations and behaviour situated between the state, the business world and the family" (Davies, 2008:162). Civil society is not homogenous, with civil society stakeholders in this study drawn from environmental, planning, rural development sectors. However, despite this diversity of organisations, stakeholders primarily discussed environmental civil society organisations, with a small number from agriculture and rural development interests discussing the Irish Rural Dwellers Association. Stakeholders view of the

environmental civil society organisations, ENGOs, will be discussed first, followed by a discussion of the Irish Rural Dwellers Association (IRDA).

7.2.3.1 - Environmental civil society (ENGOs)

Environmental civil society organisations (ENGOs) were discussed in two ways. First, public officials in agriculture and NPWS placed importance on ENGOs in terms of providing scientific input and community engagement functions. Secondly, the ENGOs themselves, fisheries, planning and tourism stakeholders discussed environmental civil society as having an important role in pro-actively inputting to policy.

In discussion with one public official it became apparent that NPWS work closely with a number of ENGOs, such as Birdwatch and the Irish Whale and Dolphin Group, due to their role in generating scientific data and their scientific expertise. These ENGOs have built relations with NPWS by providing data collection services. Others, such as An Taisce, Coastwatch and the Irish Wildlife Trust are policy and education oriented organisations and were not mentioned in this discussion:

> *There are certain people that we would have a lot of dealings with in particular I suppose the Whale and Dolphin Group who have a very strong scientific basis as well as a good advocacy... There are very few NGOs with sufficient, genuine scientific expertise, and we're not talking about policy, I mean if it's policy issues that's with the Minister and with other people. Interview N1, Public: Environment*

The stakeholder above clearly considers certain ENGOs to be more important than others. A clear is distinction made between those organisations who can fulfil information requirements, and those that engage in policy campaigns. It should be noted that there is little tradition of a strong national ENGOs presence in Ireland. Critics of environmental social movements in this country suggest that due to weak national ENGOs, environmental campaigns tend to be won and lost at the local level. They also note the absence of international organisations such as WWF and Greenpeace (Leonard, 2006; Tovey & Share, 2003).

Similarly, DAFF utilise Birdwatch to generate science for a number of projects, such as the Farmland Birds Survey. The following official from DAFF felt it was important to work with Birdwatch, another ENGO, because they provide consultation with local

communities, and it was felt that the EU Commission would regard positively the partnership between agricultural and environmental organisations:

> *We decided we're going to keep them involved, and the commission looked on it favourably. We're sort of taking a rural development [approach] and including not just 'agricultural' people. The NGO is involved to give specific advice. Interview N3, Public: Agriculture*

Other ENGOs, such as the Irish Seed Savers are supported financially through the Biodiversity Unit in DAFF, particularly around the conservation of traditional agricultural plant varieties, which fulfils part of DAFFs remit under the National Biodiversity Plan:

> *We've been funding quite and number of little projects with Irish Seed Savers in Clare, like cereal growing, growing out of old grain varieties. I believe that the other sides of the Department have funded them for different issues, for their apple orchards, stock of older varieties of vegetables, things like that. Interview N4, Public: Agriculture*

The importance NPWS and DAFF place on ENGOs is clearly dependent on the requirements of the state department, the expertise of a given ENGO, and the requirements of policy, or other organisations, such as the EU Commission. This kind of interaction with government departments was not necessarily a common experience for all ENGOs.

Somewhat in contrast to this are the views of a stakeholder from Teagasc. This stakeholder sees her role in relation to the ENGOs as facilitating the transfer of their technical knowledge concerning biodiversity to Teagasc advisors and farmers:

> *I find that half my work is going out to things to learn from people, like Woodlands of Ireland, Birdwatch Ireland, Bat conservation Ireland, organisations that have technical knowledge. I get that information and bring it back in a [different] form, because they do not reach the farmers, they do not reach our advisors, but I can. Interview N15, Public: Agriculture*

This stakeholder indicated that ENGOs are unable to reach farmers or Teagasc advisors directly due to poor resources and staff shortages, and also, the potential unfavourable reception of biodiversity information from ENGOs. Instead, Teagasc is held in high esteem in the farming community, and trusted, thereby providing an acceptable conduit for biodiversity information.

In contrast to the views of these public sector stakeholders, the environmental civil society organisations (ENGOs), fisheries, planning and tourism stakeholders discussed the importance environmental civil society in actively inputting into policy. The roles and responsibilities of the ENGOs differ in this regard, however, with one organisation, An Taisce having a statutory remit. The extent of this remit is outlined in the extract below:

> *We're in an unusual position in that we're a non-governmental organisation we don't get funding for our statutory role as such even though it's a huge function. [For example] licensing, we have a prescribed function. In terms of planning, forestry and aquaculture, we'd be referred all the applications that fulfil certain criteria, so if they're within a nature conservation boundary we would submit comments in relation with granting that application. The same goes for aquaculture, which is largely in SPAs, There's also the dumping at sea permits and the EPA waste licensing. Interview N21, Civil Society: Environment*

In addition to this statutory remit An Taisce also considered themselves as having a proactive policy making role, seeking to input in national policy making in agriculture, environment and forestry. Other stakeholders in fisheries, planning and tourism sectors agreed that ENGOs play a crucial role in setting the biodiversity policy agenda, a role which is not always recognised by the state:

> *If you think about it, An Taisce, Birdwatch Ireland, Friends of the Irish Environment, they're the ones who have been lobbying for changes to policy. They set the agenda, but then the state doesn't necessarily recognise their role in all of this. They pay lip service to it. Interview L9, Public: Environment*

Two issues are raised by the extract above. First concerns state financial support to the ENGOs, which is considered by Flynn (2007) as inadequate (although some would argue that ENGOs need to be independent of state funding). A dedicated small 'core' funding scheme has been in place since 2001. In 2004, according to Flynn this amounted to €180,000, sub-divided across twenty-three members of the ENGO Core Funding Ltd, a network of Irish ENGOs. Secondly, of concern is the manner in which the ENGOs seek to influence national policy and the process by which they set the agenda. Discussion with ENGO stakeholders in this research clearly highlights the difficulty faced by ENGOs in directly accessing the policy making processes at national level. This is starkly highlighted through an example

provided by ENGO stakeholders of their experience trying to gain access to information and consultation on changes to SAC river boundaries when amendments were being made to the Habitats Directive. In the following extract, an ENGO stakeholder gives her reaction to the reduction in size of river boundary SACs from 30 meters to 2.5 meters:

> *It was like oh my god, what's happening; they're changing all these boundaries to 2.5 meters! This spells possible disaster for a lot of the things in the river, like pearl mussel and cray fish and protected species, let al.one water quality. They have a protection, at least on paper, in having that buffer zone and now that buffer zone does not exist! Interview N21, Civil society: Environment*

The concerns of this stakeholder regarding biodiversity protection, did not just relate to negative outcomes such as reduced boundaries, but to procedures perceived to be weak. A group of ENGOs spent thirteen months writing letters, emails and phone calls to secure a meeting with the then Minister for the Environment to discuss the matter further. After a complaint to the Ombusman a meeting was secured, but with little response to concerns and questions raised. At a follow up meeting senior staff in NPWS met with ENGOs to answer questions after which the ENGOs sought the view of the EU Commission:

> *Following a meeting with senior staff in NPWS when we got to discuss the questions that we had, and they were explained we sought the Commission's view. It wasn't illegal as such because it's the river that has to be protected, and that can be done by including a big buffer zone or a small buffer zone, it doesn't really matter Interview N21, Civil society: Environment*

This extract indicates a key pathway of influence for the ENGO groups, bypassing the national scale and seeing to influence the EU directly. Despite having access to a supportive EU environment, in the following extract an ENGO stakeholder assesses the ENGO impact on policy making in Ireland, indicating their inability to influence policy development or outcomes:

> *We had, to be honest, absolutely no route to argue through, we had absolutely no clout, we weren't listened to, we were fobbed off, we were ignored and we were completely ineffective really. Interview N21, Civil society: Environment*

The extract above illustrates the sense of marginalisation of ENGOs from national discussions around biodiversity. The main arguments presented for exclusion of

ENGOs from on going negotiations, for example, concerning the Habitats Directive, was on the basis that agreements are reached through Social Partnership, a process to which the ENGOs were not involved at that time. This argument had previously been used for exclusion of ENGOs from the initial SAC designation process, and as Flynn (2007) and Taylor (2001) recount, limiting ENGO access to the domestic political system. The OECD (2009) suggest that this is a key issue which needs to be addressed in order to promote broader participation by NGOs and relevant public organisations in the development and implementation of national and local development policies, programmes and projects.

Both ENGOs and planning, fisheries and tourism stakeholders, highlighted the difficulty faced by ENGOs in accessing the policy making processes at the state level. Throughout the 1990s the ENGOs sought access to the social partnership process but were repeatedly denied, because, according to ENGO stakeholders, they were perceived as a nuisance, and their ideas and views of biodiversity did not suit the social partnership process:

> *We've been trying to get in for a few years, and haven't been successful. The Taoiseach's office refused us, and I'd say the other pillars were not keen either. I suppose the groups involved would have perceived us as a nuisance. Interview N23, Civil society: Environment*

> *Other groups have more weight [than ENGOs] because they are known, trusted and part of the gang. It takes you a while to get into a position where you are known and then your ideas might be taken on board more. A lot of that has to do with time and establishing biodiversity as an idea. But, certainly some groups are given more weight than others. Interview N22, Civil society: Environment*

As previously discussed, social partnership represents an extension of corporatism and closed policy communities. Drawing on this, reasons for the exclusion of ENGOs are multiple. The ENGOs views contradicted the dominant economic agenda pursued by the state and many of its partners and thereby introduced critique and conflict in a consensus decision-making process. Applying the work of O'Carroll (2002) is useful here, as it draws attention to the exclusion of alternative discourses in the workings of the state, an acute problem in biodiversity governance, where critique and difference is not just evaded it is demonised. It

reflects the overall objective of the state to pursue consensus as an end to economic development, as "a small trading economy cannot prosper with divisive and competing interests"... (Irish Government, 1991: 5). The formalisation throughout the 1990s of social partnership as a model of governance reflects the successful institutionalisation of this consensus ideology in Ireland's political structures resulting in the exclusion of the environmental NGOs. Perhaps more importantly, entry of ENGOs into social partnership would have compromised the privileged position of the agricultural lobby to influence environmental policy without having to justify its position, therefore, their exclusion created a bulwark against environmental policy and perpetuated the long established position of IFA in decision-making (Greer, 2005).

Those working in the environmental sector commented that the exclusion of environmental interest from national decision-making, and the effect of economic prioritisation and close connections between economic interests, both in industry, government and civil services (referred to as the 'system' below) built around consensus decision-making, has had negative repercussions for biodiversity conservation:

> *It's a very useful system isn't it? It prevents conflict because it ensures that conservation does not get the upper hand, it prevent any risk of conservation damaging the industry. It's the root, the nub of what's wrong with conservation in Ireland. Interview N8, Public: Environment*

In response to a lack of access at national level, ENGOs have taken a different path to ensure their voices are heard. Stakeholders from ENGOs and the EU Commission highlight the role that the EU has had in supporting Irish environmental civil society organisations, as the following extract from a stakeholder within DGEnv illustrates:

> *We [DGEnv] would have regular contact with all the mainstream NGOs in Ireland, at least all the ones involved in biodiversity. We would have heard from them regularly. They see that the Community, not just the Commission, but also the EU Parliament has taken a pro-biodiversity stance, or at least a stronger stance on biodiversity [than national government] and the ECJ judgements would reflect that. Interview EU1, Commission: Environment*

The interviewee illustrates the regular contact between ENGOs and the Commission, but also the wider 'Community', as reflected in successive European Action Plans (particularly 5EAP onwards) which have increasing placed biodiversity as a central consideration in environmental policy. As highlighted in the Introduction chapter, Ireland has been subject to successive ECJ cases, highlighting key deficiencies in transposition and implementation of the Natura 2000 Directives in this country. This indicates the power of intervention of the Commission and the European Court of Justice to transcend national self interest and exert pressure on the national government to improve procedures for biodiversity protection (Connelly & Smith, 2003). This makes it a powerful ally to maligned environmental interests, in the public and civil society spheres of governance. The Irish ENGOs have been instrumental in assisting DGEnv in the highlighting these deficiencies, and collecting data for the development of European Court of Justice (ECJ) proceedings, and thereby, indirectly influencing the practices of national government. Seeking recourse to the Commission is not unique to Irish ENGOs. International research (e.g. Weber & Christophersen, 2002; Fairbrass & Jordan, 2001b) highlight the influence of ENGOs at EU level, in terms of both setting the agenda for biodiversity policy and ensuring it is implemented and enforced. These authors claim that EU scale of governance allows ENGOs greater access, influence and power than the national decision-making arena. Fairbrass & Jordan (2001b:501) in their analysis of the development of biodiversity policy at EU level over a thirty year period (1970 – 2000) suggest that "political outcomes are the product of environmental activism at the EU level and the (not entirely) independent activities of supranational agents such as the European Court of Justice (ECJ) and the Commission."

Another point of access to the national ENGOs has opened up. As a result of the National Biodiversity Plan (2002) and subsequent Comhar review (2004) the ENGOs have three representatives on the National Biodiversity Forum. The Biodiversity Forum, as discussed in Chapter 2 is a multi-stakeholder forum, with representatives of ENGOs, public sector organisations and rural development interests, including the IFA and Irish Rural Development Association. For those participating in the Biodiversity Forum, the underlying tensions between these stakeholders was palpable. The following stakeholder outlines the difficulties in accommodating these tensions in the process:

> *There's certainly a bit a trench warfare going on and people saying, oh you know, we're the goodies and they're the baddies and all that. It's very frustrating I find. I mean I do a lot of work with the farming organisations and they come with terribly pre-conceived notions about my views on nature conservation and how I think things should be. And I have found it very difficult to actually break down to get beyond that stage. Interview N7, Public: Environment*

An example of the "trench warfare" described above arose between the ENGOs and rural development advocates. The ENGO put forward a proposal regarding a countryside monitoring scheme, which would generate information, and enhance biodiversity policy making. This was viewed very negatively as another "layer of white coats visiting farms", by rural development advocates (IRDA and IFA), and associated with a fear of finding new species or scrutinising farming activities. As a result, exchanges between An Taisce and these lobby groups appear to have become quite heated:

> *I've had other members of the Forum say, my god you got a right battering there, they'll say it afterwards but not during the debate. Like when I suggested a country side survey to monitor land use changes, he [the IFA representative] flipped...Slamming his fist on the table, we will not have more people trapsing across our land, we will not have more designations, we're up to our eyes on designations, we won't allow anybody to cross our land, we won't allow this to take place. All this without even knowing or understanding what it was for, what the objective, what the outcome would be. It's just like I was the bad one for even bringing it up. Interview N21, Civil society: Environment*

A number of point's can be made here. First, while the Forum offers ENGOs a place at the decision-making table, it is clear that the IFA/IRDA coalition is attempting to set the agenda, what can and cannot be discussed, and whose opinions are taken into consideration. The ENGOs face difficulties from those who were "on the inside before", the influential economic interest groups who act strongly defend and retain, their privileged status and access to and over environmental decision-making (Bulkeley & Mol, 2003:146). Other organisations, such as public sector environment, who may share similar views to the ENGO involved in the discussion above, remain silent. This illustrates the way in which partnerships and multi-stakeholder fora can mirror, rather than transform, existing relations of power, which Backstand (2006) suggests is not surprising given their voluntary and self-governing nature.

This contrasts with the findings of other research which suggests that the benefits of multi-stakeholder participation include the clarification of values, views and interests, which are in opposition to one another, so that problem definitions are more broadly understood and supported. This case clearly indicates that leadership and skills are required in managing diverse interests in partnership approaches. Also, close attention to participant's perceptions of each other, and the social relations between stakeholders is required, as has been suggested by Marshall et al. (2007) who examined hen harrier conservation conflicts in Scotland, and also Stoll-Kleemann & O'Riordan (2002) examining natural resource partnerships in Germany and South Africa. Interpersonal relationships and disparities of power and trust may override the process, and in this case, result in overt expressions of power.

In a more positive vein, literature suggests that such conflicts can be overcome, but highlights the requirement for capacity building, information and a sense of collective and collaborative learning in multi-stakeholder fora, in order to bridge a wide gap in knowledge, understanding and perspective between different stakeholders (Davies, 2002). Or, as Innes & Booher (2003) suggest collaboration between actors with differing interests and history should begin with an analysis of each of the interests, and conflicts, in order to build trust. In addition the group must define its own ground rules and mission, rather than be given these by an external authority, or in the case of the Biodiversity Forum, having weak and vague terms of reference.

A second access point illustrates how impetus for change can occur from within the national political system itself. The following extract illustrates the changing relationship between state and environmental civil society as a result of the election and influence of a Green Party Minister in DEHLG:

> *Relations have certainly improved between NGOs and the Department [DEHLG] in the recent past, I think there is less of an atmosphere of antagonism now. Interview EU2, Civil Society: Environment*

Some key changes have occurred since the Minister was elected. For example, ENGOs have had direct access to the Minister and also, significantly, have become members of social partnership. This suggest, as Dowding (1994:73) claims that

"change occurs through altering circumstances, perhaps in response to transformations outside the network, which has the potential to disturb the balance of power within it". In this case, the election by the Irish public of a Green Party Minister, and his subsequent positioning within the DEHLG, has provided a new entry point to Irish ENGOs to enter biodiversity decision-making. However, it remains to be seen if this will shift the persistent balance of power at national level.

7.2.3.2 - Rural development civil society

Agricultural and rural development stakeholders expressed importance of the Irish Rural Dwellers Association (IRDA) in their discussions of civil society. This organisation was established in 2002 and lobbies local and national government on rural development and planning issues. Although having a small membership, the IRDA quickly rose to prominence. The IRDA was able to gather influential support, at a range of scales and quickly, not least came from the national Irish Farmers Association who provided the IRDA with political support:

> *Our organisation has grown to sixteen hundred members countrywide now. But through our associations, we have the authority and mandate of tens of thousands of people. The IFA alone was 80,000 members, so that has given us some moral backing. Interview L24, Civil society: Rural development*

Despite a small membership, the IRDA built political support and increased its standing due to coalitions made with well established, influential groups, such as local councillors and the IFA. That the national IFA lent its support to this smaller organisation is unsurprising given their shared views of rural environment, concerning issues of land, rights and culture (Scott, 2006). The IRDA and IFA both share deep concerns that biodiversity conservation objectives would place restrictions on planning, devalue property and result in loss of income for landowners. Perhaps viewing the IRDA as a way to further secure landowners property rights, the IFA were quick to assist in its recognition and influence at central government level. From this the IRDA have secured access to biodiversity decision-making, when in 2006 a representative of the organisation became a Ministerial appointee to both Comhar, the Sustainable Development Council, and the National Biodiversity Forum:

> *We were very quickly recognised by the Department of the Environment as a negotiating group, representing rural Ireland. Interview L24, Civil society: Rural development*

The evidence here suggests that the IRDA have formed a discourse coalition with the IFA, already well established and institutionalised within a policy communities (Hajer, 2005; Bulkeley, 2000). This illustrates that a small, relatively weak group such as the IRDA can become established nationally, through already well established and politically influential national organisations, based on common values, perspective and goals.

7.3 - Policy tools

Biodiversity policy makes it clear that meeting the challenges of today's environmental problems means looking beyond a strictly legislative approach, taking a more strategic direction and utilising a range of instruments and measures to influence decisions made by business, consumers, policy planners and citizens. Table 7.1 provides a list of key biodiversity policies and the mechanism of public participation espoused by each. Policy instruments can be defined as the various techniques used to achieve policy objectives (Jordan & O'Riordan, 1995). When asked for their views on biodiversity policy, interviewees mentioned a wide variety of policy and legislation which they felt contributed to the protection of biodiversity in Ireland. These discussions encompass international policy instruments such as the Convention on Biological Diversity, the EU Directives and national measures and instruments. In addition, stakeholders discussed biodiversity protection in the context of integration through agri-environmental measures and planning and development acts. Chapter 2 outlines the content of these policies in detail, here, stakeholder's views and perceptions of these instruments are considered, beginning with instruments with statutory backing, followed by consideration of voluntary and then advisory instruments.

7.3.1 - Statutory instruments

7.3.1.1 - The Convention on Biological Diversity and National Biodiversity Plan

In 1996 Ireland ratified the Convention on Biological Diversity (CBD). By ratifying the Convention, the competent authorities, NPWS in this case, are required to abide by the Convention, and rulings under subsequent the Conferences of the Parties (COPs). As mentioned in the policy review, the key mechanism for the

implementation of the Convention is through the production of a National Biodiversity Plan (NBP). Stakeholders based in environmental and planning organisations suggested that the Convention provides the framework or blueprint for biodiversity policy in Ireland. Despite providing a blue print environmental stakeholders were also quick to discuss problems with the implementation of the CBD and the NBP.

Table 7.1: List of key biodiversity policies, their scale of origin and routes for interest group and public participation

Scale at which policy originates	Policy document	Type of participation espoused by policy documents
International Scale	Convention on Biological Diversity	Partnership between public, policy makers, scientists and business through the Ecosystem Approach
EU	EU Biodiversity Plan	Policy development: Expert consultation, limited public consultation through written submissions; Implementation: ongoing partnership between business and environment; public awareness
National	National Biodiversity Plan	Policy development: Consultation in the form of written submissions called for from public & policy makers alike Policy implementation: Biodiversity Forum suggested in the review of the NBP 2002 to become a multi-stakeholder advisory and consultative body Policy implementation: Public awareness and education campaign and stakeholder engagement to produce sectoral guidelines
Local	Local Biodiversity Action Plan	LBAP guidelines suggest partnership and wide spread consultation with a range of stakeholders to raise awareness and improve engagement; also opportunities for publics to become involved in plan design and implementation

Table 7.1 (contd): List of key Biodiversity Policies, their scale of origin and routes for interest group and public participation		
Scale at which policy originates	**Policy document**	**Type of participation espoused by policy documents**
EU	Natura 2000 EU Habitats Directive (92/43/EEC) and EU Birds Directive (79/409/EEC)	Directive 92/43/EEC does not indicate when it is appropriate to obtain the opinion of the general public, but should be considered in the light of the Aarhus Convention
National	European Communities (Natural Habitats) Regulations 1997; 1998, 2005 European Communities (Birds and Natural Habitats) Regulations 2010	Consultation with national farming organisations such as the IFA have been extensive. Consultation with other local organisations and with ENGOs minimal. Participation with landowners directly was restricted to one-way forms of consultation, such as newspaper adverts and formal letters. In certain cases, NPWS rangers provide specific advice to landowners when called upon. More recently, public consultation of policy and plans has been conducted through the NPWS website.
Local	SAC/SPA Site Management Plan	Consultation with stakeholders once plans have been drafted; Public clinics or open meetings take place to inform publics of the plans and their consequences.
Local	Planning and Development Acts	Consultation largely through written submissions on draft Country Development Plans and written objections and submissions on individual planning applications.

The first concern raised by environmental stakeholders is the limited regulatory support and absence of sanctions within the international arena to support enforcement of the CBD within states. Given this, environmental stakeholders were sceptical about what could be achieved at the national level:

> *There's no teeth in the CBD. So even if it's assigned into Irish law, and we commit ourselves to everything that's decided at a CBD meeting, there is no legal come back on us if we don't do it. Interview N21, Civil society: Environment*

This perspective echoes the work of Flynn (2007), who notes that Irish environmental policy has tended to focus on strict, command and control type, legislative measures. This particular extract also highlights a second issue. The stakeholder from a civil society organisation clearly places little trust in more flexible, carrot, or sermon biodiversity protection measures. Indeed, unlike other European states, more less regulatory measures, so-called New Environmental Protection Instruments (NEPIs), such as eco-taxes or voluntary guidelines are under utilised in Ireland (Jordan et al., 2005). But the stakeholder's lack of trust is not completely unjustified; there is substantial evidence of the poor record of the Irish state in implementing environmental policy, to the extent that interventions from the European Commission and Court of Justice were required with regard implementation of the Habitats Directive, for example.

Perceptions of mistrust in the ability of the CBD to secure positive outcomes for biodiversity are countered by a stakeholder deeply involved in the workings of the CBD at national and international level. He suggests that the CBD enables a different way of working, and a different way of policy enforcement:

> *There are no sanctions on the countries that don't implement the CBD, but there is an element of peer pressure, no country wants to be embarrassed into [action] by what it's failing to do. Interview N8, Public: Environment*

The CBD reflects network based governance, in that it relies heavily on social co-ordination and control, reputations, rather than legal sanctions and authority. It is governed by a "complicated dance of mutual adjustment and communication" (Jones et al., 1997) between states, based on repeated interactions, development of shared understandings, routines and conventions. However, critics of the CBD regard this informal way of working to have arisen as a result of political deliberation surrounding the negotiation of CBD. McGraw (2002) claims states balked at the introduction of concrete time lines, targets and sanctions, instead, leaving the mechanism for implementation of the Convention up to subsequent COPs, and working groups at international level.

It would appear that both the positive provisions of the CBD with regard to biodiversity protection, but also its deficits, have trickled down to national level implementation through the NBP. As discussed in the Chapter 2, The National Biodiversity Plan (2002 – 2006) is somewhat problematic and has proved difficult to operationalise. This view was supported by environmental and planning stakeholders who suggested that while useful, the NBP is difficult to implement, and difficult to monitor progress on:

> *The problem is our National Biodiversity Plan has no targets, it doesn't set any objectives. It's just a series of actions of what they propose to do, so it's a mess. Interview N7, Public: Environment*

Environmental stakeholders (including the stakeholder who had previously supported the governance approach of the CBD) considered the structure of the NBP to be weak, contributing to its delayed implementation. This reflects the CBD itself, which had no strategy for implementation until 2002, 10 years after Rio. Concerns around the NBP were identified by ENGOs soon after the Plan was published. Clerkin (2002) criticises the structure through 91 actions, no specific timeframes, lead agencies and woolly language. A subsequent review on the implementation of the NBP conducted by Comhar (2004), the National Sustainable Development Council, stated that progress on most of the actions in the Plan had been slow or minimal. Notably, where progress had been made, it was largely in areas where the European Commission has exerted pressures on the Irish authorities to deliver on commitments (Comhar, 2004). The review also states that integration of biodiversity into other state departments had been slow.

A key component of the NBP is the integration of biodiversity policy throughout the state departments and agencies, in fact there are eleven objectives in the plan relating to mainstreaming in the public sector. The key mechanism proposed to achieve this state mainstreaming this through the production of specific biodiversity plans within each department and agency. An interdepartmental working group has been established to oversee integration and development of these plans. However, a key stakeholder in the public marine sector, in an influential position, was clearly unaware of this process:

> *We do have a plan, a National Biodiversity Plan, but I'm not aware of any mechanisms to implement the plan [in] other agencies. Interview N11, Public: Marine*

This is particularly notable, given this stakeholder had previously mentioned the work the Marine Institute conducts in conservation and biodiversity management, which he felt went unseen and uncoordinated. This indicates that despite the work of the interdepartmental working group on biodiversity, and the requirement for departments and agencies to develop biodiversity plans, in 2007 when the interviews for this research were undertaken, there may be deficiencies in this process.

The following public sector environmental stakeholder sheds some light on the difficulties in mainstreaming the NBP, and in securing engagement from other state bodies:

> *The important thing about the Convention [is that] it stresses the fact that it's a partnership, they're talking about a process. It's about trying to get the stakeholders to work together to some common objective. That whole approach which is the basis of the Convention, its just lost, its not articulated here at all Interview N7, Public: Environment*

This critique concerning partnership is countered by the NPWS who state that "wide consultation with conservation and other interests took place with regard to the draft National Biodiversity Plan (1999)...[and] while all interested parties may not have been completely satisfied with the outcome, or the level of consultation in every instance, wide consultation has certainly been a priority" (Buckley, 2004:108). This highlights a key misunderstanding in the approach of NPWS, which has left those involved unsatisfied with both the process and the outcome, that being, the differences between partnership and consultation. The former denotes a type of approach where there is co-management, organisations and actors working together to define and achieve goals, whereas the latter is more limited in scope.

Two individuals from the environmental sector suggested that limitations in the national biodiversity plan have had implications at the local level:

> *In the absence of any kind of national priorities it's very difficult to get anything meaningful done at the local level, you don't get the cumulative impact of various projects working to some common objective. Interview N8, Public: Environment*

In 2005, following the Comhar review (2004) and the DEHLG's own interim review (DEHLG, 2005), the Minister for EHLG announced thirteen initiatives to implement

the NBP. These initiatives included the establishment of the National Biodiversity Forum, the Biodiversity Fund and the National Biodiversity Data Centre. In addition, guidelines were to be produced for local authorities on making Local Biodiversity Action Plans, and a public awareness campaign (Press release DEHLG, 17.11.2005). While the guidelines for the production of LBAPs were considered useful, they were still somewhat limited. However, research into local biodiversity action planning in the UK would suggest that biodiversity planning at the local level is dependant on the character of local nature and expertise available (Evans, 2004). For example, Lawrence & Molteno (no date) discuss the inclusion of black poplar, Populus nigra ssp. betulifolia, in many LBAPs across the UK, but it rejected for inclusions with the UK national biodiversity plan. In the following section, the process, outcomes and difficulties associated with the production of the LBAP for Co. Clare will be discussed.

7.3.1.2 - Local Biodiversity Action Plan (LBAP)

The LBAP for Clare, and associated nine species and habitat action plans were constructed by the Clare Biodiversity Group (CBG), in conjunction with the Clare Biodiversity Officer. This has led to some members of the CBG to question how effective the plans can be, and how they are going to be implemented.

The Local Biodiversity Action Plans (LBAPs), and associated species and habitat action plans, were recognised by national stakeholders from the environmental sector and at the local level, agricultural, tourism and business organisations as a mechanism to integrate biodiversity concerns within planning and development responsibilities of the local authority. Data collection through the LBAP process was seen as crucial in generating information to inform planning decisions and presenting a potential way of prioritising non–designated biodiversity of local importance and representative of local character in the decision-making process:

> *The designated sites might be one thing that a planner looks at, but through the LBAP, you might decide to prioritise other areas like waterways or identify areas for planners though surveys. That way a planner knows all these dots are, for example, bat roosts, so he'll not go anywhere near those because they get the same status as if it was a designated site. Interview N25, Civil Society: Environment*

While the stakeholder above might believe that the sites and species identified under the LBAP process have the same status as a designated site, in reality, as the senior planner from Clare County Council suggests below, the LBAP does not exert a huge degree of power in the overall planning process:

> *The Local Biodiversity Action Plan would highlight the areas of biodiversity importance, but that's all it can do. Highlight. Interview L4, Public: Planning*

As discussed in Chapter 2, within the Planning and Development Acts, there is a loose requirement for the local authority to have due regard to biodiversity, particularly that outside designated areas, but there is no statutory requirement to protect such features. The Clare County Development Plan, for example, states that it will take due regard of the LBAP, and features of biodiversity, but this does not necessarily equate protection. At a finer scale within development control, which provides guidance to planners when assessing planning applications, there is no specific requirement to protect biodiversity. In addition, those features or green areas, which do come under development control, must first be highlighted in the County Development Plan, given the hierarchy of Plans at this scale.

The protection of the wider countryside, despite recent guidance by NPWS on the matter of appropriate assessment regarding Article 10 of the Habitats Directive, is clearly problematic, as the planner indicates in the extract below:

> *You have to be careful in planning, there are very strict conditions to refuse an application and biodiversity is not one of the conditions, other than if it's of national importance or a protected species. Interview L4, Public: Planning*

Legislation would appear to inform decisions and prioritise certain aspects of biodiversity such as Natura 2000 sites and NHAs, however, legally there is no requirement to protect biodiversity within legislation, it is not a condition within the Planning and Development Acts to refuse planning permission. The work of Watts & Selman (2004) is useful here. They have examined local biodiversity planning and its integration within the land use planning system in the UK. Their research specifically focuses on biodiversity in the wider countryside, rather than protected areas. They conclude from three case studies that that there are few powers to enforce compliance between rural land use planning strategies and biodiversity plans. For these authors, conservation activities in the wider countryside (outside

Natura 2000 sites), relies heavily on incentives, advice and goodwill. The Planning and Development Acts make provision for pre-application consultation with planning authority, under which a local authority can negotiate with a landowner to achieve an environmental objective as a quid pro quo for overall planning permission for development. While, it is unclear if this process might be used with respect to undesignated sites, it has been effectively utilised as a mechanism to protect remnant commonage sand dunes in Donegal (McKenna et al. 2005).

Biodiversity works as a complex system that cannot be managed by distinct spatial entities, making its integration into the planning system difficult. The Clare County Development Plan 2005 states that when considering the effects of development on habitats and species, regard will be taken of the Local Biodiversity Action Plan. In essence, the biodiversity plan cannot stop planning and development per se. Its contents can be taken on board within the County Development Plan but it does not overtly restrict development. This led to scepticism about the effectiveness of the LBAP amongst some stakeholders:

> *You'd have to ask does a LBAP do anything? Will they get implemented? Will they have priority over a development plan? So a local authority can say we're going to produce a BAP, we're going to have waterway here and a linear park here, but then if the planners say, actually we're going to build a marina here and some light industry...the marina and the light industry will automatically get right of way. Interview N8, Public: Environment*

The perception of continuing influence of economic interests over biodiversity points to widely documented concerns about the weak institutional capacity of state agencies in enforcing implementation of environmental legislation, and the dual role that local authorities play as both promoter and regulator of development and commercial activities (Davies, 2008; Flynn, 2007; Taylor, 2005). The OECD (2009) has highlighted the fact that that biodiversity receives too little attention in local land use development plans as a key issue with regard to environmental regulation in this country.

As with the NBP, another key concern for stakeholders engaged in developing the LBAP was the process by which the plans sought to incorporate wider economic and social interests:

> *Well to be honest with you, I felt it wasn't really done in the right way. It [the LBAP] should have gone to the stakeholders that were listed in the plan. So for example, we would have listed, ESB, Waterways Ireland... [But the] feeling of the people was that this would take to long. They felt that they wanted to get the plans out. I felt they should have been circulated to all the people who are listed in the plan and get agreement off them at some level. But that was only my opinion and again, the majority overruled. Interview L9, Public: Fisheries*

Policy suggests that decentralisation to the local scale, provides an opportunity for wide stakeholder input. The production of LBAPs are promoted as a way to increase the opportunity for inclusive, collaborative action around biodiversity, allowing self-determination and responsiveness to real-world needs. However, it was felt by the stakeholder above that an opportunity for wider public and stakeholder engagement in biodiversity issues was lost. Ecologists and conservationalists played a key role in determining the course of the LBAP process, rather than end-users/implementers, such as the ESB, the Electricity Supply Board, a public organisation responsible for the provision of electricity infrastructure to the country. The work of Goodwin (1998) can be applied here. Goodwin's research found that there are discrepancies between the motives, experiences and understandings of policy actors towards the theory and practice of participation. He argues that these apparent discrepancies have serious implications for both the credibility and the effectiveness of participatory initiatives. While it is difficult to account for the wider credibility of the Clare LBAP, the process has left the group with questions about how to go about implementing the plan, as illustrated in the following quote:

> *The question now is, how do we go about implementing these [plans] on the ground so that they have some sort of impact? That's the difficult part... because very few people know about their existence. Sure, they've been mentioned in the press and on the radio, but they haven't received a sufficiently wide airing in audience terms yet. But it is in hand to do that. Interview L10, Civil society: Environment*

This lack of wider engagement was highlighted as a key concern by stakeholders at the national level, who were not involved in the production of the LBAP. Civil society environmental and planning organisations highlighted the importance of the LBAP as a process, and that while delivery of biodiversity objectives is important, the

process of plan development and the way in which it seeks to engage wider stakeholders and publics is also significant:

> *There is a need for the local stakeholders, community groups and NGOs to be able to network and feed into those local plans... So I think the Local Biodiversity Action Plans need to be sort of facilitating frameworks rather than simply the way of necessarily achieving the measures needed. Interview N7, Public: Environment*

While efforts are ongoing to implement the LBAPs in Clare, as the stakeholder above highlights, the element of wider stakeholder participation in the initial stages of plan development appears to have been missed. In contrast to perceptions of weakness and little faith in the abilities of the National Biodiversity Plan and Local Biodiversity Action Plans to fulfil biodiversity protection functions, stakeholders, particularly those within the environmental sector, were far more positive about the suite of European Directives, which will now be discussed.

7.3.1.3 - The European Directives

Stakeholders discussed the suite European Union Framework Directives as the most influential instruments in the protection of biodiversity, such as the Environmental Impact Assessment, Strategic Environmental Assessment and Water Framework Directives. However, the Habitats and Birds Directives' in particular were singled out by environmental, marine, fisheries, planning, tourism and heritage stakeholders as essential to the protection of biodiversity through the network of legally protected Natura 2000 sites. Stakeholders' positive reactions towards these Directives took a number of different forms which will now be discussed. First, private and civil society environmental stakeholders stated that the statutory backing afforded Natura 2000 sites enable consultants to encourage developers to seek an alternative site, or failing this, enable justification of mitigation measures:

> *Where you have a designated site, you can say [to developers] that the site has to be protected, it's what the legislation says. They can't argue with you then. Interview N16, Private: Environment*

This extract illustrates the perceived importance of the Habitats and Birds Directives based on its properties as a coercive stick, or command and control type regulation. As Jordan (2002) notes that in combination, the Birds and Habitats Directives have placed much more rigid environmental limits on the economic development of

natural habitats through regulations for conservation. The Natura 2000 Directives serve as an interesting juxtaposition with the CBD, which was opened for signatories the same year as the Habitats Directive (1992). The Natura 2000 Directives reflect a different philosophy, but is illustrative the wider institutional, political and legal features of the EU (Jordan et al., 2003; Fairbrass & Jordan, 2001b). The importance environmental stakeholders place on such regulatory frameworks also reflects the tendency in Ireland to focus upon legislation and law as the predominant policy instruments to manage environmental issues (Flynn, 2007).

Within this perception that the Directives provide a strong regulatory framework for the protection of biodiversity, a second facet of the Directives discussed by environmental, marine, fisheries, planning, tourism and heritage stakeholders, is the requirement for Natura 2000 sites to be taken into account in any plans or programmes undertaken by the state. The following quote illustrates the importance of the Directives in this context:

> *The Habitats Directive and the Birds Directive are, for me, the most significant instruments supporting wildlife. They mean [that] any plan or programme or development is required to address biodiversity, flora and fauna. So legislation forces plan makers, planning authorities, government departments to take into account the statutory protected features. Interview N10, Public: Environment*

The Directives act as regulations to enforce nature conservation given the requirement that all Natura 2000 areas are to be protected from deterioration and damage. However, the key phrase in the extract above is that Natura 2000 legislation requires these sites be taken into account, which does not necessarily result in an automatic protection. Article 6(3) is concerned with the strict protection of sites, while Article 6(4) is the procedure for allowing derogation from this strict protection in certain restricted circumstances. A key area of concern for environmental stakeholders is the cumulative impact of developments in Natura 2000 sites, which without strict regulation and enforcement, would contribute to biodiversity loss and their degradation:

> *When local authorities see planning applications coming in that are going to have an impact on SACs and SPAs, there should be alarm bells ringing. I mean whenever there is a development in*

these areas it should be in overriding public interest only, not just Paddy Joe Macs' house. Interview N6, Private: Environment

The Natura 2000 legislation states that site can only be damaged or destroyed for "imperative reasons of overriding public interest" (Ledoux et al., 2000:257). The Directive requires no-net-loss, so "if approved plans or projects affect the integrity of a designated European site, compensatory measures need to be undertaken to ensure the overall coherence of the Natura 2000 network is protected". Fairbrass (2000) suggests that this proviso represents one of the key failings in the implementation of the Habitats and Birds Directives. In reality, the 423 SAC and 127 SPA sites which together comprise the network of Natura 2000 sites in Ireland can become damaged for reasons of personal rather than public interest. This view is supported by an assessment conducted by An Taisce (2007) during the period 2003-2006 in Co. Clare. Of the 142 planning applications that occurred within Natura 2000 sites in the county over this time period, the majority were for personal dwellings (60%) with wastewater treatment systems in most cases, extensions (11%) and agricultural buildings (10%). However, there are recent signs that efforts are underway to change this situation. In 2009 NPWS issued guidance to planning authorities in conducting Appropriate Assessment (AA) of plans and projects within Natura 2000 sites. Initially, AA screening is conducted to determine, on the basis of a preliminary assessment and objective criteria, whether a plan or project, alone and in combination with other plans or projects, could have significant effects on a Natura 2000 site in view of the site's conservation objectives (which includes biodiversity protection). If the effects are unknown, then or uncertain then full AA will be required. If adverse effects are likely, or in cases of doubt, the derogation steps of Article 6(4) will apply, but only in a case in which there are imperative reasons of overriding public interest (IROPI) requiring a project to proceed, there are no less damaging alternative solutions, and compensatory measures have been identified that can be put in place. These measures must be sent to both the Minister for the Environment, and to the Commission for review.

In contrast, to environmental sector stakeholders who would prefer strict protection of sites, agricultural and rural development stakeholders felt that development should be permitted in Natura 2000 sites. In fact, these stakeholders raise concerns that the Natura 2000 Directives will have adverse effects on rural communities as a

result of restricted development. The following quote from a representative of the IFA illustrates this view:

> *As the pace of development continues inevitably you are going to reach problems where people want to go a head with a [development] and they're stopped because of a designation. There's problems there. Areas have to be designated as part of EU law, but our view is that you have to be practical. Interview N18, Private: Agriculture*

These differing perspectives, between development interests and environmental, as Brown (2002) points out, highlight the difficulties of a strict conservation agenda. Brown suggests that they fail to effectively conserve biodiversity, and also bring high costs such as planning restrictions to local people. As the following extract from a local NPWS staff member highlights, damage to Natura 2000 sites is occurring, with little opportunity for prosecutions or strong enforcement:

> *So far in my area there has been huge damage to [Natura 2000] sites. But there's not much I can do... In different regions you'll have more prosecutions than in others. I mean there's no nationwide protocol [it depends on] who your manager is, it is their own opinion... and if they like going to the law, there would be a lot more prosecutions. Interview L1, Public: Environment*

So while, there is potential for strong enforcement capability within the Directives, and legislated for within the Wildlife (Amendment) Act, 2000 (Comerford, 2000) these are generally not used. The lack of enforcement of the relevant biodiversity legislation has been noted by the EPA (2006:14) "the efficacy of these provisions is wholly dependent on the extent to which they are enforced; as in many areas of regulation, this is the aspect that is often in default, whether through lack of resources on the part of the enforcement agencies or, in some cases, through less than wholehearted political support". However, issues of strong enforcement are not unique to the NPWS. The EPA, as Davies (2008) notes, has tended to avoid using the power within the EPA Act (1992) to evoke fines.

The extracts thus far illustrate conflicting interests and tensions that surround Natura 2000 sites and their protection. Environmental stakeholders went on to discuss, in detail, further deficiencies with regard to the process by which Natura 2000 designated sites are addressed in the planning system. This is of central

importance as the EU has suggested that better integration into the planning system is a key mechanism for Natura 2000 site protection.

Planning and development departments within local authorities now act as a node through which biodiversity decisions are made. For example, the local authority must consult with statutory organisations with respect to development applications within (and supposedly around) sites designated under the Habitats and Birds Directives. For example, local planning stakeholders highlighted difficulties in ensuring NPWS input on planning decisions for Natura 2000 site:

> *Since the abolition of Duchas it's much more difficult to get wildlife inputs in planning and because of the time limits in planning applications and their [NPWS] workloads, they often miss the deadlines, which becomes critical because if you miss the deadline we [planners]do not have to take into account anything they say. Interview L4, Public: Planning*

The problem for the planner above is that NPWS are under-resourced to input properly. Clare County Council has the best record of the counties studied for referring planning matters to the NPWS (An Taisce, 2007). 122 relevant planning applications were referred to the NPWS between 2003 and 2006. However, the rate of reply from the NPWS was low, thirty-nine applications were commented on during this period, of which nine replies were objections to the development.

These statistics are supported by NPWS local staff who suggest that responding to planning queries takes up a substantial amount of time. Despite the limited resources and time considerations taken up commenting on planning, and their statutory remit in this regard, in reality, NPWS have limited influence in planning decisions on Natura 2000 sites, with opportunities to comment, but not enforce decisions:

> *I know that sometimes we have to defer the decision [to planning authority]. We [NPWS] can give them all of the observations and comments we like, but at the end of the day, they are allowed to make the decision on planning because that is their remit. Interview L3, Public: Environment*

An Taisce (2007) have indicated that where NPWS objected to planning developments and recommended not to grant the planning application in Natura 2000 sites in Clare, this advice was followed by the Planning Authority in six of the

nine cases. This seems to demonstrate that the Planning Authority in Co.Clare takes into consideration recommendations from the NPWS. However, the total number of planning applications for Co. Clare within the period 2003-2006 was over 10,000. Planning applications which fell within Natura 2000 sites represent 1.6% of overall planning applications for the county in this period (An Taisce, 2007). The OECD (2009) has noted that the Planning and Development Acts are inadequate for the purpose of biodiversity conservation. This view is upheld by an array of Irish scholars who have also observed the feeble environmental regulation capabilities within these Acts, in trying to fulfil requirements for which they were not designed (e.g. Flynn, 2007).

This raises an important issue for civil society stakeholders and one public official, the need to protection biodiversity in the wider countryside, which has been neglected due to the focus on designated areas:

> *Site designation is only one aspect of the implementation of the [Habitats] Directive, there's also the obligation to protect wider countryside and in general, I think they've [NPWS] widely ignored the wider countryside. Interview N7, Public: Environment*

Article 10 of the Habitats Directive states: Member States shall endeavour, in their land use planning and development policies to improve the ecological coherence of the Natura 2000 network, and to encourage the management of features of the landscape which are of major importance for wild fauna and flora. Protecting Natura 2000 sites as islands, with little or no regard to conservation in the wider countryside is deemed inappropriate and ineffective. NPWS stakeholders recognised that the majority of their resources had been tied into the protection of the Habitats Directive sites, largely ignoring the wider countryside aspect of the Directive, and protection of habitats of national and local importance, such as woodlands. They suggested that consideration of wider landscape concerns would fall within the remit of the local authority, through the planning process and Local Biodiversity Action Plan.

So, while the Natura 2000 is perceived as important for the protection of biodiversity, according to environmental stakeholders, they are highly contested by private sector interest groups. The Directives are narrowly focused, and due to the political processes involved in designation process, highly resource intensive. This

leaves marginal habitats prescribed for within Article 10 of the Habitats Directive, and management of the wider countryside to National Biodiversity Plan and Local Biodiversity Plan, and the vagrancies of the Planning and Development Acts (1963-2000). The discrepancies outlined in this section reflect an implementation deficit (Weale, 1992). Flynn (2007) has indicated that part of this deficit has arisen through the legislation of Habitats and Birds Directives. He suggests a dedicated comprehensive Act of the Oireachtas, for example a new Biodiversity or Habitats Act was required but instead, new biodiversity regulations were tagged onto existing legislation on an ad hoc basis. This has lead to a piece meal, time and resource consuming approach to implementation of the Directives.

7.3.2 - Voluntary instruments

7.3.2.1 - The Notice Nature campaign

In contrast to the 'stick', command and control approach of the Natura 2000 directives, the Notice Nature campaign, which has arisen as a result of the National Biodiversity Plan, takes a somewhat lighter hand. In 2006 the environmental consultancy RPS was awarded a tender through the DEHLG to carry out a biodiversity public awareness campaign, Notice Nature. RPS were responsible for the campaign from 2006 to 2009, when it was brought back to the DEHLG, primarily for financial reasons (RPS staff member, pers. comm.). The campaign took two different pathways, the first, production of voluntary guidelines with key private sector interests, and the second, a public awareness and education campaign. This latter aspect will be discussed in more depth in Chapter 8, but suffice to say at this stage, one of the key aspects of this part of the campaign was the organisation of annual biodiversity week education and awareness raising events in. This aspect of the campaign was run in close conjunction with the environmental civil society organisations, who had also initially applied for the tender. €75,000 was allocated in 2007 for NGO involvement in promoting public awareness of biodiversity (Ewing et al., 2008).

In order engage the private sector and develop guidelines, RPS 'partner' with national interest groups, for example the Construction Industry Federation, Irish Farmers Association, Chambers Ireland and Failte Ireland. Through this aspect of

the campaign RPS directly engaged with these sectors to produce voluntary guidelines, as the stakeholder involved in this process from RPS outlines below:

> *Tackling the industry type stakeholders takes rules, regulations and guidelines. We don't have a huge amount of guidelines...there are no guidelines for construction industry on what builders should be doing to protect biodiversity, not just the big companies like SIACs[31], but the small time developers. Interview N17, Private: Environment*

As this stakeholder suggests, it is relatively recently that state organisations have begun to develop guidelines and best practice procedures regarding conservation. The production of Notice Nature guidelines can be interpreted as an expansion of New Environmental Policy Instruments, which as Jordan et al. (2003) claim, have had limited use to date in Ireland. Alternatively the production of guidelines with industry can be seen as a mechanism which maintains the status-quo of private sector interests, enabling them to have full control of the trajectory of ecological accommodation within their practices. In this more critical framing, they are considered as instruments which are facilitating, and most compatible with competitiveness, rather than an attempt at sustainable use of resources.

The guidelines, once produced, were disseminated via these national organisations to their regional and local counterparts. As the stakeholder from Chambers Ireland explains in the extract below, these guidelines were seen as awareness raising initiatives for the organisation, whose members would not be aware of biodiversity:

> *My sense would be that businesses are not aware that biodiversity is a business issue. They see the environment and waste reduction and recycling as business issues, but not biodiversity. So, the Notice Nature guidelines are about making them see the link between businesses and biodiversity. It is just introducing the idea to them. Interview N19, Private: Business*

This awareness raising and educative view of the guidelines, by the stakeholder from Chambers Ireland, might be equated to 'sermons' or 'stories' form of public policy, whereby it acts as a promotional and consultative device (Collins et al., 2003).

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[31] SIAC: Society

The stakeholder from the construction industry was more unsure about how the guidelines would be used, suggesting that the members of the Construction Industry Federation feel it is already doing what it can for biodiversity:

> *When the Notice Nature campaign started I went back to members and I was telling them about it, and they were saying well, we do that on sites anyway. Now, I'm sure that there are examples where biodiversity isn't looked after on site, but I think it's increasingly seen as something that they have to consider. Interview N20, Private: Development*

The extract above highlights two key points. First it would appear that the construction sector takes account of biodiversity already. This resonates with the work of Murdoch & Lowe (2003) who found similar recourse to ecological authority in the planning and policy arena, and Eden (2001), who argues more generally, that such claims to authority are increasing under the paradigm of sustainable development. This extract indicates a second concern, that without monitoring, it is difficult to assess the effectiveness of practices as a result of guidelines. The same stakeholder also suggested that the process of developing guidelines has increased her personal understanding of biodiversity and the impact of sectoral activities on biodiversity:

> *Even preparing these guidelines has been a great education for me. I hadn't thought of it before but if you have a road through a field and then somebody goes and cuts it two, and builds a house and a walled garden, then suddenly there's a little habitat that's just caught in the middle, it's just completely removed form everything. I mean how could it survive? It just couldn't. Interview N20, Private: Development*

Participation in such processes is suggested by van Boven & Hesselink (2003) and Braus & Ardoin (2001) to play an important role in improving policy making by providing stakeholders with opportunities to develop deeper understandings of biodiversity issues and to become more involved in biodiversity conservation activities, again resonating with the sermon typology. However, this growth in personal understanding would seem to contradict the previous claim that the construction industry already understands it's impact on biodiversity. Instead, the extract above would suggest that it is rather unaware of habitat fragmentation, and its role in causing this impact on biodiversity, one of the primary causes of biodiversity loss in Ireland due to infrastructural development (Clenaghan, 2008).

In contrast to these business and construction stakeholders, the interviewee from Failte Ireland who had a specific target audience in mind for the guidelines, specifically, the boating or cruising sector:

> *With Notice Nature we are developing the guidelines on tourism and biodiversity... as part of that we are hoping to develop something for the cruising sector. There was a controversy last year where one of the cruising companies working on the Shannon had told a visitor just to pump their waste straight into the Shannon. So, we're working with them on that. Interview N14, Public: Tourism*

Integration of biodiversity concerns into the tourism sector is not restricted to the Notice Nature guidelines. This stakeholder discussed a range of different activities engaged by the tourism sector arising from the National Biodiversity Plan, for example, eco-tourism initiatives and eco-management awards for golf courses conducted in conjunction with the Golf Federation of Ireland:

> *Under the National Biodiversity Plan, which calls on all sectors to take responsibility for biodiversity the golfing sector is saying, okay, we need to do something and they have looked to us to find funding. There is a biodiversity plan initiative with the Golf Union of Ireland, and its beginning to take an initiative on cleaning up its own act and taking responsibility for its own impact on biodiversity. Interview N14, Public: Tourism*

Integration of biodiversity through pro-active positive initiatives, such as eco-tourism or awards can be viewed as a step forward in terms industry responsibility for biodiversity protection. However, it can also be viewed as way for industry to outline it's preferred approach to environmental regulation, over other forms of NEPI, such as eco-taxes, which are notoriously unpopular with industry groups in Ireland (Flynn, 2003). However, Flynn (2007:126) makes another important point, claiming that private interest groups have adopted a strategy of playing off one instrument against another, in an either/or type choice. Doremus (2003:217) for example, suggests that "a portfolio of biodiversity policies" is likely to out perform reliance on any one strategy. While Flynn (2007) notes that the results of voluntary agreements have been mixed, he also suggests that there is no fundamental reason why they cannot deliver real benefits, particularly if the agreements are properly designed and entered into seriously by participants. However, other critics, particularly Baker (2007) and Lafferty & Hovden (2003) in considering ecological modernisation at EU level, are far more sceptical. These authors suggest that the promotion of such

mechanisms allows the centrality of economic interests to be retained. As Davies highlights in relation to the governance of waste in Ireland, ecological modernisation "is... an interpretation of sustainability that lends itself more easily to the development project of successive governments in recent decades" (Davies, 2008:66). Therefore, there are concerns that underneath the win-win rhetoric of ecological modernisation as espoused by private sector interests, lies an ever powerful economic imperative (Taylor, 2001).

However, despite espousing perspectives associated with ecological modernisation, environmental stakeholders also suggested that integration of biodiversity concerns into private sector requires regulation and enforcement by the state:

> *Tackling the industry type stakeholders takes rules and regulations. Like, say badgers or bats that have some sort of statutory protection, they wouldn't realise that they're protected, that you can't go in and dig up a badger sett, and there's nobody policing that sort of threat. Interview N17, Private: Environment*

This extract is illustrative of environmental stakeholders concerns that without enforcement, biodiversity integration in the private sector will be ineffective. So, while broadly suggesting that biodiversity integration into the private sector is important, these stakeholders also suggest, that regulation is also required for biodiversity to become integrated into the practices of private sector.

7.3.2.2 - Agri-environmental measures

The 1992 Common Agricultural Policy (CAP) included a requirement that Member States establish agri-environmental schemes (the Agri-Environment Regulation, Council Regulation No. [EEC] 2078/92). Following the CAP reforms in Agenda 2000, agri-environment schemes are now included as Chapter 6 in the composite Rural Development Regulation (1257/99). While Member States are required to produce an agri-environmental scheme, they are considered under the voluntary heading because they represent a voluntary incentive device for biodiversity protection, as part of a rural development strategy which seeks to enhance rural service and industry within an ecologically sensitive framework (Kinsella et al., 2000). Stakeholders viewed REPS, the Irish Agri-environmental scheme, as having distinct advantages, but also limitations.

The following stakeholder working at EU level is critical of the limited biodiversity protection function in the scheme:

> *REPS doesn't target biodiversity as a primary aim – it is a broad and shallow scheme which focuses on water protection and soil nutrient management. Also the difficulty with it is that the objectives are not target based and measurable, if there are any objectives in terms of biodiversity. It hasn't been a high priority of the scheme. Interview EU2, Civil society: Environment*

Initial REPS plans were broad narrow schemes which primarily addressed environmental improvement through water quality and waste management measures, in addition to encouraging improvement of farm aesthetics. In latter REPS, biodiversity protection became a core objectives within REPS. For example, the first objective of REPS 4 is to promote, "Ways of using agricultural land which are compatible with the protection and improvement of the environment, biodiversity, the landscape and its features, climate change, natural resources, water quality, the soil and genetic diversity" (DAFF, 2007). However, the narrow nature of the scheme, in its previous incarnations is a well rehearsed criticism in the literature. One difficultly in accommodating biodiversity protection provisions in REPS has been the limited capacity to monitor the effectiveness of the scheme in this regard. As the following stakeholder from the DAFF suggests, the scheme was designed to pay farmers, rather than contribute to biodiversity improvements:

> *Our databases can tell you that there's so many miles of hedgerows or so many miles of stone walls. But the system was designed for the point of view of payment, for recording and justifying payment to farmers, rather than from a biodiversity viewpoint. Interivew N4, Public: Agriculture*

This situation appears to be changing. Increasingly the EU requires justification for substantial payments made to farmers through agri-environmental measures. The stakeholder below from DAFF indicates that this will require scientific evidence of biodiversity improvements:

> *One area that we will have to look at is to get more scientific information in terms of baselines, so that you show that there has been a biodiversity improvement...Under REPS that will probably be the next thing, you have to be able to show that there has to be an improvement in biodiversity. Interview N4, Public: Agriculture*

This issue of baseline data and sufficient evaluation of habitat and landscape concerns has been noted by DAFF since 1999. In its own report, 'Environmental impact of the REP Scheme' its states "A weakness of the implementation of the REP Scheme to date has been the absence of comprehensive environmental baseline data. there is a need for baseline data and monitoring of the Measures dealing with habitat and landscape" (DAFF, 1999:52/53). At the time of interviews in 2007, site specific habitat and landscape monitoring was not underway.

Public sector agricultural stakeholders at national level reflected on the relationship between REPS, biodiversity protection and the EU, suggesting that the impetus for biodiversity protection lies in 'greening' agricultural policy through agri-environmental measures:

> *REPS was an environmental scheme and it has increasingly had a much greater emphasis on biodiversity, it's a much more important issue now and the EU are pushing it as another agenda item. Interview N3, Public: Agriculture*

The through the concept of 'multifunctional agriculture' biodiversity is becoming increasingly important at EU level. According to Seibert (2010:270) multifunctional agriculture is a political concept, "used to identify and value the environmental and landscape services provided by farmers to society". Within this perspective is the recognition that farmers produce commodity and non-commodity outputs, with the latter representing "public goods for which markets either do not exist, or function poorly". Biodiversity is increasingly recognised within this context as a public good, produced by agriculture. The importance of agri-environmental measures at EU scale is reflected in its budget, which accounts for more than a third of EU expenditure for the development of rural areas between 2000 and 2002. However, despite the obvious push to accommodate biodiversity within agri-environmental measures within the EU Common Agricultural Policy (CAP) reforms, environmental and agricultural stakeholders were critical of what REPS could achieve in this regard.

The following stakeholder working directly with farmers at the local level was critical of the level of farmer participation in the scheme, suggesting that financial incentive are not enough to encourage farmers to protect biodiversity:

> *As a general comment, with REPS particularly, you can throw money at a problem or an issue all you want, but unless people are informed as to what they're supposed to be doing and why, and unless they're engaged with the whole process and take a certain level of pride and interest themselves, it'll never be effective. That's one of the reasons why REPS isn't really working. I think we need better education and more positive support on the ground. Interview L15, Civil society: Environment*

This stakeholder suggests that sustainable conservation of biodiversity in the agri-environment requires a cross-sectoral approach that must take account not only of environmental criteria, but also participation of land managers and socio-economic objectives. Seibert (2010) shares a similar view to the stakeholder above, pointing out that farmers are a heterogeneous group, which cannot be assumed to willingly and automatically co-operate with scientifically derived prescriptions for biodiversity. At the introduction of agri-environment measures, Morris & Potter (1995) suggested that they had the potential to 'green' the farming community, making farmers not merely "passive adopters" of the schemes for economic benefits but "active adopters" who will want to engage with the environment, agriculture and future policy decision-making, rather than just receive policy in a top–down manner. However, there is some suggestion that active nature of agri-enviornmental schemes has not occurred. Instead, research undertaken with farm households in the west of Ireland by Gorman et al. (2001) indicates that a major challenge facing policy-makers is maintenance of acceptable levels of income and an enhanced natural environment on farms. Similar findings are present by O'Rourke & Kramm (2008), whose study into upland farming households suggests that these small, marginalised farmers are adjusting to changing circumstances and the drive for multifunctional land use and diversification.

The IFA stakeholders believed that the impact of REPS on the environmental and farming community has been positive, and is reported to have changed the mindset of farmers towards environmental matters:

> *REPS has been a great scheme [for biodiversity] in that it has changed the mindset of farmers. Farmers are conservative by nature, it seems to be generational; one generation did it one way, so that's the way we're going to do it. So its actually very hard to get farmers to change their thinking, its very hard to explain to farmers that the policy has changed, you no longer need all the*

production that you required in the past. Interview N18, Private: Agriculture

This idea that REPS has changed the attitudes of farmers towards the environment, and biodiversity is also contested. For example, Van Rensburg et al. (2009), in a study of REPS and non-REPs commonage farmers, indicates that while REPS farmers did appear to have a slighted higher level of environmental awareness compared to non-REPS farmers, this awareness started from a very low base. However, evidence from the same study which looked at farmers attitudes towards the future management of commonage did conclude that REPS farmers showed a greater willingness to break with past practices than non-REPS farmers, as the stakeholder above indicates.

7.3.3 - Advisory measures

7.3.3.1 - The National Biodiversity Forum

The National Biodiversity Forum is a multi-stakeholder forum, established under the National Biodiversity plan which meets four times a year, and was established in 2005. The objective of the forum is to provide advice to government on issues relating to biodiversity. It has broad based representation of public and private sector, NGOs, agricultural representatives and universities. The ENGOs have three positions on the Forum.

The question how the Forum would influence policy making and makers was raised by environmental stakeholders. They questioned the Forums terms of reference, and the lack of clarity in how its decisions would impact on national biodiversity decision-making. The ENGO stakeholders, as illustrated in the extract below, questioned the influence that the Forum could have as a standing committee within Comhar, the National Sustainable Council, under whose auspices it was established:

> *It has ended up as a standing committee within Comhar which means that unless you had a very independent minded chairman, it isn't as effective. In principle after a year and a bit, I feel that our [the forum's] impact has been far more limited than it would be if we were more independent. Interview N23, Civil society: Environment*

In the views of this stakeholder, for the forum to be effective it requires strong leadership and independence. However, the lack of independence of the Biodiversity Forum in this case would seem to reflect the marginalised position of biodiversity decision-making with the state apparatus in Ireland. Flynn (2007:179) is critical of Comhar, describing it as a group of "environmentalists intermittently meeting up with each other and agreeing serious problems exist. They are not allowed to negotiate with those forces in society who are creating some of those environmental problems. Institutionally Comhar is a marginal entity, even if its contribution has been laudable". This view might be considered somewhat overly critical, as Comhar has had some success in biodiversity decision-making, for example, the 2004 review of the NBP. But, there can be little doubt that positioning the Biodiversity Forum as a standing committee within Comhar, as the stakeholder signals above, reflects a lack of prioritisation of biodiversity on the political agenda.

Given the perceived lack of independence and weak terms of reference for the Forum, the ENGOs involved initially considered not participating. Their decision to engage was largely due to their lack of political influence at the National scale in other areas of biodiversity policy making, as the stakeholder from An Taisce highlights below:

> *But then we thought, we don't have that much clout, we don't have a huge mandate, we don't have a third of the Irish population members of our organisation, it would make absolutely no difference if we did not participate. So the only thing to do was to participate on their terms and do our best to influence the terms of reference. Interview N22, Civil society: Environment*

Lacking any other option or route to access decision-making brought the ENGOs to the Biodiversity Forum, offering them a restricted and guarded place at the national decision-making table. However, such issues are not uncommon in biodiversity decision-making, as Innes & Booher (2003) discuss, uncertain and 'weak' terms of reference, lack of common goals and individual agendas are common, and prevalent and also problematic, in the workings of multi-stakeholder fora.

State organisations involved in the Forum spoke about the group positively. As of 2007 when these interviews were conducted, its work had focused primarily on information sharing, with the Forum acting as a body to follow up on particular

actions. For example, the Forum received presentations from NPWS and representatives from other government departments to explain the work that they do in relation to biodiversity and conservation. This format as the stakeholder from the public sector describes below provides the opportunity for Forum participants to put pressure on government departments for biodiversity actions:

> *Say the department of agriculture has reported; the forum then gives feedback and makes recommendations...and at the next meeting, we'll say, well what have you done in relation to this? So we have the opportunity to be like a terrier with a bone where we think there are important areas... I think that has been useful. Interview N8, Public: Environment*

However, civil society environmental organisations involved were less than enthusiastic about the way in which the Forum works, as the following extract indicates:

> *At the moment it's a bit like you sit and you will receive. Most of the time is spent with reports given by the Department of the Environment on various biodiversity related issues. There are questions and then we move onto the next point. The biodiversity forum as it stands it does not use its potential clout most of the time. Interview N23, Civil society: Environment*

The stakeholder's from ENGOs involved in the Forum were somewhat frustrated at the slow progress made, but also, the limited influence of the Forum. Stakeholders outside the Forum shared similar views to those of the ENGOs, voicing scepticism as to how influential it could be, its power to influence national biodiversity policy given the Forums voluntary nature and lack of legislative backing:

> *What's the actual legislative statutory teeth of the Biodiversity Forum? I would suspect not very strong. It doesn't have any power or influence to try and align the policies or the practices of other agencies. It's kind of a voluntary exercise, it's a good thing that it exists, but it doesn't have any kind of clout. Interview N11, Public: Marine*

At this point it remains to be seen if the Forum will influence other policies and practices. However, public sector environmental organisations suggested that the Forum would play a key role in the development of the forthcoming Biodiversity Plan:

> *I think with the new biodiversity plan it's [the Forum] going to be even more useful. It's one way of ensuring that there is broad stakeholder involvement and input into the new plan,*

which will be channelled to those who are drafting it. Interview N8, Public: Environment

In April 2008 the Biodiversity Forum, through Comhar, released 'Conserving Ireland's biodiversity: A submission to the second national biodiversity plan' (Hickie, 2008). Within this document the Forum calls for a range of different measures, most particularly perhaps, S.M.A.R.T targets (specific, measurable, agreed or achievable, realistic, time-bound) and reasserts the importance of biodiversity policy integration across government departments. It remains to be seen what aspects of these recommendations will be utilised, and indeed how such inputs to the new biodiversity plan will be dealt with, by the leading organisation, NPWS.

7.4 - Conclusions

The aim of this chapter was to examine biodiversity governance in Ireland. The first section examined the organisations involved in biodiversity governance identified by stakeholders as important. Patterns of involvement were also discerned from these discussions with stakeholders. This was followed by an analysis of stakeholders' views towards the tools used to govern biodiversity. Together, these two sections highlight key issues regarding institutional access to, and influence over, biodiversity decision-making. They also draw attention to the multi-level nature of biodiversity governance.

This chapter highlights the importance stakeholders place on public sector institutions of biodiversity governance, particularly the NPWS and local authorities. However, the ability of these organisations to fulfil their biodiversity functions was considered weak. This weakness manifested through issues of resources and knowledge, considered by stakeholders as critical constraints on the practice of biodiversity protection. However, within the public sphere of governance, there were a few notable omissions in these discussions. For example, the semi-state organisations, such as Coillte, The Heritage Council and Teagasc were not subject to considerable discussion.[32] A possible explanation for the absence of these

[32] While the role of the Heritage Council was discussed in the context of providing funds to for the Heritage and Biodiversity Officer positions, it was not considered significant in its own right.

groups may lie in the position they hold within the apparatus of the state, and also, they have a relatively new role in biodiversity governance. With regard to Coillte and Teagasc, these are both forestry and agricultural semi-state commercial (QUANGO) organisations, who in the past would have advocated for the development of these sectors, rather than biodiversity integration. Today, each organisation has a number of ecologists and biodiversity-related professionals working within its auspices to improve its practices, and through its advice services, providing information to foresters and farmers. The Heritage Council is also a QUANGO, but with a remit in providing advice to government departments on matters of heritage, including biodiversity. They provide funding for community biodiversity projects, and were essential in positioning Biodiversity Officers and Heritage Officers within local authorities. Given the traditional model of governance in the state, with a stable tradition of policy making between various government departments and their lobby groups, these semi-state organisations are relatively new to biodiversity governance arena.

As a second issue, this chapter clearly demonstrates the pathways of interaction within and across the state, and over scales, highlighting multi-level governance practices which have emerged within the arena of biodiversity governance. National private sector organisations, such as the Construction Industry Federation and the Irish Farmers Association continue to exert a large degree of power over policy-making. They disperse power from EU through to local, but have been particularly active and influential on the national stage, through informal access to civil servants, and also the formal negotiations of Social Partnership. To ensure economic development, political elites at national and local scales have evolved an informal corporatist and clientelistic relationship with economic interest groups. Consensus decision-making is pervasive through out state functions, politicians and government departments alike shying away from alternative discourses with the potential to usurp the status-quo.

Stakeholders' considerations of civil society organisations in Ireland clearly indicated differences in the perceptions of this body of groups. National public sector organisations, such as NPWS and DAFF, place importance on ENGOs in terms of information provision and securing policy requirements. Other stakeholders

considered the ENGOs important in terms of their remit to influence policy. Stakeholders from ENGOs, that is civil society environmental organisations themselves, view their own position as marginalised, with limited potential to influence policy matters at the national level. ENGOs have been excluded access to both informal (through NPWS, for example) and formal (Social Partnership) biodiversity policy discussions. This contrasts sharply with the IRDA, who were considered by the national IFA as an important organisation, due to shared values and perspectives of rural planning. These patterns of partnership (between state ENGOs and state rural development organisations) indicate the emphasis on consensus decision-making within the state.

New practices of biodiversity governance have arisen in part as a result of these patterns of power and influence at work at national level. However, due to the election of a Green Minister for the Environment, coupled with policy arising from the CBD, the ENGOs now have a degree of access to government departments, through social partnership and the Biodiversity Forum. However, while granted limited access, it remains to be seen how much influence they will be able to exert within these processes. This chapter also drew attention to the role of the EU as policy creator, in supporting the implementation of the nature conservation directives, in providing support for weak environmental interests within the state (such as the ENGOs and the Burren IFA). These partnerships between weaker institutions, specifically national ENGOs and the Burren IFA, work across scales to secure leverage and seek to influence the process of biodiversity governance, acting in a dialectical, dynamic, evolving governance landscape.

Within the consensus model of decision-making mentioned above, old loyalties between the agricultural lobby and the state have persisted through a stable policy community. This policy community has had discernable impacts on biodiversity policy. The discussion regarding Habitats Directive and REPS revealed the power of, for example, the national IFA to determine the trajectory of policy implementation, and simultaneously marginalise other members of the agricultural policy issue network, such as Teagasc, and its own members, as exemplified by the experience of the Burren IFA. However, the lobby also engaged in a discourse coalition with the IRDA, built on similar views of rural identity, and identification of

planning issues. The national IFA proved influential in securing this small, local organisation access to national biodiversity decision-making bodies, such as the Biodiversity Forum and Comhar.

The findings of this research also suggest that much of the responsibility for biodiversity protection through wider countryside planning functions have been decentralised to local authorities. Biodiversity governance coalesces at this local scale around the functions of the Planning and Development Acts, and Local Biodiversity Action Plan development. Attempts at biodiversity integration at this scale have had various degrees of success. The inclusion of the Heritage and Biodiversity Officers signal a positive step, providing advice and training to planners and directly inputting into planning processes. However, the instrumental framework for biodiversity protection at this scale appears weak. The Planning and Development Acts, as other researchers have also found, prove largely insufficient for biodiversity protection, and LBAPs were regarded as weak, providing awareness of biodiversity features of local interest, rather than actual protection.

However, this approach may reflect the wider framework of the CBD, and the National Biodiversity Plan, with the focus on incentives, advice and goodwill, voluntary activity and collective action, rather than strict enforcement. Following this line of reasoning, partnership in biodiversity governance is key. In this study partnerships were found to be multi-faceted. For example, weak partnerships were found between select ENGOs and the state (DAFF and NPWS), and between state and private sector interests as illustrated by the Notice Nature campaign. It is clear from this analysis that the state tends to mediate a degree of distance between ENGOs and those responsible for economic development. When ENGOs did meet rural development interests in the Biodiversity Forum, underlying covert patterns of power became overt, with private interest groups attempting to reassert their dominance, vetoing potential plans suggested by the ENGOs.

Given this context, where biodiversity conservation interests are bounded by an economic and political nexus and patterns of formal and informal power, new patterns of activity emerge. Biodiversity interests seek recourse to the EU, through the Commission, the ECJ and EU lines of funding. The national ENGOs, for

example, bypass the state and go to the Commission in order to raise biodiversity conservation issues, the Commission and ECJ then collectively exert pressure on the state. The Burren IFA, after developing a partnership with similarly marginal state organisations, Teagasc and NPWS, sought EU LIFE Funding. This illustrates that new, multi-level strategies are emerging within the biodiversity governance network. Biodiversity governance therefore, is neither purely local, national or international, but a combination of all three. Each scale has certain requirements, plays a particular role, has certain responsibilities, and is subject to power differentials.

Involvement of an expanded array of stakeholders, specifically the ENGOs and the Burren IFA, rather than leading to a loss of state power, has lead to new ways in which a weak branch of the state can strengthen its role. While some authors comment that in the context of governance the role of the state is to steer, as opposed to row, commenting on the Irish state Harris & Begg (2005:84) suggests that in the choice between steering and rowing, "Ireland, it seems, has plumped for playing it by ear", in that it the role of the state depends on the policy and political context.

Chapter 8 - Public participation in biodiversity planning

8.1 - Introduction

This chapter address the third and final research question regarding public participation, specifically focusing on stakeholders and publics views towards public participation in biodiversity management in Ireland. With respect stakeholders, during interviews these forty-five individuals were asked to consider the following two questions, 'why should publics be engaged in biodiversity decision-making?' and 'how does your organisations seek to engage publics in biodiversity?' During focus groups, publics were asked questions regarding participation in decision-making, and also, where and how they find information about biodiversity.

As highlighted previously in Chapter 2, which reviews biodiversity policy, the need to integrate other stakeholders, including publics, in decision-making now forms a key element within the foundational biodiversity policy framework at international level (e.g. CEC, 2006a/b/c; MA, 2005). For example, Communication, Education and Public Awareness (CEPA) arising from Article 13, is now considered an important part of the MA, and the other biodiversity Conventions. CEPA provides a broad framework for public participation as evidenced by the plethora of guidelines and toolkits to support this approach (e.g. Martin-Mehers et al., 2004; van Boven & Hesselink, 2003; Kelsey, 2002). Ecosystem Approach (EA) is also now considered central to the implementation of the CBD. EA calls for 'people-first' conservation through participation of stakeholders and local communities in adaptive management decision-making.

This very brief outline of key policy in the context of public participation clearly indicates its importance. However, there is also a vast literature addressing the subject as discussed in Chapter 3, a brief review of which is required. The rationales for participation fall along pragmatic or instrumentalist lines and civic lines; the former, sees public participation as a means to improve the efficiency of management interventions, resulting in changes that are sustainable and approved by a larger number of people. In the case of the civic mode, participation is seen as an end goal, necessary for equity and empowerment of suppressed groups

(Owens, 2000; Cleaver 1999). In reality however, these rationales are often mixed and not easily distinguished from each other (Mannigel, 2008). It is important to bear these different rationales in mind, as they can signify different goals in participation processes, and have implications on choice of tools used to engage publics (Owens, 2000). Issues of power are central in participation, literature suggests that participation exists along on a spectrum from information and awareness to consultation, joint decision-making and community control, reflecting the degree to which decisions are shared between publics and a decision-making authority. Various typologies have been developed which address degree to which publics influence decision-making, evaluating relationships of power in participation, and addressing types of techniques or tools used in the practice of engagement (e.g. Kavanagh & Davies, 2007; Rowe et al., 2005; Finger-Stich & Finger, 2003; Tuler & Webler, 1998; Pimbert & Pretty, 1997; Davies & Gathorne-Hardy, 1997; Wilcox, 1994; Arnstein, 1969).

Participatory conservation approaches, otherwise known as Community-Based Conservation (CBC) is used here as an umbrella term to describe a broad range of participatory conservation initiatives.[33] It is pertinent to consider such a wide breath of literature, as biodiversity protection is itself multi-dimensional, including for example, natural resource use, protected area or species management, planning and protection through agri-environmental measures, each theoretically providing opportunity for (different) publics to participate. CBC is taken here to mean "natural resources or biodiversity protection by, for, and with the local community, taking into account drivers, institutional linkages at the local level, and multiple levels of organisation that impact and shape institutions at the local level" (Berkes, 2002:

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[33] These different approaches are discussed at length in the literature, but include for example, the ecosystem approach: Hovik et al., 2009; Smith & Maltby, 2003; Grumbine, 1994; Adaptive management: O'Rourke, 2005b; Berkes, 2004; Dietz et al., 2003; Campbell, 2002; Norton & Steineman, 2001; Community based conservation: Brown, 2003; Campbell & Vainio-Mattlia, 2003; Brechin et al. 2002; Agrawal & Gibson, 1999; Community Based Natural Resource Management: Collier & Scott, 2008; Flint et al., 2008; Collaborative natural resource management: Connick & Innes, 2003; Participatory conservation Goodwin, 1998

293). [34] This definition is particularly appropriate for a number of reasons. First, given the multi-scalar approach taken in this work. Secondly, by focusing in particular on the need to concentrate on the broader social, cultural, economic context in which participatory conservation takes place, it highlights some of the difficulties addressed in the literature review with respect to these practices (e.g. Dressler et al., 2006; Agrawal & Gibson 1999; Walker, 1999; Goodwin, 1998).

Lastly, some consideration of the notion of public is addressed here, taken from Blake's (1999: 271) definition, "the 'public' is best defined in terms of alienation from dominant political or knowledge regimes in a particular context". This implies, as Owens (2000:1141) suggests, "that most of us, on issues of any complexity, fall into this category. More significantly, perhaps, it suggests that delineation of a 'public' is inseparable from the motives of those claiming that the public must be engaged".

In International policy there exists a range of a different tools, approaches and rationales for public participation, which theoretically, can provide increased scope for public participation in biodiversity initiatives in Ireland. Despite the vast international literature, which suggests that there exists a broad pallet of public participation tools with which to engage publics in biodiversity initiatives from awareness raising to joint decision-making, attention must be paid to social, political and cultural context. To date, however, in Ireland, there has been limited exploration of stakeholders views of participation, tools used by stakeholders to engage publics in biodiversity, or indeed publics views on the pathways of participation (with the limited exception of Collier & Scott, 2009; 2008; O'Rourke, 2005a/b). This chapter seeks to address this gap. Drawing on both policy stakeholders and publics' views of participation the chapter begins with an analysis of stakeholder's views of public participation. This is followed by an analysis of attempts by stakeholders to engage publics through a range of participatory processes, from biodiversity awareness raising through to joint decision-making projects around biodiversity and natural resource management. The second section

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[34] Berkes (2002) builds on Western & Wright's (1994:7) in initial definition: "community-based conservation include natural resources or biodiversity protection by, for, and with the local community",

explores publics' views of information and participation mechanisms relevant to biodiversity protection. The concluding section of the chapter draws out key themes from stakeholders and publics views within the context of challenges to deliberative participatory processes, which highlights issues of context, power and trust.

8.2 - Stakeholder views of public participation and engagement processes

This section aims to firstly clarify stakeholders' rationales for engaging in public participation and secondly, to identify the tools utilised by stakeholders to facilitate publics engagement. These tools encompass a range of information provision and awareness raising methodologies, through education initiatives, to consultation and partnership.

Stakeholder interviewees were generally positive towards the notion of greater public participation in biodiversity planning and decision-making, but largely uniform in the reasons for engaging in public participation. Those within the environmental sector suggested practical reasons for involving publics in participation, based on the implementation of international policy such as the Ecosystem Approach as exemplified by the interviewee from the public sector below:

> *We have to increase public and stakeholder engagement because [to] apply and implement the Ecosystem Approach and integrated management [biodiversity] understanding and public participation is a major, major part of those. Interview N8, Public: Environment*

It is significant that this stakeholder referred to public participation in the context of the Ecosystem Approach[35]. The Ecosystem Approach is referenced throughout biodiversity policy, particularly at international scale as a mechanism to implement the CBD (e.g. MA, 2005; SCBD, 2000). These documents emphasise the practice of people-centred conservation, putting people, their understandings of biodiversity and their natural resource use practices at the heart of the decision-making framework (Smith & Maltby, 2003). The Ecosystem Approach echoes the strand in

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[35] "The Ecosystem Approach is a strategy for the management of land, water and living resources that promotes conservation and sustainable use in an equitable way" (IUCN, 2003: i)

current conservation thinking for increased community-based conservation (CBC), which is discussed at length in Chapter Two. Put briefly here, community-based conservation is based within an evolving scientific conceptualisation of ecosystems as adaptive and dynamic. Humans are seen as an integral part of ecosystems, and positioned within the paradigm of sustainable development, CBC is seen as a way to marry conservation and development objectives (Berkes, 2004). As Brown (2003) suggests, CBC should be viewed as a social and political process, requiring examination of economic, political and social, as well as ecological and environmental, impacts of different courses of action, and different understandings and interests in conservation decisions. A core element of CBC type approaches is greater involvement of publics knowledge and input within decision-making.

In Chapter 5 stakeholders' perceptions of public understandings of biodiversity were discussed, with the conclusion that that publics understandings of biodiversity were presumed to be poor. This view has implications for the way in which public participation processes have developed. Particularly, this view of publics understandings underpins rationales given by stakeholders for including publics in biodiversity planning processes and thereby, has implications or the tools of engagement utilised. For example, in the following extract, public participation is seen as a way of improving public understanding and care of biodiversity, creating pro-biodiversity opinion and awareness in society:

> *The general public create political opinion, so the more they know and care about [biodiversity], the better chance there is that they'll want the governments of their country to actually protect it. Interview N1, Public: Environment*

The quote above illustrates a key reason for engaging in publics based on the assumption that public participation will create increased public knowledge of biodiversity, which in turn will increase care and concern for biodiversity, and crucially, increase public support for government conservation policies. Participation literature which resonates closely to the views of stakeholders from the environment public sector, would suggest that this statement recalls a pragmatic or rationalist stance. Pragmatic reasons for in public participation public participation is that it increases legitimacy of conservation decisions and increases community support for biodiversity management outcomes making, for example, making management of natural resources more efficient, improving efficiency and reducing the costs of

management as outlined in (Hutton et al., 2005; Campbell & Vainio-Mattila, 2003). In contrast, ideological or civic reasons for public engagement based on principles of justice and equality, seem to be largely absent from stakeholders discussions of rationales for public participation. The civic rationale espouses communities control over resource management, improving the democratic process of decision-making, enhancing human rights through empowerment, and enabling publics' contribute to the development of their society and improving welfare of local people (e.g. Watts & Peet, 2004; Brown, 2003; Walker, 1999; Brosius et al. 1998; Wainwright & Wehrmeyer, 1998).

The stakeholder from the tourism sector states below that it is important to engage in public participation as a way of hearing publics views:

> *Public participation in decision-making [is important] so that local people are consulted and their views are listened to, once the views are reasonable, and that there is public benefit to the local economy Interview N14, Public: Tourism*

While it is generally accepted that not all requests and opinions can be acted upon in decision-making processes, the extract above suggests that not all views are equal, and that for publics' opinions to be included in decision-making they must reconcile to a set prescription of what is considered rationale or reasonable. A number of points can be drawn from this statement. First, there appears to be little realisation by the stakeholder that an extreme or unreasonable view may simply equate to a different view. The research literature is replete with examples of similar discrepancies between expert and lay knowledge. For example, in the Irish context Collier & Scott's (2009) study of landscape planning shows that although there is stakeholder agreement that publics views are important, there are conflicts relating to the exact level of collaboration and input publics should have in decision-making. In the international sphere, Ellis & Waterson (2004; 2005) analyse the experience of voluntary naturalists and their input to LBAP processes in the UK, concluding that there is "selective appropriation of some ways of knowing over others" (Ibid, 2004:95). The line of thinking presented by stakeholders thus far has repercussions for policy implementation of community-based biodiversity participatory approaches, given that such processes, particularly those based on deliberative techniques, tend to widen the sphere of opinion rather than constrain it, as will be discussed later in this section.

Not only are the rationales underpinning public participation important, but the methods by which public participation takes place also warrants critical evaluation. In the remainder of this section, the methods employed by stakeholders and their views of these methods will be discussed, beginning with information and awareness raising projects, followed by education and training, and lastly deliberative and joint decision-making initiatives.

8.2.1 - Information and awareness raising

All of the organisations interviewed were involved in information provision or awareness raising activities to some extent, albeit, with varying degrees of emphasis on biodiversity. For example, the IFA and IRDA stakeholders did not specifically mention providing information about biodiversity, but spoke about contacting their members and providing information on their organisations' activities, which may have implications for, or be relevant to, biodiversity policy. These organisations generally contacted members through newsletters, text messages and the internet. Information provision and awareness raising activities directly related to biodiversity, nature conservation and natural heritage were considered a significant aspect of work by the environmental sector, particularly the ENGOs and RPS in the private sector. This group of stakeholders commonly referred to posters, leaflets and the internet, in addition to the media, newspapers, magazines and radio to highlight biodiversity issues of concern to their organisations.

One of the most notable information provision and awareness raising activities mentioned by stakeholders working in the environmental sector is the DEHLGs' Notice Nature public awareness campaign. The Notice Nature campaign was initiated in 2006 and continues to the present day (2010), with the aim of increasing public awareness of biodiversity. The public awareness element of this campaign provides information, primarily through the internet, on a range of activities to promote biodiversity protection, such as wildlife gardening, composting and growing vegetables. Additionally the website provides information on education and training activities and events through which publics can engage with public sector environmental organisations and ENGOs, for example, the Annual Biodiversity Week events. From a policy perspective, Notice Nature in part fulfils Objective 13 of the CBD which relates to Communication, Education and Public Awareness, in

addition to Action 45 of the National Biodiversity Plan (DAHLG, 2002). In the following extract, a stakeholder from the public sector describes the premise of the Notice Nature campaign, and the way in which it has been institutionalised:

> *The more the public understand the value of [biodiversity], the better the chance that they'll want to protect it. We're in the middle the Notice Nature campaign, we're spending money on specifically going out to publicity consultants, specialists in marketing, and saying we want to get this message across, how best do we do it? Interview N1, Public: Environment*

The statement above builds on perceptions of poor public understanding of biodiversity discussed in Chapter 5, and the pragmatic arguments for public participation discussed earlier in this section. The statement indicates that Notice Nature, like other state sponsored environmental awareness campaigns that have taken place in Ireland, relies heavily an information-deficit-model (Owens, 2000; Burgess et al., 1998) or in Barr's (2003) and Barr & Glig (2005:229) terminology, Awareness– Information–Decision–Action model, whereby "there is an implicit assumption that publicity campaigns focused around awareness-raising will result in greater levels of public environmental action". In Ireland similarly styled environmental awareness campaigns have also been conducted in the area of waste management, as highlighted by Davies (2008). However, such campaigns tend to ignore that the pathway from information to action is a complex one.

Critics such as Blake (1999) write that information provision, and increased environmental knowledge or understanding, does not necessarily engender positive behavioural changes, or in the case above, engender notions of biodiversity protection. Contrary to the beliefs of the stakeholder above, Information – Deficit models ignore that environmental problems are constructed in such a way that behaviour is dependent on a greater range of influences than the linear process of information to action can describe, as highlighted by Burgess et al. (1998).

In the light of the information-deficit-model and assumptions of A-I-D-A which underpin the Notice Nature campaign, the mechanisms or tools used to raise public awareness of biodiversity in the campaign are worthy of comment. As the stakeholder involved in the implementation of the campaign discusses below, the mechanisms used are top-down and mass media focused:

> *We work with newspapers to get stories placed into the press, either the mainstream press, or the business journals, or trade journals associated with the various sectors; then there's a website, which has information both about biodiversity and the types of things people can do to protect biodiversity. Interview N16, Private: Environment*

The emphasis on media outlets such as printed material and the internet in such awareness raising campaigns is supported by the results of public surveys which assess how publics gain information on biodiversity topics. For example, the Europe wide Eurobaromoter survey (Gallup, 2007) conducted into European attitudes towards biodiversity asked respondents how they might be informed about biodiversity issues. 52% of respondents stated that their main source of information about biodiversity and biodiversity loss was television, 42% said the internet, and 33% newspapers and magazines. In Ireland, percentages were slightly higher than the EU average, at 54%, 49% and 35% respectively (Gallup, 2008). While the relationship between the provision of information via mass media campaigns and levels of environmental awareness, in general, are little studied and despite the obvious popularity of such information provision approaches, they also have limitations. One issue relates to trust and legitimacy in the information and information provider. The Notice Nature campaign is expert led, and as highlighted by Irwin & Wynne (1996) and Yearley (1994), public's trust of scientific or expert information is not based on a linear framework or judged uncritically. Another limitation of mass-media information provision is the difficulty in reaching specific audiences, as the interviewee from the public sector suggests below:

> *The hard thing is to actually reach your audiences. We use a whole combination of newspapers, magazines, publications, websites and text message, and even so you won't get the students in universities or the secondary school students or their grannies at home... Interview N11, Public: Marine*

The non-targeted use of mass-media approaches and generic messages present a key limitation to broad scale awareness raising campaigns, their inability to account for the internal influences and variables at play in peoples lives, in addition to the external social, cultural and political context. The work of Barr & Gilg (2005) is useful in this regard, as their research shows that although knowledge can be instrumental in influencing behaviour, there are numerous motivating or disabling factors that impact on peoples' attitudes and actions. For example, empathic

perception of nature, feelings of competence, motivation, ability to act on an environmental issues and significant life experiences (Chawla, 2006; Hungerford & Volk, 1990). As Finger-Stitch (2003) suggests, people generally care about what is of interest to them and become committed when they feel that they can achieve something. In addition, a study of science learning and understanding by Falk et al. (2007) in the U.S. found that public understanding of science derives from leisure time, free-time learning in their terminology, and was primarily acquired for reasons related to personal interest, need and/or curiosity. They conclude that public's understanding of science will require approaches that take into account differences between people and the unique personal and context-specific nature of requirement for knowledge in a life long learning context, that is the lived context of individual experience.

An alternative approach to the use of mass-media which builds on the lived experience of publics was suggested by the Biodiversity Officer for Clare, who hosts a wildlife show on local radio. Instead of viewing this medium as solely information provision, he sees the radio show as a platform of communication. He considers that the show has the potential to engage directly with publics lived experience of nature, through which he promotes the work of the Biodiversity Office in a positive manner:

> *I do a radio show every Monday morning we get a lot of questions about wildlife. Most of the time it's people looking to get rid of something or have lost a pet and we help them out. But the reason we do that is it's very important that you have good standing in the public eye. They're the people you're going to be dealing with and they're the people that will come back with issues. Interview L5, Public: Heritage*

In the view of the Biodiversity Officer the radio show has two functions. Firstly it publicises biodiversity and the Biodiversity Officer, but secondly, it also instigates a limited form of two-way communication through which the Biodiversity Officer tries to develop trust and good standing between the public and the Office. This utilisation of mass media contrasts with previous information provision activities discussed which represent a limited form of one-way communication. When utilised on their own, one-way communication methods do not automatically engender a greater democratic framework for biodiversity planning, as highlighted in the work of Rowe et al. (2005) and Tuler & Webler (1999). Stakeholders within civil society

environmental organisations were, at best, sceptical of its potential results. Instead, they suggested focusing on environmental education mechanism as the key process of participation, as will be seen later in this section.

8.2.2 - Education and training

Participation mechanisms which fall under the categorisation of environmental education (EE) differ from information and awareness raising activities. One view of environmental education suggests that is education about the environment which the purpose of affecting individuals' behaviours, while others suggests that is a process for intellectual growth, using environment as the context, which focuses on the teaching of skills and motivation to implement them (Heimlich & Ardoin, 2008). Ericsson & Oliver (1995:37) refer to skill as the "performance of an act acquired through extended practice and training". Therefore, in theory, EE provides an opportunity for situated learning which is based on exchange of information. Like information provision and awareness raising environmental education activities are frequently utilised as a mechanism through which stakeholders reach publics. There are a wide range of education, training and demonstration events which target specific audiences, and focus on skill development and social learning.
Interviewees from ENGOs, public sector (environment and agriculture), and private sector (environment) spoke about education and training events which they provide to develop publics skills in relation to particular biodiversity conservation messages. One such education course was developed on Irish botany by the Botanic Gardens as illustrated in the extract below, with the aim of promoting conservation of Irish plants and the reasons for their decline:

> *We've just finished an 8 week night course in Irish botany. We had seventy people on that so it was quite a challenge. But that gets the message across and we're working with some stakeholder groups and community groups to do reintroductions and research and conservation programmes. Interview N8, Public: Environment*

While the above courses and contact with community and stakeholder groups is admirable, it is still small scale. Botanic Gardens, national parks and nature reserves promote conservation to a range of audiences through environmental education workshops, talks and open days. International literature suggests these sites can provide learners with environmentally positive experiences in non-formal

settings. Braus & Ardoin (2001) for example, suggest that botanic gardens provide publics the opportunity for informal learning that is voluntary and self-directed, which results from personal exploration and curiosity, and therefore provides a more situated biodiversity education. A limitation of these education activities are their short term or one-off nature, often attracting 'the usual suspects' rather than engaging with a broad spectrum of publics.

Additionally, education in outdoor settings is considered in the environmental education literature as important in enhancing environmental awareness and fostering corresponding attitudes (Hungerford & Volk, 1990). Although, critics such as Bogner (1998) would temper such claims, suggesting that outdoor ecology education provides a "foot-in-the-door" effect introducing students to biodiversity issues, but must also be placed among the myriad of other concerns which contribute to the lifelong jigsaw of actual commitment.
At the local scale, the Biodiversity Officer, independent private consultants and civil society environmental organisations spoke about a range of environmental education activities which their organisations are involved in such as public biodiversity data collection and scientific survey work. In addition these interviewees offer advice on local wildlife projects on an ad-hoc basis when time and funding allow. While, interviewees outlined the importance of engaging with publics through these formats, and the integral nature of education to their organisations, resources for such initiatives are still scarce. A stakeholder from the environmental sector contrasts the activities she would like to see form part of a public participation process with those of the national biodiversity awareness campaign below:

> *What we want is informed public participation. Not public participation where you model a message and take it out. Not a TV campaign which says superficial things, but information by action. Get every school and household or housing estate to put in a hedge row or a pond. [Increase the knowledge] base of Irish plants and habitats that way. Interview N23, Civil society: Environment*

The education activities listed in the extract above as 'information by action', such as hedge planting or pond building represent a more active style of learning based on skill development than more passive mass-media type information provision approaches.

Ballantyne & Packer (2009:259) in their research into teenagers and teachers views of experiential learning techniques concluded that this kind of 'hands-on' learning provides "engaging, effective, and enduring learning experiences... through experience-based, rather than, teacher-directed strategies". However, Bogner (1998) again provides a work of caution, suggesting that such activities can provide the link between people's daily lives and nature through first hand experience and participatory interaction, but, subsequent reinforcement of the activity is highly important. Brody (2005) points out that the experience of skill development in nature also provides the opportunity to build learning from the essentials of human experience, that is thinking, feeling and acting. However, despite the benefits of active learning, like other education mechanisms identified in this research, the extract above indicates that these activities are expert driven, and follow an information-deficit-model. That is, they revolve around experts telling publics what information to learn, or activities to conduct, in order to better their knowledge of biodiversity. Chapter 6 of this research which investigated publics understandings of biodiversity concluded that the twelve focus groups in this research had a substantial knowledge of Irish plants and animals. This would suggest that the stakeholder above is following a 'science-first' type approach. Kelsey (2003:382) explains that within such approaches, the public is expected to respond to environmental problems, initially and accurately described by scientists or experts. She goes onto suggest that biodiversity education initiatives have traditionally operated from such a basis.

While education forms a fundamental element of participation, top-down environmental education initiatives do not necessarily facilitate or lead to participation in wider biodiversity decision-making. Räthzel & Uzzell (2009) and Uzzel (1999) for example, make claims for action competence, learning and skill development which is embedded in the social, political and cultural context of lived experience to facilitate wider engagement. Therefore, contrary to the views of the interviewee above, education initiatives can generally only facilitate 'informed public participation' if coupled with more deliberative forms of participation through consultation, partnership, and joint decision-making of projects, plans, programmes and policies as discussed by Williamson & Fung (2004) and Elder et al. (1998). In fact, the majority of information provision and education initiatives discussed by

interviewees across the three spheres of governance, present little opportunity for publics to express their knowledge and views to educators, and are very much rooted in the information-deficit-model previously discussed.

One exception to this overriding model of participation comes from the Biodiversity Officer. Falling within the remit of the Biodiversity Officer is the requirement to engage directly with publics through education and training events, giving talks in community centres and visiting schools. However, the Officer is also engaged in integration of information, education and further self directed participatory initiatives. The Biodiversity Officer is currently assisting four self-selected communities in wildlife projects supported by the Biodiversity Fund. The officer viewed his role within these projects as a supportive one, offering advice on ecological restoration, management of the site and funding opportunities when required by the community. He outlined one project which has been completed and has developed into a site that is being used for recreation and environmental education for the community. While this represents more empowerment and decision-making control on the part of the publics involved, it is again, small scale. Interviewees working for the public sector environmental organisations and ENGOs mentioned the Biodiversity Fund, administered through the Heritage Council, as a potential funding route for future community based biodiversity conservation initiatives. However, in 2009 the majority of money allocated by the fund went to established groups such as local authorities, ENGOs and development associations as opposed to individual community groups (Heritage Council, Biodiversity Fund Offer, 2009). A second consideration of the effectiveness of this scheme to increase community involvement in biodiversity projects is the falling monetary allocation which slipped from €709,352 in 2008 to €238,871 in 2009. The allocation of finances to biodiversity projects remains to be seen in 2010, but with the amalgamation of these projects as part of the wider Heritage Grant Scheme it is likely to be less than this amount.

8.2.3 - Consultation

Moving on from environmental education initiatives, stakeholders in the public and private environmental and agricultural, tourism and business organisations referred to their use of consultation as a key mechanism of public participation. Instances of

consultation encountered over the course of this research primarily constitute a limited form of two-way communication between the project initiator and publics involved. For example, in the quote below a stakeholder from the private sector describes the process by which publics are engaged in the decision-making process in an infrastructure project. In this instance the potential routes for the project have been selected prior to public input:

> *For route selection or site selection we would very often have open days where we would have a display of where the project is going to go. We'd announce the open day, have ads in the local papers, on local radio and try and get people involved in that way. Just get people in, explain what the project is and get their opinion. Interview N17, Private: Environment*

While there is a degree of opportunity for publics to comment on developments through formal statutory planning procedures, as illustrated in the exact above, the participation is pre-delivered, bounded and controlled. Much has been written about the limitations of planning consultations through written responses or submissions or public enquiry procedures in relation to environmental issues, the usual methods of public involvement such as consultation drafts, exhibitions and public meetings have enjoyed only limited success. As Owens & Cowell (2002:59) suggests, there is a tendency for such exercises to be conducted to fulfil legal requirements, or so that they can be "seen to be done". One issue is the restrictive nature of written submissions which can curtail what publics input, and the degree to which publics can input as they require knowledge of the process and a degree of technical know-how (Thomas, 1996 in Rydin, 1999). Secondly, the bounded nature of consultation may restrict the input of environmental values. Drawing on evidence of the Irish planning system Flynn claims that the government pay "lip service to formal consultation processes", citing the rising costs of participation in the planning process for third parties as an example of "punitive government strategy to keep environmentalists in check" (Flynn, 2007:18). A third issue with formal consultation processes is the facilitation of a transparent process. As the interviewee states above, the organisers of consultation are concerned with getting publics opinion, listening to it, but with not necessarily acting upon it or providing feedback. As Innes & Booher (2000:2) indicate "public posting of planning proposals ends up with comments coming from all directions that the agency may or may not respond to in any substantive way... commentators are mostly unaware of whether their opinions

have even been considered, much less been used". In statutory consultation processes the ultimate decision rests with experts, who may or may not provide substantive feedback on publics' submissions thereby limiting communication. Of course such forms of consultation may reflect resource constraints and time limitations, an issue common to many participatory processes, and suggested by public sector organisations such as NPWS. The limited dialogue within such consultation structures mean there is a risk that participatory processes may be seen as 'tokenistic' by publics (Arnstein, 1969).

Other forms of traditional public engagement which provide participation opportunities based on initial written submissions with subsequent public meetings were raised by an individual working in the public sector. Using the example of the REPS consultations the interviewee from the Department of Agriculture discusses public meetings as a form of public consultation and public input into policy decisions:

> *We asked for submissions and ideas for REPS 4 and people that were interested put in a written submission. Then there was a public meeting organised and some public would've come to this. I'd say to listen more than anything else and I doubt that [they] would've added anything but they would've been just interested to hear what was going on. Interview N3, Public: Agriculture*

The view illustrated in the extract above indicates a number of key points with regard to public participation in biodiversity decision-making. Firstly, this extract highlights one of the key difficulties with public meetings as a form of consultation, which research suggests, tends to stifle rather than encourage publics' voices. In the view of Rowe et al. (2005) public meetings represent a limited form of communication in that they provide the opportunity for publics to ask questions, but little room to inform process and outcomes. Similarly, Fung (2003) points out that one of the difficulties with public meetings is the limited opportunity they provide publics to voice their concerns, most, as the stakeholder above indicates, fall within the 'spectator' category, listening rather than voicing opinions. Secondly, there is an assumption inherent within the extract that publics would not have anything to add, that they would be content to sit and listen, suggesting that the subject matter involved in discussion may be beyond the knowledge or interest of ordinary citizens. The findings here would tend to agree with those of Tovey (2009) who suggests

that while Irish experts may claim to value lay knowledge, their ability to truly engage with lay perspectives is problematic.

An additional concern with public meetings as a form of public consultation was raised by environmental, agricultural and planning stakeholders. The extract below which relates to conflict management and issues of power is illustrative of their concerns:

> *I've been at meetings and I've seen the co-ordinator of the meeting just getting a barrage of aggression and nothing could be agreed, nothing could be done. It's about managing [the process], being clear about what the meeting is about and what they [the public] can and can't do, having some ground rules set out from the start. In balance, a meeting with specific groups separately might be the way to deal with it, but public meetings when not dealt with properly can be a disaster. Interview N10, Public: Environment*

In spite of substantial criticism of their ability to provide meaningful participation, public meeting remain the most common form of face-to-face public engagement (Beierle, 1998). Public meetings are a problematic mechanism of public participation as they generally occur late in the process and are used to defend decisions rather than involve publics in the decision-making process, as was the case in the extract above. Given that environmental disputes tend to be highly charged emotional issues often creating conflict consideration of participants in participatory processes is of vital concern. Individuals who are wealthier and better educated tend to participate more than those who lack these advantages. Therefore, as the extract above illustrates, public meetings can be derailed by vocal, powerful, vested interests. Research into community participation in Co. Clare conducted by O'Rourke (2005b:487) also found that public meetings can become "platforms for the politicisation of a decision-making process at the local level". In international CBC literature, Agrwal & Gibson (1999) and Brown (2002) highlight that community itself is a fraught concept, with Selman (2004) claiming that different communities of interest exist in single locations, which necessitate management within participation processes. As the stakeholder above suggests, holding separate meetings with local interest groups may have proved less problematic. The extract clearly demonstrates that participation by community in biodiversity decisions is subject to patterns of power and politics, with multiple

interests and actors operating within communities. How these interests and actors influence the participation process, exert and seek to gain power and influence is an important consideration in participation. Accordingly, despite the many positive features of public participation to be found in the literature, such processes are not unproblematic, and their use should be viewed critically. As the extract above suggests, there are pitfalls to public participation, which requires careful management.

In contrast to the more formal mechanisms of consultation, informal mechanisms of consultation are increasingly viewed by planning, public sector environmental and private sector stakeholders involved in development and business as essential in building trust and good relationships between institutions and communities. As the extract from an interviewee involved in the planning sector illustrates below these informal structures are varied and potentially significant:

> *The other situation is more of what I would describe as non-statutory. Where we talk to the local community, a residents committee, a tidy towns committee, chambers of commerce branch and you say, now you are all doing this in your own time etc, you all have ideas about your village, let's hear them. It's proactive public participation, which is of extremely high value to planners. Interview N25, Civil society: Planning*

This view articulated by a stakeholder involved in planning at the national scale points to the benefits of deliberative communication between planners and community members. The process describes a commonly citied positive feature of deliberative processes, their potential for value inclusion and clarification. Smith (2003) for example suggest that deliberative participation processes can identify community values, and thereby allow enhanced learning, build the foundation for co-operative rather than confrontational decision-making and provide the potential for transformation of position. In cases where consensus cannot be reached, as is often the case in planning, the process should be able to help participants understand the goals and perspectives of others by fostering communication, building relationships and engendering trust.

Informal mechanisms of participation have been found in other Irish research (e.g. O'Rourke, 2005b) as particularly important in engaging and building trust between intuitions and publics. Pre-planning meetings offer planners the opportunity to

scope out various interests, particularly those traditionally marginalised from other forms of participation, for example, environmental interests, and to instigate compromise prior to a final decision being made. However, research by Bulkeley & Mol (2003) claims that public involvement in decision-making can be used by decision-makers as a way to mediate potential conflicts. In that, publics are more lightly to accept and comply with decisions once their preferences are voiced their interests appear in the final policy decision or outcome. Stakeholders involved in planning claimed that such methods are currently under utilised in the planning system due to time and resource constraints.

In the following example, a more efficient data collection method, remote sensing, is rejected on the basis that more can be gained by personal contact with landowners:

> *We were involved in a project in Carlow, where we were trying to develop a habitat mapping methodology. People were saying that remote sensing can map things without going on to the land. But wouldn't it be better as part of the mapping process to actually engage with the owners of the land? That kind of engagement with landowners in non-threatening way and just letting them feel that there's some merit in their land. Interview N7, Public: Environment*

Such initiatives which are built on informal contact are seen by interviewees within the environmental and agricultural sector (public, private and civil society) as important mechanisms by which to influence public opinion towards the conservation of biodiversity. Primarily, they are seen as a mechanism to familiarise farmers with biodiversity and biodiversity values, but also as an approach to build trust between institutions and community. However, it is clear from the extract above, that this top-down approach values "expert" scientific knowledge informed by an information-deficit science-first model. As also found by Tovey (2009), this extract is paternalistic, and essentially alienating of local people, landowners in this case, and their interpretations, knowledge and experience of biodiversity. So while the intention to engage publics in dialogue may be well meaning, the reality of the project appears to fall short of any meaningful public participation.

In contrast, when the opportunity arises, local NPWS rangers appear to find that collecting local knowledge is beneficial process:

> *If you talk to people, they will tell you when they have seen bits and pieces here and there, and they are usually much more beneficial [to me] than I would be to them in that sense. They'll tell you about some place that they've gone to for years, about animals or birds they see coming every year, and how they like to see them come there every year. They have much more knowledge than I ever, ever would have, because they have lived in the area and they have seen it all. Interview L2, Public: Environment*

Respect for local, place based knowledge was viewed as important by this and other NPWS rangers. They viewed local knowledge as a form of personal learning, facilitating relationships with local community based on common interest rather than the practicalities of enforcing legislation. The extract also indicates that public hold locally specific information, knowledge which due to issues of place, age and experience, are unavailable to the rangers. This indicates, as argued by Rydin & Pennington (2000) that publics hold key resources of knowledge that are useful to policy actors in achieving policy goals. The inclusion of local knowledge in biodiversity management is a key element of CBC approaches. The CBC, participation and governance literature is replete with suggestions that the incorporation of lay knowledge should be a central feature in biodiversity decision-making processes (e.g. Newig & Fritsh, 2009; Berkes, 2004; Berkes et al., 2000). Brown (2003) for example, suggests that the need to incorporate biodiversity understanding, knowledge and values of both publics and a diverse array of stakeholders is a key challenge in implementing community-based conservation.

Additionally, this local form of informal participation is important, as the work of Goodwin (1998:488) indicates, because it "institutionalises a new scale of conservation concern, derived from the personal countryside of place rather than from the national vision of conservation as a public good defined by experts". Therefore this statement tends to counter the belief of other national environmental stakeholders that public have little knowledge about biodiversity, species, or habitats. Mediation of the dichotomies of knowledge (expert and local), but also scale (national and local) therefore an important aspect in the operationalisation of public participation in biodiversity decision-making. However, these stakeholders were less clear about the interest or capacity within their organisations to record

and collect this knowledge or whose responsibility it should be to instigate such a processes.

8.2.4 - Collaboration and community initiated participation

The previous examples focus on top-down processes of participation, and certainly they predominated in relation to biodiversity in Ireland, however, a number of examples of bottom-up initiatives also exist. These projects are initiated within a community, which then calls on expert assistance to support decision-making. For example, an interviewee working for the public environment sector gave the example of a community biodiversity project which began life as an objection to a planning application for a landfill in their area of Waterford. This stakeholder pointed out that the community had no interest, in the initial stages of the project, for environmental issues. The stakeholder assisted the community in the production of an ecological assessment in order to put forward an objection to the landfill. This revealed that a river running along the proposed site was home to otters. Following this, the community applied for funding from the Heritage Council to check the area for other endangered species. Again, drawing on the advice and skills of the stakeholder, the results of this assessment found a population of Freshwater Pearl Mussel, a protected species under the Habitats Directive. Following this initial project interest within the community has grown:

> *And because of being involved in trying to stop the site, the local community group have become really interested in the area. They've done a series of walks, they've done nature trail leaflets and now are really embracing nature conservation for its own sake. Interview N7, Public: Environment*

An analysis of this extract can be couched in the literature which examines participation through social learning and also, the literature on the wider environmental movement in Ireland. First, with respect to the environmental movement, the starting point for the project above finds it bases in challenging an infrastructural development. Leonard (2006) in his analysis of the Irish environmental movement since the 1960s has pointed out that community challenges initiated in response to a large scale developments are relatively common in Ireland and founded on localised sense of place. The predominance of local community protect is supported by the work of Garavan (2007). In his analyses of local scale community event protest data from 1988 to 2002, figures suggest that

the majority of protest activism in Ireland occurs outside the formally organised, national environmental organisations and is far more likely to be employed by local actors in prosecuting local disputes. However, drawing on ideas of place, Garavan (2007:860) points out that "battles for control of place may not necessarily invoke discourses of the environment, or, even in the cases where they do, activists may not necessarily be committed to a broad environmental problematic"; suggesting that reasons for protection may be based on wider economic, cultural or political reasons, unrelated to environmental matters. However, the extract above suggests that protest may have acted as a catalyst for social learning. Social learning is a core element of CBC approaches and refers to learning that links individuals' private interests with the shared interests of other citizens and also refers to the changes that occur in social conditions when individuals learn from one another and their environment, which in turn can contribute to the democratic qualities of society or

contribute to the adaptive capacity of the socio-ecological system (Daniels & Walker, 1996; Gunderson et al.,1995). In this case, a reaction to an infrastructural project is reported to have enabled collaborate ecological learning, and a revised sense of ownership and valuing of place. The process of social learning in the extract above evolves from this initial challenge, to the recognition of biodiversity and the production of a nature trail and associated interpretive material, for the community and by the community. This process, whereby actions for biodiversity are implemented, subsequently reflected upon and revised in an evolving process, is a key element of CBC, as highlighted by Plummer & Fitzgibbon (2004) and Norton & Steinemann (2001). An additional element of this case though is the degree of community control, which resonates with findings of Arnstein (1969) and also Pimbert & Pretty (1997) and Wilcox (1994) whereby the community control of resources and the overall direction of the project.

The question of when to involve publics in decision-making was raised a by stakeholders in the context of the development of the National Biodiversity Plan and the Local Biodiversity Action Plan. The differences in perspectives are illustrated by the two extracts below, with a planning and environmental stakeholder suggesting that publics should be engaged early in the decision-making process, while

environmental sector stakeholders more broadly suggested that participation should occur once completed plans have been published:

> *I don't know if there's any point in having pre-conceived ideas, developing a plan, and then doing public consultation where you present a plan that is almost finished and say 'anything else'? Interview N2, Public: Environment*

> *...if they were people who by their day to day actions might impinge on the habitats or species [in the LBAP] then no, [they were not consulted] because they would not have been interested at that stage.... Schools, media, landowners won't have been involved, but they are seen as having a role in the implementation of the plan. Interview L10, Private: Environment*

The key point raised by the two extracts relates to timing of public input to planning, and also, the different rationales which underpin each extract. With regard to the first extract, literature suggests that early engagement in a decision-making process encourages citizens to feel responsible for the realisation of conservation goals and also create a sense of ownership over plan development and implementation (Rowe et al., 2005; Tuler & Webler,1999; Beierle, 1998). But also, that early inclusion of public perspectives may assist in the define, or reframe, what the problems actually are providing publics with the opportunity contribute to or decide the agenda and the trajectory of plan development creating an air of transparency, inclusion and trust based on local knowledge (Selman, 2004; Bedford et al., 2002; Rydin & Pennington, 2000;). Conversely, the second quote illustrates the overriding perception of stakeholders that publics would be largely uninterested in contributing to the development of the LBAP, yet, are integral to plan implementation. Apathy is certainly a concern which threatens the validity of some participatory processes. This indicates the implications of stakeholders perceptions of publics based on the information-deficit on public participation at a local level. However, realistically, it should also be clear that not every person will be interested or want to contribute. What is of concern here, is that second extract masks the science-first approach through which the LBAP was developed, which by its very nature, excluded local publics from the process. Therefore, the key to these two extracts are stakeholders perceptions of publics. Genuine, meaningful participation requires that those initiating a plan or project relinquish a degree of power, placing trust in lay communities (following Selman, 2004). This necessitates accepting that lay

knowledge and opinions do not always subscribe to official understandings of biodiversity or policy requirements. Given the predominantly top down, exclusionary (or selective inclusion) model of participation based on elite science-first, information-deficit models, which jars with the dominant sentiments of current policy thinking, it is crucial to examine publics views of public participation. Acknowledging how agency and participant interact is an important in improving future participation processes (Marshall et al., 2007).

8.3 - Publics views of participation

In this section publics views of information provision and participation processes are examined. The analysis is structured along a continuum from publics engagement with information and awareness raising techniques, through education and training, and joint decision-making, following the typologies of participation discussed in Chapter 3. Publics were asked how they get information on biodiversity issues, and what decision-making processes had they been engaged in and how did they view these processes. In a number of cases individuals volunteered their experiences of participation in response to other questions, these views and examples were also included in the following analysis. Probing questions were used where additional information was sought. It is important to reiterate at the outset of this section, the groups involved in this study were drawn from a variety of cultural groups. Therefore, it is to be expected that they would have a broad variety of different pathways of biodiversity participation, and some, with no interest in or involvement in biodiversity participation.

8.3.1 - Information to collaboration

In the extract below the Kilrush Dairy Farmers Group illustrates the most frequently encountered information and education methods encountered during focus group discussion, including newspapers, television and group learning activities:

Kilrush Dairy Farmers Group

Tony	We'd get information from the Farmers Journal...
Senan	...or the television...
Sean	...and the discussion group.
Tony	Sometimes we might go to the demonstration farm in Kilmany run by Teagasc, for the open days there.
Pat	But you do learn from one another too. Our parents, they had no paper, no television, maybe the radio, yet they were able to size up what they were to ask for the cattle when they went to the mart. They had cuteness and experience. So you do learn from one another.

Illustrated above are several of the pathways through which the Kilrush farmers consider get information about biodiversity. With regard to information provision the Farmers Journal newspaper was also discussed as an important source of information by farmers in the Burren, local radio was suggested by the Kilrush Art Group and Inis Oirr groups, while young people mentioning the television and internet as sources of information. This research resonates with other studies such as Palmer (1998) that examine public information and education indicating that information gained through personal relationships (e.g. parents and grandparents as Pat indicates in the extract above "you do learn from one another") and on going experience of nature is also important. Other factors such as public's trust of the information and the information provider are also important here (Wynne, 1996). For example, farmers groups in the Burren and Kilrush frequently mentioned the importance of Teagasc, suggesting information provided by this organisation will be trusted and listened to.

Education activities such as the Teagasc discussion groups and demonstration farm events mentioned in the extract above were also discussed positively by farmers in the Burren. These events provide hands on examples of best practice and address the practical nature of farming. The notion of practical and experiential learning through life experience in the context of a group or community is important to these groups. Teagasc build on this by acting as advisors rather than enforcers, facilitating opportunities for farmers to learn from experts, and from each other. This resonates with the work of Blackmore (2007) who suggests that in natural resource management social learning is central to equitable, non-coercive natural resource governance. The importance of the group learning experience was raised in a

different context by the Art Group in Kilrush, some of whom have joined the Kilrush Wildlife Club. Through the wildlife groups individuals have the opportunity to meet and learn from experts, participate in day trips and meet people of similar interests.

In the following extracts focus groups views of consultation are discussed, through experiences of participation in the statutory planning process. Individuals in the Kilrush Art and the Burren Drama Groups specifically expressed their experiences of participating in the planning processes in the context of questions relating to ways in which they participate in biodiversity decision-making. For example, Lisa one of the Kilrush Art Group, has tried to input into the statutory planning process by objecting to a development because she was concerned nature was not being monitored appropriately. As she says below, her experience left her somewhat disillusioned:

Kilrush Art Group

Lisa One way to influence is through planning permission. It's not monitored in the way that I'd like to see it on the nature side of things. But that's a lost cause. I've gone into the town hall twice in my time and I came out of it a bit disillusioned. I always feel like one of the small fry compared to the bigger boys.

Lisa's feelings of insignificance and her sense of intimidation in the presence of those with experience in such fora raises a number of issues regarding public input into the planning process and appropriate mechanisms for participation. Lisa's statement suggests that such formal fora are suitable only for certain groups and exclusionary of others. A number of points can be made from this. Firstly, Bedford et al. (2002) and Owens & Cowell (2002) criticise such traditional forms of public participation, claiming that they are embedded within and reflective of a technocratic system that is invested in the views of experts and elected representatives, rather than towards the incorporation of publics voices. As Lisa states above, the process is geared towards the "bigger boys" rather than the "small fry", essentially marginalising her from the process. This second point of exclusion and marginalisation is a re-occuring theme throughout focus groups, and was particularly apparent in the discussions with young and older people, despite policy rhetoric repeatedly calling for their inclusion in the policy making process. Gaventa (2004) working specifically in the area of biodiversity in has also found that young

and old are particularly vulnerable to exclusion within decision-making processes. However, exclusion in planning does not only relate to particular sectors of society, but also specific forms of knowledge and expertise. As Lisa says above, her concerns for nature are "a lost cause". This point raises concerns about the exclusion of particular forms of knowledge, and the difficulties more generally, in the integration of environmental values in the planning process. As highlighted in the previous chapter, the local authority planning remit has traditionally had little role and has limited responsibility for the protection or monitoring of biodiversity or nature. However, Taylor (2001) contends, despite the Planning Acts being increasingly used as environmental regulation, it is a function for which they were not designed.

While Lisa may have felt marginalised from public fora she had a sense of the opportunity for participation. Individuals from the Burren Drama Group in contrast discuss their experience of perceived exclusion biodiversity decision-making, again, referencing the planning process:

Burren Drama Group

Willie	It's the way they [the local authority] communicate with people too. You can't just make a decision without talking to people anymore
Laura	But people also have to be willing to talk, I mean the majority of people don't, they just sit back. So it's the people who are willing to speak out, it's their voices that get heard and so, of course that's what they [the policy makers] are going to think the community wants.
Trish	But we need more information as well. I mean it's very rare that you get information until the last minute, you hear bits and pieces and you're getting fed only what they want you to know. If they're going to make a decision on zoning areas, everything should be there for public view or at least for people to go in and look at if they choose to. It should be on display and you shouldn't just be fed tit-bits of information.

This extract raises a number of important issues in relation to public participation, knowledge and understanding of the routes to access the statutory decision-making process, in addition to mobilisation and representation. Trish is clearly unaware of mechanisms of public consultation operated by the local authority. For example, unbeknown to her, draft documents are made available for public to view at local authority offices in an effort to make the planning process more transparent. Laura

raises a different issue, that the public must be willing to participate. Analysis of why people become involved, or not, in participatory processes abound in the literature. Recalling the work Wilson (1999) is useful, this study indicates the general lack of interest in participating in planning, unless individuals are personally affected by a particular problem. Wilson (1999: 256) has commented that "it is easier to get people to mobilise around concrete tangible issues, such as individual projects that will affect citizens in particular ways, but more difficult with regard to more abstract, policy issues."

An additional issue is raised by Irvin & Stansbury (2004) who assessed the wider context of decision-making around watershed management to determine conditions when citizen participation may or may not be useful. They concluded that it is difficult to recruit citizen participants in decision-making in situations when the existing system of public administration works acceptably well. In their case study, this factor resulted in less interested individuals feeling that they did not need to play a part in the process. However, once individuals become discontent with a service, when the issue is of direct interest to them, when their livelihood or lifestyle are a stake, or when there is conflict over the use of a particular resource, as Finger-Stitch (2003) points out, people generally involve themselves in participatory processes. In the vacuum left by silent publics, Laura comments that stronger and more powerful voices within the community are exclusively heard by policy makers. This is particularly significant given the literature would suggest that there is a tendency for policy makers to listen to the well organised, articulate , economically affluent and powerful, as illustrated by Rydin & Pennington (2000) in environmental planning and Adaman et al. (2009) in the context of a Ramsar site in Turkey, subject to the adverse affects of industrial pollution. The process by which participation takes place can be important here. Fung & Wright (2003) suggests that the format of participation can simultaneously facilitate the more vocal participants in making their voice heard, while silencing others. The issue of representation raises key questions for those wishing to engage publics in more participatory forms of decision-making; how can 'silent' publics beyond dominant groups be engaged, what methods are most appropriate to do this, but also, given the discussion here, it must be recognised not everyone will want to participate.

As outlined in the literature review, providing access to more deliberative forms of participation is suggested as one way in which a wider range of voices can be incorporated into decision-making. However, despite this, publics may want to abstain from participation. With respect to young people in particular, the Democracy Commission believes that school student councils can, if effectively established, provide a key forum for young people to actively experience democratic processes. In addition, the Commission argues that mechanisms within schools to teach democratic citizenship education need to be supported within the wider community (Harris & Begg, 2005). A school council has been set up in the secondary school on Inis Oirr which also has input to the island council. However, as the following extract from the young peoples group on Inis Oirr illustrates, even when seemingly appropriate forms of participation are provided not all people will want to participate. This too is their democratic right:

Inis Oirr Secondary School Group

Jacqui They have committee meetings here [at the school] which you could go to.
Aoife The lads go.
Mags Always, always go.
Mod So do you feel that you do have a say then?
Aoife Yeah, like if we wanted to
Deirdre If we were bothered. Leave it to everyone else though
Jacqui Nobody can be bothered

The disinterest of the young people in the extract above is palpable and may provide a reason for their reluctance to involve themselves in the council, as Deirdre says they might join "if they were bothered". Involvement in the Council requires considerable time commitments, which may be off putting, individuals must be willing and interested in issues under consideration to enable them give up time and effort to engage in such processes. But, as Jordan & Maloney (1997) point out in an assessment of Friends of the Earth members, most are passive members who rarely if ever become involved in the more political campaigning activities of the organisation. While the previous consultation extracts relate to the experience of general publics, in the following extract, an interest group, specifically the Burren Farmers Group, discuss their experience of consultation which was conducted as part of the land designations under the EU Habitats and Birds Directives. Their

perceptions of the process are largely negative. In this process the Burren farmers' experience of public participation took the form of notices in the newspapers, provision of information through the post, and a series of public meetings organised by the IFA and NPWS. The Burren farmers suggested that these meetings were generally acrimonious and amounted to little productive communication. Instead, as Sean suggests below, participation might better have been achieved if consultation occurred at the level of individual farmer:

Burren Farmers Group	
Sean	Consultation should have been down to the farmers that were directly affected. They [NPWS] probably felt that consultation with the farming organisations and the public meeting would allay some of the fears, and it probably would for some of the people. But if you have proper consultation people would be able to air their views, their concerns would be answered and it could be taken a stage further then. You'd have got the farmers and the landowners onside
Rich	It's about treating people on a one to one, not pontificating from on high. People need to feel that they are listened to, like, country people are not stupid you know.

In the extract above, Sean recognises that much of the negotiation on the Habitats Directive took place at a national level between NPWS and the representatives of the farming organisations, as previously discussed in Chapter 7. However, while he acknowledges that the public dissemination of the outcomes of these negotiations through information packs and public meetings would form a component of the consultation processes, he is critical that the process did not move beyond this. Sean suggests that "proper consultation" would involve a deliberative process which would facilitate publics to question and clarify their uncertainties. Likewise, Rich perceived the process as exclusionary. It can be argued that the farmers' criticisms of the process of consultation as overly one-way and limiting discussion are justified and valid, given that the process relied on written notifications and highly acrimonious public meetings. In the light of the highly conflictual nature in which this consultation process was embedded, research by Lee (2005), suggests that informal door to door methods and more informal style partnerships have been more suitable for soliciting reluctant participation from the most opposed stakeholders. Although there are obvious time and resource implications with this kind of approach.

Moving on from consultative processes, in the following extract members of the Burren Drama Group describe their experience of participation through a deliberative technique, a 'Planning for Real' exercise, as part of the statutory planning process. The local authority carried out the exercise as part of consultation for the Local Area Plan in North Clare. However, the group raises crucial issues of trust in authority and policy makers, which is illustrative of similar concerns discussed by other adult focus groups:

Burren Drama Group

James I think what really got to most people was one of the SACs. When you see the SAC drawn out, you'd say first, that's easily SAC, and then you notice that there's a little square gone out of it, and it turns out that the person who drew it owned that piece of land and he'd got planning permission in that little square that wasn't in the SAC. Now that didn't go down well at all, so much for a fair and transparent process.

Sean As well there was a feeling that they [planners] were going to push their policies through anyway, and I know because I was involved. There were a lot of objections about certain things and they still came through [in the plan].

Laura Maybe people would accept things if they thought that it was for the general good, but when people see other people skirting around the rules like that, then it's not fair. It just changes things.

In earlier discussion with this group James suggested that SACs were the "bane of our lives", an unwanted imposition due to restrictions placed on planning in the area. In the extract above James raises the issue of a small area of land which was removed from SAC, which he sees as in-equitable and an abuse of power. The decision to remove the area may well have been justified for legitimate ecological reasons but his perception of injustice and inequality has prevailed. This experience has coloured his perception of the entire process, as he says, 'so much for a fair and transparent process'. His view illustrates an existing lack of trust in community, authority and the planning system, which manifests in his belief that decision-makers have the ability to bend the rules for certain individuals, but not for others. Issues of trust within the community are also highlighted by O'Rourke (2005b:487) who concluded from her research that the public in the Burren believe "...that most things [decisions] happen 'behind the scenes'... there is a general suspicion of other people's motives and mistrust of their commitment to a collective good". While this is clearly evidence of scepticism and mistrust of fellow community members,

lack of trust in authority manifests through Sean's suggestion that planners were going "to push their ideas through anyway". He claims that the planning agenda was pre-defined and public comment on proposals was accompanied with no commitment to act on their views. This statement must also be contextualised within the wider issues of trust in authority, as these sentiments are not isolated to Clare, or indeed Ireland. There is general acknowledgement in the literature of the wider dissolution of trust in government by society, with participatory processes evolving in this context, as a mechanism to re-link government with public (e.g. Van den Hove, 2006). Some within the environmental and planning and policy literature make the claim that deliberative processes can build trust in decision-makers and decision-making processes through transparent open discussion of diverse perspectives and value clarification, both on the part of planners and publics (e.g. Harrington et al., 2008; Norton & Steinemann, 2001; Beierle & Konisky, 2000; Innes & Booher, 1999; Lafferty & Meadowcroft, 1996). But, building trust is a difficult and complex process, as Selman (2004) observes, effective local participation in deliberate processes can only occur within a wider climate of trust, transparency and inclusion. This suggests that work on building trust must be conducted before a participatory deliberative planning process is entered into. However, this emphasis on open discussion does not negate the role of the expert, but instead suggests that participatory processes need to effectively manage the expectations of participants. The boundaries and constraints within the process must also be made clear, along with well defined routes for feedback on particular decisions, and reasons why certain ideas are rejected provided to participants. In the absence of such feedback, the process of building trust through transparency fails, as is the case above.

The intention of the local authority may have been genuine attempt to foster two-way communication, and bottom up contribution to planning, but the exercise as articulated by some members of the Burren Drama Group fell short of this. The relationship between the local authority and the group had been tenuous before the planning for real exercise, ironically the consequences of this process have left the group with little or no trust in the ability of the local authority to respond to local concerns, an often cited consequence of poorly managed participatory techniques when not carefully considered and communicated (Smith, 2003; Beierle & Konisky,

2000). So, while the group felt they had a role in the process, the precise nature of this role was still considered 'tokenistic'.

In contrast, the focus group conducted with Lobster fishermen provides a positive example of a collaborative resource management programme initiated by a state agency (Bord Iascaigh Mhara - BIM) in order to meet the agencies requirements to maintain and monitor lobster stocks in the waters around Inis Oirr. The project illustrates an adaptive management model whereby scientists (Galway-Mayo Institute of Technology - GMIT), policy makers (BIM) and the fishermen work together to sustain the fishery and provide economic gains to the fishermen, bridging issues of scale, communication and trust:

Inis Oirr Lobster Fishermens Group

Pat	BIM are very good to us and GMIT are involved in this as well. So any problems that we have we just get on the phone to them and they'll be out to us the next day. They're very good.
Liam	It makes sense to do it this way when you don't you'll definitely clean out the place.
Pat	You see, when some people do it in areas and then some don't, they may think, well why should I do it when there's others not?
Ross	The boys here get on better, but we'll say in other places there'd be lads and they don't get on and so they just take everything they can.
Liam	You know everyone would want to agree in the area to it. Maybe there's bigger groups of fishermen the bigger the group the harder it is to get people to do the same thing.

The fishermen above discuss trust at two levels, first, the relationship between themselves and the project managing groups, and secondly, the trust between the group itself. With reference to trust between participant and authority, the CBC literature strongly asserts that the development of trust is a key criteria of participatory conservation projects (e.g. Fleeger & Becker, 2008; Mannigel, 2008; Berkes, 2004; Brown 2002; Tuler & Webler, 1998). Cortner et al. (1998:162) assert that the relationship between the public and agency in resource decision-making is a key issue which "will affect the adoption of ecosystem management". In fact, the lack of trust between publics and authority, or inability to build trust within a process, is also cited as a reason why participatory conservation programmes fail (Stoll-Kleemann & O'Riordan, 2001). In Talyor's (1998:252) discussion of co-management

the claim is made that decision-makers "must work to win the trust of community... especially where there previously has been state expropriation of the resource or a history of oppressive, or corrupt, or ineffective state regulation". While the political context is crucil, as exemplified by the Fishermen, as will presently be discussed, the social and economic context also influences trust building.

Berkes (2004) in his discussion of CBC draws our attention to the wider notion of incentives, claiming that while economic benefits are an important component of CBC, they are not the sole incentive for participation, there are also social and economic reasons. The economic benefits of the project above are important, but built upon social co-operation. For example, the fishermen have collectively agreed to catch their quota of lobsters, hold them, and sell to the market when it is most profitable, and then divide the profits. The fishermen have also jointly agreed not over fish their resource, to ensure they "don't clean the place out" as Liam says. Crucially, the negotiation of these practices has been agreed upon by the small group of fishermen (5 individuals) who co-operate easily, as Ross says "the boys here get on better". The work of (Ostrom, 1990) is helpful in understanding what is taking place here. Her research examined natural resource commons management showing how small-scale communities, where individuals repeatedly communicate and interact in a local place, can build social networks and solve natural resource management problems. Ostrom emphasises the ways in which information, relationships and trust are articulated through social networks, particularly based on reputation and development of norms of reciprocity. In the case of a small close knit island community, and even smaller group of fishermen, it is in each of fishermen's interest to maintain their reputation and facilitate co-operation. But also, there is also a sense that the joint economic benefits to be gained from the project, when there are little other opportunities to make a living on the island, also contribute to co-operation. Essentially, there are clear benefits of working together in co-operation, developing their own 'rules in-use', which is built upon and reinforces trust between the group.

Returning to the institutional context, and relationship between fishermen and the institutions (BIM and GMIT) involved in the project, trust has been built in a number of ways. Pat's opening statement highlights the importance of establishing good

working relationships between the leading agency and participants, Hailey (2007:100) examining community participation comments that some organisations "appear not to rely on formulaic participative technologies, but place greater reliance on personal contact and a process of personal engagement". A sentiment which was previously raised by the Burren Farmers Group and reiterated in the Renewable Energy Group on Inis Oirr, who suggest that one route to participation is to "just let people talk, discuss things, like after mass, or in the pub. You have to get a message out there so that people can discuss it". This strong association with personal relationships may in part relate to the cultural practices and communication within the community, where 'neighbourliness' or 'friendliness' has far more resonance than 'consultation', and within which the power relationship is made more equitable (O'Rourke, 2005).

But also, reflecting on Berkes' work, draws in is the notion of politics. In terms of trust and negotiation with authority, the goals of the fishermen are in alignment with the goals of the scientists/ managers with whom they work. The fishermen feel that their knowledge of the area is valued by the external agencies and important in the management of the stock, which was an important element at the initiation of the project. This raises key considerations of equity and fairness, equity between the partners and fairness in the distribution of benefits. The programme has become adaptive and reflexive, making more equitable and transparent lay and expert knowledge, and the relationship between them. In short, this project is characterised by co-operation, cultural sensitivity, an economically favourable outcome and equitable power dynamics between the government agency and community involved.

8.3.2 - Exclusion and representation

Much of the policy calling for, and research in CBC, focuses on the decentralisation of decision-making to the local, involving communities in decision-making through participatory processes (e.g. Dressler, 2006). However, these blanket calls tend to negate the need for close analysis of community, and community power and politics. The problematic notion of 'community', and their treatment as self evident or generic within CBC has been highlighted in a wealth of research (e.g. Agrawal & Gibson 2001; Brosius et al., 1998; Leach et al., 1997; Western & Wright,1994;

Wells & Brandon, 1992). Within policy prescriptions communities tend to be considered as homogenous entities, acting collectively to achieve common environmental goals. However, evidence from this research suggests that not only are communities heterogeneous, but they are also subject to their own patterns of power and politics, which can have implications for implementing CBC.

Prior research has already indicated the strong tendency towards representative democracy in Ireland, with the relationship between authority and publics built upon traditional structures of power which came from the state, church and local elites. Given this cultural and historical legacy, it is perhaps to be expected that public groups consider representation as the key mechanism through which they can seek to influence decision-making. For example, initially the Inis Oirr adult groups and the Kilrush Art Group said that they participate through the channels of representative democracy, voting in elections was considered the key mechanism to influence decision-making. However, as the following extracts reveals, individuals present contradictory ideas about the influence voting has, and fundamentally, their requirements from decision-makers:

Kilrush Art Group

Justine I think the strongest voice that we have is with our vote. We vote for councillors that we know, but maybe we should vote for the ones who will do the things in favour of protecting the things around us. But you don't often think about it.

Breda I vote, but I've never spoken to any councillor or objected to anything that's going on, I'm beginning to feel a bit guilty now as we talk about it, but I think that we should speak up more and make our feelings heard.

As Justine illustrates, initially voting is considered the 'strongest voice' to influence decisions. However, both Breda and Justine realised over the course of the discussion that their votes were cast on the basis of familiarity rather than issues of personal importance, such as protection of biodiversity. Research into voting behaviour in local elections conducted by Gallagher (1989) found similar findings, whereby voters preference candidates with whom they were personally familiar with or along the traditional lines of party politics. Following in a similar vein, each of the adult groups in Inis Oirr mentioned voting for TD Eamonn O'Cuiv over the course of discussion:

Inis Oirr Lobster Fishermens Group

Ross But we're lucky that O'Cuiv is the Minister, he's good for the islands. He has a bit of cop on.

Liam He understands the way of life like.

Pat He just has an understanding of the way things work, he has an interest. You tell him a problem and he'll listen, he'll try and do something for you. With some of them, they'll tell you yeah, but then they'll say good luck and they're gone.

This politician was viewed favourably as 'understanding' the community, listening to concerns and actively trying to solve issues that arise. The Inis Oirr adult groups suggested benefiting from the initiatives of the Minister such as securing financing for environmental projects on the island (e.g. the renewable energy project) and housing grants. Both of these extracts point to the strong tradition of centralism in the Irish state that was identified in previous chapters. While clearly seen as positive in certain circumstances, commentators suggest that clientelism is an opaque process of decision-making which has weakened trust in decision-makers and decision-making in Ireland (see for example: Harris & Begg, 2005; Butler & Collins, 2004; Collins & O'Shea, 2003).

The Kilrush Dairy Farmers Group and the Inis Oirr adult groups each suggested the importance of ensuring participation through representative bodies, such as local co-operative representatives, Udaras Na Gaeltachta, and the IFA, in terms of having their voices heard, particularly at national and international decision-making arena:

Kilrush Dairy Farmers Group

Sean Our influence would be very small, so we would go through our own organisations the IFA or the ICMSA. There's no point in talking at all to politicians ourselves, it goes in one ear and out the other.

Senan The other thing is, who are you trying to influence? The major problem now is that it used be Dublin we were fighting then it was Brussels but now things are gone global it's the World Trade talks. Major decisions that are affecting us are being made without us altogether. Well, we try and fight our corner, but you're dealing with a different scale altogether, its massive.

The farmers' sense of exclusion, in part relates to their view of politics and politicians as distant, therefore requiring representation by farmers organisations.

But in Senan's recognition that "things are gone global" there is an enhanced sense of powerlessness. In this statement Senan recognises that the rules which govern Irish farmers are negotiated on the international stage but are implemented at the local scale, on their farms. The scalar dimensions of decision-making and participation have been considered in the CBC literature, with calls for decentralisation of decision-making to appropriate scales, most notably perhaps by Olsson et al. (2004), Berkes et al. (2003) Folke et al. (2002). Although this rescaling to the local has also been questioned by Newig & Fritsch (2009) and Dressler et al. (2006).

Previous research conducted by O'Rourke (2005:487) into public participation in the Burren claimed that publics are slow to openly participate in decision-making because they are suspicions of others in the process. That is, there is a general sense in the community that individuals only participate "under the pressure of party politics, community pressure or vested interests rather than to express their true feelings". True feelings in this sense was discovered by O'Rourke as the dichotomy between views which might be privately held, amongst friends and trusted confidents, as opposed to those aired in the open of a public forum. This raises questions concerning the effectiveness of deliberative participatory processes:

Burren Drama Group

Sean The problem is this. Say there are six or seven of us sitting around the table and we were trying to do something for the common good and you were against it because it affected you financially. You're going to be against it no matter what. If we all voted for it, even if there was consultation, the majority agreement still doesn't help you and I think that's what's happening. If it effects you financially you're going to be against even if the rest of the parish was in favour of it. So say I'm friendly with your connections, so I'd vote for you, and then my friend Laura would vote for you and then her friend Edel would vote for you. Then the next thing, when does the greater good overrule the interest of one person? I don't know.

The potential for deliberative participatory methods to solve issues for the common good and enhance collective action are based in enhanced issue articulation, better communication and learning, increased trust and improved quality and legitimacy decisions, as established in literature proposing deliberative forms of participation (see Mannigel, 2008; Innes & Booher, 2003; Smith, 2003; Borrini-Feyerabend,

1996; Pimbert & Pretty, 1995). A second body is highly critical of assuming deliberation equates to the holy grail of public participation (e.g. Davenport et al., 2007; Connelly et al., 2006; Bedford et al., 2002; Bloomfield et al., 2001; O'Neill, 2001; Owens, 2000). The extract above clearly demonstrates that patterns of power and politics within communities can undermine the potential positive benefits to be derived from deliberative participation. The work of Rydin & Pennington (2000:156) can be used here to shed some light on issues of power and coercion in deliberative processes. These critics suggest that of critical concern is the capture of processes by special interest group, as they say, deliberative participatory processes have "frequently resulted in selective participation by vocal and well organised interest groups in negotiation with the professional bureaucracy, with the costs of policy failure spread across non-mobilised sections of the community".

In this context, any attempts at CBC must take into account that inherent within heterogeneous communities are patterns of authority and politics routed in the cultural history of the area. However, it may not only be those who are plainly and openly influential that have the potential to derail a participatory initiative, but also the "local elites [who] may not 'hold' power overtly, but are those who can enrol, convince, enlist and represent others" (Murdoch & Clark, 1994: 121), as Sean suggests in the extract above. In the context of environmental decision-making, recognising patterns of informal power, based on personal relationships, is important so that existing inequalities of power are not reinforced.

The consequences of upsetting the delicate balance of power and alliances in the community can be severe. The following extract reveals the dynamics of power at work when a group of friends with longstanding connections to the north Clare area apply for an environmental lake management licence:

Burren Angling Association Group

Eddie It became known locally that the licence was awarded to us, locally being to farmers bounding the lake who had been using the lake as a source of income. They saw us as a major challenge and they basically initiated an opposition.

Mary Well lets say there are twelve farmers around the lake, but really only one farmer mounted this massive campaign, he felt that he owned the lake, so he didn't want

	anyone else coming in there. The people who made all the hassle were the very ones who never helped in any way with the lake.
Eddie	It got very personal, and it got very vindictive and it got very aggressive, verbally aggressive, I mean. There was signage put up around the lake which was rather offensive to us, we were ostracised by the community, we were castigated by the lot.

As Mary highlights, it was one person in particular who instigated the campaign against their group. In further discussion, Mary reveals that person had local political connections and was economically important in the community and therefore widely viewed as very influential. With the Burren Anglers Association involvement in the licence agreement they went against the tradition of power operating in the community and disturbed the social norms, the "rules in-use" for the lake (Ostrom, 1990). Rules in-use determine how resources should be used, and importantly in this case, allocated, underpinning conflict management within a community. These rules can go unnoticed, hidden within the workings of the community until disturbed. It is through the rules that communities impose social controls over its members, with costs on deviant behaviour. As Ollagon (1991) (cited in Ballet et al., 2007) found in study of social norms, these costs can include social disapproval, shame and group exclusion, which resonates with findings from this research. These rules and the local elites who benefit from them have implications for deliberative forms of participation, in that they can facilitate or constrain initiatives by limiting open and inclusive dialogue, even in an indirect manner. So while, there is merit in considering 'delegated power' (Arnstein, 1969) as a goal in participation, it may be useful to consider this in the context of the community within which the participation process takes place. In situations of conflict and suspicion highlighted in the extracts above, Gurtner-Zimmerman (1996) suggest that communication and commitment of a lead agency can provide stability, signalling to participants and others that they have the necessary political support to affect change and thereby lead to a successful participatory process.

As the previous two extracts suggest differentials in power as opposed to rational arguments or claims for decisions to be taken for the common good have the potential to determine the trajectory of decision-making. As the Kilrush groups below illustrate, patterns of power and economics may need examination to

uncover the real reasons which determine participation, rather than an assumption of disinterest or lack of knowledge:

Kilrush Art Group

Breda Like we've one of the biggest polluters in the whole country on our doorstep and all these toxic fumes blowing away and nothing... well, you wouldn't like to be heard complaining I suppose, in the area.

Justine You couldn't open your mouth about that place because so many people get money out of it.

Kilrush Family Resource Centre Group

Dave Local people I think have been so brow beaten and are so insecure in their future that when someone is offering or promising them great wealth they turn a blind eye to what is actually beneficial to them, they just don't want to hear about it.

Paul That's the problem with money versus the environment, money always seems to win.

Both Breda and Justine make significant statements: "you wouldn't want to be heard" and "you couldn't open your mouth" to raise objections based on environmental concerns as these conflict with wider social norms which value economics over environment. Dave gives further insight into the community, saying local people are "brow beaten" (disempowered) and insecure in their future so they ignore 'what is beneficial to them. Here there is a sense that those with environmental concerns remain muted in order to maintain the status quo of economic interests and avert conflict. Therefore the proponents of deliberative participation must be cognisant of social, economic and political contexts, including the unequal possession of discursive skills and the influence of political and economic power (Bohman, 2000). As Davies (2002:201) states in reference of partnerships, partnerships "have to work with, rather than ignore, initial conditions otherwise there is the tendency for partnerships to enable vested interests to steer action". In addition, the wider social and political environment must be taken into account. Newig & Fritsch (2009) assert that when environmental issues are relatively low priority at national and local tiers of governance, stronger and more influential citizens with economic interests can be expected to participate in decision-making. Indeed as Flyvbjerg (1998) clearly demonstrates in a case study of local planning in Denmark, where authorities were invested in participatory

methods of development, and collective outcomes, the strategic and tactical behaviour of a few dominant interest groups compromised the process. There is plenty of evidence to believe that established structures of economic dominance and local political power still hold sway even in deliberative participatory techniques (Bloomfield, 2001). Bedford et al. (2002) in an analysis of planning in the UK suggest that "participation practices do little to lessen the grip of political or economic power on decision-making processes".

8.4 - Conclusions

The rationale for participation given by stakeholders primarily follows a science-first, information-deficit model (Barr & Glig 2005; Barr, 2003; Owens, 2000). Their expectation being that publics require better understanding of biodiversity, and that better public understanding of biodiversity would lead to support for biodiversity policy initiatives, and potentially, to personal action for the protection of biodiversity. The information deficit model is reflected in the tools for public participation initiated by stakeholders, which focus on the information and education end of the participation spectrum, such as the Notice Nature campaign and training courses run by public sector and civil society environmental organisations. However, it should be noted that information provision techniques through, for example, mass-media in and of themselves are not necessarily problematic. It is the context such tools are used and the expectations placed upon them within a participation process which requires understanding and consideration.

Limited forms of consultation were also discussed by stakeholders as ways to hear public opinions. As private environmental, agriculture and tourism, stakeholders suggested, publics would have little interest in participating in decision-making to any great extent. These stakeholders outlined this view through examples of limited and bounded forms of consultation, such as consultation on road schemes, public meetings and written submissions to draft plans. Indeed, there was also the suggestion that extreme views were discounted in decision-making, and while this is perfectly reasonable as not all views can be acted upon, it raises questions as to what constitutes an extreme view. Overall, the emphasis in stakeholders discussion was predicated upon a instrumental or rationale mode of participation, embodied through awareness, education and limited forms of consultation whereby publics

have limited opportunity to air their views. Their prevalence is perhaps unsurprising given the strong tendency towards representative democracy and traditional relationship between authority and publics in Ireland, which has tended to be top-down. Given this cultural and historical context, it is perhaps to be expected that early endeavours into biodiversity participation follow suit.

In parallel, publics predominantly recounted examples of information provision and education activities, with limited instances of more participatory forms of decision-making. Education initiatives which provide information in social and informal settings were popular with special interest groups such as farmers or those participating in the Kilrush Wildlife Club. For other groups, experience of participation came primarily through the statutory consultation processes. This research found that publics' experiences of these processes have resulted in scepticism of decision-makers and their ability to take publics' views into account, and untrusting of attempts made to engage them. These forms of participation which extend decision-making to a wider public sphere currently sit alongside the traditional power structure and what is widely considered a 'democratic deficit', public apathy, lack of trust, sense of exclusion and powerlessness in decision-makers and decision-making. Ironically, it is suggested that one of the most effective ways to regain public trust may be to involve and empower the public in deliberative decision-making. But again, when such claims are made, attention should be paid to the wider social, economic and political context. Smith (2003:90), a proponent of deliberative forms of public participation states that "the relationship between political, social and economic institutions needs to be carefully assessed and analysed. There is no single 'best' design [of deliberative public participation]: different models will be useful in different circumstances, for different purposes, at different levels and on different issues. There is no simple blueprint". This is exemplified to good effect by the isolated instance of good participatory practice based on the principles of adaptive co-management found in the case of the Inis Oirr lobster fishermen. Obviously, this type of approach which resulted in a win-win situation and balance of economic, environmental and social goals is not directly transferable to other contexts.

Lastly, through discussion with publics, it was clear that communities such as the ones to which these groups belong appear fractured along economic and political lines, revealing differentials in power and constrained communication around environmental issues. This is not to say that such situations make community participation impossible but they demonstrate that a prior understanding of community structure and the wider political and economic context is necessary. This understanding can help to determine appropriate and realistic participatory initiatives which manage the environment sustainably, and facilitate the participation of less powerful individuals who may require support in voicing their concerns. As Rydin & Pennington (2000) suggest, by expanding opportunities for participation and ensuring equality of voice within the policy process, it may be possible to deal with the accumulation of excessive power by vested interests.

This chapter illustrated the limited nature of deliberative participation in Ireland, and points out some of the potential issues facing both stakeholders and publics in any move towards increased public participation in decision-making. It revealed partial converts in elites about the level and need for deliberative consultation and partnership. While some success with deliberative processes were found, it is clear that such processes are not the holy-grail to more democratic or consensual decision-making. They lead (or may lead) to increased conflict and may be counter productive if not handled correctly. Therefore initiators of participatory processes need to recognise the limitations of participation and the local social, political and economic context into which they are embedded.

This chapter highlighted issues of access and influence in decision-making, but also patterns of power and politics across scales, factors which can either drive or inhibit participatory processes. Deliberation in itself cannot remove contextual constraints preventing effective action, such as biodiversity protection. Deliberation, in this sense, may be no more successful than top-down information provision. Although as was found by the very practice of undertaking focus groups, deliberative techniques may be better at revealing constraints on participation, and therefore identify areas where capacity can be enhanced at the local level. Given this, consideration must be given to powerful individuals within communities and the motives they may have to work against community-based conservation

programmes. At the same time, consideration should be paid to voice of silent publics so as to enable more democratic and inclusive decision-making, rather than one which reflects and perhaps reinforces the power structure in the community. However, publics also need to be aware that participation does not necessarily mean getting their views adopted. Instead, it means hearing and listening to multiple stakeholders and interests.

So while policy, particularly biodiversity policy with its emphasis on the Ecosystem Approach, calls for increased public participation, the degree to which publics can input or influence in a multi-scalar context is questionable. Particularly as previously seen in Chapter 7 whereby national representatives at times appear to favour certain lines of debate and areas of representation over others. However, this chapter clearly shows that the dynamics of power are not just weighted upwards towards national and supra national decision-making arenas, they also exist and must be negotiated at the local level.

Given the highly centralist and corporatist nature of the state, as discussed previously, the predominance of information and education initiatives are somewhat unsurprising and results in a weak participatory democracy, particularly in local areas such as Co. Clare. Teasing out these patterns further illustrates the extent to which biodiversity decision-making has, to date, largely been driven by 'top down' rather than 'bottom up' governance. In this context publics have taken two roles in decisions around biodiversity, either as a voice of decent or as passive recipient provided with information, educated or consulted.

Chapter 9 - Discussion and Conclusions

9.1 - Introduction

The overall aim of this project was to develop a clear conception of the politics of biodiversity planning and policy making in Ireland. This aim was achieved by dividing research into three key questions. The first relates to understandings of biodiversity; asking what stakeholders in biodiversity decision making and publics understand by the term and its interpretations in a wider context. The second and third research questions relate to the governance of biodiversity. With regard to stakeholders the second question asked how the process of policy making occurs, and how do those involved seek to influence the process. The third question relates to public participation and asks how publics are engaged in biodiversity decision making and how publics and stakeholders view the participation process. This has resulted in a clear conception of biodiversity politics in Ireland, providing a unique insight into the practice of biodiversity governance, and the values which underpin these practices.

This chapter will examine the conclusions arising from each of these research questions. The wider implications of the results of this research for policy are then discussed. This chapter also reflects on the conceptual and methodological approaches used during the research process and considers directions for future research in this area.

9.2 - Biodiversity understandings

This thesis addressed stakeholders and publics understandings of biodiversity and uncovered the multiple meanings attributed to biodiversity, as a term, and also the wider constructed conceptualisations ascribed to it. The following section will present an overview of these understanding and values, summarising main points.

Analysis of stakeholder interviews revealed several key points. While interviewees presented a variety of understandings of the term through scientific or ecological definitions, biodiversity was also understood as a broader normative concept which encompassed multiple reasons for its protection. Concepts utilised by stakeholders

were generally associated with human wellbeing couched in the language of ecosystem services, but the interviews also revealed that the complex and multiple meanings of biodiversity are reduced through the decision making process to protection of rarity and economics.

Predominant amongst interviewees with a personal interest or an academic background in ecology, agri-ecology or planning was a definition of biodiversity as a dynamic system based on the interactions and interdependencies between organisms. This has been termed a systems perspective and places humans as part of biodiversity, interacting with the natural world, very much dependant on it and recognising the complexity and dynamics of the natural world. Biodiversity is presented as complex and holistic. Research suggests that biological diversity, as a term, has come to be associated with science and the scientific understanding of the natural world. This association with science has likely surrounded the term with an aura of objectivity and knowledge, a manner of representing the natural world that is not only free of bias but also representative of the most accurate information that scientists can provide (Takacs, 1996). In addition, a number of interviewees reflected that their definitions of biodiversity, particularly in scientific terms, did not address the concept in its entirety; their understandings of the term biodiversity were intertwined with normative concepts, reasons why humanity should conserve biodiversity and halt its loss. This reflects what has been called the "mission oriented" nature of biodiversity, and some of its practitioners, whose interests lie at the boundary of science and conservation action or policy (Tackas, 1996:114). As these findings suggest, scientific understanding is just one facet of biological diversity.

So called non-ecological understandings were evidenced through a second group of stakeholders who did not expressly articulate biodiversity in scientific or systems terms, but nevertheless are involved in some form of biodiversity decision making. These individuals did not have a background in ecology (and were members of farming, rural development, business and construction sectors). Initially most had difficulty in defining the term, instead drawing explanations based on their personal experiences: through their job, childhood learning experiences, connections to land and farming culture. This points to the constructed nature of biodiversity; the

concept being underpinned by tacit knowledge and values based on previous experience and constructed via cultural, social, political, spiritual, and/or economic lenses as well as scientific understandings. These types of understandings have been found in research which has examined publics (Buijs, 2009; Rolston, 1994) or those with an interest in outdoors, through voluntary conservation pursuits (Campbell, 2006) and recreation (Fisher & Young, 2006). Such responses have more in common with publics understandings of the term.

Biodiversity, in policy such as MA (2005) has become an all encompassing dynamic and complex system which envelopes a broad range of values. This is an essential characteristic that distinguishes it from other conservation concepts but which also makes it difficult to operationalise. Based on instrumentalist values interviewees stressed the importance of biodiversity in pragmatic terms as provisioning and supporting services which provide direct resources and indirect economic benefits to humans. However, such services were frequently mentioned alongside cultural services based on experiential understandings, encompassing recreation, aesthetic qualities, heritage (as part of national identity and attachment to land) and broader quality of life issues, such as physical well being and mental health. Additionally, optional/ future use and the moral or ethical responsibility to protect biodiversity for future generations were considered. Less frequently mentioned was an explicitly intrinsic understanding of biodiversity. Evidence here finds parallels with the work of other authors showing that biodiversity acts as an umbrella term for a multitude of understandings, but also, that policy makers and ecologists tend to discuss instrumentalist values more readily in decision making, rather than ethical, moral or intrinsic reasonings (Takacs, 1996; Craig et al., 1993). Following Macnaghten and Urry, "there is no single nature only natures" which are discursively constructed through economic, political and cultural processes (1998:1).

This complexity has implications for decision making and presents significant challenges. Both natural and social scientists have suggested the term biodiversity has a vagueness and ambiguity which has generated active brokerage between the political and scientific communities over the appropriate means of conserving biodiversity. In addition, it raises pragmatic concerns about how this plurality of

understandings are, or could be, incorporated within policy making and planning (Campbell, 2006; Burgess, 2003; Van den Born et al., 2000).

This leads to the issue of biodiversity understandings in the context of decision making, most particularly, which understandings are incorporated and influential in decision making. Despite interviewees presenting multiple ways of understanding and valuing biodiversity, within decision making scientifically defined, or economically expedient features, of biodiversity (particular habitats, taxa or species) tend to be prioritised. Findings suggest that priority is given on the basis of rareness, for example, through the conservation of habitats and species which fall under the Habitats Directive. In addition, features of biodiversity which provide direct economic benefits (through direct payment compensation measures to landowners or tourism, for example) were also considered by interviewees to be given higher status in decision making. Interviewees felt that protection of marginal habitats (such as wetlands) and wider ecosystem protection (as called for in policy) and ecosystem services are largely absent from decision making discussion in Ireland. In addition, the more intangible properties of biodiversity which were prevalent in stakeholders understanding of the term, such as quality of life, aesthetic and cultural features or indeed, moral, ethical or intrinsic, rationales for protection are similarly neglected. This indicates a predominantly utilitarian instrumentalist trend where biodiversity is conserved due to its importance as a basis for human existence and as an economic value for society (Craig et al., 1993; Worster, 1994). These findings would suggest then, that decision making routinely fails to acknowledge wider values. Jepson & Canney (2003) recommend that a wider variety of values be incorporated into conservation policy analysis and decision making frameworks. The research also highlighted interviewees perceptions that publics have a poor understanding of biodiversity. In part stakeholders held this view as a result of perceptions of negative public responses to conservation policy and difficulty in its implementation.

This following section addresses the second research question concerning publics understandings of biodiversity and presents a disparity between stakeholders perceptions of publics understandings and those of actually articulated by publics' in this study. Publics' understandings of biodiversity were ascertained though the

views of participants of twelve focus groups in Co. Clare and Inis Oirr. Within these discussions the range and depth of publics understandings of biodiversity were uncovered and explored in the context of experiential local knowledge, representations of identity and place and perceptions towards biodiversity governance. Each of these points will be dealt with in turn, beginning with publics understandings of biodiversity.

Results of Gallup (2007) and Barry (2008) surveys state that Irish publics understandings of biodiversity are limited, a perception to which stakeholders in this research agree. The findings of focus group analysis present a more nuanced view of publics conceptualisations of the term and its meaning. While a number of groups were unable to articulate the concept, others did have some understanding of its meaning; equating the term to diversity of species, or in some cases, interactions between species. Individuals used statements such as variety of nature, interactions between species and knowledge of ecological processes, such as competition and predation. Farmers groups provided definitions based on their knowledge of the Rural Environmental Protection Scheme, and couched their views within the agricultural landscape, providing practical examples of biodiversity management in the farm environment. This chapter also found that publics were somewhat intimated by the scientific nature of the term. The results also suggest that the terms' connotations with expert knowledge make some of the groups reluctant to engage in the term, and its wider meanings. Instead, groups were generally more comfortable with terms such as nature.

Discussion of the benefits provided to humans by biodiversity revealed the prevalence of a range of values. For example, instrumental values such as provisioning and regulating services which enable human survival; put simply, the provision of food and oxygen. Other groups discussed additional benefits, aesthetic and quality of life / well being. Farmers groups suggested an alternative conceptualisation as benefit provided by the farming lifestyle. The relative ease with which the groups discussed the benefits of biodiversity suggest the predominant manner in which biodiversity comes to be understood in the absence of scientific knowledge, that being through senses and experience of the lived environment. As with, international research conducted by similar qualitative means, such as Hunter

& Brehm (2003: 318), "biodiversity may represent another environmental arena in which the lay public expresses general concern, but possesses little underlying knowledge of the ecological principles related to the environmental issue, the complex forces leading to environmental change, nor the implications of such change". With that said, while biodiversity proved somewhat difficult and intimidating, publics did have knowledge of Irish species, a knowledge which was more diverse than that suggested by policy makers. This knowledge of species, and recognition of their loss, did not equate to concerns about biodiversity loss - an important point as it suggests that public understandings of global biodiversity loss, and its consequences, may represent a different way of knowing through the epistemological framework of science, which is distant from the lived reality of publics. Also, it indicates that concern for biodiversity, and its loss, is mediated by an individuals social environment. The findings here resonate with the work of Davies (2006) and Owens (2000) who have previously indicated that social considerations within environmental problems cannot be reduced to technical questions of science or risk, but instead relate to cultural, economic and political lenses through which understandings and meanings are generated.

One of the key findings of this research revealed publics articulations of the term biodiversity as positioned within the wider social, political and economic contexts, through which meaning is constructed. Despite lacking clarity in articulations of biodiversity loss, publics in this study, as noted in other studies (e.g. Hunter & Brehm, 2003) normatively consider nature and biodiversity to be important. For example, 86% of respondents to the Clare biodiversity survey felt more should be done to protect the countryside (Barry, 2008), findings from this thesis suggest that publics are less clarity on the how this protection should be achieved. The findings from stakeholders' interviews reveal that conservation policy generally prioritises scientific rarity and economic rationales to conserve biodiversity, relying in particular on the implementation of the Habitats Directive. In both the Aran Islands and the Burren, conservation measures arising from the Directive have placed restrictions on resource use on private lands (e.g. planning for houses, removing limestone and peat cutting). Groups in these areas voiced strong perceptions of constraint, stating that conservation measures have restricted their use of local natural resources. The prevalence of constraint is linked to a perception that local knowledge of place goes

unrecognised in decision making, and that without consultation or discussion, local people are unjustly bearing the burden for conservation measures.
Similar findings of publics perceptions to conservation designations have been uncovered by Harrison et al. (1998) in the UK. The statements of focus groups in the Burren and Inis Oirr suggest the importance of locally derived, socially constructed experiential resource management knowledge and practices. Findings from these groups suggest that the SAC designation cannot really be effective because it lacks legitimacy; that is, it reflects solely expert knowledge, and ignores perceptions that resource users have of the landscape, and their role within it. It is the expectation of these groups that through local knowledge, based on a historical connection to resource use, resources are managed in a sustainable way. This view is based on the perception of risk or threat to biodiversity; that small scale of use of resource usage does not cause damage. However, such reasoning is also somewhat problematic if unchallenged. Local resource users cannot be isolated from the broader social, cultural, economic, and political changes in society. As such, local resource use, which has implications on the management of biodiversity, is subject to external changes which influence land management practices. Additionally, local users may not know the carrying capacity of the land, especially when the economic rewards for managing that resource unsustainably are high. Therefore it suggests that the creation of a 'co-knowledge' is the best way forward in sustainable resource use and biodiversity management.

Chapter 6 also indicated a second issue to be considered in perceptions of constraint. One of the difficulties with biodiversity conservation, particularly through the Habitats Directive, is the challenge in managing the interests of a relatively small number of people, who are disproportionately affected by constraints on land-use or lifestyle, for the benefit of many. The strength of objections towards biodiversity policy within focus groups fell along a continuum. Some groups suggesting they should be allowed to determine their own direction with no regulation from outside, irrespective of the greater good, while others suggested that when constraints are placed on individuals, for example, in planning, alternative arrangements should be made available. Others objected to the lack of consultation in the decision making process around the implementation of the Directives.

Closer examination of focus groups analysis suggests that some groups' perceptions of constraint come from their perceptions of science and the purveyors of scientific knowledge. This does not only represent a different knowledge, but also a different cultural identity. This characterisation of local as 'us' against conservation authorities, scientists and the EU as 'them' has had significant repercussions for publics relationships with, and perceptions of, conservation proponents. On this basis publics perceptions of biodiversity governance in the Burren and Inis Oirr can therefore be considered in part, as representations of community cultural identity informed by historical and cultural associations with place.

Other groups highlighted a communication deficit between those implementing policy and those subject to its constraints. In these groups biodiversity governance was not conceptualised as identity and control over land, but dwelt on well-being and the importance of family or community within the context of the natural environment. Learning and interpreting place and ascribing meaning to it had a far more social dimension; interpretations of place were socially constructed and place reflected the group identity. It resulted in shared ways of knowing and normative images of the landscape rather than the "web of contested meanings" found in other areas (Greider & Garkovich, 1994:8). These points reflect a key concern in the governance of biodiversity: the necessity of publics' inclusion and negotiation in local decision making in addition to increased communication and the meaningful explanation of resource management decisions by authorities. Therefore there is a necessity to bridge information and communication gaps between decision makers and those affected by decisions. Publics require increased communication and involvement in decision making which affects their livelihoods and daily life.

Within the current emphasis in biodiversity policy for increased participation of publics in biodiversity decision making, through adaptive co-management or the Ecosystem Approach for example, the term itself presents a number of problems, particularly in areas with strong traditions of land management knowledge, such as the Burren or Inis Oirr. These difficulties are predicated upon the differences, as previously discussed, between scientific and policy priorities embedded within the term and that knowledge of particular aspects of biodiversity held by local

communities, predicated on culture, identity and interpretations of place. Operationalisation of biodiversity conservation through co-management endevours requires that both forms of knowledge meet and subsequent conservation actions are agreed upon, requiring a process of social learning.

In the case of the Burren and Inis Oirr, this is problematic, as publics perception of the term biodiversity has negative connoctations, due to perceptions of constraint and issues of authority and power. In addition, the scientific nature of the term is disassociated from experienced land management knowledge. Land management in the Burren and Inis Oirr are deeply embedded in cultural and historical practices, linked with identity and way of life, which are considered by the community to be adaptive and responsive to the environment. But, as this research reveals land management practices and knowledge is also subject to changing policy and economic context. In particular, evidence from the Burren clearly suggests that farmers follow trends in agricultural policy and analogous fiscal benefits which do not necessarily equate to positive ecological outcomes. Therefore, realistic expectations must be placed on the contributions and viability of indigenous knowledge, as well as the ability of diverse resource users to solve collective-action problems (Plummer & Fitzgibbon, 2004). Equally, basing conservation recommendations on ecological knowledge alone without recognizing the fundamental impact of social actors, institutions and local forms of knowledge on ecological systems is a simplistic approach that has failed to appreciate the complexity of governance processes, local knowledge and beliefs, and the social features that enable management of dynamic ecosystems (Folke et al., 2005). As Galaz et al. (2006) suggest, focusing on either social or ecological knowledge alone in the process of understanding environmental change is likely to lead to flawed analysis.

These issues, inherent within the term biodiversity, create tensions in the practice of co-management when attempting to define conservation measures which are required to be both ecologically and socially responsive. As Norton & Steinemann (2001) attest, the success of co-management practices relies on their encompoassing and supporting multiple values rather than an attempt to maximise a single variable such as economic efficiency, ecosystem preservation or superiority

of local knowledge. Biodiversity, as a term is highly contested therefore, and attention is warranted on the process whereby communities with diverse values articulate, discuss, revise, and reconcile competing values in progress towards adaptive co-management processes.

9.3 - Biodiversity governance

This section addresses the second research question, which asks how biodiversity governance operates in Ireland, from the perspective of forty five stakeholders. From these discussions, the organisations and tools perceived as important in biodiversity governance in Ireland were revealed, highlighting issues of access, influence and power. The findings also suggest that biodiversity governance is a dynamic and evolving area of decision making, discussions uncovered new pathways of biodiversity governance which have opened up to allow an expanded array of stakeholders participate in decision making.

Stakeholders pointed to the state as the primary agency responsible for biodiversity protection, and in particular the National Parks and Wildlife Service (NPWS), part of the Department of Environment, Heritage and Local Government (DEHLG). This is somewhat unsurprising and reflects the highly centralised nature of Irish governance structures more generally. But, despite its perceived responsibility and importance, NPWS was also subject to criticism by interviewees, who considered it an extremely weak branch of the state apparatus. This reflects the heterogeneous nature of government and suggests that within the workings of government, there are issues of power, and crucially, access to resources. NPWS was considered as severely under resourced, politically and publicly unpopular, and lacking influence and authority. Such claims concerning NPWS have previously been highlighted by Cradden (2007), who points to the political marginalisation of the organisation, illustrated by the disbandment of Duchas in 2002. The findings of this thesis also resonate with the findings of other research which point to the limitations of Irish environmental governance structures more generally, in particular the weak institutional capacity of state agencies in enforcing implementation of environmental policy. While this has previously been discussed by Laffen & O'Mahony (2008) and Flynn (2009) in the context of EU Natura 2000 Directives, this thesis contributes to this debate, through an examination of NPWS role in biodiversity policy via the NBP

and its responsibility for sectoral integration of biodiversity issues across state departments. It was clearly demonstrated in Chapter 5 that while responsibility for sectoral integration of biodiversity at national level lies with NPWS, through the NBP, the organisation faces difficulties in meeting objectives, due to previously mentioned resource issues which limit co-ordination abilities, but also, because integration requires increased co-operation with other government departments, which work to different agendas.

Stakeholder's who perceived the environmental departments and agencies of the state as important in biodiversity governance, positioned their views in a particular reading of state power, which equates power to legislative mandate. That is, the EU Directives, for example were perceived as strong, important pieces of legislation, providing NPWS with authority and enabling protection of biodiversity. In contrast, while stakeholders generally viewed cross-sectoral integration of biodiversity as important, for example, through the Notice Nature guidelines or REPS, they were also sceptical of these measures and what they could achieve for biodiversity protection. Therefore measures arising from the CBD, such as the NBP, the LBAPs were seen as relatively week instruments. Despite the Directives being viewed posititvely, the discussion clearly demonstrates that they are difficult to implement and integrate with the planning system. Also, while they provide state environmental organisations with strong enforcement powers on paper, in reality, these are rarely used.

One of the key issues to arise within this research is the privileged access and subsequent influence of interest groups, particularly agricultural lobby groups, in the creation of policy at national and sub-national scales in Ireland. Findings in Chapter 7 correspond to a wealth of existing research which has examined the access of private sector organisations to state departments, and the close relationships built within these interactions which allow a particular kind of influence over decision making. However, this project differs in the focus of application, specifically, the study of biodiversity governance. Patterns of involvement in biodiversity governance reflect the continuing dominance of neo-corporatism in the Irish state, which has become formally institutionalised through the process of social partnership (Collins & O'Shea, 2003; O'Connor, 1999). The closed policy community of the farming

lobby (particularly National IFA) and the Department Agriculture, Fisheries and Food has previously been discussed by Flynn (2009; 2007) as having implications over environmental policy making. This was clearly demonstrated with respect to REPS in Chapter 7.

REPS was considered by stakeholders as an important mechanism for the integration of biodiversity within agricultural policy. However, biodiversity integration and monitoring within the scheme has been highly problematic. This reflects the dominance of the national agricultural lobby in determining the direction of REPs, to the extent that it has distanced some of its own members, such as the Burren IFA. As Tovey & Share (2003) notes, since the 1960s larger Irish farms have expanded their business and fully embraced productivist sentiments, while smaller farmers predominately situated on the western seaboard, have been unable to take advantage of state development aids and were pushed into less lucrative types of farming such as rearing young cattle. The Burren IFA represent these more the politically and economically marginalised farmers.

This research project has contributed to the body of work which has examined the role of the closed agricultural policy community by addressing the scalar dimensions within this private sector organisation, and the subsequent pathways of involvement for its weaker players. Because the national organisation was unsuccessful in meeting the needs of the Burren area, the Burren IFA sought and instigated reform. This reform took shape through a number of partnerships, first with Teagasc, and subsequently with the weak branch of the state the NPWS, and then the EU. Funding was secured through the EU LIFE programme for the Burren-LIFE initiative, which has examined conservation farming in the area. This weak partnership arrangement is significant in that it resembles a co-management regime (Lafferty & Meadowcroft, 1996) or adaptive management regime, often touted as a route to sustainably balance development and conservation concerns (Berkes, 2004). Such initiatives are considered to offer an alternative to the traditional regulatory regimes, subject as they are in Ireland to the influence of power and politics. This reflects a new style of biodiversity governance that has evolved beyond hierarchical or market control towards one which positions community and community needs as central. In addition, following the work of (Bulkeley, et al.,

2003) this case illustrates the possibility for mechanisms of governance, through partnership, that open up as a result of multi-level governance.

Another key finding of Chapter 7 is the application of the Irish political framework to the study of biodiversity governance. This has parallels with other research, which has focused on waste (Davies, 2008), rural development (Taylor, 2005) and nature conservation (Flynn, 2009; 2007). Similar to these commentators, the chapter demonstrates how the consensus framework of decision making, embodied in social partnership, reflects the strong economic development ethos of the state. However, the findings of this research deviate somewhat from previous research findings, by highlighting how this wider political arena has effectively constrained debate on what biodiversity is considered legitimate in policy making, and crucially, who is considered legitimate in representing biodiversity claims. This point is highlighted through discussion of ENGO and their exclusion from social partnership talks (ENGOS) and also, their subsequent involvement in the Biodiversity Forum. With respect to the former, ENGOs became a social partner relatively recently, and therefore it is hard to assess their experience in this process. However, Meade (2005) has highlighted the experience of the community and voluntary sector within this process, and questioned if it is the best use of this sector's resources. Her work points to a level of caution, suggesting that environmental NGOs might be better served in building environmental movements rather than risk co-option by becoming too closely tied to state and business interests.

According to scholars of social movements in Ireland, Irish ENGOs are considered weak and fragmented (Leonard, 2006). While the findings of this research do not contradict such claims, they do reveal that the ENGOs have managed to secure a degree of influence over the Irish state by working through the EU Commission and the European Court of Justice to enforce Natura 2000 Directives. In addition the NBP has opened a small window of opportunity for ENGO involvement in biodiversity decision making through the Biodiversity Forum. However, stakeholders discussions of the Forum revealed substantive problems concerning the structure of the Forum, its influence, and also internal politics. There is a sense that while the Forum offers a platform for ENGOs in biodiversity discussions the structure itself is removed from the central decision making powers of the state. There is also a

concern that deliberation within the Forum will reflect that of the national decision making arena more generally, constraining ENGOs involvement as a result of the dominance of economic lobby groups involved in the process. Alternatively, as has been suggested by commentators such as Innes & Brooher (2003) this process could begin to establish better understanding of values and perspectives between these different bodies.

Another essential finding in Chapter 7 was the integration of biodiversity within the structure of the local authority, through the Biodiversity Officers, the production of the LBAP and biodiversity integration within the wider land use planning system. The positioning of the Biodiversity Officer into the local authority in Co. Clare is important, as it is viewed as a support to biodiversity decision making within the administrate structure of the council and certainly the Biodiversity Officer has had some success in this regard. This initiative is also significant as a mechanism to diversify biodiversity responsibility outside the confines of a centralised government department, NPWS, and into the local authority. The Biodiversity Officer has also been crucial in the development and co-ordination of the Clare Local Biodiversity Action Plan. This plan, and its associated species and habitat action plans are a notable advance in terms of biodiversity planning in Ireland. They represent a potential framework for wide stakeholder engagement and integration of biodiversity throughout wider economic development and resource sectors at the local level. However, despite these positive points, stakeholders also criticised the lack of ongoing stakeholder engagement in the development of the plan and as a result, highlighted potential difficulties in the plan's implementation.

There is a second concern regarding the integration of biodiversity planning within already existing plans which fall under the remit of the local authority. Rural planning has been an increasingly contested area of public policy in recent years and a vexed relationship exists between local planning authorities and many rural communities, leading to the public and political perception that 'planners stop things happening' in rural areas. Due to the clientelistic nature of local politics, economic development objectives generally take precedent within plan making and decision taking. Requirements concerning sustainable development within the Planning and Development Acts stipulate that local authorities (executive and council) must take

cognisance of environmental concerns, including biodiversity. This is certainly reflected in the Clare County Development Plan, as highlighted in Chapter 2, however, biodiversity protection cannot be used to prevent developments, particularly in the wider countryside. Instead, biodiversity protection within planning decisions tends to fall back to the legal requirements of the Natura 2000 Directives, or already existing measures, such as the Tree Protection Order.

The findings revealed the importance of understanding not only the goal of biodiversity decision making, but also the process through which it is negotiated. Analysis of stakeholders interviews in this project suggest when conflicts over land-use arise, economic interests such as forestry, transport, planning and development, tends to be prioritised over biodiversity. In a world with multiple realities of 'nature' that are constructed by diverse groups with differing motivations and access to power, decision-making in biodiversity management can become a contest over how discourse develops and personal relationships are built within decision making arenas (Torgerson, 2003). Of particular note are decisions taken which potentially adversely affect biodiversity and are legitimised through the paradigm of sustainable development.

9.4 - Public participation in biodiversity decision making.

The third research question addressed public participation in biodiversity decision making through the views of both stakeholders and publics. The chapter presented the assumptions which underpin stakeholders attempts to involve publics, followed by an analysis of the various mechanisms through which stakeholders endeavour to gain this involvement. The results from twelve focus groups were presented providing examples of public participation and the publics views on the participation process. These discussions reveal the challenges to public participation in biodiversity and highlighted three key issues: first, the nature of community and local politics; second, the perceived relationship with authority and third, issues of communication between those charged with involving publics and the publics themselves.

This thesis highlights the fact that national stakeholders appear to rely heavily on the information deficit model of biodiversity participation which has the objective of

raising public awareness of biodiversity, rather than their active engagement. This has resulted in the propensity of one way and limited two way communication methods to engage publics. From the evidence of stakeholders, communication tends to rely on information provision through newsletters, leaflets, websites and radio. Education initiatives are also popular, particularly with environmental NGOs whose activities include information days, training courses and workshops. In addition NPWS and environmental consultancy use public meetings during the process of plan making. A key feature here is the late stage in planning at which publics are invited into the process. When viewed in the light of participation typologies (e.g. Arnstein, 1969) these techniques represent a somewhat tokenistic participation. Such techniques fall well short of empowered participation by restricting public input, empowerment and learning opportunities (Williamson & Fung, 2004).

Participants have restricted access to policy makers and their decisions, and are sought to be educated rather than fully integrated into decision making. Such models generally infer that publics lack knowledge to become fully involved, a view previously illustrated by stakeholders who consider public understandings of biodiversity as poor. It can be argued that such techniques have the objective of gaining legitimacy for decision maker's pre-decided decisions rather than genuinely seeking publics views on decisions being made. While this may be the case, a number of stakeholders valued more deliberative techniques, but suggested that there are also other criteria at play, such as time and cost constraints and concerns in facilitating and managing more deliberative methods of participation.

However, a slight difference in the scope of techniques emerges at the local scale. While stakeholders also utilised information and education techniques there appeared increased scope for use of alternatives which engage publics directly; for example, through local biodiversity projects or deliberative planning mechanisms. Also the personal, informal contact between publics and state representatives (such as NPWS rangers) was viewed as important in developing relationships and providing an opportunity to listen to publics views. The local structure of interest group representation was also considered vital, for example the IFA and CIF

highlighted their organisations structures as a way in which local members communicate with organisations head offices.

Publics illustrated a range of routes which they considered as participative, as a mechanism to have their voice heard in decision making. However, they considered their role as limited and tokenistic.

Focus groups indicated the importance of voting in local and national elections as their primary route to participate and inform decision making. However, in terms of local elections individuals said that they vote for politicians who they know rather than the positions these politicians represent. Research conducted by Gallagher (1989) supports this view, whereby voting behaviour in local elections is considered to follow personal relationships or party politics rather than issues. Other groups indicated that they also vote for the familiar in the context of national government elections, adding that their choice of vote is dependant on what that politician will provide for the area. The political and social context into which participation is situated in Ireland is illustrated by these groups, characterised by a strong tradition centralism and clientelism (Collins & O'Shea, 2003; Komito, 1984). These findings are similar to that of O'Rourke (2005) who has also found that local politicians are an important part of the political network and an integral part of the local elite.

A second mechanism through which publics view their influence in decision making is through interest representation. There are divergent views on this matter. Kilrush farmers who are members of the IFA identify it as important, while the farmer's group in the Burren, who are not members of the IFA, state the opposite. The Burren farmers group felt a degree of cynicism towards representative organisations, suggesting they had 'no relevance' and were made up of people who 'liked going to Dublin'. Other sources of representation identified in focus group discussions were local community co-operatives or associations, which were seen as important mechanisms through which publics can have their opinions considered. A powerful reason provided by groups for their focus on elections and interest group representation is the perceived lack of influence and access to other forms of decision making.

Two groups, the Burren Drama and Kilrush Art Group, had experience of participation within the planning system. The latter felt that the statutory planning process was overly beurocratic, technocratic, difficult to access and ultimately lacked clarity and transparency in how decision making is conducted. This point was also raised by the Burren Drama group who participated in a deliberative planning event. Due to its deliberative nature, such techniques are suggested to benefit the community and decision makers, allowing for ideas and views to be shared and for joint problem and solution identification. However, extracts from this reserach reveal that while the group felt they had a role in the process, the precise nature of this role was considered tokenistic (Arnstein, 1969). The group felt decision makers defined the agenda and sought publics comment on their proposals with no commitment to acting on the publics' views. This lack of trust in the process and lack of transparency coloured perceptions of the entire process.

In part this may be because the quality of a deliberative technique such as Planning for Real is gauged according to the extent to which reasons for various positions are offered and heard, and according to the openness of discussion to diverse perspectives (Hendriks et al., 2000; Pimbert & Pretty, 1997). In this instance, authority and trust in the process was broken because the process did not permit people to deliberate on issues, it prevented meaningful dialogue and shyed away from criticisms or conflict through which participants, both publics and planners, learn from one another, resolve conflicts, and generate new ideas (Innes & Booher, 1999). Such situations are not uncommon and can be explained by inexperience, time and/or resource constraints in the local authority. Thus while the intention of the lead agency may have been well meaning and a genuine attempt to foster two way communication, it fell short of this aim. Instead it was considered to have created unfair and inequitable outcomes. Ironically the consequences of this process have been far reaching for the participants of the focus group with little trust now placed in the local authority to respond to local concerns, an oft-cited consequence of poorly managed participatory techniques when not carefully considered and communicated. This highlights the need for careful consideration in designing participatory processes on the part of the external agency.

The experience of Inis Oirr Lobster fishermen contrasts significantly to other groups. The group illustrated the benefits of a collaborative working arrangement between state (BIM), academic research body (GMIT) and themselves. They stressed in particular the importance of open communication between project co-ordinators and participants. Similar to the work of Hailey (2000), the findings of this research emphasise the importance of personal contact the process of personal engagement in partnerships. Key within this is the generation of knowledge and knowledge sharing. For example, the fishermen, drawing on their local knowledge produce information for researchers and policy makers via a scientific monitoring programme. The fishermen feel that their knowledge of the area is valued by the external agencies and is important in the management of the stock. This practice of monitoring and resource use has been agreed upon by the small group of fishermen (5 individuals) who see the benefits of working together in co-operation, developing their own 'rules in-use' in alignment with the goals of the scientists/managers with whom they work. In short, this project is characterised by co-operation, cultural sensitivity, an economically favourable outcome and equitable power dynamics between the government agency and community involved.

This situation contrasts significantly with the experience of the Burren Anglers Association who, in the absence of structure and leadership ran into significant difficulties in managing a local lake for ecological purposes. In effect local elites who disagreed with their activities instigated a boycott of the group and their families. This highlights one of the key challenges facing participatory conservation initiatives, the notion of community. Inherent within heterogeneous communities are patterns of politics and authority routed in the cultural history of the area; local elites may not 'hold' power overtly, but are those who can enrol, convince, enlist and represent others (O'Rourke, 2005b). The group went against the tradition of power operating in the community and disturbed the social norms, the 'rules in-use' for the lake (Ostrom, 1990). The 'rules in-use' determine how resources should be used, and importantly in this case, allocated, underpinning conflict management within a community. As mentioned previously, the strong cultural identity which has been built around land and property rights positioned the lake management as the 'out group' in the minds of community members.

This chapter clearly highlights the focus on representative, rather than participatory democracy in Ireland. Traditional patterns of power, through centralism, clientelism, and local elites persist at the local level. This raises questions of how community focused conservation management partnerships can be operationalised at the local scale. While there are limited instances of participatory natural resource management, which corresponds to community based conservation adaptive co-management, this was an isolated case in this research.

9.5 - Implications of conclusions for policy:

Over the past two decades, biodiversity policy has called for increased stakeholder and public involvement in decision making, a more people-centred or community-based approach to biodiversity management. This form of decision making, built on notions of sustainable use, recognises the need to include a wider cohort of stakeholders and publics in planning for conservation. The results of this thesis suggest that a number of challenges must be addressed before credible, enabling participation processes facilitating inclusive stakeholder engagement and community participation are realised.

International policy agreements stress the role of concerted cross sectoral global action to halt the loss of biodiversity, preventing mass extinction and ecosystem collapse, and to gain benefits from the sustainable use of natural resources. To facilitate this it is suggested that policy making institutions require restructuring to become resilient, flexible and adaptive to change, which will enable humans to meet this global ecological challenge (Adger et al., 2005; Berkes et al., 2003; 2000). The findings of this research suggest that political and economic, rather than social or ecological considerations, have largely defined the overall approach to biodiversity governance in Ireland to date. Any new forms of governance which extend decision making to a wider public sphere or include an expanded range of stakeholders are embedded in this institutional context.

There is little doubt that the political environment in Ireland has stifled biodiversity conservation, being inflexible, highly centralised, clientelistic, and neo-corporatist. At national level the close connections, and privalged access, granted by politicians and senior civil servants to economic interest groups has determined the overall

trajectory of biodiversity governance in national decision making. This has been particularly acute with the agricultural lobby, who, through their access to DAFF and support of successive governments, have had near self-regulatory power over biodiversity integration within the agricultural landscape. The political power farmers and their representative organsations retain is considerable. Drawing on the work of Laffen & O'Mahoney (2008:189) in relation to the implimenation of the Habitats Directive is useful here. They suggest that at the time of implementation the two government ministers responsible, both with constituencies in the west of Ireland, were unlikely "to risk alienating their constituencies in order to comply with a European law...there is no doubt that their sympathies were entirely with the landowners". From the results of this research project into more recent initatives of biodiversity governance, there is little to suggest that this situation has changed. Successive governments have shyed away from upsetting this influential political group in order to ensure re-election and continuity of the economic development agenda. Furthermore, the formal institutionalisation of the agricultural lobby in social partnership agreements has provided the lobby substantive leverage in negotiating the trajectory of biodiversity policy, again, this has been particularly evident in terms of the Habitats Directive but also biodiversity conservation intregration, through REPS, for example. In return, politicans secure consensus within social partnership agreements and mediate the risk of upsetting a substantial portion of the electorate in rural areas.

The relationship between interest group and government, and emphasis on consensus within decision making, has had implications for both the government department responsible for biodiversity governance, NPWS, and the environmental lobby more broadly. The findings of this research provide ample evidence to suggest that the joint economic development agenda between interest groups and the political elite has resulted in the power and resources of NPWS being curtailed. The ability of this organisation to impliment plans and actions cross-sectorally is also substantially weakened as a result. The consensus driven relationship between interest groups and political elietes has also lead to the exclusion of the environmental non-governmental organisations from social partnership process until recently. Including this expanded range of stakeholders, business, state and environmental interests, in biodiversity governance, as called for in policy, is not

without its difficulties. As clearly indicated through interviewees discussions of the Biodiversity Forum, the potential for interest groups to try and retain dominance in such multi-stakeholder fora abound.

At the local level, interviewees suggested that local politicans, wishing to maintain the status-quo with development interests, view biodiversity and biodiversity policy as placing restrictions on their client's ability to develop. This points to the clientelist nature of politics, particularly at the local scale, where politicians view their (re)election as predicated upon the favours, real or perceived, that they make possible for publics or interest groups alike. Koimto (1984) and Collins & O'Shea (2004) have suggested that the outcomes of a politican's interventions are difficult to ascertain, but that the culture of clientelism is still prevalent in Irish politics. Tensions therefore exist between biodiversity conservation, associated perceptions of constraint embedded within the notion of biodiversity conservation, and the mechanism of clientelism which is a fundamental aspect of the political system in this country. These tensions must be acknowledged, particularly in future participatory or multi-stakeholder decision making processes, as these tensions have the potential to upsurp or distrupt particpatory initatives for the protection of biodiversity, as discussed by focus groups participating in this research project.

Analysis of focus groups conclude that opaque decision making processes based on clientelism have weakened trust in decision makers, and decision making. As found in other studies, publics perceive that decisions are particularly influenced by clientelistic relationships between politicians and citizens, where electoral support is traded for the real or apparent granting of favours or assistance by politicians (Harris & Berry, 2005; Komito, 1984). This research project has shown that clientelistic process have created local elites in the form of powerful and influential community members. As part of these considerations, the prevailing cultural associations with biodiversity conservation and its purveyors, reinforced by government, interest groups and local elites should also be considered. This study has clearly demonstrated that those opposing biodiversity policy, at both national and local scales, have positioned their objections in a rhetorical frame that resonates with the pre-history of the Irish state, encorporating notions of cultural identity and the battle to own and control land, which has been at the heart of

modern Irish cultural nationalism (Leonard, 2006). This perception of authority and conservation, coupled with publics perceptions of clientelism carry substantial weight at local scale, as found in the case study area of Co. Clare and Inis Oirr. The use of evocative language has created divisions within the community, with local eliets using this interpretation of cultural identiy to carefully construct 'in' and 'out' groups. Evidence from focus groups conducted as part of this research would suggest that the dominance of this cultural discourse and the local elietes who enforce it have consequences for the way in which participation in environmental projects and decision making evolves at the local level. First, there are consequences for individuals who resist the dominant perspective, as as occurred in the case of the Burren Anglers Association. This group were subject to the fate of 'boycotting', a punishment derived during the landwars of the 1880's and resulting in temporary exclusion from the community. Second, threat of this consequence effectively silences others in the community, as revealed in discussions with the Kilrush Art Group. In an effort to include community in decision making around biodiversity, recognition of these cultural discources, powerful interests within the community and publics perception of decision making must be recognised. Participatory methods must address questions of power at the community level to avoid reinforcing and reproducing existing inequalities which promote the voices and values of those who are most articulate and politically well connected within the community (Campbell & Vainio-Mattila, 2003). Once community dynamics are made transparent a range of participatory opportunities are required to address and accommodate these differences and foster open and inclusive dialogue (Agrawal & Gibson, 1999:637). Therefore, careful consideration of the appropriate roles and processes for public participation are required (Pimbert & Pretty, 1997; Stoll-Kleemann, 2001).

Current routes for publics to access decision making generally follow a 'deficit model' of public understanding of science, which follows the line of reasoning that publics lack scientific expertise and knowledge (Irwin & Wynne, 1996). Publics understandings of the science of biodiversity was limited, but their understandings of biodiversity based on tacit knowledge (experience & values) was clearly indicated in this research. It is these locally derived experiences and knowledges which require consideration within a participatory process. An expanded array of values

and understanding are therefore required to enable publics to participate in biodiversity decision making. Importantly, evidence from the research indicates the importance of experiential contact in the initial construction of knowledge and understanding of biodiversity. These sensory impressions are mediated over time by social interactions, and social, cultural, political and economic contexts (Smith, 2003; Falk et al., 2000).

These findings related to the Inis Oirr lobster fishermen point to the role active engagement in decision making can play in the legitimacy of policy outcomes. Their participation in a resource management project, based on situated knowledge, and good communication between participants and agencies involved, has lent validity to subsequent policy outcomes. Active participation has grounded competency upon everyday, situated experiences rather than simply data mediated through these agencies. The importance of building personal relationships between publics and state organisations and subsequent generation of trust is clear. This resonates with other research which has been conducted in this region. Leading organisations which are seen to be accessible and available have particular resonance in rural communities where mutualism, voluntarism, neighbourliness and friendliness are valued (O'Rourke, 2005b). These factors should be considered by policy makers wishing to communicate new information to publics and points to the potential benefits of more engaging mechanisms of participation.

Despite these challenges, evidence from this research points to a new found resilience and flexibility in biodiversity governance approaches. A variety of new biodiversity governance approaches such as multi-scalar partnerships have enabled stakeholders initiate projects which actively conserve biodiversity, however, the success of these multi-scalar partnerships are predicated upon a win-win scenario, allowing both economic development and resource conservation. Such win-win scenarios, while positive, should be broached critically, as they may not be suitable or possible in every situation, they can be difficult to operationalise, and are subject to wider patterns of power and economics. However, they do follow inline with suggestions in biodiversity governance research where it is argued that: "there is a need to design and support management institutions at more than one level, with attention to interactions across scale from the local level up" (Berkes

2002:293). While such multi-scalar approaches offer opportunities in the future, biodiversity governance would be further strengthened in Ireland through more enlightened macro-political, economic and socially enabling policies and institutions. One potential mechanism, which has been effectively utilised in other countries (see McCauley, 2008) and called for within policy, is to include a wide range of stakeholders in decision making, including environmental civil society organisations. The opening up of social partnership to these groups may offer the opportunity to incorporate a wider array of values, ideas and solutions within the arena of biodiversity governance.

9.6 - Reflections on methodology

A multi-method approach was selected for the research including case study, interviews and focus groups. The case study approach was appropriate, as it allowed an investigation of a phenomenon, in this case biodiversity politics, in its lived context in a particular geographical region. These qualitative methods allowed for a research process which examinated the lived context through which values are constructed and decisions regarding biodiversity made.

Of key methodological concern is the focus group research. One of the primary rationales underpinning the group approach is that it provides socially-oriented interaction in which participants feel free to influence one another, build on one another's responses and stimulate shared interaction. This interaction between participants is said to create incentives for initiating learning processes, since participants exchange experiences, question each other, challenge each other to develop their arguments and sometimes even modify their opinions and arguments during the course of the discussion (Wibeck et al., 2007; Myers, 1998; Wilkinson, 1998). It cannot be definitively stated through this research whether or not focus groups do in fact have such social learning potential, but a number of points can be drawn out regarding the researchers experience of conducting focus groups which provides some scope for future research seeking to examine publics views using this method. Despite using natural groups, group dynamics certainly did play a part in open, frank discussion. This has obvious repercussions, therefore on learning in the group context. In spite of initial uncertainty and reluctance to speak, most individuals in the focus groups participated and gave some input, but, instances

arose where this occurred only after initial input of the most vocal individual(s) in the group. Also, the one off focus groups did not appear to transform participant views, as it might be expected to do in the idealised situation put forth in the literature. It did, however, enable participants to articulate and subsequently reflect on their own positions. Through this process, of interaction with others, groups learnt about themselves and the positions of others, but this did not necessarily equate to a transformation of views. Therefore, the focus groups approach could prove very beneficial to policy makers as a mechanism to hear publics, and share their own views in a personal setting, but with attendant requirements to and caution of group dynamics and politics as previously suggested.

A second methodological consideration is the position of the project within the wider EPA funded BioChange research initiative, which has as a common feature, a focus on the Co. Clare region. Co. Clare was an appropriate case study location, because it is an area of national and international ecological importance. This research project was to an extent geographically bounded as a cross-cutting theme within the BioChange initiative. But also, the researcher was cognisant of responding to the broader research aims and objectives as set out by the funding body. This wider framing, on reflection, did have some influence on the trajectory the research process. This illustrates an important consideration in research, the relationship between funder and funded can and does influence the outcomes of the research process. However, the influence of the wider objectives of BioChange and the choice of case study location was managed through the multi-scalar nature of this thesis. By taking a multi-scalar approach, data collection was not restricted to this geographical location, and included national and EU scales. This multi-scalar framework is advantageous, as it provides a national platform from which to address other sub-national biodiversity governance cases in Ireland, and thereby provide a basis for future research.

9.7 - Areas for future research

In the process of answering the three research questions posed in this thesis, scope for further work has been identified. Researching publics and policy maker's understandings of biodiversity and biodiversity governance is a complex and multifaceted subject with respect to future research with publics, there are a number

of potential pathways. First, a more in depth study is required which extends beyond the geographical and social contexts presented in this project. More information is required on the way in which individuals and communities construct relationships with nature, and the normative meanings which develop and how these constructed meanings can be more effectively engaged with, and utilised in, biodiversity planning, in particular with reference to the Local Biodiversity Action Plan.

Second, a wider, but also more targeted analysis of public and stakeholder participation in local decision making through Local Biodiversity Action Plans would certainly be a useful contribution to research in environmental governance in this country, as would a national comparative research programme to examine the process of LBAP production and implementation across the country. The outcomes of this research project, through the extensive interview process at national level, the examination of the National Biodiversity Plan, but also integration with wider plan making certainly provides a starting point in this regard. Also of importance to future research in the area of biodiversity governance, is an analysis of the process and outcomes of the forthcoming National Biodiversity Plan.

With respect to governance, the current economic, political and social backdrop in post Celtic Tiger Ireland presents an ideal opportunity to examine biodiversity, environmental and sustainable governance more broadly. It is a critical juncture for the Irish ENGO movement with their recent entry into the national policy making body of social partnership, a phenomenon which warrants further examination from both a theoretical and applied perspective. The implications of ENGO participation in the social partnership process are potentially substantial, as they now have a place in key national and local (county) decision and policy making processes. This is a key area for future research in biodiversity governance as it related to civil society and social movement theories.

In an international context with calls for increased resilience in governance and ecosystem approach, Ireland requires ongoing research in this area; in particular to examine efforts to integrate LBAPs and existing conservation policy. In addition, more widespread research into adaptive management is necessary to identify cases

where its application has been successful. Such research has an applied function in order to better inform policy, but would also contribute to the ongoing international, theoretical debate on this subject.

Finally, halting the loss of biodiversity is a cross-cutting issue which has implications for a range of other policy sectors but also governance of environmental issues more generally such as climate change. In the context of multifunctional landscapes, research is required to examine the governance of conservation measures as a cross-cutting environmental issue. This requires research across the island of Ireland, but also has implications for foreign development aid policies, and Ireland's goals in achieving the Millennium Development Goals. This presents an example of one area which has not been considered in this project, but points to the many possible directions for future research.

9.8 - Concluding Comments

The research conducted for this thesis presents the complex process of biodiversity politics, which takes place across a range of scales and involves a multitude of actors, institutions and publics. Biodiversity politics is inherently deliberative, wheither it be located at the personal, local community, national or within the vast processes and workings of international agreements. But it is also inherently conflictual, a conflict of personal values and understandings pertaining to biodiversity, to the tensions which arise between actors and institutions, or indeed, between publics and authority. Examining this range of processes, from the individual, to interations between individuals, and their social contexts across scales, a full-bodied picture emerges of the practice of biodiversity protection and its sustainable use. The findings of this research demonstates that these interactions are subject to pattens of power, influence and trust. These pattens simultaneously include and exclude certain ways of knowing, prioritise certain interests over others, and too, are subject to the evolving, dynamic processes of social change. In this context, this thesis presents a snapshot of biodiversity politics at a particular time, it remains to be seen what direction the practice of biodiversity politics will take in the future.

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