

**An Exploration of the Dynamics of Consensual Approaches in  
Biodiversity Planning for the Wider Countryside: Evaluating the  
Usefulness and Applicability of Actor-Network Theory**

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## **Abstract**

This research examines the usefulness of applying theoretical principles from the Sociology of Translation and Actor Network Theory to the scenario of biodiversity planning in Oxfordshire between the early nineteen nineties and 2001. It develops a model derived from a social constructionist approach to considering Nature, and seeks to apply it to empirical data on the development of Oxfordshire's Local Biodiversity Action Plan. The data is considered in relation to the four poles of the model which are the 'scientific knowledge or technical' pole; the 'institutional' pole; the 'production of practices' pole and the 'nature protected' pole. The idea that is applied is that scientific knowledge that is generated for a purpose becomes the accepted wisdom and consequently is institutionalized. From this acceptance of the importance of scientific or technical authority, practices will then be generated (for example, land or water management strategies) and these then protect particular elements of nature; essentially what society, and more specifically, the actors involved with problematising the issue deem as being elements that are important to preserve.

Also, there is a time and space dimension built into the model since the author builds on the ideas of actor-network theorists who argue that a network is not a flat shape but that actors may act at a distance (e.g. global actor) but still be linked into a localized network. Similarly, actors may be incorporated from different times but may be held into place within a given network because their views or actions are part of a stable agreement (e.g. text/intermediary object) that has encapsulated a number of different actors. The actor-networks presented in this thesis are heterogeneous in nature in that they incorporate elements of nature and the human world as different actors represent the views of others. The research explores stable and unstable networks that are founded within consensual approaches through partnership working between many different types of organisation.

**Author's Declaration**

I declare that the work in this thesis was carried out in accordance with the regulations of the University of Gloucestershire and is original except where indicated by specific reference in the text. No part of this thesis has been submitted as part of any other academic award. The thesis has not been presented to any other education institution in the United Kingdom or overseas.

Any views expressed in the thesis are those of the author and in no way represent the views of the University.

Signed... ..Date. *22nd September 2006*

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## **Chapter One: Introduction**

### **1.1 Context**

Environmental planning for rural land and water use has altered significantly during the past two decades, both in terms of the approaches being used to agree strategies, and, in the thinking behind, and the substance of, schemes. The changes have arisen from a shift in emphases in both national and local planning policies and priorities. Since the mid-nineteen eighties, environmental management practice has been strongly influenced by the emergence of 'sustainable development' as an overarching principle, which requires that the current use of environmental resources does not deplete, and preferably enhances, the stock of 'natural capital'. This principle was 'signed up to' by governments of nations on a global scale in June 1992 at the United Nations Conference on Environment and Development (UNCED) in Rio de Janeiro. At this conference, the conservation of biodiversity was one of the two major issues, although 20 years ago the term was relatively unknown. This conference gave rise to the Convention on Biological Diversity and the Agenda 21 Framework which have been addressed by national governments in differing ways. Since then the concept of biodiversity conservation has risen to scientific, political and public prominence and the principles associated with conserving biodiversity have cascaded from the global to the local level in terms of planning for the wider countryside in the United Kingdom and other countries.

Over the same time, the trend within the UK has been to move towards developing more integrated approaches to society's use of rural assets, so that individual sites or resources are not considered in isolation, and the traditionally sectoral approach to rural resource management is overcome. Consequently, many initiatives now have regard to the 'wider countryside' i.e. land and water beyond the narrowly defined enclaves of single use land management. Whereas traditional nature conservation practice tended to rely on site protection, recent findings have shown that this approach did not prevent the attrition of species and habitats (also see Bishop et al, 1995; Selman, 1996). Landscape ecologists, who have become a more prominent force within the environmentalists' arena, suggest that policy weaknesses may at least

partly be due to uncontrolled changes in the surrounding 'land use' matrix having a detrimental impact on key species. To give a couple from many examples, forest fragmentation has resulted from modern forestry methods such as clear felling and monoculture that have had an impact on patch size and shape reducing species number and variation (Anglestam, 1992); similarly, ancient riverside grasslands in the Oxford Clay Vale now make up only 500ha out of 20,000 ha of floodplain. There are remnants scattered throughout the floodplain, but these are often protected as Nature Reserves and 'threatened by the intensity of land and water management in the surrounding 'industrial' countryside' (Pond Action, 1996, p.5). As a result of such habitat fragmentation and associated species loss, contemporary conservation strategies are now including provisions for the 'wider countryside' with its general stocks of 'biodiversity'.

Running in parallel with these developments, difficulties in implementing blanket policies by single organisations for the wider countryside have led to the growth of 'partnership' based approaches, reflecting the need to build agreement between various interested parties (or stakeholders), and also the strength of the voluntary sector in Britain whose forces may effectively be combined with the statutory countryside agencies such as English Nature, the Countryside Agency (formerly the Countryside Commission); English Heritage and the Environment Agency (formerly the National Rivers Association). Such partnership approaches have often been represented in terms of 'building consensus', both between different stakeholders, and between stakeholders and the local public (see Wragg, 2000). Attempts at such collective working may be reflected in the use of novel consensus building techniques such as those advocated by the Environment Council (Acland (1992), see also Rose and Dixon (1996); Clark (1996)), as well as the more traditional partnership arrangements that have often been associated with protected areas.

This research is embedded within the idea that partnerships can be seen as networks of people or organisations acting together to reach consensual solutions that for the purpose of this research are equated with network stabilisation. Network approaches to examining power relations and hierarchy stemmed from deconstructionist approaches within social science, notably from within the disciplines of Sociology

and Human Geography, and rooted more specifically within the sociology of scientific or technical knowledge (Kavanagh, 1997, p.9). Within Geography, the 1970s saw the development of spatial network analysis which tended to take a quantitative approach to modeling networks and, importantly, these could include all phenomena. Another important development later in Human Geography was the application of social-network analysis which hinged partly around the notion of embeddedness or 'integration or participation in local territorial networks' (Bosco, 2006, p. 141). This was a way of exposing the relationships between society and space that did not adhere to traditional ideas to do with structure and agency.

Organisations, interested individuals or stakeholders may also be termed 'actors' since they have the ability to act on behalf of others and also on behalf of parts of nature. An actor is defined by Hindess (1985, p.117) as a 'locus of decision and action, where the action is in part a consequence of the actor's decisions'. And here it is appropriate to introduce the term Actor-Network Theory or ANT which entails post structuralist thinking but according to Bosco (p.136) does not equate with post structuralism. Bosco suggests that ANT is a more comprehensive approach than social-network analysis partly because it affords the study of relations between humans and non-humans but also because it aids the accounting of how varieties of different human and non human actants 'emerge out of different relations and give rise to constantly changing actor-networks and different relations of power' (p.142) thus being more capable of accounting for movement and fluidity between micro and macro levels of analysis. It is a relational approach where agency is de-centred. Power emerges from within the network and is not something imposed on it from the outside (Latour, 1986).

Elements of nature may also be accorded actor status since nature also has agency and may comply with the desires of human actors or may be displaced by their actions. So, a consensual situation or stable network is viewed as an agreed solution in that actors are unified or locked into place by their desire to sign up to, for example, a particular set of scientific ideas, or a land management strategy, in which elements of nature may be represented, or indeed mobilized or displaced. Networks are heterogeneous in that they can incorporate elements of nature (e.g. particular

species or habitats) and can also include objects such as texts, financial resources and so on. Latour (1994) explains that networks are made up of diverse materials – humans and non-humans – which enable them to endure beyond the present.

The movement towards stakeholders acting in partnerships or indeed as networks in relation to policy making and implementation is worthy of exploration. Traditional policy analysis was concerned with making a distinction between pluralist and corporatist models of policy making, where the former is concerned with Government being passive and responding to a large number of groups that are in turn responsive to grass roots members. In contrast, the corporatist model sees the state as having a close relationship with a limited number of interested groups, essentially representing economic interests (Woods, 2005, p.135). Winter (1996) suggested that the closed structure of agricultural policy making in the mid-twentieth century was corporatist. Winter (2005) undertook research on research, advice, training and education for environmentally-sensitive farming in the UK and put forward the idea that these three areas comprised a 'knowledge network' and promulgated that there are horizontal and vertical linkages identified, the former being between scientists and their compatriots; the latter existing between scientists and educationalists, advisers and trainers who put the knowledge to practical use. He also suggests that knowledge is conducted to its point of use along the paths of the network (p.10).

Smith (1992) and Parker and Wragg (1999) have explored the model of policy and issue networks which allow for the different degrees of interaction between government and interest groups to be explored. These can be loose 'issue networks' on one hand or closed tight-knit 'policy communities' on the other. Selman (1996, p.82) also draws attention to the practice of network-style working, 'The retreat from simple hierarchical, top-down, command-and-control methods of environmental management has popularized the idea of 'networks' of partners collaborating to produce sustainable solutions.....networks are popular mechanisms because they help members to 'manage cross-boundary areas' in inter-disciplinary situations'. Thus there has been some scrutiny over the past decade in social science research of the way that actors are now working together in an integrated way sectorally, and also towards integrated land and water management, consequently relating to each other at

different spatial levels and with differing degrees of influence. Such approaches are worthy of further development, particularly in view of the ways in which mechanisms for policy implementation have evolved in terms of a more 'bottom-up approach' being advocated, and competition for funding for projects between NGOs. Such grass-roots approaches are generally locally-focused and involve interaction and planning between actors who are situated often within a localised context. Actor-Network Theory (or ANT) is a useful tool for studying such micro-networks although localised network(s) may also incorporate actors from outside a given spatial context, and with more influence.

There are clear benefits for some organisations of working with others in relation to integrated delivery on the ground: generation of scientific or technical knowledge; data sharing; sharing of funds and resources and joint applications for grants (e.g. from EU schemes or National Lottery); project and plan development; and, for achieving sustainability in plan longevity (that may seek to protect wildlife/landscape) through attempts to build consensus or stable networks that will successfully take targets or ideas forward. Selman (1996, p.82) states that, 'environmental networks have been associated with various types of promotion, advisory support and fundraising. They are especially valuable as a means of disseminating information to target groups, as information received from known, personal contacts is normally perceived to be more reliable than information communicated from government departments or senior echelons of traditional, hierarchical organisations. Thus partners within networks tend to benefit from the various connections which are cultivated and may feel less vulnerable than they would if operating in isolation'. It is important to explore these new ways of working which have become imperative for many organisations to work effectively in terms of delivery on the ground.

A key aspect in this research is to consider the role of texts within planning networks, which may preserve social order, power, scale and hierarchy (see Parker and Wragg, 1999). Texts embody past translations and actions and can also be seen as launching new actions and new networks. This research will show how, through investigating the processes by which plans for land and water management priorities are

constructed, the relations between actors and intermediary objects can be displayed or mapped out. This will result in an understanding about how networks or partnerships develop through time and how their boundaries may necessarily change as new information and impetus comes forth. This is important in terms of furthering understanding of how collective decision-making has developed in recent years as consensual solutions have been sought at different scales of planning, through looking at how biodiversity-related texts are constructed.

A backdrop to the study is the idea that nature or natures is, or are, socially constructed (See Macnaghten and Urry (1998, p.15)) in that the elements of nature that are represented within a plan or text are those that have been negotiated into it through consensus, and as a consequence are manifest on the ground. Scientific knowledge, although an important driving and circulating force, is not always seen as sacrosanct when a social constructivist approach is taken to looking at nature; instead knowledge and the implementation of knowledge can be socially contingent. It is therefore important to know how decisions are made within this large volume of consensual approaches that are now being practised within environmental policy making. Their impact and opportunities are worthy of examination within the current socio-political context. The Actor-Network approach frees up thinking about the structures within which negotiation takes place.

## **1.2 The Essence of the Research**

In essence, this research is concerned with an evaluative exploration of the usefulness of the application of ANT and the Sociology of Translation (i.e. what Brown and Capdevila (1999, p.29) refer to as 'the proper generic for ANT') to the study of a biodiversity planning scenario within the arena of wider countryside planning within the UK. As such the research is approached from an environmental sociology disciplinary perspective that has evolved as sociologists have become concerned with explaining nature-society relations. A social constructivist approach to understanding the environment is taken, where nature, or parts of nature are accepted as being framed by the priorities of society – or as social constructs. More specifically, a translation constructivist approach is used as a framework to examine socio-political processes operating within consensus building for wider countryside planning. The

constructs of Actor Network Theory (ANT) and the Sociology of Translation are applied to enable a detailed investigation into discovering how elements of nature come to be represented in countryside plans and practices operating at various scales as society's priorities for conservation. Thus texts and the representation therein of human and non humans in texts form a key focus for analysis. The same principles are used to uncover the ways in which scientific knowledge, the institutional framework, production of practices and the development of 'networks' of environmental actors play a part in this process. The processes of consensus building in relation to biodiversity planning in Oxfordshire (UK) are scrutinised by applying these theoretical principles.

### 1.3 Aims and Objectives

#### Research Questions

Two research questions have been set at the outset of this research.

1. How applicable is the theory of the Sociology of Translation to the study of consensus building in the UK, using the idea of network stabilisation, and in what way(s) might the theory be applied in this context?

The Sociology of Translation seeks to explain how humans and non-human elements (e.g. 'pieces' of nature) come to be represented in 'actor networks'. Networks of actors are consolidated and preserved by material objects (see Murdoch, 1997). The process of translation is a term frequently used in ANT to refer to the phenomena of negotiation, representation and displacement which establish relationships between actors, entities and places (including different spatial scales). In this study the *translation constructionist approach* is used to analyse how the production of knowledge, institutional frameworks, and the production of practices have an impact on determining 'the environment' which is to be, or may be, protected. It is assumed that 'the environment' is not that which is referred to generically in the popular literature but that particular environments are 'constructed' in relation to certain issues, priorities, and management strategies (although it should be stressed that a strong constructionist stance is not adopted, i.e. the value of scientific evidence and



existence of nature in its own right are fully appreciated). The theory is applied to biodiversity planning through examining the processes by which actors agree (or not) on how best to protect different elements of nature (particularly habitats and species) and, indeed, by considering what different constructed environments encompass in terms of priorities for protection.

2. What are the nature and dynamics of stakeholder relationships in building agreements in biodiversity planning pertaining to land and water use, and how do these characteristics conform or depart from theoretical notions offered by translation theory?

This research examines the applicability and usefulness of ANT and the Sociology of Translation to dynamic settings where actors are involved with seeking to agree a common path to environmental protection. Evidence for such 'common paths' is embodied within certain texts such as working documents, minutes of meetings between actors and final agreed plans and codes of practice. The research also considers the ways in which scientific principles become normalised and then translated into practice. The processes associated with network stabilisation and destabilisation are also investigated.

### *Aims and Objectives*

The principal aim of this research is to investigate the processes involved in consensus-based approaches to planning and managing the wider countryside. This is achieved through fulfilling a series of objectives:

1. To examine ANT in relation to consensus-based approaches to biodiversity planning for the wider countryside.
2. To explore the more specific processes used in resolving conflict and building consensus between stakeholders in rural land and water planning with reference to texts as intermediaries (which may hold networks in place or act as foci for achieving consensus), and the role of knowledge.
3. To apply principles from the Sociology of Translation and ANT in empirically assessing the dynamics (past, present and ongoing), between stakeholders

in the selected case study area, through exploring the nature of relationships between actors, the groups they represent, and, sources of data.

The theoretical constructs outlined above and explored in more detail in Chapter 2 are applied to the biodiversity planning activities within the county of Oxfordshire. The county Nature Conservation Forum, established to incorporate a wide range of interests relating to conservation planning, provides the entry point for uncovering the processes and dynamics between actors seeking to establish priorities for nature conservation within their boundaries, and how these factors change over time. The Nature Conservation Forum is strongly linked to the activities of Local Agenda 21 groups. The case study provides ample opportunity for examining different instances where consensual agreements are worked towards and the ways in which networks are deliberately built, evolve and show evidence of being stable or unstable. Murdoch's (1997) ideas of different types of network space are also applied to the planning scenario.

#### **1.4 Structure and Organisation of Thesis**

This research initially was born out of a project that was funded under EU Framework Four (Selman and Wragg, 1999a) that was undertaken between 1996 and 1999. It draws on some of the ideas that were reported on from that study but has sought to develop the theoretical approach more deeply and in a more detailed manner in relation to examining case study material, and also draws on a much wider realm of collected data. The author has already successfully published some of the findings from this research in academic journals (see Appendix One for list).

This thesis is divided into two main parts, following an initial introduction to ANT and the Sociology of Translation, and nature-society relations. Part One comprises five chapters and is a literature review structured around the four main poles introduced in the translation constructivist approach (see Chapter Two, Figure 1). These poles are: scientific knowledge; the institutional framework; the production of 'practices', and the protected 'environment'. Each of these areas is explored in the literature review by first considering theoretical/philosophical ideas pertaining to each area, and then through examining the concepts and arrangements which operate at

global, European, UK, and county/local levels. Thus there is a focusing down for each pole from 'the global' to 'the local'. This approach very much represents the relatively rapid cascade of biodiversity planning from the international Rio Summit in 1992 to county Agenda 21 initiatives and biodiversity action plans. Biodiversity science and planning are contextualised within the literature review as developments in nature conservation planning through time, at different spatial scales, and for each of the different poles, are examined. Thus the author seeks to take an innovative approach through linking the structure of the literature review to the theoretical framework in a novel attempt to situate the study within a wider planning framework. In Chapter Seven of Part One the methodological approach is outlined, which is qualitative and linked to the research philosophy ideas that seem to be upheld by ANT writers.

In Part Two, in Chapter Eight data gathered through document analysis, participant observation and semi-structured interviews within the chosen case study of Oxfordshire, are then presented. It is analysed through applying methodological principles stemming from ANT and through displaying the processes of consensual approaches to biodiversity planning in the form of Actor-Network Maps that represent 'slices' through the network. Finally, in Chapter Nine conclusions are drawn pertaining to the social dynamics of biodiversity planning for the wider countryside, and the usefulness and applicability of ANT to examining the nature of consensual agreements in a specific environmental planning scenario.

## **Chapter Two: Introduction to the Sociology of Translation and Actor Network Theory**

### **2.1 Organisation of Chapter**

The theoretical constructs to be applied later to an examination of biodiversity planning are introduced, including the ways in which these will be applied in relation to methodological principles. First, ideas stemming from the social sciences that relate to nature-society relations are discussed to do with the way in which society constructs the nature or environment it deems to be important (social constructivist approaches). Society and nature have often been taken by sociologists and naturalists to be two separate spheres; the framing of environmental issues often stemming from what may be perceived as the demise of the natural can be seen as a joining point. In this research the environmental planning scenario considers how nature and humans can both be represented within heterogeneous networks. The second section discusses themes from a collection of papers that the author deems to be particularly relevant in terms of framing the way in which ANT and the Sociology of Translation will be applied for the purpose of this study. Thirdly, methodological principles stemming from ANT and the Sociology of Translation and consolidated by the author are introduced. The final part of this chapter presents a model developed by the author that stems from the translation constructivist approach and builds on the ideas discussed in the earlier sections of this chapter. This model is based around four poles: the 'production of knowledge (scientific/technical pole)'; the 'institutional pole'; the 'production of practices pole' and the 'environment protected' pole, around which the literature review in Part One is then structured.

### **2.2 Society-Environment Relations and Social Constructivist Approaches**

This thesis draws on certain sociological principles to examine land and water planning scenarios aimed at promoting biodiversity within the county of Oxfordshire and the wider planning context. Examining environmental controversies from a sociological standpoint is advocated by a number of authors. For example, Yearley (1992) promotes the idea that social science is important in terms of understanding environmental issues because there are social, political and economic aspects

associated with environmental issues at the current time, thus there is not only a demand from the natural sciences in terms of understanding the natural world. Dickens (1992, p.1) also states that 'there can be little doubt that the causes of contemporary ecological and environmental problems are largely associated with social relations, social pressures and political institutions'.

Hannigan (1995 p.32/33) argues that a social constructionist perspective to the treatment of the environment has several advantages over other sociological approaches (including the 'structural functional' approach (see Merton and Nisbet (1971), who assumed that social problems were the direct products of objective conditions). Hannigan explains how Spector and Kitsuse (1973) contended that social problems were not static conditions but rather 'sequences of events' that developed on the basis of collective definitions. Since the early 1970s, social constructivism has moved towards the core of social problems theorising and has become adopted by other distinct areas as well, e.g. science and technology, gender relations, and media studies. Importantly, the key aspect to any constructionist analysis is a concern with how people assign meaning to their world.

Human geographers have treated the natural environment per se as a social construction in two different ways. Whatmore (1999) explains how the Marxist tradition has been concerned with the material transformation of nature, i.e. the refashioning of nature as the product of human labour (the 'production of nature'). This suggests that nature is not necessarily fixed and unchanging, and also, that the process of producing goods from nature alters the relationship between people and nature. Capitalist production will override other concerns in a quest for profitability. Cultural geographers, take a slightly different approach, holding that the natural world is shaped as powerfully by the human imagination as by physical manipulation. Thus there is a recognition that the human relationship with 'the natural' is unavoidably filtered through the categories, technologies and conventions of human representation in particular times and places, i.e. nature itself is, first and foremost, a category of the human imagination, and therefore best treated as part of culture. This idea can be extended to a consideration of elements of nature such as habitats and species.

To return to the social science discipline of environmental sociology, Yearley (1992) suggests that the framing of environmental problems (which may be taken as a point of interaction between society and nature) tends to be tied quite directly to scientific findings and claims. Morris and Wragg (2003) have explored the idea of claims-making through applying some of Hannigan's arguments to biodiversity planning and conclude that certain conditions relating to the acceptance of scientific validity, media promotion, existence of popularisers and institutional backing are key to the construction and acceptance by society of an environmental problem within a local context. Hannigan (1995, p.40) suggests that if the social constructivist perspective is compatible with any other approach to the environment, it is probably that of political economy since the way in which environmental knowledge and risk are conceptualised, and the relative success of these constructions, are constrained by, and channelled through, existing structures of economic and political power. But political economy in itself is not adequate in terms of explaining the 'career paths' of environmental problems such as biodiversity since 'perception is more than simply a function of power, it depends on a host of other factors which relate to culture and knowledge'.

Macnaghten and Urry (1998) discuss the term 'nature' as opposed to 'environmental' or 'biological' issues in their introduction and recognise that nature as a concept has been 'tamed' through the development of specialised natural sciences. Their focus is on environmental issues rather than biological. This thesis also focuses on what is framed primarily as an environmental planning controversy albeit this encompasses biological scientific data sources and specific elements of the natural environment. In this research, through the application of methods and principles associated with ANT and the Sociology of Translation, snapshots of the 'nature' that biodiversity planners were or are seeking to protect are re-constructed. Macnaghten and Urry (p.5) cite Buttel (1987) in suggesting that environmental sociologists have advocated a reorientation of sociology towards a 'more holistic perspective that would contextualise social processes within the context of the biosphere'. There is a tension between the hard and factual base state of nature, and the 'more subservient social sciences which identify the impacts of physical nature upon society, and the impacts of society on nature (p.5). Swanson (1997, p.3) poses the question, 'why is it more

difficult to achieve consensus in the development of an approach to the biodiversity problem than it is for other global problems? Although atmospheric chemistry is a very complicated scientific problem, the science of the biodiversity problem is an even more difficult and complex subject.....it is a social problem embedded within the biological world....it is not sufficient to focus on either the social or the natural sciences alone to understand the biodiversity problem; both are necessities'. This research is interdisciplinary in the sense of taking a social constructivist stance (though not a strong one since environmental realism is recognised) to examining the production of, and institutionalisation of knowledge that stems from biological science and ecology.

### **2.3 The Sociology of Translation and Actor Network Theory**

This section explores the notion of 'translation' and then moves on to discuss ANT. Translation is a process and was a key term that fuelled the development of ANT, that according to Law (1999, p.8) 'tells us nothing at all about how it is that links are made...back at the beginning of ANT the characteristics of semiotic relations was thus left open. The nature of similarity and difference was left undefined, topologically – or in any other respect.....there was no assumption that an assemblage of relations would occupy a homogeneous, comfortable and singularly tellable space'. Brown and Capdevila (1999, p.32) explain that the Sociology of Translation lies at the heart of the Actor-Network approach and refer to some of Callon's ideas that make translation a 'socio-logic': 'Translation is the manoeuvre whereby the logical relations between seemingly opposed sets of 'significations, concerns and interests' are displaced within a 'programmatically organisation of both knowledge and social actors'. Callon's ideas on translation, importantly, have a representational aspect to them. Brown and Capdevila (p.33) also discuss Latour's (1988) paper *Irreductions* and present the sociology of translation as an account of stability and change: 'we may conceive of only basic formal units of substance (actants) which enter into relationships (networks) by way of encounters (trials of force) wherein questions regarding the powers and identities of these self-same units come to be temporarily settled by reference to the overall compound nexus of relationships within which they are now embedded (the translation and subsequent enrolment of actants)'. Latour,

therefore, sees the sociology of translation as a means by which network relations can be explained.

To summarise the above, the sociology of translation forms part of the terminology and principles behind ANT and the chains or trails of translations can be followed in order to explain how representation can be traced. For ease of explanation, this could be illustrated by the ways in which the interests of water invertebrates come to be represented within a Local Environment Agency Plan (LEAP). There are a whole series of processes that have resulted in the ultimate translation of the needs of invertebrates to be recognised in an inscription on a page. Studying the processes behind this translation entails looking at the sociology of that process, i.e. what actors were involved? How did the translation pass along the chain? What flows of information or resources were there within the chain? Or consultation meetings and production of working documents? To unpack the processes entails following the actors and translations through time. Latour expands this idea to network associations in that actors and other objects, for example, texts and resources, may be seen as linked within a network space, and the reason that they are present there is due to the translations that have taken place behind them – they may not have previously been linked at all. What is represented in a given network may have displaced the chain of translations and actors that stand behind it.

In the move to further illustrate and understand the specific theoretical constructs applied in this research, Callon's (1986a) classic paper on the sociology of translation is drawn on. It stems from the point of view that sociologists, in conducting detailed analyses of scientific and technological contents over the past few years, have produced explanations which are *asymmetrical*. They have acknowledged the right of scientists and engineers to enter into debate, and have acted impartially in studying these actors, referring to the protagonists in the same terms even if one succeeds in imposing his or her will; 'the sociologists attribute the actors with neither reason, scientific method, truth, nor efficiency because these terms denote the actors' success without explaining the reasons for it. This perspective has been at the basis of a very lively and detailed description of the shaping of science' (Callon, 1986a, p. 197). However, 'when the society described by sociologists confronts nature, society



always has the last word'. This has resulted in certain difficulties in that the sociologist traditionally has tended to censor selectively the actors when they represent the views of themselves, their allies, adversaries or social backgrounds (p.198) and has only allowed them to speak freely about Nature itself, but once it is accepted that both social and natural sciences are equally uncertain and that society is no less controversial than Nature, it is no longer possible to have them playing different roles in an analysis. From this philosophical standpoint stems the impartial treatment of elements of nature and human actors who may be bound up in heterogeneous networks. In other words nature is assigned agency and its elements may be treated as actors in their own right.

Callon (1991) explains the notion of translation in simple terms – 'A translates B' or A defines B and B can be human, non human, a collectivity or an individual. The translation may reflect B's status or interests/desires as an actor because the decision is A's although this is also dependent on past translations. Methodologically the observer should collect all past translations – 'the notion of translation implies definition. But definitions are inscribed in intermediaries....which come in many forms. Accordingly, it makes little sense to speak of translation 'in general'. We have to define the medium, the material into which it is inscribed: roundtable discussions, public declarations, texts, technical objects, embodied skills, currencies – the possibilities are endless. Nevertheless, the elementary operation of translation is triangular: it involves a translator, something that is translated, and a medium into which that translation is inscribed'. Also, over time translations may change – they may arise from compromise and mutual adjustment and may be an 'isolated and homogenous intermediary' or a cascade of intermediaries with articulated roles, links and feedback loops between the actors. In either case, a concern with translation focuses on the process of mutual definition and inscription. And, to be sure, it extends the traditional definition of action '(p.142).

Callon (1986) writes about the sociology of translation as providing a new approach to the study of power, and is much cited by Actor-Network Theorists. Therefore it is appropriate to expatiate on some of his ideas within this review of theoretical literature, particularly since he defines many terms to be applied within this research.

Within Callon's paper three principles are adhered to in reporting on a scientific and economic controversy relating to the idea of domesticating scallops in St Brieuc Bay, France. These are described as agnosticism (impartiality between actors engaged in controversy), generalised symmetry (the commitment to explain conflicting viewpoints in the same terms), and, free association (the abandonment of all a priori distinctions between the natural and social) (p.196). The study examines the progressive development of new social relationships through the constitution of a 'scientific knowledge' that occurred during the 1970s, and identifies four 'moments of translation'.

First, a group of scientific researchers problematised the issue of the domestication of scallops through their knowledge of how this had successfully been achieved in the Far-East, by suggesting that the same principles could be replicated in a local environmental situation in France. Their affirmations went uncontested. The group of researchers determined a set of actors and defined their identities in such a way as to establish themselves as an *obligatory passage point* (or crucial to a number of other human and non human groups) in the network of relationships that was developing. They demonstrated that the interests of other actors, namely, the fishermen of St Brieuc; scientific colleagues, and, the scallops themselves lay in agreeing to their proposed research programme: 'The future of *Pecten maximus* is perpetually threatened by all sorts of predators always ready to exterminate them; the fishermen, greedy for short term profits, risk their long term survival; scientific colleagues who want to develop knowledge are obliged to admit the lack of preliminary and indispensable observations of scallops in situ' (p. 206). The scallops were thus assigned the status of 'actors'.

Second, the allies (scallops; fishermen; scientific colleagues) became locked into place by devices of *interessement* which is the group of actions by which an entity attempts to impose and stabilise the identity of the other actors it defines through its problematisation. Different devices are used to implement actions which draw actors into relationships with each other, and perhaps away from another set of network relations. In this case, for *interessing* the scallop larvae, the devices were physical in nature and included towlines with collectors (netted bags containing a support for the

anchorage of larvae). The *interessement* of the larvae (i.e. their anchorage) confirmed the validity of the researchers' problematisation. For the *interessement* of the fishermen and scientific colleagues, meetings and debates, and scientific texts acted as devices. In such ways social structures which include both social and natural elements are consolidated. Callon points out that if *interessement* is successful, the third stage of translation can occur – that of enrolment. This is described as 'the group of multilateral negotiations, trials of strength and tricks that accompany the *interessements* and enable them to succeed'. (p.210).

The fourth 'moment of translation' identified by Callon was the mobilisation of allies, i.e. in this case those actors who had aligned themselves with the problematisation put forward by the researchers; here the notion of representation comes in, i.e. who speaks in the name of whom. Limited numbers of scallops cooperated by anchoring themselves successfully but these are perceived as representing the 'successfully mobilised' scallop population. The scientific community was represented by the few colleagues who read the publications and attended a dissemination conference; similarly, it was only the representatives of the fishermen who supported the project of restocking the bay. Thus the delegates and scientific colleagues spoke for themselves, and on behalf of others, whilst the anchored larvae quite simply represented the larger population. The scallops were displaced and transported into a conference room through a series of graphs and tables; similarly other silent actors, i.e. fishermen and specialists are all represented at the conference by a few spokespeople. Thus diverse populations were mobilised.

An important point emerging from this study in relation to the building of consensual agreements and the use of ANT constructs as a framework for analysis is that if mobilisation is successful then all actors are co-operating or 'speaking with one voice' and consensus is achieved. Such a situation limits the margins of manoeuvre for each group of actors, thereby creating a 'constraining network of relations'. However, in the case that Callon speaks of, the consensus was ultimately contested by the fact that the scallops stopped anchoring on the collectors over time; also, one night a group of fishermen went out and caught the scallops that had initially anchored (in deference to their elected spokespersons) – even the scientific colleagues

then became sceptical as to whether anchorage was really an obligatory passage point. Thus the fishermen, in the end, were dissident. As part of the conclusion Callon states that, 'to translate is to displace, but to translate is also to express in one's own language what others say and want, why they act in the way they do and how they associate with each other: it is to establish oneself as a spokesman. At the end of the process, if it is successful, only voices speaking in unison will be heard.' Also, 'translation is a process before it is a result', and 'translation is the mechanism by which the natural and social worlds take form. The result is a situation in which certain entities control others....the repertoire of translation is not only designed to give a symmetrical and tolerant description of a complex process which constantly mixes together a variety of social and natural entities. It also permits an explanation of how a few obtain the right to express and to represent the many silent actors of the social and natural worlds they represent.' The ideas of problematisation, *interessement*, enrolment and mobilisation and Obligatory Passage Points are incorporated into the methodological approach in this research as labels for some moments of translation that may be uncovered.

Latour (1986, p.267) discusses the differences between the diffusion model (which is to do with the sociology of the transmission and resistance of force) and the translation model in relation to collective action. The diffusion model hinges on the initial force of those who have power transmitting the force in its entirety, although, 'the medium through which power is exerted may diminish the power because of frictions and resistances (lack of communication, ill will, opposition of interest groups, indifference)'. Successful implementation of the object of the initial force depends on power versus resistance. An example might be concern at the Rio Summit over deforestation that is expressed strongly and comes to public attention. Rainforest dwellers are aware of the importance of maintaining tree cover but their resistance or ill will (for legitimate reasons) may overcome the force of the concern. However, with the translation model, Latour explains that, 'the spread in time and space of anything – claims, orders, artefacts, goods – is in the hands of many people; each of these people may act in many different ways, letting the token drop, or modifying it, or deflecting it, or betraying it, or adding to it, or appropriating it' (p.267). The token can be a cause related to values or a knowledge claim such as concern over

deforestation for example. Also, in this model, displacement is the result of the energy given to the token by everyone in the chain who does something with it and each member of the chain is as important as the other – if the token is to move through the chain of actors, fresh sources of energy need to be applied all the time. Thus each person in a given chain is not just resisting a force of transmitting it as in the diffusion model but are doing something essential for the existence and maintenance of the token – ‘the chain is made of actors and not patients and since the token is in everyone’s hands in turn, everyone shapes it according to their different projects. That is why it is called the model of translation’. The force can stop, depending on the actions of the next person along the chain, and, ‘when, as a result of unusual circumstances, it is made to stay the same, this is what requires an explanation’ (p.268). To use the same analogy then, the translation model considers that the environmental concern is progressed by actors along a chain. Actions on the ground are then expected. It is in a sense a more optimistic explanation of power since it allows social scientists to understand power as a consequence and not as a cause of collective action. In relation to environmental planning within the UK, and the prevailing ethos of partnership working and negotiation, this adds weight to the importance of looking at the translations that occur in the bargaining process as to which elements of nature become represented within a text and the chain of actions behind this. It is a more active approach to looking at the socio-politics within a dynamic planning context.

Murdoch (1997a) uses the concept of ‘translation’ to illustrate how actors are enrolled into networks and how their interests are then modified. He suggests that the term ‘network’ is a unifying concept allowing social scientists to investigate the social, the natural, the political, the economic, etc. concurrently. It allows an examination of how actors are enrolled into heterogeneous sets of relations. Thus by the process of translation, networks of actors may be drawn into allegiance with one another, and stabilisation of the relationships may occur. Such a framework provides an analytical tool for examining the dynamics of consensus building in terms of the changing allegiances of actors; the obligatory passage points put forward as ‘truths’ (which may be based on scientific evidence), and offers a way of understanding how the human and the natural come to be represented in heterogeneous networks. Bosco

(2006, p.136) also states that the construction of 'the social' entails tracing heterogeneous associations among different entities. Exploring the sociology of translation within this research involves examining the sociopolitical processes that result in the development of allegiances between actors and the translation of ideas through various actions into texts and actions on the ground.

Murdoch (2006, p.62) discusses Latour's ideas on translation in relation to the extension of scientific networks, 'if scientific networks are to be extended through space and time, then actors of differing (natural and social) types must be 'interested' into the network – that is their goals must be somehow aligned with those of the scientists'. Murdoch (p.63) interprets his thoughts on what translation means as being the way in which one actor gains the ability to speak for another. This is to do with the way in which actors align their interests in order to help them to reach their own goals, and 'all interests and interpretations of interest must be channelled into the network in ways that solidify its shape'. Murdoch (also p.63) states that 'Latour suggests that the successful construction and stabilisation of networks requires the building of a *consensus* between the participants. In other words power relations cannot just be imposed but must be agreed upon'. This statement backs up the way in which consensual agreements are treated as network stabilisation in this research.

To synthesise these concepts relating to translation and the building of actor networks Murdoch draws strongly on Latour's work to deduce a number of points which he presents as shown below:

Murdoch's (2006, p.66) summary of Latour's ideas on network building

- Processes of translation must be executed so that actors are enrolled into network relations
- 'Translation' means that the enrolled actor is persuaded to 'identify' with the network. This may mean some modification in the actor's identity and/or may mean some modification in the shape of the network to accommodate the new actor
- 'Translation' can be executed either consensually or coercively, or through some combination of the two. Actors can be persuaded to join the networks because they come to believe it is in their 'interests', or they can be forced to join against their 'interests'.

- Once enrolled into the network, the relations between entities must be stabilised. These stabilisations are often delegated to non-human entities such as technologies, because materials of various kinds are themselves generally more stable than human actions. In short, technologies can make good disciplinary machines.

In moving on further to consider the terms associated with ANT (ANT), Callon (1991) is again consulted. He initially defines the term 'actor' as 'an entity able to associate texts, humans, non-humans and money, accordingly it is any entity that more or less successfully defines and builds a world filled by other entities with histories, identities, and interrelationships of their own.' He describes the elements that draw actors into relationship with one another, as 'intermediaries' and these can include texts; technical artefacts; human beings and money (and for the purpose of this thesis, also parts of nature). These intermediaries are seen as vital in terms of describing and composing networks – thus 'a scientific text may be seen as an object which makes connections with other texts and literary inscriptions'. Within texts, whole populations of human and non human actors may therefore be linked. Callon questions whether if action works by the circulation of intermediaries then we may not need the notion of 'actor' at all, and the concept of intermediaries could suffice. However, he suggests that the answer is to do with authorship which is often inscribed in the intermediaries themselves; thus 'an actor is an intermediary that puts other intermediaries into circulation...an actor is an author' (p.141), and, 'defined in this way, an actor is an entity that takes the last generation of intermediaries and transforms....these to create the next generation'. Thus it is understood that texts or technical objects hold the histories of past translations of chains of actors who have put them into their current place. Callon also states that, 'Groups, actors and intermediaries describe a network....the network of intermediaries is accepted by an actor after negotiation and transformation and is in turn transformed *by* that actor. It is converted into a scenario, carrying the signature of its author, looking for actors ready to play its roles. For this reason I speak of *actor-networks*: for an actor is also a network'. Perhaps this is better understood as the idea that an actor can represent a network or hold elements of a network behind him or her, or it. Callon's ideas here form an important basis for the preoccupation of this research methodology with looking at

texts as this enables a means of understanding about how networks come to be held in place, but also now networks can be built. The production of certain texts, for instance, biodiversity-related plans can be seen as Obligatory Passage Points (OPPs) that draw networks of actors together.

In considering ANT in relation to consensus building, during the research process different types of disagreement may be discovered which may be focused on either actors or intermediaries and these may or may not be resolved, however, Callon (1991) states that, 'a translation that is generally accepted tends to shed its history', also, 'a successful process of translation thus generates a shared space, equivalence and commensurability. It *aligns*. But an unsuccessful translation means that players are no longer able to communicate. Through a process of *disalignment* they reconfigure themselves in separate spaces with no common measure. Translations thus both flow through and are held in place by intermediaries. When there are more than two actors joined together by intermediaries, a network starts to form'.

Alignment of actors and network stabilisation can be associated with the idea that a certain set of principles, or, for example, in terms of countryside planning, a land or water management strategy are accepted, 'signed up to' and 'bought into' by a particular group of actors. Sometimes the translations are more 'irreversible' than in other cases. For example if reinforced by national legislation. This notion may be referred to as 'black boxing' where the ideas become the accepted wisdom or norm (see Latour (1987), or Law (1992)). The elements of the network 'black box' the representatives that stand behind them, 'within standardised and formalised networks entire 'chains of translation' become folded up into complex hierarchies which juxtapose spaces and times in line with the translating impulses of centrally placed actors' (Murdoch, 1997, p. 9). Aitken and Valentine (2006, p.338) in their definition of ANT state that it, 'opens up 'black boxes' of action to explore the way that heterogeneous materials are continually assembled to allow actions to occur'.



The concepts of space and time are indeed important in terms of applying ANT to biodiversity planning. Murdoch (p.2) alludes to the ideas of Serres and Latour (1995, p.60) who suggest that time and space can be seen as a 'crumpled handkerchief' in that initially distant points then become closer or even superimposed. Time itself can be seen as 'gathered together' with multiple pleats. Actors, for the purpose of this research can be seen as points within these pleats. Thus spatial and time dimensions are important in this application of the usefulness of ANT as networks draw together heterogeneous elements which have their own space-times. The global to local dimensions of biodiversity planning are considered here over time - a network may be found to comprise actors from different space-times. Law (1999) goes as far as to suggest that space is not a dimension that should be seen as singular in character and is not a container but is contained within networks. Space is seen as being a network effect. This idea gives weight to the way that ANT is applied in this research (see Figure 3, Chapter Two, specifically) and the way in which the literature review in Chapters Three to Six is organised in relation to considering knowledge, institutions, practices and the nature that society wants to see protected at different spatial scales from global to local, whilst bearing in mind that a local network can incorporate global actors and vice versa.

Following on from ideas to do with 'black-boxing', Murdoch (1997a, p.5) suggests that work on translation tends to identify two broad network types which can be summarised as follows:

- 1) *Spaces of prescription* (after Callon and Law's work in 1989) where the translation is perfectly accomplished: the entities are effectively aligned, working in unison, and the network is stabilised. This enables the enrolling actor (the 'centre') to speak for all and in some circumstances this may be an actor which 'acts at a distance' or is remote from the rest of the network – a global macro-actor. The network becomes 'heavy with norms' (referring to Callon's work in 1992, in, Murdoch, 1997a p.5), and therefore predictable:

‘the more stable the network, the more irreversible the translations, for such a network will be in a strong position to fend off competing enrolments of the combined elements’ (Murdoch, 1997a, p. 8) .

So, spaces of prescription are seen as similar to black boxes in that they are strong in terms of the accepted way of doing things and the way that certain procedures are institutionalised and not particularly open to negotiation unless there is a very strong challenge, e.g. crucial new scientific evidence.

2) *Spaces of negotiation* (after Latour, 1992) where links between actors and intermediaries are provisional and divergent, where norms are hard to establish and standards frequently compromised, ‘here the various components of the network continually renegotiate with one another, from variable and revisable coalitions, and assume ever-changing shapes’ (Callon, 1992), ‘the simplification or standardisation of these network types is fraught with difficulty and the entities which compose them might easily be enrolled into alternative networks’. They are characterised by variation and flux, being fluid, interactional and unstable.

These are more characteristic of the types of open fora and fluid partnerships that have become increasingly common in wider countryside planning scenarios. This research draws on these ideas in examining participative planning situations.

Murdoch (1994) also points out that network relationships are contestable in that other actors may attempt to recruit entities and form a new set of relations. Similarly, Parker and Wragg (1999) report on the way in which a dissident actor formed a new network through reviving an ancient company, to reopen the navigation debate on the River Wye. In this case the general planning network which was essentially pro-conservation, was challenged by a ‘rogue actor’ who first revived the 1809 Rivers Wye and Lugg Horse and Towing Path Company and then enrolled other actors in an attempt to re-open the river for navigation purposes. Finally, a decision was made by the Secretary of State (‘acting at a distance’ and indicative of the way in which the geography of actor-networks relates to the ‘reach’ of networks, i.e. global actors may be enrolled into local

networks by acting as strategic centres, see also Murdoch (1994)). Parker and Wragg's (1999) example indicates how actors can become 'network-builders', and through framing an issue in different terms can engage others and thereby challenge an existing network which adheres to a certain set of existing 'norms'. Thus what was essentially perceived as a stable network was in fact open to challenge through the revival of an old disposition of power. Again, this study indicates the way in which time-space dimensions are built into all networks. Doolin (1997) also states that 'actors are invariably self-interested, and network building is thus a process of mutual enrolment' (p.3).

Cussins (1997) also writes about the way in which actors frame issues differently and in so doing engage the sympathies of others, and in this case the role of scientific research relating to biodiversity is crucial in terms of building arguments. She reports on a scientific meeting in Kenya, 1995, where the role of elephants in the ecosystem, and their overpopulation of a small area in Ambolesi National Park, was discussed by various scientific groups. In this case, 'each group had different moral, political, legal, economic, disciplinary and normative commitments, informing and informed by their model of science'. Cussins attempts to show what was involved in achieving a consensus. David Western, a Masai researcher, and prime mover in the international rise in conservation biology helped to develop a move towards the 'conservation of biodiversity' away from the traditional concept of 'the management of wildlife'. Linking elephant density to an indication of wider biodiversity, he suggested that elephants were a 'keystone species' indicative of biological biodiversity well-being across areas of Africa. On the other hand, a significant researcher on elephant social behaviour (Moss), took a more typical North America/European view of the rights of animals, and exercised caution in concluding that elephants were responsible for the loss of woodland and biodiversity in the Ambolesi ecosystem for fear that it could lead to more elephant killing. A senior ecologist responsible for funding Kenya's wildlife conservation efforts aligned herself with Moss and suggested that the solution was to expand the park and help to relocate landowners. Cussins states that, '...the sentiment on the part of the animal behaviourists (was) that involving the local community in conservation is suspect because it relies on one

form of utilitarian attitude towards wildlife' – the view was that elephants had intrinsic rights because of their complex social lives.

Western and his allies wanted the elephants alive and able to migrate so that they could aid seed dispersal and the shifting mosaic of habitats typical of savannah land. Western attempted to shift the focus from 'inside protected areas' to 'outside protected areas'. Elephant migration required the Masai to accept elephants onto their land and though they did not speak with one voice, the general view was that it would be favourable to regain some control over wildlife and land resources.

The scientific workshop in 1995 involved 50 people including local Masai, ecologists, lodge owners, tour operators, donor representatives, elephant watchers, Ambolesi's warden and other officials from Kenya's wildlife service and representatives from the local press and government. The aim was to present scientific evidence and decide how elephants should be managed. The workshop was focused around two different models of science and different sets of values and understanding of conservation of two different groups. However, beneath the scientific dispute lay a great number of other issues relating to conservation-legal issues, land use disputes and economic and moral concerns. Western took the participants to see his evidence of the link between elephants and habitat/biodiversity and the gradient he had identified relating to elephant concentration, advocating that elephants should migrate beyond park boundaries. Cussins describes the elephant conservation debate as having many phases that were best described as 'adversarial deadlock'. However, David Western and the Masai managed to connect, but not necessarily convert or align more stakeholders to their side of the scientific dispute and Cussins sees this success as being related to Western's 'group' 'leaving enough space to engage'.

Cussins's paper is interesting within the context of this research since it embraces the role of scientific knowledge; paradigm shifts in terms of wildlife appreciation and the 'biodiversity claim' (see Hannigan, 1995); the dynamics of consensus building in a situation where other conflicts of interest go beneath the framing of the issue in scientific terms; and, the way in which a key species was mobilised

into a participatory planning situation. This example sums up well some of the earlier discussions regarding different views of nature and the way that concerns to do with biodiversity can be framed in different ways. Although the context is African, the example also shows how scientifically, there was a perceived need for elephants to be able to migrate out of protected areas in order to interact fully with other species and areas of habitat. This type of scientific ecological approach is mirrored in biodiversity movements and landscape ecological principles that are now accepted as 'wisdom' within the UK.

Finally in this section it is important to consider the scope of networks. It is clear that lines of translation can be followed from past points as various actors displace others, but how are networks spaces delineated? Murdoch (2006, p.73) clarifies this well in stating that 'space' is nothing more than a network 'effect'. He discusses how global and local can be related through ANT methodologies, in that through translation it is possible for actions to occur in one place (the centre) that affect another place (the periphery) so that local can refer to the coordinated practices of actors in a predefined locality but also strategies of 'localisation' can be employed as places are 'lined up' within a given network. This is a useful way of viewing what has happened in relation to biodiversity planning in that centres can be equated with the Rio Summit and International Convention on Biodiversity; similarly European Union policy for wildlife planning and UK Government Biodiversity Action Plan. But these aim for actions within localities such as counties and the habitats represented within them. The words local and global in relation to networks, Murdoch suggests are not really applicable since 'networks are more or less long and more or less connected (p.71). Actor-Network theorists should not remain confined to the local in their studies but should stay within the network and not vacate it to look for another scale of analysis unless they are following where the network might lead in space and time. Murdoch cites Latour (p.72), 'Instead of having to choose between the local and global view, the notion of network allows us to think of a global entity – a highly connected one – which remains nevertheless continuously local'. In other words researchers, 'in following the construction of space and (time) never need to shift from the 'micro' to the 'macro' or from the local to the global; rather we just

follow the networks wherever they might lead'(p.73). ANT demands therefore that a relational view of space is adopted but also that spatial relations are seen as network relations.

This chapter now moves on to consider the methodological principles that are identifiable from readings on the Sociology of Translation and ANT that should be applied for the purpose of this research.

#### **2.4 Methodological Principles Stemming from the Sociology of Translation and ANT to be Applied in this Research**

Callon (1986) shows the importance of particular principles being adopted in the study of the sociology of translation (see earlier in this chapter). These are 'agnosticism' (impartiality between actors engaged in controversy); 'generalised symmetry' (the commitment to explaining conflicting viewpoints in the same terms); and, free association (the abandonment of all a priori distinctions between the natural and the social). In brief, four 'moments of translation' were identified by the researchers in Callon's paper:

- (a) problematisation – the researchers sought to become indispensable to other actors by defining nature and suggesting ways in which scallops may be more successfully harvested through actors 'going through' the Obligatory Passage Point"
- (b) *interessement* – series of processes through which the researchers sought to lock the other actors into the roles that had been proposed for them in that programme
- (c) enrolment – a set of strategies in which the researchers sought to define and interrelate the various roles they had allocated to others
- (d) mobilisation – a set of methods used by the researchers to ensure that supposed spokesmen for various relevant collectivities were able to represent those collectivities.

This paper suggests the need for an impartial approach in studying nature-society relations where elements of nature and society are treated in the same terms. This

may be interpreted as natural elements being treated as actors in their own right (as the scallops were in Callon's paper). Thus within the framework adopted for this research it may be imperative to identify situations where the type of 'nature' or 'environment' that a group of actors are seeking to 'protect' behaves in cooperation with (or doesn't!) the obligatory passage points they 'need' to pass through and networks that become established around them. Also, it is important to identify how elements of nature may be represented by different human actors in terms of scientific data and knowledge and in institutional arrangements. Murdoch (1997, p.740) states that 'natural entities are not to be regarded....as passive intermediaries: they retain the ability to subvert the associations of the social thereby recasting associations in new ways. The lesson is clear: we should refrain from excluding natural entities from our analyses for such entities have the ability either to consolidate or to undermine the sets of associations that constitute human-nonhuman networks'.

An agnostic stance, or adopting a neutral position, appears to be important, which, translated into practical research terms means, 'standing back' from involvement in the social situations being observed and followed. Thus it is important to identify how the biodiversity issue is framed or problematised by actors and identify different obligatory passage points around which actors convene, or must pass through, in consensual planning situations. Finally, moments of translation need to be identified (which may be perceived as moments of agreement or how actors become *interested* in and enrolled into networks and how they (or their positions, or the positions of those they represent) are mobilised). In order to do this it is important to look at the chains of translation and displacement that are behind the elements of a given network space.

The model or framework which is to be employed in deconstructing heterogeneous networks (Figures 2 and 3) allows space-time dimensions to be explored. As Murdoch (1997a, p.3) states, 'ANT has demonstrated on many occasions how networks pleat and fold time-space through the mobilisations, cumulations and recombinations that link subjects, objects, domains and locales....networks draw things together by gathering diverse places and times within common frames of reference and calculation'. Also, Murdoch refers (p.3) to Latour (1994) who says that

‘it is the mixing of humans and non-humans in networks which allows these networks to endure beyond the present. In this way something ‘structural’ is built up and social order, power, scale, even hierarchy, are consolidated and preserved by material objects. And these objects are never just objective and neutral; they contain and reproduce the ‘congealed labour’ of all those absent others who have entered into the socio-material arrangements which frame our daily interactions’. These concepts imply that research should consider how actors and objects at different spatial levels, and who may have made decisions or representations at different points in time, are linked and drawn together into an actor-network. Therefore the research process should delve back in time to some degree to find out how past actors or texts may still be crucial in terms of the development of networks and in holding stable networks in place through consensual agreements.

There also needs to be an awareness of how global actors and texts may be important and represented in networks which appear to be more localised. Thus the research design should enable such relationships to be uncovered – the principles of flexibility and ‘following-up’ or tracing relationships between actors and entities should be adopted. Murdoch (1997b) refers to Latour’s ideas that we should refrain from a shift in scale between say ‘the global’ and ‘the local’ but rather should follow networks wherever they lead. The research should therefore ‘go with the flow’ in terms of identifying key actors and ‘chains of translation’ and the researcher should not come to the scene with preconceived ideas as to where network boundaries lie.

At the same time there clearly is a need to be able to delineate network ‘boundaries’. In reality it is difficult to put limits on network relations as there is always another actor or entity that may be drawn in or is further back in time. It may be easier to draw a line around more prescriptive network spaces (Murdoch, 1997) than those that are more fluid and that allow more room for negotiation and for actors to pass in and out. It should be remembered that in delineating network boundaries the idea of consensus and agreement or disagreement between actors, plus the material objects which hold actors (the nodes) in place need to be the focus of attention in the research process (see Selman, 2000). Callon (1991) suggests that a boundary of a network may be related to its level of convergence and he suggests that ‘an element may be treated



as lying outside a network if it weakens the alignment and coordination – that is the convergence – of the latter when moved into the network’. Therefore in studying actor-networks the researcher should also look for those objects and actors that lie outside current boundaries.

In a panel discussion at the ‘Actor Network Theory and After Conference’ held at Keele University (July 1997) the question was posed to the panel, ‘how do we know we have a network, and how do we know its just one?’ Miettinen’s view was that it seems sensible to limit the network by taking one object of study and seeing how different actors contributed to the construction process; William Kaghan’s view was that institutions act through actors but documents are signed and sealed at management level – a criticism of ANT is that it only gives a partial picture; it was also questioned whether ethnography in its classical form is appropriate and whether connections made around material artefacts are too complex to analyse. It is important to be aware that there are different layers of talk and activity going on within organisations and therefore a method needs to be developed that takes account of this. This research focuses on certain objects for study and also considers how organisations and the departments within them are linked with the objects (generally key biodiversity-related texts).

It is with reference to writers on the sociology of translation and ANT that the need to identify the following becomes apparent: points of passage; actions by actors that aim to and do translate entities (e.g. types of wildlife and habitats) into agreements that are institutionalized and into key practices; points where enrolment of actors or contestation occurs; details of communications between actors; and, flows of resources and data within the biodiversity planning context.

In summary, in terms of guidance for the methodology for this research the following principles may be drawn:

- 1) The importance of following the actors – the researcher should not just be concerned with those that are most prominent in terms of activities or management.

- 2) The need to be prepared to incorporate actors who operate at different scales from the global to the localised context.
- 3) The need to remain agnostic and endeavoring to explain society and nature in the same terms.
- 4) The importance of looking for stages of translation as identified by Callon (1986): problematisation; *interessement*; enrolment; and, mobilisation. This enables the way that the network has been constructed over time to be revealed.
- 5) The importance of looking for moments of agreement or consensus and moments of disagreement or contestation. This enables the processes by which actor-networks are stabilised or destabilized to be identified.
- 6) The need to identify who is speaking on behalf of the entities associated with the network, and where displacement is occurring.
- 7) The building in of a time dimension in following the actors in a given network to see how actors or entities who may have been involved in constructing a passage point some time ago may by virtue of its acceptance by others at a later date, still be a valid part of a network.
- 8) The retaining of flexibility in order to delineate the key networks and draw sensible boundaries by retaining a focus on relevant activities and processes.
- 9) The importance of identifying the relationships which exist between different poles in the framework for analysis, e.g. how scientific knowledge or ideas become accepted wisdom and institutionalised, then built into practices which result in a certain 'environment' being protected.
- 10) The possibility of identifying spaces of prescription and spaces of negotiation and awareness that some networks may be more convergent than others depending on informal and formal relationships.
- 11) Consideration of the activities of different groups or 'layers' to find out about the different talk occurring within different niches or sectors.
- 12) The identification of boundary objects on the edge of networks which may represent cooperation between different sectors or may represent the edge of a network.
- 13) The need to identify key actors, flows of resources; the direction of translations; incidences of displacement.

14) In practical terms, examination of documentation such as minutes of meetings, texts (key agreements and practices) and working papers. Also discussions with the actors should take place. The research design needs to be towards the ethnographic end of the methodological spectrum in order for the researcher to be able to 'go with the flow' in discovering the direction of translations. The researcher should remain impartial during the research process.

The research methods selected for the research that stem from these principles are outlined in Chapter Seven. The final section of this Chapter presents a more specific model derived from ANT and the sociology of translation that will be used as a framework in examining data relating to biodiversity planning.

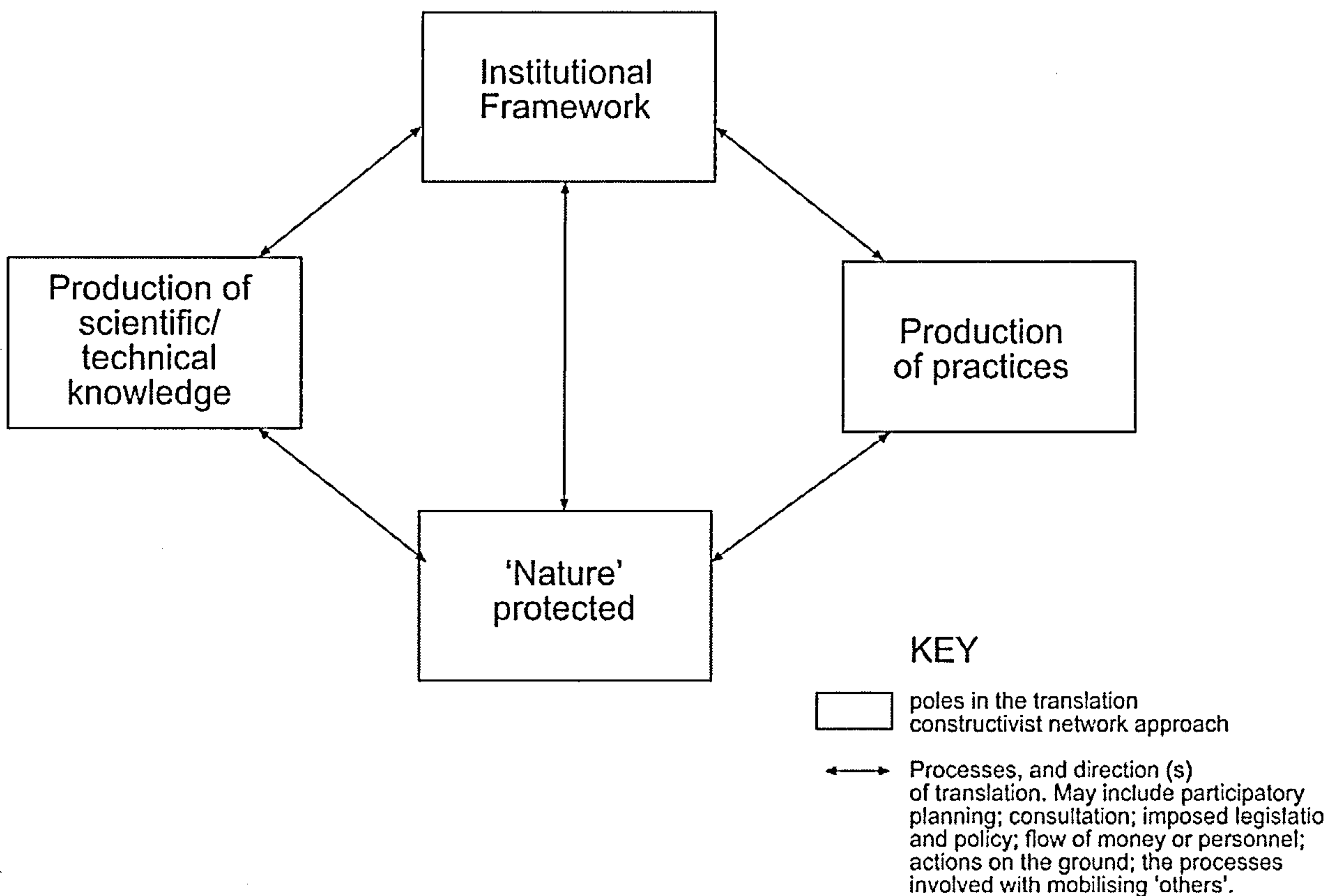
## **2.5 Applying a Translation Constructivist Network Approach: A Tool Derived from ANT and the Sociology of Translation**

A number of the above theoretical constructs are applied to an environmental planning situation in this research through the employment of an overall conceptual framework derived from the sociology of translation and ANT. The model will be employed to test the usefulness of ANT in investigating consensus building in biodiversity planning as stated in the objectives for this research. It is assumed from the outset that there are four main 'poles': 'the production of knowledge' or 'technical pole' (specifically the type of knowledge deemed relevant to the problem in hand); 'the institutional framework' (the institutions and actors involved in the administrative/policy framework); and, 'the production of practices' (policies, laws and more informal practices operating at all levels including specific management prescriptions being adopted in the biodiversity planning situation). This leads to the fourth pole which is the 'nature protected' pole. This includes elements of nature – habitats and species that a network deems as being worthy of protection, or not. What ultimately is deemed as important here is a result of scientific information and social construction in that there is negotiation between actors as to conservation priorities. 'The environment' may be referred to in the global sense but for the purpose of the case study the specific,

localised elements of the environment which are being managed and planned for form the focus. Figure 1 shows how such a network model may be constructed.

This model comprises the basic building blocks of the ANT model to be used. All poles are related to each other in that the arrows flow both ways. The arrows represent the direction of translation. The general forward movement, however, is assumed to be from the 'scientific knowledge /technical pole to the 'environment protected' pole via insitutionalisation and the production of practices.

Figure 1: The Four Poles Identified for the Application of the Translation Constructivist Network Approach




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N.B. This is the model applied by Selman and Wragg (1999c) introduced by Christian De Verre (Institut Nationale Recherche Agricole) at a project meeting held in Avignon in 1997.

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Key actors (or spokespeople, see earlier, Callon (1986) are engaged in different parts of such a network and they may represent the views or data of other humans or elements of nature. Some may be macro-actors who have a centralised position and indeed represent the views of a number of other actors. Callon and Latour (1981) consider that the macro-order consists of 'macro-actors who have successfully 'translated' other actors' wills into a single will for which they speak. Intermediaries hold the actors in place (as discussed earlier, Callon (1991)). Figure 2 builds on Figure 1 in showing the types of relationships which might be uncovered between actors involved in a planning scenario.

Figure 2: Framework or Map to be Applied to the Study of Consensual Planning Approaches

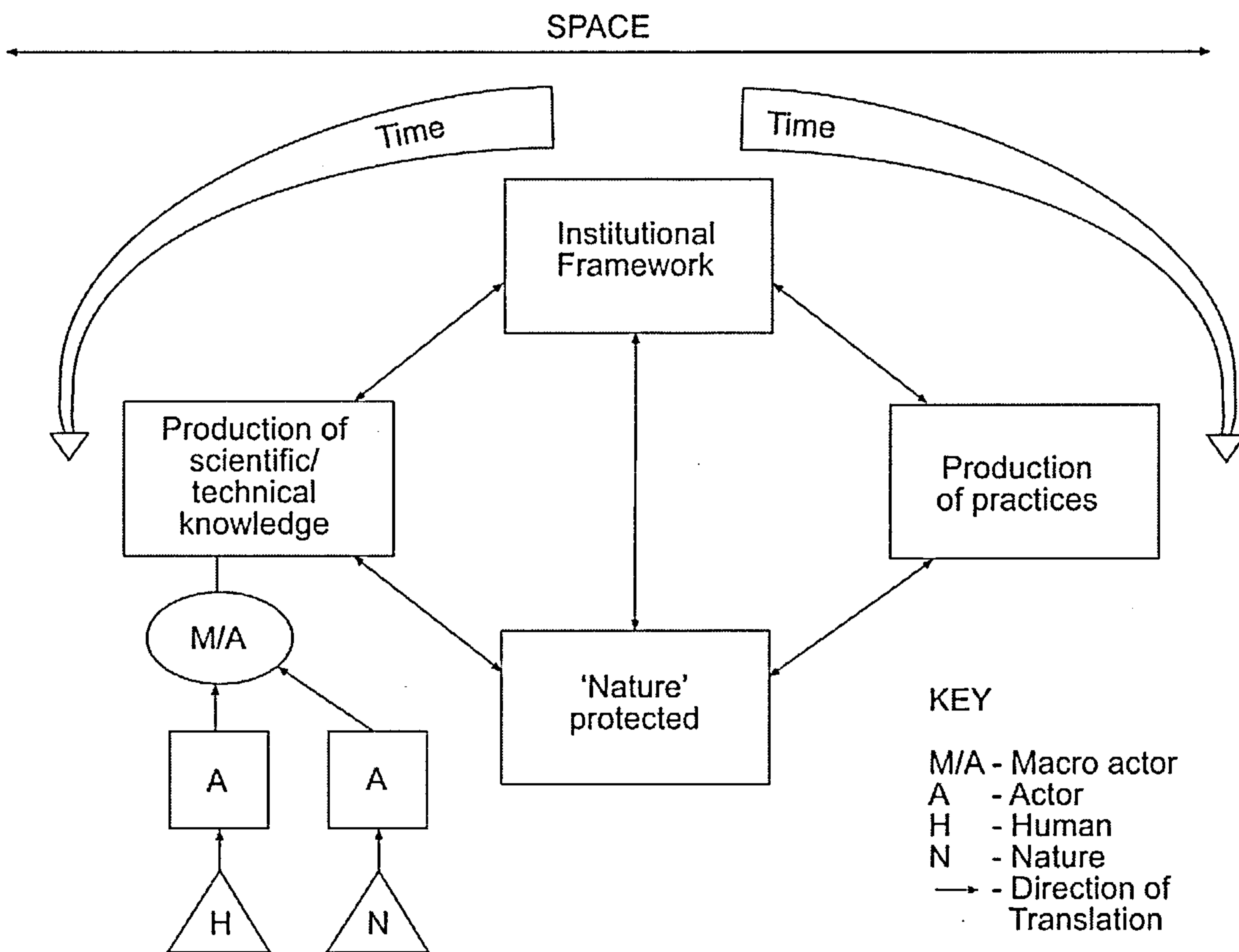


Figure 2 shows how the place of actors and elements of nature and society may be viewed in terms of deconstructing heterogeneous actor-networks. In a given planning situation, for example, the development of a management plan, there usually are a number of actors, some of whom may be represented by macro actors surrounding each of the poles. This model only shows a few actors around the scientific pole as an illustration, however, it is assumed that there are actors and macroactors around all four poles that may be stabilised within such a network. These actors represent the views of other humans or objects, acting as spokespeople. The general assumption is that knowledge (scientific and local) commonly is the starting point in developing a land or water management plan, and it may be that within this pole scientific documents are produced which are then adopted by the institutional framework as particular 'truths' or accepted hard facts. Such documents (or intermediaries) may then be used in formulating action plans for environmental practices. Once such practices are adopted, it can be assumed that if the evidence used initially was correct and the practices produced are adopted, then 'the environment' is protected. That is, until new evidence is found to challenge this assumption.

Figure 2 has been further developed to incorporate a time element. Time acts on the network and it is important to remember that there are chains of translation behind what is later seen as network stabilisation through an arrival at consensual agreements.

This framework is useful in that a 'line can be drawn' around those actors who have taken part in an exercise requiring consensus to be reached. However, there is continual movement of actors in space and time, and very often more actors, humans and elements of nature are involved than can be represented certainly within the remit of this research. Woods (1997) levels criticism of the use of ANT on the basis that the use of the network metaphor is problematic because all networks are necessarily partial representations showing only defined nodes and linkages between them, leaving blank the 'in-between spaces'. There may be

many actors not included in the problematisation of the networks, therefore it is difficult to know where to 'draw the metaphorical line'. Indeed, does this line signify the authorship of the researcher, or is it how actors themselves delimit their own networks? Woods also warns that, 'in reducing individuals, institutions, strategies and power relations to a network metaphor, and the identities and interests of actors to simplistic representations, an actor-network approach tells only part of the story' (p.338). The author stresses that in applying this approach such difficulties are acknowledged, and the approach should be seen very much as a framework for uncovering the interactions that occur between actors, their institutions, the elements of nature and groups that they represent, and the socio-political processes at all levels which exist in biodiversity planning. The idea is to use the framework to analyse and sort sociological data and to 'map out' networks of relations.

In justifying the use of a visual model, reference to Latour (1999, p.21) is made. He suggests that ANT is really a method and not a theory, 'a way to travel from one spot to the next, not an interpretation of what actors do....I have often compared it to a perspective drawing because of this peculiar relation between an empty construction that is nonetheless strictly determined but which has no other aim than disappearing once the picture is left to deploy its own space. I am well-aware of the limits of the metaphor since there is hardly a more constraining method than three dimensional perspective drawing. Yet the image has its advantage: ANT does not tell anyone the shape that has to be drawn – circles or cubes or lines – but only how to go about systematically recording the world-building abilities of the sites to be documented and registered' (p. 21). The use of ANT for this PhD research is applied in such a manner.

It should also be recognised that moments of stabilisation where a translation has occurred may also be extremely short-lived before contestation occurs. Also, because time acts on the network such a diagram cannot really exist in the simplistic sense except in terms of providing a *framework to uncover* the translations which have occurred. It must, however, be visualised as a three dimensional shape.

Figure 3 shows how the author has built on Figures 1 and 2 in endeavouring to show the way that actors from different space-times may be linked within (and between) poles. For example, within the knowledge pole, if a constant 'spiralling' in the development of knowledge is envisaged through time, this can assist an understanding of the way in which networks may hang in time and space, and how actors who may seem distant can be linked. The diagram illustrates how a spokesperson or scientist involved in the Rio Summit in 1992 may be linked through intermediary objects (for example, texts, finance) to the UK Government (for example, Biodiversity Steering Group or DEFRA), who are then linked to, for instance, the Chair of Oxfordshire Nature Conservation Forum through the need to refer to UK National Biodiversity Plan in producing a county BAP. At the more localised level, the Forum Chair may then interact and make agreements with, for example, the parish conservation plans co-ordinator, or a FWAG representative active on the ground. The poles are linked through actors' activities but this conceptual model serves to illustrate the reasons behind the organisation of the literature review, and the notion of a cascade in knowledge and planning activities from 'the global' to 'the local'.

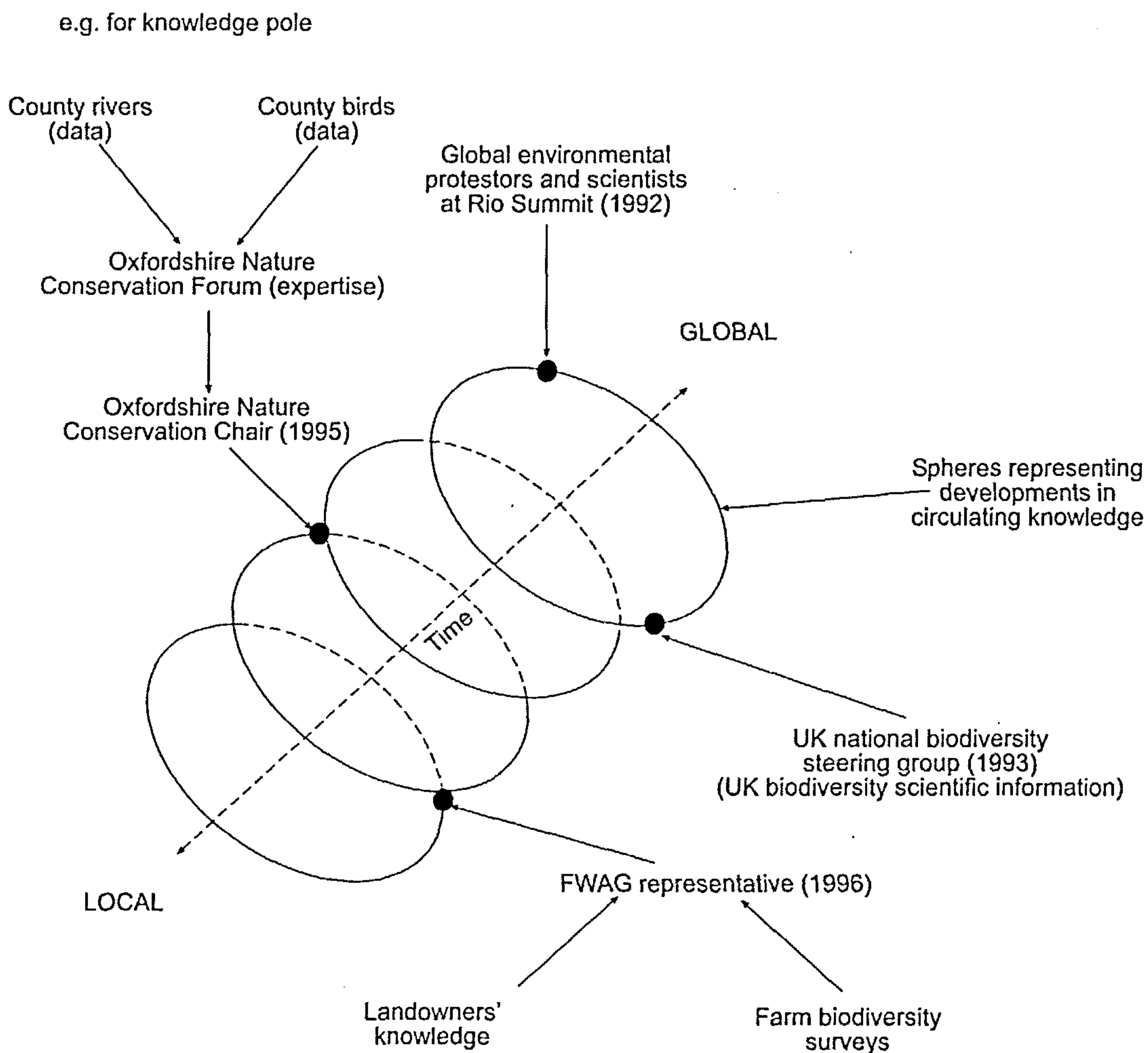
Bound up within 'the environment which is construed, constructed, protected', is the culmination of scientific knowledge, the institutionalisation of concepts (which may be governed or driven by societal values), and, the production of practices which serve to keep the environment in its current form or re-create it. Alongside these ideas must be considered movements towards participation, consensus, partnership, holistic and integrated approaches to environmental planning, and, the paradox of reductionist thinking on biodiversity and preservation of natural capital compared to the 'joined-up thinking' of sustainability concepts. The research explores how these issues are encapsulated within networks within a local context; global concerns interestingly come down to the localisation of policy and land and water management.

Figures 1, 2 and, particularly 3, illustrate how a researcher can dip into time and space, or take a slice through an evolving actor-network to expose how the



elements are linked together. This is similar to the idea of Strathern's 'cuts' (see Stenner, 1999) but it is contended in this research that the slices may be diagonal or horizontal or straight across the time-space dimension. In Chapter Eight some such slices are presented based on narratives of biodiversity planning at the local level.

Figure 3: Model to Show how an Actor-Network may 'Hang Together' in Time and Space



The framework is applied to biodiversity planning within the county of Oxfordshire, but the planning activities need to be set within the context of developments at different spatial scales. The poles are not flat and not necessarily just relating to localised activities, therefore the literature review in chapters 3,4,5 and 6 in Part One of this thesis, is built around each pole and each chapter begins by looking at the global picture then focuses down to local biodiversity activities. The data was collected between 1998 and 2002 and because the aim is to test the usefulness of ANT as an approach to examining such planning scenarios, more recent developments within countryside planning are not included as these were not linked into the networks that were uncovered at the time of data collection. Therefore, what is later presented in relation to networks surrounding the production of the Local Biodiversity Plan in Oxfordshire draws on narratives that pertain to that era.

## **Prologue to Part One**

Part One of this thesis comprises a four-part literature review held within chapters three to six which aims to explain the British rural planning context. The data gathering phase for this research was from 1998 to 2002 and the literature review does not incorporate more recently produced documents since they are not relevant to the context of the empirical data. As stated at the ends of Chapters One and Two, the review is linked to the theoretical framework described in Chapter Two in that it is organised around the four poles of the translation constructivist network approach, that is the areas of ‘scientific knowledge’ or technical pole; ‘institutional framework’; ‘production of practices’ and ‘the protected environment’. These areas do overlap, and it is acknowledged that organising the literature in this way may seem artificially divisive, but the writer seeks to take an innovative approach in embedding the examination of literature within the theoretical and methodological approach, bearing in mind that the social constructivist framework is a tool for travelling between actors and intermediaries that hold networks together.

Under each heading, literature and key policy documents are explored from ‘the global’ to ‘the local’ (i.e. documents relevant to Oxfordshire), thus there is a focusing down on the study area. The rationale for the organisation of the literature in this way is that in order fully to appreciate the socio-political processes occurring in nature conservation and biodiversity planning in Oxfordshire through the chosen theoretical framework derived from the sociology of translation and ANT, the wider global network of actors, knowledge and intermediaries which hold the rural planning ‘system’ in place must be understood because these can become localised. Thus in looking at the production of scientific and technical knowledge (such as scientific databases) which might be used in a local context, it is important to consider the wider context that makes that knowledge necessary or deemed to be socially and politically desirable. The Actor-Network being studied in Oxfordshire is nested within, and is a product of, wider policy and knowledge networks which prescribe to a large extent the actions

being undertaken in a specific time-space locality. This is the idea that local actions are in part the product of a chain of processes and translations which draw in global actors and practices.

Finally, in Part One, the methodological approach is detailed in Chapter Seven which describes the qualitative approach taken and the guiding principles that should be employed that relate to using the research tool and framework of ANT.

## **Chapter Three: Review of literature relating to the ‘Production of Scientific Knowledge’ /‘Technical Pole’ for Biodiversity Planning**

### **3.1 Introduction and Organisation of Chapter**

The first section of this chapter discusses what the term ‘scientific knowledge’ means from a social science perspective, identifies different types of knowledge and considers different theoretical and philosophical approaches to the treatment of knowledge and science. Movements within scientific knowledge production pertaining to nature conservation are then explored, particularly the disciplines of ecology and landscape ecology. Later, scientific knowledge and information available at the global, UK national and county (Oxfordshire) scales is referred to.

### **3.2 Exploring the Production of Knowledge in Environmental Planning**

#### **3.2.1 Developments within social science in terms of analysing and understanding the role of scientific knowledge in relation to society**

The role of knowledge has been considered by sociologists as far back as studies by Marx and Durkheim and is still an important area for investigation, but scientific knowledge was ignored by sociologists for a long time, in relation to how it may be socially constructed. According to Mulkay (1979, p.2), who was concerned with this in the late nineteen seventies, ‘what has been absent, until very recently, has been the empirical investigation from a sociological perspective of scientific knowledge and its social construction’ since sociologists of knowledge, ‘have repeatedly rejected in principle the possibility that the form or content of scientific knowledge, as distinct from its incidence or reception might in some way be socially contingent’. In other words, scientific knowledge was treated as a separate and special case. However, in more recent years as there has been a general acceptance that science and technology are socially constructed, the knowledge associated with these has been examined from the point of view of the social sciences. Actor-Network theorists are one group of sociologists who have taken this type of examination forward.

Mulkay (1979, p.1) distinguishes between ‘popular belief, and common-sense or every day knowledge’, and ‘systemised, specialised knowledge’ and he goes on to

examine the latter in terms of its sociology. Mulkey's book outlines different sociological views of scientific knowledge (i.e. that which falls under the 'systemised, specialised heading'). In summary, Mulkey describes the Marxist view as concluding that capitalism needs and promotes the development of the natural sciences in order to perpetuate technological innovation. The central theme of Marxist analysis of science is that it is a social creation and its uses can only be understood in relation to the wider social context. Marx also offers, in addition, 'a dynamic account of social processes which can be used to describe some of the links between science and society, in particular that societies are composed of relatively distinct groupings, the members of which have opposing interests as well as an unequal capacity for controlling the actions of others....consequently, the direction taken by modern science, its rapid rate of growth and the manner of its application in industry and government can be seen to have been largely determined by the technological objectives of a particular dominant group, namely the bourgeoisie' (Mulkey, p. 7).'

Rose and Rose (in Mulkey, 1979, p. 9) pay attention to Marx's idea that 'scientism' or positivism has become so dominant in present day industrial societies that any knowledge claim which falls outside its scope is seen as being of limited value. They distinguish between the technical knowledge claims that a scientist makes within his/her own research network (which are seen as being controlled by the nature of the physical world, although it is recognised that scientists may be cajoled by social pressures into proposing unjustified knowledge claims), and the claims he or she makes in other contexts. Thus within an area of research, knowledge claims which are seen as non-ideological by other specialists tend to be seen as accurate accounts of certain features of the physical world independent of social relationships. Such specialised scientific knowledge can then be used as a the basis for technical rationale of policies which express a researcher's own social interests as well as the interests of other groups on whose behalf a researcher is acting.

Where claims are made by scientists within the wider social context, these will often be ideological but their technical content, however, and the way in which such knowledge is seen as stemming from the 'objective facts of the natural world', means

that they may be accepted in terms of influencing economic, social and political directions (Mulkay, p.10). In summary, Rose and Rose's understanding of Marx (Mulkay p. 10) is that they see scientists' knowledge claims within their specific areas of research expertise as non-ideological. Mannheim draws a distinction between natural science and socio-historical thought and is generally interpreted as 'treating scientific knowledge as beyond the scope of sociological analysis' (Mulkay, p.12) he 'draws back from the conclusion that scientific knowledge is in any way socially contingent' (p.16). Stark takes a similar view: 'the facts of society are made, and ever re-made by us, whereas the facts of nature are not. They are *data* in the more stringent meaning of the term' (Stark, 1958, p.165, in Mulkay, p.17).

Mulkay moves on to outline the standard view of science wherein the natural world is regarded as real and objective – its characteristics cannot be determined by the preferences or intentions of its observers but they can be more or less faithfully represented (through observational laws), although there may be some room for cultural variation with respect to theoretical speculations. 'The social origin of scientific knowledge is almost completely irrelevant to its content, for the latter is determined by the nature of the physical world itself' (Mulkay, p.21).

Mulkay then undertakes a critical analysis of the standard view of science which had resulted in sociologists treating scientific knowledge as beyond their scope of analysis since it was seen as a special kind of knowledge (based on interpretive writings of e.g. Mannheim and Durkheim). He attempts to show that it is possible to reject the view that the conclusions of the scientific world are determined by the physical and not the social world. The central assumption that scientific knowledge is based on direct representation of the physical world may be criticised. He levels criticism on the following basis: scientific criteria may be indeterminate; the general knowledge-claims of science may be inconclusive in character; and, claims tend to be dependent on the available symbolic resources. These factors suggest that the physical world could be analysed perfectly by means of language and presuppositions quite different from those used in the modern scientific community. He argues that 'there is nothing in the physical world which uniquely determines the conclusions of that community' (p.61). The external world operates constraints on the conclusions of

science, but this constraint operates through the meanings created by scientists in their attempts to interpret the world and these meanings are 'inherently inconclusive, continually revised and partly dependent on the social context in which interpretation occurs'. If such a view is accepted then there is no alternative but to regard the products of science as social constructions like all other cultural products. This suggests that the social construction of scientific knowledge can be explored. If this revised view of science is accepted then the basis for the traditional distinction between scientific and social thought is to be disregarded and it follows that scientific knowledge should not be excluded from sociological analysis. Mulkey suggests that such analysis may consider whether presuppositions in modern society have moulded scientific research findings, how scientists decide on the adequacy and significance of knowledge claims, and whether their assessments are as disinterested as customarily supposed, how the meaning of scientific assertions can be reinterpreted in different social situations and whether the revised view of science makes a difference to our understanding of the social relationships involved in the creation of scientific knowledge.

The standard philosophical view of science is that once certain major sources of distortion have been removed through scientists adopting normative principles (e.g. detachment, uncommittedness, impersonal approach, self critique and open-mindedness), it is fairly easy to recognise the empirical regularities of the external world. Thus the normative structure of science is seen as ensuring, as far as is humanly possible, that the external world is allowed to 'speak for itself'. The newer philosophy of science does not adhere to the idea that science must abide by this set of norms, but instead suggests that the physical world is socially and intellectually constructed, for example, through committed interests of scientists leading to bias and, as research deepens, on unsubstantiated theories. The establishment of scientific knowledge is seen as a creative process in which prior ideas may be modified and new social meanings may be created. Scientific norms change with time and the production of knowledge is socially contingent. There is much social negotiation in science and outcomes may be linked to the strength of scientists' claims to scientific authority and the way in which scientific findings are interpreted by the wider community. Mulkey concludes that the results established through scientific



negotiation are not definitive accounts of the physical world but are claims which are deemed to be adequate by specific groups of actors in particular cultural and social contexts.

Murdoch (1994) explains that the most influential research has been undertaken under the heading SSK (the sociology of scientific knowledge) and that early studies attempted to explain the production of scientific knowledge by reference to sociological criteria, e.g. the choice of scientists in pursuing their interests. This type of approach was criticised by, for example, Callon as elevating sociology above natural science and this led Callon and others to move towards treating society and nature in the same terms and using a single repertoire to consider how both are made and linked as a network. Whilst Murdoch sympathises with Callon and Latour's 'radical symmetry' (p.19) he contends that only human actors can construct actor-worlds as loci of decisions and actions.

In this research then, the way that some scientific knowledge has been constructed, particularly in the way in which global scientific concerns have been translated to ground level via local level socio-political negotiations and actions, is of interest. Here the concern is with the science behind biodiversity planning and how this evolved through developments within the natural sciences community and how elements of the natural world and 'good' ecological practice are adopted by local biodiversity planners in terms of their priorities for the county of Oxfordshire. As well as scientific knowledge being important in biodiversity planning, other types of knowledge must not be discounted.

Different types of knowledge have been identified by social scientists, for example, Gibbons et al (1994) distinguish between 'Mode 1' knowledge production where it is conventional to speak of science and scientists, and 'Mode 2' where more general terms are used and a distinct set of cognitive and social practices are beginning to emerge. More specifically, Mode 1 knowledge is described as stemming from the setting and solving of problems in a context governed by the largely academic interests of a specific community. The knowledge tends to be disciplinary-based and characterised by homogeneity. It is hierarchical and tends to preserve its form. On the

other hand Mode 2 knowledge develops within the context of practical application and tends to be transdisciplinary and heterogeneous. It is also described as heterarchical and transient, more socially accountable and reflexive and including a wider, more temporary and heterogeneous set of practitioners collaborating on a problem defined in a specific and localised context. Such knowledge is produced under continuous negotiation and will not be produced until the interests of the various actors are included. The consensus is governed by the context of the application and evolves with it. The determinants of a potential solution involve the integration of different skills in a framework of action, but the consensus may be only temporary depending on how well it conforms to the requirements set by the specific context of application. The shape of the final solution will normally be beyond that of any single contributing discipline. It will be transdisciplinary which means that when produced the knowledge does not fit easily back into a particular discipline. Also, unlike Mode 1 where results are communicated through institutional channels, the results are communicated to those who have participated, in the course of that participation and so, in a sense, the diffusion of results is initially accomplished in the process of their production. Operating in Mode 2 makes all participants more reflexive as they must understand each other. In relation to biodiversity planning it is apparent that both of these types of knowledge are important. In terms of the protection of specific habitats and species, there is a reductionist approach that stems from ecologists from the global level to the local within the sphere of biodiversity planning, i.e. detailed research and monitoring has indicated that certain species are under threat globally or locally and these are taken as indicative of the success of conservation strategies. This type of knowledge is Mode 1 because it is preserved, i.e. local biodiversity priorities must correspond with the UK Action Plan in terms of targeting certain species. At the same time Mode 2 knowledge is key in that there are other aspects of biodiversity and landscape planning that are agreed on as important at the local level and these may be those that are popular within a local cultural context although not threatened within the UK as a whole. It could be suggested that the context of planning via networks (e.g. local fora) is very much a Mode 2 knowledge setting, since actors are heterogeneous in backgrounds) although there is also adherence to Mode 1 knowledge at the same time.

Murdoch and Clark (1994, p.1) suggest that 'science' is not different to local knowledge because it has superior access to 'reality' but because it is more powerful, i.e. able to act over greater distances'. They quote Jonathan Porritt, former director of Friends of the Earth (p.3) as saying, 'hard scientific evidence counts for a lot in a hard materialistic world'. Scientific knowledge may be criticised for its mechanistic and reductionist approach to examining the natural world. Certainly some of the target-setting for habitats and species with biodiversity planning is a strongly reductionist approach yet paradoxically is a strand of planning found within the much broader and integrated context of sustainable development. Local knowledge (or situated knowledge, see Aitken and Valentine (2006, p.342), on the other hand, has been held up as an ideal since there is a belief held by some environmentalists that it holds a more intimate relationship with local environments and ecological systems. Murdoch and Clark hold the view that the conventional distinctions between the two no longer hold, and, in practice both are combined within the worlds of actors. They state (p.26) that, 'Consideration of the relationship between representation and outcome indicates that neither scientific nor local knowledge has a monopoly on the functional representation of natural actors....science seems to be able to insert itself quite readily into various (local) situations, and once there, seems to be able to make itself indispensable to local actors. But science can only 'work' if the sets of relations are adapted to allow it to 'nest' in the new situation'. This is an important point in relation to this research since biodiversity planning stems from the science of biological conservation and ecology which has been key in global terms in raising concern about threatened species and habitats. The science has been translated by signatories of the Biodiversity Convention and then translated further to local level planning. Strathern (1999) writes about the way that article 6 of the Biodiversity Convention has become an obligatory passage point in Papua New Guinea and speaks of the fact that 'the Convention explicitly recognises that knowledge may be embedded in people's practices, and seems prepared to deal with a range of entities of both a social and natural kind'. Thus some ecological concerns (and associated scientific research) at global or national level come to be 'nesting' within local partnership arrangements. Murdoch and Clark state, 'To speak of 'sustainable knowledge' is to begin to speak of the local and the general, the natural and the social...'

Interestingly, when considering how actor-network theory may be applied to nature-society relations, Gibbons et al (p.14) speak of 'hybrid fora', which he describes as, 'the meeting point of a diverse range of actors, frequently in public controversies. Hybrid fora may comprise all sorts of actors who may be concerned with planning for the local environment', for example, industrialists, economists, those who represent a body of scientists (e.g. ecologists), members of the local public who may possess detailed local knowledge of history and landscape. As suggested earlier in the introductory chapter, this has become a much more common way of planning, so partnerships based around rural controversies are hybrid networks. Such fora 'can act as new markets for knowledge and expertise' (p.14).

Some sociological writers have focused on the way that scientific knowledge drives societal responses and vice versa. The production of scientific knowledge, for example, is often generated through human need (e.g. medical advances) or human concerns (e.g. environmental research). In turn the body of scientific knowledge may engender actions by society. Gergen (1982, p.22) suggests that the effects of scientific constructions on common modes of thinking and acting may be termed *enlightenment effects*. The values of science (since scientists do not work in an entirely objective manner), and its capacity to alter society through moral advocacy need to be recognised according to Gergen. Scientific activity is 'interest relevant' (Putman, 1978, in Gergen, p.28), and it functions as an active agent in the social world, 'Its subtle prescriptions favour certain patterns of conduct and subvert others; they may catalyze resistance, create conflict, generate solidarity and so on' (p.28).

Hannigan (1995) shows how the social world may react despite scientific knowledge to substantiate socially important issues. He refers to environmental quality to illustrate this point which is backed up by a number of examples, 'while environmental quality has been steadily deteriorating for much of this century, the public has ignored these developments for most of this period.....perceptions of environmental problems may be independent of the magnitude of the problems themselves...public concern is at least partially dependent of actual environmental deterioration and is shaped by other considerations, e.g. the extent of mass media

coverage'. He argues that the public perception that certain problems have reached 'crisis point' (e.g. invisible problems such as acid rain and depletion of the ozone layer) does not necessarily reflect the accuracy of the situation, but rather the particular view of scientific experts, environmentalists and the media. Environmental problems often originate in the realm of science since ordinary citizens do not have the expertise or resources to find new problems, e.g. knowledge about the ozone layer. However, this does not negate the importance of practical knowledge about the environment – many working in the field of overseas development have advocated the importance of local knowledge or 'ordinary knowledge' which depends more on keen observation and common sense than on professional techniques – native people in the northern hemisphere also may have in-depth first-hand knowledge of the local environment.

In terms of assembling an environmental claim, Hannigan suggests that research scientists are usually handicapped by 'scholarly caution, excessive use of technical jargon and inexperience in handling the media' (p.44) therefore, 'important findings may lie fallow for decades until proactively transformed into a claim by entrepreneurial organisations (e.g. Greenpeace, Friends of the Earth etc.). Greenpeace, for instance, is successful in constructing new environmental 'claims' because of its genius in selecting, framing and elaborating scientific interpretations which might otherwise have gone unnoticed or been glossed over' (Hansen, 1993b, in Hannigan (1995, p.44). It is suggested that relationships between the media and environmental pressure groups have become sufficiently institutionalised so that it would be difficult for an emergent problem to penetrate the mass media without some validation from environmental organisations. Thus within literature which takes a social constructivist perspective, such as Hannigan, a link is identified between the scientific and institutional poles. He notes that 'the relationship between science and policy-making has been captured most adequately by political scientists using two concepts: epistemic communities and policy windows' (p.86). Epistemic communities are defined as 'transnationally organised networks of knowledge based communities', i.e. technical specialists who offer advice to policy decision-makers (Haas, 1992, in Hannigan 1995 p.86). Policy windows are said to be the result of problem recognition, the formation and refining of policy proposals, and politics

coming together through the actions of policy entrepreneurs. In ANT terms this idea may be likened to the creation or construction of Obligatory Passage Points, e.g. within this context, the need to plan for biodiversity at the local level, (although the language used makes the policy making process sound more opportunistic and positive compared to the use of the term 'Obligatory Passage Point' which is more descriptive of something that *has* to be addressed!).

Whilst the standard view of science suggests that knowledge builds up at a steady rate over time as studies advance, Hannigan holds the view that the process by which environmental problems are identified and evolve as scientific issues is characterised by the creation of a pool of knowledge which expands in unexpected directions: 'Individual pieces of data in this pool may be generated through projects which employ the reductionist methods of traditional science, but in the end it is a flash of holistic insight which leads to final understanding' (Hannigan, p.82). This is relevant in terms of the move towards biodiversity planning which is a reductionist approach to nature conservation (see later), but is situated within a context of sustainability planning which requires a holistic insight.

Traditionally, within the UK, environment-related research has tended to stem from 'experts'. For example, Winter, Mills and Wragg (2000), found that with regard to nature conservation and farming, there had been a lack of liaison between the research community and those managing and working the land. Chambers (1994) attributes the lack of farmer participation in Britain in formulating research programmes to the way in which expert knowledge has tended to override local knowledge in scientific research and development generally. Winter (1997) argues that knowledge in production is as important as land, labour or capital and that we need to fully grasp the role of knowledge within our 'emergent knowledge society'. Winter's 1995 study on 'Networks of Knowledge' for the World Wildlife Fund showed that the expert knowledge stemming from the scientific quarter has regularly been challenged in recent years by environmentalists. Alternative knowledge systems are also recognised, i.e. those held by 'local' people making sense of their own world. Recent evidence demonstrates how views relating to the environment which stem from these different backgrounds can be fundamentally different and representative

of very different cultural and symbolic backgrounds. Winter recommends that farmers (and here we might consider landowners generally), need to be enlisted into local initiatives where they might interact with researchers and policy makers, and where local and lay expertise might be put alongside expert knowledge in a creative and participative process – this should include consumers, environmentalists and scientists.

It is now important to explore what types of expert scientific knowledge contributed to developments in the arena of nature conservation and biodiversity planning within a global setting and within the UK and the county of Oxfordshire. This enables an understanding to be gained as to how the knowledge is used and circulates, and then is adopted into practices and documents that may form stable or unstable network agreements. An examination of the data pertaining to the county in Chapter Eight shows how local lay knowledge is also incorporated into the development of plans.

### 3.2.2 The scientific pole in nature conservation planning: evolution in environmental planning-related research, and the purpose and types of empirical data generated and used

Ecology emerged properly as a discipline during the nineteen-seventies from a holistic approach to biology and a new approach to energy economics which focused on non-renewable resources. Ecology incorporated the idea of ecosystems (Tansley, 1939; Worster, 1977, p.301) and, with time, became a useful platform for politicising the environmental message. In fact some writers have suggested that ecology was the scientific arm of the conservation movement (e.g. McIntosh, 1985).

More recently still, the discipline of landscape ecology has emerged and this has assembled evidence on the interdependence of ecosystem components across the ‘landscape scale’ (usually taken to mean several kilometres wide), especially in terms of connecting linear features (hedgerows, river banks etc.), adjacency and qualities of habitat patches, and surface and groundwater movements. Landscape ecologists argue for landscape planning to ensure that key ecological reserves are not separated from each other by wildlife voids, but are connected sympathetically to managed open countryside (Selman and Wragg, 1999c). Some landscape ecologists have argued that

the impact of agricultural intensification has disrupted 'metapopulation dynamics' of species dependent on the wider countryside in terms of some of their life cycle processes. For example, Opdam (1991) used metapopulation theory to study the effects of fragmentation, a metapopulation being a set of local populations which interact via individuals moving among them. He concluded that the local extinction rate for breeding birds is relative to the size of the habitat fragment whilst the recolonisation depends on the degree of isolation. The Institute of Terrestrial Ecology carried out studies on songbird populations in 164 woods in Eastern England and found that the numbers of pairs of some species rose linearly with increase in woodland area size, while those of others with more specialist habitat requirements did not. This work suggests that new woods will have the greatest conservation value for birds if they are as large as possible and planted in groups to benefit species willing to cross between them (Hinsley, Bellamy and Newton, 1991).

Thus attention has been turned towards concepts such as the 'connectivity' of the landscape and the role of features such as 'habitat corridors' (see, for example, Saunders and Hobbs, 1991) to enable populations to move across the landscape. Baudry and Burrell (1990) and Haskova (1992) carried out studies on fauna and flora respectively, and argued that individual hedgerows should not be studied in isolation but within the context of the surrounding land and habitat patches that they link. The size and shape of corridors also determines whether they act as corridors or barriers to certain species (Bennet, 1990). Dawson (1994) does caution that the use of corridors for species distribution has not yet fully been proven, however, this type of knowledge and research has been associated with a move away from a preoccupation with 'protected areas' to planning for the wider countryside with its general stocks of biodiversity. An appreciation of the value of protecting habitats rather than specific plants and animals within protected areas has developed. Indeed landscape ecological concepts, including the value of corridors, are appreciated within the UK Biodiversity Steering Group Report.

Habitat fragmentation results when elements of the landscape are destroyed, separated, altered or degraded. Landscape ecologists argue that analysis of the physical structure of the landscape provides a sound basis for understanding



ecological processes and change. MacArthur and Wilson's (1967) theory of island biogeography showed that the number of breeding species on islands (of habitat) stabilises at a level determined by rates of immigration and extinction, and that these are controlled by isolation and island size. Conservation biologists extended this theory first to terrestrial habitats, then to isolated habitat fragments and later to strategic questions about the selection of nature reserves.

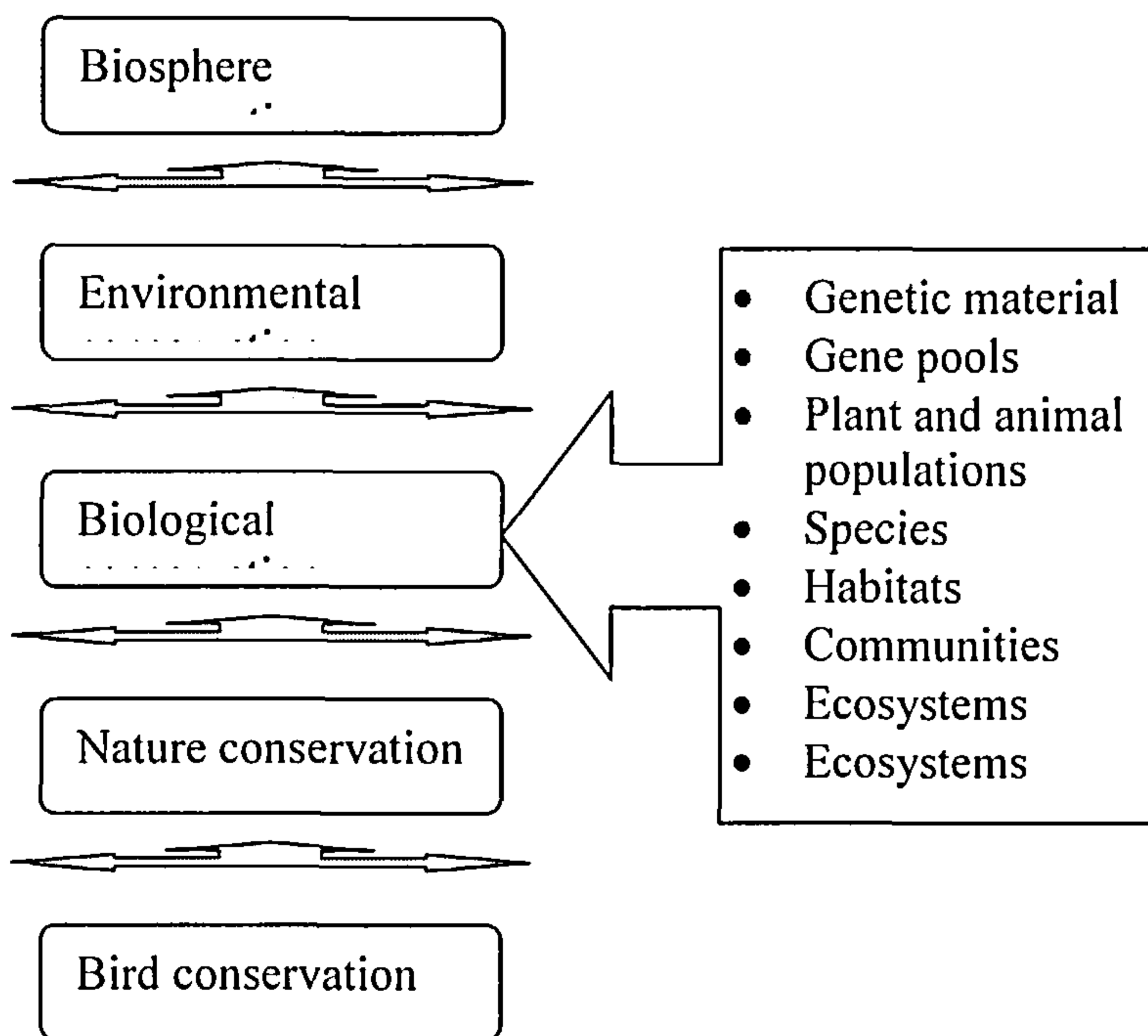
More recently still the concept of 'biodiversity' has come to the fore. Biodiversity is a word that was coined by zoologist E.O. Wilson in 1988 to summarise the phrase 'biological diversity'. This is different from 'landscape ecology' in that it encompasses the whole range of variation in living organisms, genetic variation, species variation and ecosystem variation and is to do with 'stocks' of natural capital in the form of genetics. The term came into common usage throughout the world, following the signing of the Biodiversity Convention at the United Nations Conference on Environment and Development, in Rio de Janeiro, 1992 (see Jermy et al, 1995). Prior to this event, biodiversity was already a rapidly developing concept within the field of biology.

Barbault (1995) argues that the present emphasis on biodiversity leads to a more functional ecosystem approach, and suggests that population and community ecology along with landscape ecology should offer the best theoretical framework to analyse 'biodiversity dynamics'. A population is a group of the same species living in a defined area; a community is a group of populations of different species; and, an ecosystem consists of communities interacting with their environment. Biological conservation can be achieved by using applied aspects of various sciences, including conservation biology (which rose to prominence in the 1970s and is composed of taxonomy, ecology, genetics and other aspects of applied biology), biogeography and demography – the conservation of living organisms is the aim of biological conservation and that aim is achieved by the application of various sciences (Spellerberg and Hargreaves, 1992, p.1). Spellerberg and Hargreaves refer to Soule and Wilcox (p.2) who suggest in 1982 that the emergence of conservation biology as an academic discipline was slowed by prejudice, 'while wildlife management, forestry and resource biologists struggled to buffer the most grievous or economically harmful

of human impacts (deforestation, soil erosion, over-hunting), the large majority of academics thought the subject was beneath their dignity...because many habitats, especially the tropical ones, are on the verge of total destruction and many large animals on the verge of extinction, the luxury of prejudice against applied science is unaffordable’.

Spellerberg and Hardes (1992, p.2) outline different levels of biological conservation activity as shown in Figure 4.

Figure 4: Levels of conservation activity



Explanation

The diagram shows levels of conservation in order of increasing breadth from single taxonomic groups, e.g. birds to biosphere conservation (including the atmosphere, ozone layer, water, minerals and energy, as well as living organisms). That is, biological conservation is part of environmental conservation.

Source: Spellerberg, I and S.R. Hardes (1992) *Biological Conservation* Cambridge University Press, Cambridge, UK p.2.

Adams (1996) suggests that ‘conservation science’, which became important in the UK as early as the 1940s, has gained from the privileged status that science has held

in post-war Britain (i.e. Mode 1 knowledge with a reliance on hard technical facts) and consequently conservation has leaned heavily on scientific findings in order to provide 'technocratic solutions to manipulating nature, predicting the outcomes of management action and reconstructing desired ecological conditions' (p.90). The approach has been used in managing landscape scenery and detailed aspects of populations of species and habitats. Also, there was a two-way relationship between conservation and science in that conservation was seen as necessary for science itself, this being an important reason for designating heavily protected areas, such as National Nature Reserves. Until the 1950s, most research had been targeted at agriculture or forestry. Over time, ecology became more experimental, used modelling approaches and began to focus on reductionist approaches to nature such as analysis of energetics, molecular biology and genetics. During the 1980s science became less revered by the public, although environmental groups often used it to 'speak for nature' and it remained a decision-support tool for land managers. Still more recently, sociologists have shown how science may be socially constructed – 'scientific ideas about ecosystems, or biodiversity, are tightly interwoven with broader ideas about natural beauty, naturalness or the desirability (and desirable limits) of ecological change' (Adams, 1996, p.96).

Conservation implies that nature is not just preserved (in any case nature is in a continuous state of change) but that it is also used in a sustainable way. Spellerberg and Hardes (1992) stress that biological conservation needs a scientific basis in terms of an understanding of genetics and variation, however, they also point out that not all biological conservation has a scientific basis and that there may be cultural or religious influences on the desire to conserve nature. The World Conservation Strategy, published in 1980, indicates the type of scientific and empirical knowledge needed for biological conservation. It stresses the need for:

- 1) The maintenance of essential ecological processes and life support systems
- 2) The conservation of genetic diversity and wild species
- 3) The sustainable utilisation of species and ecosystems – to use all our natural resources carefully giving due consideration to the needs of future generations.

This section on the developments that have taken place in nature conservation and environmental-planning related science has provided useful context for the approaches being used at the local scale within the UK since actors at different spatial levels have accepted the ‘wisdom’ of these developments and have adopted the principles of landscape ecology and the vocabulary and targets associated with biodiversity planning within the context of sustainable development. The type of knowledge used and required for various scales of environmental or conservation planning are now discussed.

#### *3.2.2.1 Scientific knowledge and technical data at the global and European scale*

Hannigan (1995, p.151) refers to Wilson’s 1986 work and suggestion that, at the global level, rising public interest in biodiversity and international conservation can be partly attributed to the convergence of data from three different areas of research – forestation, species extinction and tropical biology. This mass of data warranted a number of international conferences, for example, the National Forum on Biodiversity, Washington DC, September 1996, which assembled sixty leading scientific and development specialists. The link between biodiversity and economic development was also important in raising the profile of biodiversity on the global stage.

Swanson (1997) explores how the aspirations set out in the International Convention of Global Biological Diversity, adopted by 160 plus nations following the Rio Summit in 1992, may become a reality, and suggests that one means is ‘the creation of a common scientific framework for the analysis of the global facets of the biodiversity problem’ (p.xiii). He points out (p.4) that it is difficult to achieve ‘consensus science’ over biodiversity since both social and natural processes need to be considered and there are a number of levels at which the problem may be addressed – national, local and global. At the global level it is hard to find consensus between scientists in terms of explanations – biodiversity depletion has been attributed to different causes, e.g. population expansion, trade and economic growth, poorly chosen policies, poverty and inequality.

With the emphasis on biodiversity planning being very much on the amount of genetic diversity, scientific data from ecologists and conservation biologists is extremely important. The ethos of biodiversity planning at all levels is on the need to preserve species and their habitats (since this is a non renewable resource), and therefore there is a heavy reliance on information generated by survey and monitoring of populations. There are a number of international data sources stemming from the amassing of empirical and scientific data, for example, the International Union for the Conservation of Nature (IUCN) published the International Red Data Book which gives information on all threatened plant and animal species of the world. This has been produced with the help of thousands of scientists and lay people. It is essential for the design of conservation programmes particularly since biological conservation cannot be confined by political barriers. The Red Data List has been compiled over the past four decades with the aim of assessing the conservation status of species, sub-species, varieties and selected sub populations in order to highlight taxa threatened with extinction and ensure their survival. Over time the science of conservation biology and other disciplines was drawn on more heavily in improving the scientific rigour and accuracy for selection and categorisation of species and there was wide consultation with the wider scientific community. The more precise and quantitative Red List Categories and Criteria were adopted by IUCN in 1994.

The purpose of the Red List is to highlight taxa facing a higher rate of global extinction (critically endangered, endangered and vulnerable); also those that are extinct or extinct in the wild, and those that are data deficient. This provides a comprehensive searchable database maintained by the Species Survival Commission (SSC) that is available for governments, the private sector, educationalists, multi-lateral agencies and environmental NGOs as an important tool in relation to environmental planning and development of environmental treaties and for target-setting. With its 'strong scientific base the IUCN Red List is recognised as the most authoritative guide to the status of biodiversity'

(<http://www.redlist.org/info/introduction>). It is drawn on by nation states, and is key in relation to the development of country biodiversity plans. In September 2003 SSC also published 'Guidelines for the application of the IUCN Red List Criteria at regional levels'. To summarise, the Red List is useful in the following ways:

- Draws attention to the magnitude and importance of threatened biodiversity
- Identifies and documents those species most in need of conservation action
- Provides a global index of the decline of biodiversity
- Establishes a baseline from which to monitor the future status of species
- Provides information to help establish conservation priorities at the local level and guide conservation action
- Helps influence national and international policy, and provides information to international agreements such as the Convention on Biological Diversity (CBD) and the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

With advances in technology there have been changes in the gathering of survey data. The use of remote sensing and geographic information systems in assisting field survey, monitoring landscape change and mapping of landscape-scale patterns, is described by Cherrill et al (1995), Bird et al (1994) and Adinarayana et al (1994). These approaches to the gathering of empirical data have made the monitoring of species and habitats easier, and are employed across the world at different spatial levels.

Climate change has also become a driver for biodiversity research, and there is more research into the effects of global warming on limits of species and habitat distribution and changing boundaries, some of which is quite detailed. For example, Pakeman and Marrs (1996) present a model to predict the effects of climate change on the growth of bracken.

Research needs for the European Biodiversity Action Plans are being assessed by the European Commission and should be reflected in the next EC Framework Programme on Research and Development. The Chapeau (an element of the EU Biodiversity Strategy) highlights the need for more research to enable some actions to go forward and to help develop a more holistic approach, and indicates that this will be developed through the relevant Community Programmes (IEEPa, 2001, p.3). The EU Bioforum comprises partners from scientific institutes and universities across Europe and is a medium for the sharing of ecological knowledge. The EU now has a Pan European Biological and Landscape Diversity Strategy that has been very recently developed and makes use of some conservation measures that are currently in place. At the time of data collection for this research this was not developed and

therefore does not form part of the networks presented in Chapter Eight. The UK has been ahead of most other Member States in terms of its rapid response to the Convention on Biological Diversity and the way in which its biodiversity targets have been cascaded to the local level. At the same time EU legislation and funding mechanisms have been tapped into and some of these are presented in Chapter 4 where Institutional Frameworks are discussed.

### *3.2.2.2 The scientific pole at the UK National Scale: developments in technical knowledge production*

The long history of amateur interest, supported by professional studies (including information from both the public and voluntary sectors), means that the UK is better informed about its biodiversity stocks than many other nations. There are knowledge gaps pertaining to the marine environment and less knowledge about micro-organisms, lower invertebrates and plants compared to vertebrates and flowering plants (Wynne et al, 1995). William Waldegrave, the (then) Minister responsible for the Office of Science and Technology, wrote in 1992, in response to a report on Environmental Research Programmes prepared by the (then) Advisory Council on Science and Technology (ACOST): ‘Sound science should underpin all environmental policy. The environment cannot speak for itself and we require a clear understanding of its present and future conditions to guide its stewardship. Research to improve our understanding for future action is still one of the best precautionary measures’ (HMSO, 1994, p.16).

Scientific knowledge pertaining to the diversity of life has developed particularly during the past 150 years within the UK. Biological systematics (taxonomy) stemmed from Darwinism and ideas behind the evolution of species. Biogeography evolved during the 19<sup>th</sup> century and led to concepts such as ‘biogeographical realms’ and succession within plant communities. During the inter-war years the concept of the ecosystem was developed to help explain intricate relationships between flora and fauna through food chains and webs – the concepts of biomass and productivity were introduced. Through empirical observation the idea of ‘island biogeography’ emerged, wherein the species occupying an island was seen to be related to area size. However, a more practical approach stemmed from this and species diversity became

recognised as stemming from species *richness* which reflects the number of species in an ecosystem, and species *evenness* which comprises the extent to which assemblages are dominated by relatively few species. Population biology focuses on the evolving relationship between species survival and changes in abundance and range of populations. The UK Biodiversity Action Plan (HMSO, 1994) states that ‘other things being equal, geographically-restricted species tend to have local populations that are characteristically small, therefore making them doubly vulnerable to extinction. Although densities are likely to decline towards the edge of a range, the varying incidence of birth and death, immigration and emigration, is likely to result in multi-modal patterns of abundance’. This principle has implications for priorities for conserving biodiversity. It is proving difficult to interpret some of the findings and understand how biodiversity affects ecological processes despite developments in mathematical modelling. One of the main stumbling blocks appears to be an understanding of how organisation and structure at one temporal or spatial scale may influence higher and lower levels - impacts cascade up or down and between different organisms and ecosystems. Because of uncertainty, the general consensus is that everything should be done to conserve species populations, i.e. the precautionary principle should prevail and scientific research should be directed to this purpose.

As there has been a move towards biodiversity planning and the monitoring of species world-wide, within the UK this has been picked up substantially in terms of gathering empirical evidence and has slotted into the new Labour Government’s ethos that has to do with evidence-based policy-making. Performance targets began to be more important under the last Conservative Government and the trend has continued across society including in areas of environmental planning and protection. Thus there is a great emphasis within biodiversity planning on the setting and meeting of targets.

### *3.2.2.3 UK empirical data sources and collection*

Some important UK data sources will now be discussed, since biodiversity planners at the local level tend to draw on various national databases and the UK Biodiversity documents that have been produced based on red data lists and with the input of various national actors from environmental organisations that have been involved



with their generation. One significant database is the Countryside Information System (CIS) which was designed to make results of the 1990 Countryside Survey available to policy-makers in Government. It includes a dictionary of land cover types and habitats surveys, including a facility to compare definitions. The Countryside Information System (CIS) provided the Government with habitat and landscape information allowing for the interrogation of stratified field survey data and satellite land cover data and was designed to give policy advisers easy access to information about the countryside, and in particular, the results of the Countryside Survey. The Countryside Survey was a major audit of the British Countryside and involved the collection of data such as habitat types, hedgerows, plant species and freshwater invertebrates. It monitored change and also used new techniques in the integration of field-based and satellite observation of the earth's surface. Many of the sample sites were first surveyed in 1978 and re-visited in 1984 and 1990. Later the Countryside Survey of 2000 extended the previous surveys. This was a jointly funded research programme between several government departments, agencies and the Natural Environment Research Council. The database is easily accessible to both policy makers and practitioners.

The Biodiversity Convention requires that the key components of biodiversity be identified – ideally, the distribution, abundance, reproductive status and conservation status should be determined for key species and habitat types. Traditionally there has been a good deal of data collected over the years in Britain albeit in a fairly uncoordinated way, and data collection by voluntary organisations has tended to rely on the enthusiasm of volunteers. For this reason, UK data collections of species groups such as butterflies, vascular plants, and some invertebrate groups tend to be more comprehensive (HMSO, 1994, p. 143). The Co-ordinating Commission for Biological Recording (CCBR) undertook a survey, the results of which came out in 1994. This showed that data should be collected on less frequently covered groups such as soil flora and fungi, and the need to monitor biodiversity in the wider countryside as well as in specific sites is made clear in the UK Biodiversity Action Plan (p.144).

The UK Biodiversity Challenge (Wynne et al, 1995), which is presented in more detail in Chapter Five, and was the initial document produced in response to the Biodiversity Convention, draws on the following databases: Joint Nature Conservancy Council Plant Strategy; British Red Data Books (RDBs); IUCN Red List (1993) – for animals other than birds; Bird Life International (for birds); IUCN Threatened Plants Unit listing (August 1994) for plants. Although national red data lists have not been produced for all taxa, the number of species already listed in UK national red data books is substantial – currently over 3,500. There is no UK Red Data book for the marine environment, but the numbers of qualifying species would be large. According to Wynne et al (1995, p.13), ‘over 5,000 species would be eligible for UK RDBs, if such books were compiled for all taxa and habitats known today’.

Empirical information shows that within the UK many terrestrial species are seriously declining in terms of numbers and/or range, for example, there has been a marked decline in numbers of farmland birds and many woodland and grassland butterflies have disappeared from large areas of their former range; also, many plants associated with arable farmland have decreased dramatically. The 1990 Countryside Survey showed that plant species diversity was generally declining across arable, pastoral and some woodland landscapes.

Despite recent moves towards improved data collection, a general knowledge-based problem within the UK has been insufficient monitoring along with incomplete and outdated reviews of status and insufficient knowledge to reverse the declines of many species and habitats. Wynne et al (1995, p.45) identified certain priorities for assimilating knowledge and suggested that information is needed to:

- Catalogue and describe UK fauna and flora
- Develop conservation priorities
- Set realistic conservation targets
- Quantify and understand the causes of changes in animal and plant abundance and distribution
- Identify effective conservation actions

- Monitor the success or failure of these actions

The Biodiversity Challenge for the UK states that up-to-date information is essential to set biodiversity targets by systematically recording those UK species and habitats which are of international importance or which lack ‘favourable conservation status’ – i.e. declining, localised or rare. Future research requirements were identified by Wynne et al (1995, p.48) as to elucidate the causes of any serious population of habitat declines and to identify effective remedies. Requirements for research should be identified as part of action plan production and review, and this relates to local BAPs. Thus there is a two-way relationship between data collected at the local level and local targets developed and the national picture. In the UK, Wynne et al suggest that the application of sound ecological research to conservation problems is an area that should be developed through research council funds (the Countryside Survey of 2000 was one such means). Also, that research should be targeted at globally threatened and endemic species and habitats awarded highest priority in the EU Habitats and Species Directive, and, species under immediate threat, or which show marked adverse trends.

Thus through the UK Government’s response to global concern about biodiversity, there has been a more coordinated effort to develop good database information and this has been useful for all counties as they have been tasked with preparing local BAPs. Local actors therefore have useful knowledge available to them from Government documents that are based on the knowledge and data of national and international environmental organisations, and up-to-date, accessible information from the Countryside Survey. The next section examines the scientific knowledge/technical pole that is part of the biodiversity planning network within Oxfordshire itself.

#### *3.2.2.4 The Scientific Pole for Biodiversity Planning within the County of Oxfordshire*

The scientific pole at the county level illustrates some of the points made earlier, i.e. that there is heavy reliance on data collected by voluntary organisations and that the biodiversity-related data available illustrates an imbalance which favours certain

specific plant and animal interests. For example, the 'Biodiversity Challenge' for Oxfordshire (BBONT, 1996), which is presented in Chapter Five, draws on empirical data from the following organisations: Ashmolean Natural History Society, Banbury Ornithological Society; British Dragonfly Society; British Herpetological Society; Butterfly Conservation; County Botanical Recorder; Farming and Wildlife Advisory Group (FWAG); The Thames Valley Mammal Group; Oxford Ornithological Society; Pond Action; Royal Society for the Protection of Birds; and, West Oxfordshire Field Club. These organisations therefore made a strong contribution to the initial setting of priorities for species and habitats within the county because of their input in of data and knowledge relating to certain elements of the natural world.

In terms of scientific/technical targets, within the arena of nature conservation planning, one of the initial objectives of the Oxfordshire Nature Conservation Forum (which was established to take conservation priorities for the county forward) was to 'establish and maintain a centralised database which will provide accurate and up to date information on all important wildlife and geological sites within the county' (Oxfordshire County Council, 1992, p.23). In addition, a methodology was to be agreed for future recording. Another technical objective was to prepare a series of Alert Maps at 1:50,000/1:25000 scales to highlight all important wildlife and geological sites within the county (including National Nature Reserves (NNRs), Sites of Special Scientific Interest (SSSIs), Local Nature Reserves (LNRs), Berkshire Buckinghamshire and Oxfordshire Naturalists Trust (BBONT) Reserves, Regionally Important Geological Sites (RIGS) and other agreed county wildlife sites). It can be seen later in Chapter Eight that a working group was established within the Nature Conservation Forum, based around the development of Alert Maps.

Oxfordshire was fortunate in that by the early nineteen-nineties the county possessed an established Biological Records Centre with over 427,000 records on computer and many more that were not then computerised – 'detailed information on the most important wildlife sites (SSSIs) and the next tier of important sites (Alert Map Sites) are being placed onto computer at the Centre. Oxfordshire has probably got one of the best sets of invertebrate records in the country' (ONCF, 1998, p.30). English Nature hold the information on SSSIs and BBONT have information on fauna and flora

within their reserves, whilst the Environment Agency monitor water and air quality. The importance of accurate data is emphasised in the county BAP since it shows how species are faring in the face of agricultural change, development pressures, tourism and nature conservation activity, and enables sound decision making to be made. The Biological Records Centre, and the groups who feed information into it, have proved crucial in terms of prioritising biodiversity actions. The county BAP identifies the UK BAP 'key species' as priorities for action, as well as other locally important species that are set to benefit from habitat management. In this way empirical data which was used in preparing the national Plan became incorporated into the county document.

There was a move towards Natural Areas planning in the mid nineteen-nineties and this entailed planning for areas of similar geology and soils and supported habitats rather than for administrative boundaries or protected areas. This was a joint development between English Nature and the (then) Countryside Commission. English Nature is a key source of information for biodiversity planning within Oxfordshire, especially with a view to planning for Natural Areas and in relation to information on Sites of Special Scientific Interest.

The Countryside Management System (CMS) is a database which has been developed within the county and its potential for use in developing Biodiversity Action Plans (BAPs) has been explored in Oxfordshire. The idea was to link it to the county recorder (i.e. biodiversity data) and the GIS on which the Living Landscapes (i.e. larger scale landscape/natural area assessments) will be based (Minutes of Biodiversity Link meeting 18/05/01). CMS was originally developed for site management plans and advantages were seen in linking it to the county level Habitat Action Plans site plans directly where this was feasible. The database will be based on tables of actions in each HAP and used to store information on ecological changes from the monitoring work.

Another objective of the Nature Conservation Strategy in 1992 which would draw on scientific evidence was the 'creation, restoration and sympathetic management of wildlife habitats', and this was stated as being important for the Upper Thames

Tributaries Environmentally Sensitive Area, Countryside Stewardship Scheme, woodland and areas of mineral workings. In Chapter Eight the example of a network where certain actors were being proponents of the science behind integrated catchment management for the Upper Thames area is presented. Pond Action was a key actor in this situation and the case study illustrates the way in which attempts are made to institutionalise and enshrine scientific principles at the local level.

### **3.3 Summary of Chapter and Relevance to This Research**

This Chapter has explored developments in the scientific knowledge/technical pole at various scales and given the history to the paradigm changes in nature conservation and wildlife planning that has now resulted in the focus on biodiversity preservation as a scientific aim. It has discussed some of the logic behind the move towards adopting landscape ecological principles in planning for the wider countryside. The Pan-European Ecological Network which builds on the EECONET concept of links between wildlife sites in an attempt to build wildlife corridors and restore habitats that are suffering fragmentation across the continent is one over-arching initiative that has developed on a large scale from the principles of landscape ecology and biodiversity planning. At the UK scale the Natural Areas approach has been another move for planning on the basis of landscape and habitat units. Also, at the UK scale, the way in which the national biodiversity challenge and subsequent UK Biodiversity Action Plan were produced illustrates a consensual approach to the pooling of scientific knowledge and data. The Countryside Survey provides an example of good achievement in terms of the provision of regularly updated information on habitats and species for biodiversity planners to use.

This Chapter has presented some of the data sources available to biodiversity planners in Oxfordshire. The links between the scientific/technical pole at national and local level and the nature that actors in this arena are representing in terms of the biodiversity planning process are explored further in Chapter Eight where various actor-network maps are presented that illustrate 'slices' in time and space through the network and that incorporate information from this Chapter. These models are built around certain key biodiversity-related texts and documents that either incorporate scientific and ecological information from some of the sources outlined above, or seek to engender action based on the assimilation of such information. They also illustrate the way in which 'accepted' science has the force to 'act at a distance' and as already seen in this chapter local planners are obliged to incorporate the biodiversity targets of the UKBAP and International Red Lists.

The next Chapter gives information on the institutional framework that relates to biodiversity planning, at different spatial scales. Again there is a focusing down from global to local in the review of the key actors that make up the framework.



## **CHAPTER 4: The Institutional Framework**

### **4.1 Introduction and Organisation of Chapter**

This Chapter first gives some consideration to the nature and role of institutions within society generally in order to explain the way in which they have been viewed by some social scientists. Referring back to Figure 1 in Chapter Two, the institutional pole tends to be the arena in which scientific principles and technical knowledge are assimilated and within the area of environmental planning actions are then devised that result in the production of plans and practices. Institutions are often seen as stable entities and, in the 'planning' framework, tend to be government departments and agencies and local government bodies, although some private sector enterprises and Quangos such as universities and research institutions may also form part of the framework. There are also a myriad of smaller institutions, some of which have more informal ways of working. These may be Non Government Organisations (NGOs) such as charities that are focused on a particular cause or interest which operate with varying degrees of influence and interaction with those more rigid organisational structures. The chapter moves on to present some information on the key institutions that exist behind biodiversity planning at global, European, UK and county levels.

### **4.2 A Social Science Perspective on the Nature of Institutions**

Jordan and O'Riordan (1997, p.1) state that, 'Institutions are the multitude of means for holding society together, for giving it a sense of purpose, and for enabling it to adapt. Institutions apply both to structures of power and relationships as found in organisations with leaders, membership, resources and knowledge, and to socialised ways of looking at the world as shaped by communication'. They suggest that institutions not only define environmental issues as problems and contexts through 'socialised devices' such as scientific knowledge and 'politically tolerable adaptation policies', but also shape the wants and needs that create the processes that induce climate change (here we could substitute climate change for biodiversity loss), and organise political responses and decision-making structures at local, national and global scales. Thus links with the scientific pole and the production of practices are

accorded importance as in the translation constructionist model being used in this research.

Clegg and Wilson (1991) illustrate how the nature of organisation within institutions is important in terms of channelling information and action through them, 'It will depend on the framework of institutions and power as to how elements in organisational practice... are actually fabricated into modes of rationality' (p.256). They suggest that organisations are interdependent and not necessarily 'black boxes', 'to a point, potentially capable of change. Of course they will be in some institutional arrangements more than others....' (p.267). DomSnech and Tirado (1997, p.3 ) refer to institutions as being the equivalent of buildings, 'institutions, because they are seated in a building, in a plan, in a geometric distribution, evoke, actually a language of what is closed, a vocabulary of the moulds: norms, powers, adjustment, socialisation, history...Defined, planned, built on a metric space, institutions have the capacity to give stability to collectives and slow down their history'. This research explores some of the links between rigid(ish) institutional structures and small environmental NGO actors through the relational approach of ANT.

Jordan and O'Riordan (1997. p.9) draw attention to the way in which the Brundtland Report (World Commission on Environment and Development, 1987) picks up on the difficulties that institutions face in terms of addressing sustainability issues, since they have tended to work in a compartmentalised and fragmented manner rather than in an integrated way which incorporates the interlocked nature of economic and ecological systems. They also set *their* study on global climate change within the context of the new interpretations of governance and social action in the late 20th century and suggest that such interpretations relate to, 'a shift in the central role of the nation state towards international political and economic arrangements that powerfully influence the degree of freedom for national legislatures; the evolving role of informal networks and shifting alliances of interests as policy arenas are forced to merge, or to fragment and reform; and the growing significance of informal social relationships at various scales, but particularly at the local scale, which help to shape attitudes and behaviour' (p.3). Some of these changes could be illustrated by the way that the agricultural policy community and environmental policy networks have

merged some of their interests as changes in the CAP have meant that the government has been able to be more flexible in relation to allocating funds to agri-environment schemes. At the local scale, advice to landowners and farmers has been delivered by different government agencies, for example, English Nature and Agricultural Development Advisory Service, and also groups such as Farming and Wildlife Advisory Group (FWAG) and Wildlife Trusts. The advisors often work closely together within a local area in an informal manner to ensure that farmers and landowners have access to advice and information.

Rhodes and Marsh (1992, p.2) also discuss the relationship between more formalised institutions such as government departments and interest groups in their discussion on the nature of policy networks. They describe the pluralist model as having a large number of groups in which the leadership is responsive to its membership competing with one another for influence over policy, with the government playing quite a passive role in its allocation of resources and decisions, reflecting the balance between interest groups at a given time (see also Chapter One, Section 1.1). They state that in this model, 'while interest groups may make continuous representations to government, and such representations may even become institutionalised, the government remains independent of the interest groups'. Whilst the corporatist model (see Chapter One) was partly developed in critique of the pluralist model, neither is said by Rhodes and Marsh (1992, p.4) to provide a very realistic picture of the relationships between government and interest groups. The policy networks approach, however, stresses that, 'the relationships between groups and government varies between areas', but also recognises 'that in most policy areas a limited number of interests are involved in the policy making process and suggests that many fields are characterised by continuity, not necessarily as far as policy outcomes are concerned but in terms of the groups involved in policy making'. The picture is of a movement towards many interest groups operating 'next to' more formalised institutional structures such as government departments and agencies. Although, to some extent, these smaller actors are outside of the more 'black boxed' structures, they do interact with the policy making institutions (who may be seen as macro-actors and usually distant from the local spatial setting) through lobbying; consultation procedures and through translating legislation and practice at the micro-scale into actions on the

ground. Murdoch (2006, p.113), for example, writes about the way in which during the 1970s local planning agencies found themselves embedded within dense networks of local preservationist groupings who were trying to ensure that LPAs adopted preservationist ways of governance in their decision making processes. Thus there are sub-systems, or sub-networks that link into main institutions, sometimes through what will be called, for the purpose of this research, 'policy hooks'. Such interactions are evident for the context of Oxfordshire in the data presented in Chapter Eight, particularly from the analysis of minutes of meetings of Oxfordshire Nature Conservation Forum and associated groups.

Murdoch (1994) refers to the way in which institutions take in and alter information, translating it into something that is of societal use. He discusses Latour's example of the census. Census forms are distributed and collected and the surveyed households are brought back to the central body where data is manipulated since there is such a large volume. All household information is translated into manageable statistical categories having passed through several moments of translation within the institutional framework responsible for the population census. This illustrates the way in which knowledge or social or scientific data is changed from being raw and true empirical fact to something that is useable to individuals and groups; environmental information may be treated in the same way. Murdoch also refers to British minerals planning to show how in rural areas the land use planning system allows planning decisions to be taken at a local level although there may be no local benefits, just environmental disruption, and the extraction may just be deemed necessary by the Government for national needs. Murdoch (p.17) states, 'in order to allow extraction to take place, and to curtail local economy, a sophisticated regulatory framework has been established. This framework allows 'action at a distance' in both time and space, for it seeks to impose a spatially uniform policy and to develop 'the long term view''. The planning system and the government departments concerned with agriculture and environment form the key nationally influential institutional frameworks that biodiversity planners need to be concerned with.

So, institutions may be formal (with agreed rules, laws, constitutions, and contracts) or informal institutional frames of reference for guiding human action (for example,

the Biodiversity Convention and Guidance on biodiversity planning within the UK from the Local Government Management Board), thus the notion of institutions applies both to structures of power and their resulting organisational forms, and to socialised ways of looking at the world as shaped by communication and the patterns of status and association. Jordan and O’Riordan (1997) suggest that institutional frameworks are necessary for conceptualising environmental problems, for developing, acting on, and evaluating responses. Referring to Wynne’s (1994) work, they state that claims about climate change evolved from scientific activity, itself determined by particular structures in the acquisition and transfer of knowledge; ‘Wynne’s team regard the climate change issue as primarily a feature of the socialisation of science, in which the institutional procedures of establishing peer review norms and model validation shape the assumptions and interpretation of the evidence. In addition such acculturised norms act as barriers against scientific criticism’ (Jordan and O’Riordan, 1997, p. 4). In other words, they perceive a link between science and the institutional framework as a two-way relationship in that scientific knowledge is produced within institutions and must answer to their procedures. Again a circulating subsystem may be visualised as knowledge is generated then presented to the institution within which it is set, there is then feedback given and further science is generated; at the same time it may be adopted by the institutional framework (and here we are talking about research bodies; government; government agencies; local government and environmental actors) and translated into accepted practices.

In terms of their social role, institutions are said by Jordan and O’Riordan ( p.6) to have the following characteristics:

- They embody rules that encapsulate values, norms and views of the world. Rules define roles and the social context. They define the ‘game’ of politics, establishing for players both the objectives and the range of appropriate tactics or moves.
- They take time to develop, and can be regarded as human actions that have become habitualised over time.
- Once established, they have a degree of permanency and are relatively stable.
- They are, contrary to the image fixity frequently associated with them, never static. They are continually renegotiated in the permanent interplay between conscious human agency and wider social structures, as Giddens (1986, p.11)

notes that there is 'a double involvement of individuals and institutions: we create a society at the same time as we are created by it'.

Jordan and O'Riordan (1997) write of the 'New' Institutionalism which aims to put institutions back into the frame of analysis for political scientists in order to explain links between human agency (i.e. process) and structure (i.e. organisation and position). As stated at the outset of this thesis, this research is not looking at the agency-structure debate as such but at network relations. Parsons (1995, p.244) states that 'problems and solutions take place within the boundaries of what is deemed acceptable, legitimate.....Thus an explanation of how and why a given policy emerged in relation to a problem requires that we first analyse the structure, historical development, personal networks and decisions over time of the institutions involved in finding a solution to the problem'. He argues that problems and solutions happen within institutions, rather than 'outside' the black box (the political system) since human thought and activity is generally bounded by the institutions within which they are located. Such a perspective focuses not on agency-centred theories, which portray the individual rational decision-makers as the primary unit for analysis but instead focuses on more amorphous patterns of behaviours and shifting alliances as bureaucracies and interest groups manoeuvre for prominence in open and accommodating policy arenas. It should be borne in mind that individuals may behave rationally, but what is regarded as 'rational' is socially constructed. Organisations adopt certain practices because they are valued by society, even though they might be 'sub-optimal' (Jordan and O'Riordan, 1997). This is often the case with planning departments in local authorities. The public tend to feel safe in the knowledge that planners will consider economic, social and environmental aspects in their decision making, but striking this balance may be sub-optimal for solely environmental concerns.

To summarise the above, social scientists have attempted to unpack the relationships between and within institutions, and with smaller actors (often NGOs) that operate alongside them. Corporatist and Pluralist models were two previously important ways of explaining socio-political relationships around institutions, but the concept of different types of network then emerged as a more realistic way of looking at modern

relations. As stated in the introduction, as the political climate has changed in the UK interest groups are acting in partnerships or local networks that both implement the knowledge that is institutionalised and add to it, then feed back into the institutional and knowledge poles from their experience on the ground. To return to Figure 3 (Chapter Two), these circulating movements between the poles (essentially those of knowledge, consultation and the development of practices, and feedback from implementation on the ground) are what creates an ever-moving-forward network which may shed and gain actors in its wake:

### **4.3 International Institutions for Biodiversity at the Global Level**

Spellerberg (1996, p.26) explains how over the last 90 years there has been a steady increase in the number of national and voluntary conservation organisations and that there are more laws and conventions than ever before; the extent of protected areas world-wide has also increased exponentially over the past 20 years. There have been some very important international initiatives, for example, the United Nations Environment Programme (UNEP) was established following the UN Conference on the Human Environment in 1972, and it has helped with the integration of biological diversity studies into many environmental programmes and initiatives. In 1948, the International Union for the Conservation of Nature and Natural Resources (IUCN), now known as the World Conservation Union was set up, and, in 1961 the World Wide Fund for Nature (formerly the World Wildlife Fund, WWF) was established. These were both significant in terms of publicising international conservation efforts. Specialist Groups were set up by these institutions, for example, the World Conservation Union (IUCN, International Union for the Conservation of Nature) established a specialist group, the 'Invasive Species Specialist Group' which aims to reduce threats caused by invasive species through a network of experts.

During the 1970s a legal and organisational infrastructure was assembled within the UN and NGOs to deal with the biodiversity problem. This included a number of conventions: the *Convention on Wetlands of International Importance especially as Waterfowl habitat* came into force in 1975 with the purpose of designating environmentally sensitive areas for migratory waterfowl and facilitating trans-border co-operation among countries. The convention places few specific obligations on its

Parties other than the requirement to designate one site for the 'Ramsar List' – a list of sites which are afforded special protection, although the Convention promotes the wise use of all wetlands. The agreement was staffed by a secretariat provided by IUCN (Hannigan, 1995 p. 149). Other conventions which emerged during the 1970s were the *Convention Concerning the Protection of the World Cultural and National Heritage* (1972), which established exceptional World Cultural Sites, e.g. Serengeti National Park (Tanzania) and a world heritage fund was established from this; the *1973 Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES)* with a secretariat provided by UNEP – this established endangered species for which international trade was to be controlled – however it was limited to species rather than protecting their habitats; and, the *1979 Convention on Conservation of Migratory Species of Wild Animals* (the Secretariat was again furnished by UNEP) which facilitated international cooperation among states with animals which migrated across their boundaries. Biosphere Reserves were designated under a UNESCO Programme. Such measures put into place a global system upon which more far-reaching and stringent international legislation to conserve biological diversity could be modelled. Also these systems helped to establish 'epistemic networks of research, communication and co-ordination which were vital in moving biodiversity to its status today as a major environmental problem' (Hannigan, 1995 p.150). Such conventions are examined in more detail in Chapter Five as they are viewed as international codes of practice that have become institutionalised.

Much more recently, in 1995, IUCN and UNEP signed a partnership agreement which aimed to strengthen world-wide co-operation in resource conservation and sustainable development. The most important culmination of these activities to date was the UN Conference on Environment and Development (UNCED), or the Earth Summit, held in Rio de Janeiro in 1992. Five important documents emerged from the Summit:

- The Framework Convention on Climate Change
- The Convention on Biological Diversity
- Agenda 21
- The Rio Declaration



- The Forest Principles

Together these represented an international agreement on sustainable development. Briefly, the Convention on Biological Diversity requires signatories to adopt ways of conserving biological diversity and ensure there is equity from the benefits of biological diversity. There was some controversy over the Convention particularly regarding access to southern hemisphere biological resources, and the USA ultimately refused to sign it, although 153 other nations did. The Biodiversity Convention was also contested by a coalition of farmers, ecological activists from Third World Nations who felt that local people had been excluded from the process and that conservation had become commercialised through the formulation of the Treaty. Agenda 21 is a blueprint to encourage sustainable development socially, economically and environmentally into the 21st century, and Forest Principles are aimed at guiding the management, conservation and sustainable development of all types of forests. In relation to the actors involved in such global environmental 'institutions', some attention has been given to the need to include well balanced groups, for example, Section 3 of Agenda 21 deals with 'strengthening the role of major groups' for example, by including women involved with sustainable development, and the communities of indigenous people. In 'western' terms, women tend to be under-represented in environmental research and activities, however, in the developing nations they play a key role and hold extensive knowledge about different species. There is more discussion of these conventions in Chapter Five.

BIN21, a Biodiversity Information Network arose also out of the Earth Summit and represents a Special Interest Network which disseminates information on biodiversity through electronic means - this is an example of the way that international cooperation is being furthered through international computer networks (Canhos et al, 1994).

Hannigan (1995) states that, 'biodiversity loss constitutes a socially constructed environmental problem which has brought together two well-established sectors: the international development establishment and the global conservation network. Nested within a web of NGOs, it has an institutional momentum extending beyond that which is able to be generated by single environmental movement organisations such

as Greenpeace or Friends of the Earth which have more of an 'outsider' status'. Biodiversity is described as a cross-cutting theme which is an aspect of sustainable development and a key test of its success (DETR, 1998).

These international institutions and associated texts and principles provide a backdrop to biodiversity activities in Britain and whilst they may not be referred to in the models presented in Chapter Eight, since it is beyond the scope of this thesis to examine the whole network of biodiversity planning and all the actors that have fed into it, it is clear that the existence of these agreements and important international institutions are significant in terms of the principles for biodiversity planning and sustainable development that are cascaded down to the local level by national government.

#### **4.4 The Concept of Sustainable Development with Respect to Biodiversity**

The generally accepted definition of sustainable development as set out in the Brundtland Report is, 'development which meets the needs of the present without compromising the ability of future generations to meet their own needs'. 'Agenda 21: An Action Plan for the Next Century' which emerged from the Rio Summit, gives political commitment to the integration of environmental concerns across industry, agriculture, energy, transport, education and training, recreation and tourism, land use and fisheries. In terms of environmental sustainability, Article 4 of the Rio Declaration states: 'In order to achieve sustainable development, environmental protection shall constitute an integral part of the development process and cannot be considered in isolation from it.' One of the key tests of sustainability is the conservation of biodiversity, and therefore this concern must be central to policies that drive the major sectors of the economy, such as agriculture, forestry, fisheries, transport, regional development and energy. The principles (or certainly rhetoric) of sustainability are being adopted by institutions such as local government, the private sector and environmental bodies including NGOs in many nation states, and because of its cross-sectoral nature, across many different areas of the economy. Chapter Eight shows how Local Agenda 21 groups and biodiversity planners have convened within the county of Oxfordshire.

#### **4.5 European Institutional Framework and Funding Channels for Biodiversity Protection**

The European Community (EC) adopted a biodiversity strategy in 1998 and this document, or practice, is discussed in Chapter Five. At the European level, emphasis is also placed on the need for integration and cross-cutting themes which link biodiversity with sustainable development, and, inevitably, this also requires a high degree of collaborative working. Information prepared by IEEP (2001a) states, 'Collaborations and partnerships, to make more efficient use of available resources, will be critically important in making the Biodiversity Action Plans and the actions in the Chapeau document (part of the EU Biodiversity Strategy) work. Communication between policy makers and actors, co-ordination of activities, and monitoring and evaluation of impacts are all key parts of the process to take the Action Plans forward. This requires involvement of all the relevant stakeholders and interest groups including Member State administrations, industry associations, NGOs and research institutions'. Within the European Commission (EC) there is an inter-service group on biodiversity which aims to expand participation of stakeholders, but by 2000 had been unable to do so, nor had it been able to initiate the wider involvement of Community Institutions in the biodiversity process. It was also envisaged by the Commission that under the EC Biodiversity Strategy, a Biodiversity Experts Committee should be established to enhance complementarity between the Community and Member State's biodiversity strategies in terms of information sharing and promotion of complementary measures; NGOs, industry, producer associations and other civil society stakeholders would be invited to participate in meetings as observers (IEEPa, 2001, Guidance Note 1, p.4). It should be noted that the UK BAP was produced before the EC biodiversity strategy and at the time of data collection was more relevant to the local network under study in this research.

The EC BAP also incorporates commitments to provide necessary Community funds, under existing programmes, to support implementation. The BAP provides a strategic objective to promote adequate financial support for the establishment of the EU Natura 2000 network, through an instrument called LIFE. Actions eligible for LIFE funding are related to 'Environment' and 'Nature'. Other sources of finance for nature protection, because of their commitment to protect biodiversity, include the

Rural Development Regulation (1257/1999) and Structural and Cohesion funds. Community funding for relevant 'conservation of natural resources' actions is also offered by DG Government and expressions of interest can be made on an annual basis. Under the Commission's Fifth Framework Research Programme (1999-2002), co-funding for major research initiatives was being offered for 'Sustainable Management and Quality of Water', 'Global Change, Climate and Biodiversity', 'The City of Tomorrow and Cultural Heritage', and, 'Sustainable Marine Ecosystems'. These funding channels, particularly the LIFE Programme have proved to be a very useful source of funds for projects within the UK, including within Oxfordshire.

Successful implementation of the EU BAP will depend on the effects of national, regional and local measures within individual Member States. The UK has been one of the most proactive Members in relation to biodiversity planning and other countries are benefiting from the British experience. For example, Buller, Morris and Wragg (2006) very recently undertook research for the French Ministère de l'Ecologie et du Développement Durable which considered England as a case study of good practice in terms of the ways in which the interests of agricultural policy makers had combined with those working in the environmental planning sector in relation to furthering biodiversity protection at national and local levels.

Having set the wider context in terms of the global and European institutional frameworks and measures that have been put into place, this review will move on to present the institutional framework for biodiversity planning within the UK.

#### **4.6 The UK Institutional Framework for Biodiversity Protection**

Each signatory of the Biodiversity Convention is required, in accordance with Article 6A to, 'develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity'. Also, signatories have been responding to Agenda 21 which arose from the Rio Summit and emphasises the importance of biodiversity as an indicator of sustainable development. In 1994 the UK published a national Biodiversity Action Plan – the UK BAP. Its main goal is, 'to conserve and enhance biological diversity within the UK and to contribute to the conservation of biological diversity through all appropriate mechanisms'. Its main features are to:

- Draw together existing instruments and programmes for nature conservation throughout the UK;
- Commit the Government to conserve and, where possible, enhance biodiversity within the UK and to contribute to its conservation worldwide;
- Set out a series of activities for a 20 year periods (based on existing and planned conservation work) known as the 59 steps;
- Recognise the need for targets and objectives to be drawn up and published; and
- Envisage the establishment of a multi-disciplinary multi-sector group to undertake the work

(DETR, 1998, p.5)

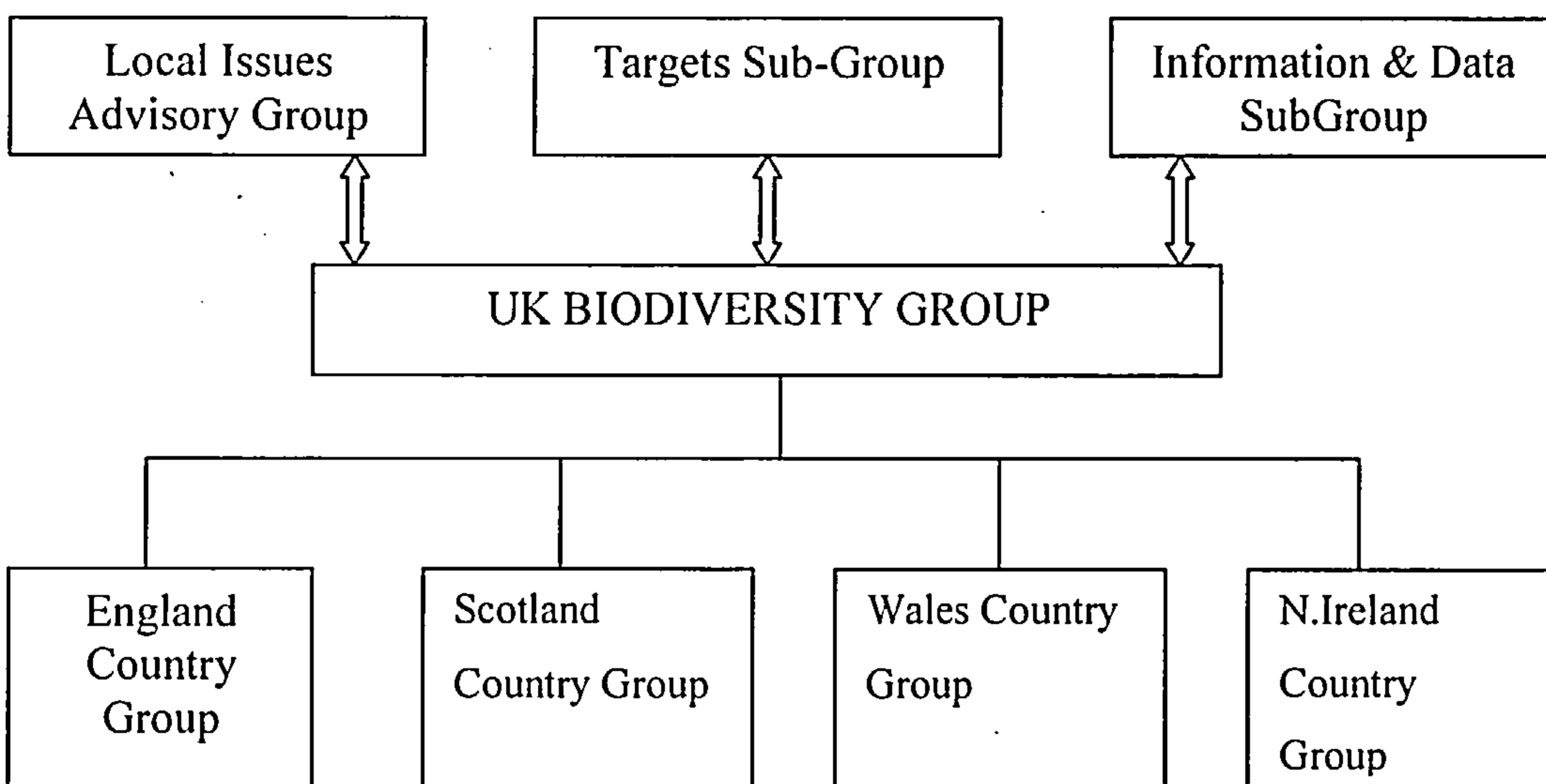
The objectives for conserving biodiversity set out in the UK Action Plan as summarised by UK Local Issues Advisory Group (1996, p.4) are, 'to conserve, and where practicable, to enhance:

- The overall populations and natural ranges of native species and the quality and range of wildlife habitats and ecosystems;
- Internationally important and threatened species, habitats and ecosystems;
- Species, habitats and natural and managed ecosystems that are characteristic of local areas; and,
- The biodiversity of natural and semi-natural habitats where this has been diminished over recent decades'.

The UK Biodiversity Steering Group (BSG) was established in the early nineteen-nineties and comprised representatives from central and local government, nature conservation agencies, the collections, business, farming and land management, academic bodies and voluntary conservation organisations. In 1995 the Group made recommendations to Government pertaining to the production of species and habitats action plans, and the development of local BAPs, in order to meet the objectives for conserving biodiversity as outlined above. Their recommendations were endorsed in 1996, and the UK Biodiversity Group was then established (UKBG) which comprised representatives from all major interests in biodiversity, including Government Departments, Local Government, statutory agencies, business and commerce, land

management and voluntary conservation agencies. One of the tasks of the Group was to coordinate the implementation of the UK BAP. The UKBG was supported by three generic Groups to draw up remaining action plans and promote biodiversity at the local level, and four Country Groups to monitor progress on implementation of the species and habitat action plans within Scotland, England, Northern Ireland and the regions of England (see Figure 5).

Figure 5: UK Biodiversity Action Plan Implementation



Source: Department of Environment, Transport and the Regions (1998) *Making Biodiversity Happen: A supplementary consultation paper to 'Opportunities for Change'*, DETR, London, UK (p.7).

The country groups have had slightly different emphases, for example, in England there has been a focus on biodiversity at the regional level, whereas Wales has been more concerned with local issues. New approaches have been introduced as the basis for biodiversity conservation in the UK, perhaps the most important of which is the setting of quantifiable targets, and production of costed species and habitats action plans. Steering Groups have been established for the UK for individual species and habitat action plans. These were published for 116 species and 14 habitats by 1998, later expanded to over 400 species and another 24 habitat types. These Habitat and Species Steering Groups have met under the leadership of a lead partner or agency

(usually a Government agency or voluntary conservation organisation, such as RSPB), and include representatives from all key sectors. UKBG was supported by a Biodiversity Secretariat in the (then) DETR. It should also be noted that many participating organisations have appointed Biodiversity Co-ordinators to give biodiversity work the priority it requires. This illustrates the way in which national level actors have been enrolled into the biodiversity issue and have worked together institutionally to lead the process for the UK as a whole.

UKBG's priorities as stated in 1998 (DETR, 1998, p.8) were to: publish remaining habitat and species action plans assigning lead partners/'champions'; publicise biodiversity activities (including good practice examples) through newsletters and a web-site; move towards a National Biodiversity Network (including the establishment of more local record centres); and, establish mechanisms to identify biodiversity research needs. These activities are illustrative of the manner in which the national biodiversity planning activities were developed and disseminated through readily available information and intentionally-developed networks throughout the country.

The UKBG was also responsible for working towards improving biodiversity indicators for use in monitoring sustainable development objectives as outlined in the UK Sustainable Development Strategy (DoE, 1994). Interestingly, the UK Government was the first of all signatories of the Agenda 21 agreement to develop a Sustainable Development Strategy. This has been updated twice since and the most recent was produced in 2005. One of the guiding principles in the most recent document is that of evidence-based policy-making based on strong science that also considers scientific uncertainty through the precautionary principles, as well as actors needing to consider public attitudes and values. This implies that policy makers within the institutional framework must balance empirical evidence and scientific recommendations with public perceptions. This underlines the relevance of this research which unpacks the way in which local BAPs are developed based on scientific and empirical data and the priorities of environmental actors and society at large.

To return to the first Sustainable Development Strategy mentioned above, consideration was given particularly to indicators of native species at risk; loss of wetlands; loss of hedgerows; habitat fragmentation; trends in farmland and other birds, plant diversity, mammals and butterflies; and, overall progress in implementing BAPs, Environmentally Sensitive Areas (ESAs) and Countryside Stewardship Schemes (CSS) and SSSI management. This shows how biodiversity and sustainable development aims were interlinked at the national level in that biodiversity indicators and the amount of certain habitats became accepted as guides as to whether sustainable development was being achieved. Social, environmental and economic outcomes were measured by a number of indicators including those related to biodiversity. This shows also how scientific principles – and certainly the rhetoric – from biological conservation had been seriously adopted within planning and development institutions for rural Britain. The same approach was promoted for local level biodiversity and sustainable development planning, and Chapter Eight shows how the county of Oxfordshire mirrored the national level process.

The DETR Consultation Paper (1998) *Making Biodiversity Happen* invited comments on a number of questions relating to the need to include other sectors in biodiversity planning, delivery of BAPs and inclusion of biodiversity in various statutory regimes; the role of government and its agencies; and, biodiversity issues linked to transport, agriculture, business and construction, education and individual responsibility. The report stressed that most species need to be viewed in the context of a range of other factors, which require input from all key sectors for action plans to succeed. This broadening out of responsibilities for biodiversity indicated the move away from traditional approaches to nature conservation and the embracing of a wide range of bodies; including land owners and land managers, within institutional arrangements, who can take responsibility for both promoting the ‘whole’ approach and be responsible for seeing it through. Such partnerships are seen as crucial, and to this end the UK Action Plan includes a programme of action to gain broader public and political commitment to biodiversity at every level. It should be noted that some NGOs such as Wildlife Trusts (under Royal Society for Nature Conservation (RSNC)) are organised administratively in relation to county boundaries (sometimes these are joined together) and therefore it can be easier for them to take a strong lead



in relation to the development of LBAPs. On the other hand some very influential NGOs, such as RSPB are organised nationally and regionally with some local groups and as a result may not be so prominent in terms of leadership in county level biodiversity planning. In other words the ways in which NGOs are organised can affect the way in which they are enrolled into county level actions, and the resources that they have available for this.

The Government's role is to integrate biodiversity across its policies and programmes, afford legal protection to habitats and species, give national biodiversity reports and report at the international level. Local government has the potential to engender action at the local level – by 1998 there were around 100 Local BAPs (LBAPs) in the UK – some initiated by local authorities and others by local wildlife groups. This figure in 2006 has risen to 162 local BAPs (<http://www.ukbap.org.uk//bap.aspx?id=454#2>). The Local Government Management Board (LGMB) produced 5 Guidance Notes in conjunction with UKBG advising on preparation and implementation. A database on Local BAPs has been generated (refer to website of the National Federation for Biological Recording (NFBR) which comprises a database of all Local Records Centres). A newsletter 'Biodiversity News' keeps local authorities abreast of the national scene, but other mechanisms are being considered. Most LBAPs have been produced in conjunction with the Local Agenda 21 process which involves local networks of people planning for sustainable development and considering economic, social, cultural and environmental factors. This is evident in the county of Oxfordshire (see Chapter Eight).

The UK Biodiversity Partnership replaced the UKBG in 2002 following the Government's response to the Millennium Biodiversity Report which provided an update on biodiversity developments during the nineteen-nineties. The aim again was to create a strong partnership at national level and, to this end, many different partners with an interest in the UKBAP and in biodiversity-related policy were invited. The UK Secretariat for this group is based in DEFRA, the UK Government Department that is now responsible for environmental planning issues.

Statutory development plans are important in terms of protecting and safeguarding key species and habitats. Local Planning Authorities (LPAs) must identify all internationally and nationally designated sites, for example, those under European Directives such as Special Protection Areas (SPAs), designated under the Birds Directive (79/409/EEC), Special Areas of Conservation (SACs) under the Habitats and Species Directive (92/43/EC) and under British Acts, Sites of Special Scientific Interest (SSSIs) under the Wildlife and Countryside Act (1981). Local Plans also include local or regional designations and sites of local nature conservation importance may be designated by local authorities because of their importance to local communities. The framework of non-statutory site designations within development plans is particularly relevant within the context of biodiversity planning.

Government Planning Policy Guidance on Nature Conservation makes it clear that local plans should be concerned not only with designated areas, but also with land of conservation value and possible provision of new habitats, and to link back to developments within the field of landscape ecological research discussed in the previous Chapter. The guidance states that, 'statutory and non statutory sites, together with countryside features which provide wildlife corridors, links or stepping stones from one habitat to another, all help form a network necessary to ensure the current range and diversity of our flora and fauna' (PPG9, October 1994). PPGs are now, in 2006, being superseded by Planning Policy Statements (PPSs) but at the time when this research was undertaken these had not been developed and PPG9 was important Government Guidance in terms of the institutional planning framework.

PPG9 also states that local authorities in England should bring regional nature conservation issues before the regional planning conferences in order to inform Regional Planning Guidance. Regional initiatives have already proved helpful (UKLIAG, Note 3, How Local Biodiversity Plans relate to other plans, p.5), for example, by serving as an intermediate step between national and local BAPs and ensuring that organisations which operate over a geographic scale greater than local plans, can focus their resources effectively, and by ensuring that adjacent areas develop consistent and complementary LBAPs. Regional Development Agencies (RDAs) were established in England in 1999 and one of the purposes is to contribute

to the achievement of sustainable development through their regional strategies. The benefits of producing a strategic framework at regional level have been recognised in terms of promoting consistency across neighbouring counties. The county of Oxfordshire falls under the South-East Regional Government. During the time of data collection, the regional biodiversity coordination was not particularly relevant as it was in the early stages of development, although some reference to coordination across counties, and attendance at regional meetings by certain actors was mentioned in some meetings that were observed.

The next section discusses the institutional pole for biodiversity planning within the county of Oxfordshire and the key actors involved. Oxfordshire was particularly forward-thinking in relation to its biodiversity related activities from the mid nineteen-nineties and the network of actors that developed therein is particularly interesting because of the nature of the county nature conservation forum and the way in which it works and has responded in terms of its dynamics to the national requirements for biodiversity planning.

#### **4.7 The Institutional Framework for Biodiversity Planning at the Local Scale, with a Focus on the County of Oxfordshire**

This section discusses the way in which the UKBAP targets and principles have been cascaded down to local level biodiversity planning and it presents some of the Government recommendations on the process by which local BAPs should be developed. Institutional relationships are seen as key in terms of generating partnerships and these have been developed through different means of reaching consensus, or through, deliberative, inclusionary processes (DIPS) which essentially are mechanisms by which groups of actors come together and consider carefully their priorities, developing solutions together. DIPS also focus on the need for inclusive approaches to local planning situations and may be led by key organisations. Towards the end of the section, the institutional pole in the county of Oxfordshire is introduced.

The UK BAP is translated into action at the local level through Local BAPs. An Annexe of the UK Steering Group Report describes the overall approach: 'The purpose of Local Biodiversity Action Plans is to focus resources to conserve and enhance biodiversity at the local level by means of local partnerships, taking account of both national and local priorities'. The UK BAP recognises that biodiversity is ultimately lost or conserved at the local level and therefore local action plans are essential. The functions of LBAPs are described in more detail in Chapter Five which considers the production of practices, but in brief, they ensure that national targets are translated into effective action on the ground, whilst also giving consideration to local priorities. In terms of this research therefore, the LBAP forms an important focus for nature conservation and biodiversity activities within the county generally, and a key text around which actors felt the need to convene. The need to produce a LBAP, as is shown later in Chapter Eight, became a key Obligatory Passage Point for environmental planners within the county's institutional pole.

Institutional arrangements are very much based on the idea of partnerships as recommended by UKLIAG (1996, Guidance Note 1, p.5), 'A local biodiversity plan has, by definition, a shared agenda for conserving and enhancing the biodiversity of an area. This cannot be set by any single organisation but must be built by consensus. Obviously there is a need for a 'lead body', but, to be successful, the process should be owned by all the parties who have a key role in delivering the product'. Such joint ownership is seen as essential in developing commitment from the local community. Wilson and Charlton (1997, p.10) speak of the 'collaborative advantage' that can be gained through partnership working where added value can be gained through mutuality of benefits across organisations in a cross-sectoral partnership that takes in public sector, private sector and voluntary sector organisations and groups. Their research has shown that a partnership is often an initiative existing as a formal structure that draws together interest groups who each use a share of the funds generated to 'do their own thing'. The current political agenda has forced the development of partnerships for funding requirements. Also partnerships are often perceived to be the most effective vehicle for addressing social and economic and environmental needs. The notion of partnership fits in with emerging concepts of communitarianism and a stakeholder society. Wilson and Charlton found that in

seeking to interest partners, partnerships tended to attract people who commanded a degree of power within their organisations.

Participation is key to the success of a (local) partnership and Wilcox (1994) describes five stances of participation:

- Information – tell people what is planned
- Consultation – offer a number of options and listen for feedback
- Deciding together – encourage others to provide additional ideas and options and join in deciding the best way forward
- Acting together – not only do different interests decide together what is best, but they form a partnership to carry it out
- Supporting independent community interests – help others to do what they want; perhaps within a framework of grants, advice and support provided by the resource holder.

Examples of enrolment into networks through key actors engendering different types of participation by other actors in Oxfordshire are detailed in Chapter Eight.

Usually local authorities lead the LBAP process and work with statutory conservation and countryside agencies, local and regional voluntary organisations, land managers, businesses, local record centres and those with specialist knowledge of local wildlife. Local authorities in such cases are key actors, often ‘macro-actors’ in the sense that they usually are ultimately responsible for producing the LBAP. So, within local biodiversity planning the general approach is that of consensus building through networks of actors who usually act in the capacity of representing their institutions, and, importantly, by including land owners and managers. Also, as mentioned above, there is often a link to Local Agenda 21 initiatives and groups since the production of a LBAP should, ‘provide the necessary framework for local initiatives to ensure that biodiversity is dealt with effectively as part of Local Agenda 21’ (UKLIAG, 1996, p.5).

Although LBAPs are usually produced by local government on a county scale, other planning-related ‘institutions’ may produce them, for example, National Park

Authorities, Regional Parks Authorities and major statutory bodies such as the Forestry Commission and Environment Agency. The process of planning and the levels of involvement of different types of actors has tended to vary according to local circumstances and local socio-political factors.

It is important to remember that the emphasis on planning for the wider countryside, rather than the traditional focus on conservation through the designation of protected areas, means that it is imperative that organisations work together if strategies are to be effectively implemented. Within the umbrella term of ‘consensus approaches’, different types of arrangements can be identified such as the more formalised partnership arrangements that may be characteristic of protected areas through to informal networks or fora, which are not necessarily constitutionalised and yet represent effective mechanisms for building consensus between local actors and institutions. There are also consensual partnerships that involve very few parties, for example, the Supermarket chain Sainsburys in the late nineteen-nineties established a Farm Biodiversity Plan initiative in conjunction with FWAG, and these institutions have worked together with individual landowners in establishing biodiversity priorities for their landholdings (Morris and Wragg, 2001). The benefits of forging partnerships for biodiversity planning include sharing the workload, resources and skills, but in terms of social benefits, it also generates a shared commitment to, and common ownership of, the process.

Guidance from the UK UKLIAG on Developing Partnerships (Guidance note 2, 1996) suggested that, in the development of LBAPs, the lead players (or macro-actors) in biodiversity conservation within a given area should work together to identify key partners and later a wider partnership of organisations, perhaps through a series of workshops. Suggested partners are:

- Local authorities – members and officers
- Land owners and managers - individuals, their representatives and advisors
- Statutory environmental agencies
- Government offices – at regional or national level
- Voluntary conservation organisations

- Water management bodies
- Industry and commercial interests

(UKLIAG, Guidance Note 2: *Making partnerships work*, 1996, p.4)

The importance of involving those who are most influential in terms of biodiversity at an early stage was made clear in this Guidance Note, and potential contributions from the different actors also need to be established, ‘a relatively small group of organisations, whose own objectives may relate closely to the objectives of the biodiversity plan, will usually drive the process. They may provide a significant proportion of the resources and coordinate the work. This small, relatively stable group may play a strategic role, whilst other partners become involved at different times as the process evolves’ (UKLIAG, Guidance Note 2, 1996, p.4). The UKLIAG cautioned that partnerships take some time to establish and communication mechanisms are important, ‘The LBAP is part of a long-term process and time taken to establish a firm partnership approach will ensure that it is sustained well into the future’. Also, biodiversity planning networks are not meant to be seen as static arrangements, but instead as a, ‘continuous and dynamic process where new organisations will become involved and others decrease their level of involvement as plans are developed, implemented, monitored and revised’ (UKLIAG, Guidance Note 2, 1996, p.4).

More generally, Environmental Resolve and the Countryside Recreation Network have promoted consensus building techniques in the prevention and resolution of localised environmental disputes and produced proceedings of a conference on ‘Consensus in the Countryside’ (Etchell, 1995) that drew on examples of successful negotiation over environmental issues and objectives. They summarise (p.4) the importance of gaining consensus between actors in multi-objective situations, and in maintaining achievements and enabling people to feel a sense of ownership of a project; also, in generating commitment, and, because time spent arriving at consensual solutions at the outset of a project is less time consuming in the long run in that it helps to prevent dissident actors destabilising a given network at a later stage. In other words, the implication is that if time is spent in reaching shared

agreements early on, such agreements will be more stable into the long term, resulting in firmer relationships between those actors involved.

A number of approaches or techniques may be used in developing consensual solutions such as workshops, focus groups, participatory planning exercises and citizens' juries. Many local authorities adopted the Canadian 'Round Tables' approach to focus on Local Agenda 21. The Environment Council (1995) advocates consensus building techniques in conflict resolution, 'consensus building is a process by which people work together to create mutually beneficial solutions to their problems'. Wilcox (1994) similarly defines consensus building as a situation 'where participants work together to reach a result which has a win/win outcome. It is an alternative to adversarial confrontations where one side is trying to gain supremacy (win/lose), or a compromise (lose/lose)'. Acland (1992) describes key elements of a successful process as being:

- A commitment of parties to investing time and effort in interactive cooperation;
- Involving participants in designing a staged process for consensus building and changing if its not working
- Using the process to develop relationships so consensus is sustained
- Exploring future needs and interests – not taking abstract positions
- Helping participants understand each other's points of view; and,
- Testing options for agreement for the impact on every party

A range of these principles and techniques has been used in local biodiversity planning scenarios across the UK. In the county of Buckinghamshire, for example, a number of different stakeholders (including landowners and farmers) were invited to participate in the development of Habitat and Species Action Plans, by the Local Authority and Wildlife Trust. They took part in a facilitated exercise (with neutral facilitators) which used a number of techniques in relation to enabling agreement on biodiversity priorities (Participant observation notes of meeting observed for biodiversity planning in Buckinghamshire, February, 1999). In the development of Gloucestershire's BAP many different environmental organisations were consulted and a series of meetings were held to this end. Oxfordshire has been, in a sense, ahead



of many counties, and its biodiversity activities have been developed by the County Nature Conservation Forum which has continued to enrol different actors and has looked to work with other networks of actors. ONCF has been an open forum and although membership has been by invitation, it is very embracing of all types of organisations with an interest in biodiversity. The Forum is also involved in organising activities for the public such as talks, and its working groups are active in relation to working with landowners and farmers and local communities in environmental and biodiversity-related issues.

This section has illustrated the way in which partnerships, through seeking consensual solutions, may link more formal institutions such as local authorities with a whole host of other organisations including individual landowners and members of the community. This situation with biodiversity planning certainly does not fit a corporatist model; a network approach is far more applicable, however, it is clear that there are rigid structures working with a myriad of NGOs that are more able to 'go with the flow' in terms of their collaborations and sometimes pressuring/lobbying activities. Although there is a climate of engagement in negotiation and seeking of win/win outcomes, the influence of formal institutions cannot be ignored. Collins and Burgess (1999, p.2) referred to Healey's distinction between 'hard' and 'soft' infrastructures in decision-making, suggesting that deliberative and inclusionary processes (i.e. planning activities that are organised to reach consensus between actors) are a key element in the soft infrastructure of decision-making, operating alongside existing institutional structures and practices, 'while this distinction is helpful, it is important to go beyond this dichotomy and examine the means by which DIPs and their outcomes can inform and shape the hard infrastructure without being captured by the interests that reside within it' (p.2). They suggest that the ability of DIPs to transform more rigid institutional decision-making is key to developing new socio-environmental governance. This research uses the framework of ANT and the sociology of translation in analysing institutional relationships in relation to network stabilisation through the use of DIPs in generating consensus.

#### 4.7.1 The Case of Oxfordshire and its Institutional Pole for Biodiversity Planning

This section provides an outline of institutional arrangements existing in Oxfordshire with respect to biodiversity planning. A more detailed evaluation of activities will follow in Chapter Eight. Some of the conservation 'practices' and texts that have been produced within the county are introduced in the following Chapter (Five) which looks at the production of practices or practice pole. The usual pattern of institutional arrangements exists in Oxfordshire regarding environmental planning, that is, with government departments and agencies being responsible for advice, funding and management agreements; local authorities being responsible for planning decisions, production of local strategies and practices, and certain management and advisory functions; and key environmental NGOs being a prominent force for species and habitats conservation. Of particular note has been the involvement of the local Wildlife Trust in relation to biodiversity activities, but many other NGOs representing other humans and elements of nature have been very instrumental in what is an interesting county environmental planning network.

Many local authorities have produced Nature Conservation Strategies which are non-statutory plans that address a range of issues in addition to those included in development plans. These describe the wildlife resource, including non-statutory wildlife sites, and they include policies or strategies for the management of these sites. Also, they seek to promote good practice, environmental education and community involvement. These have been valuable in promoting nature conservation at the local level and ensuring that it is built into policy and practice of local government (UKLIAG, Guidance note 3, p.6). UKLIAG suggested that future nature conservation strategies should benefit from the LBAP process since there would inevitably be some overlap. In other words the biodiversity planning process would have the dual benefit of enriching local authority plans.

Oxfordshire County Council (1992) produced a Nature Conservation Strategy. This is significant within the context of this research since it was the starting point for the development of the biodiversity planning network. The process of producing the Strategy was local-authority-led, but there was consultation with a countryside forum

(the Oxfordshire Nature Conservation Strategy Forum (ONCSF)) that had been established for the purpose of writing the Strategy. It was put together by the County Ecologist, who was based in the County Council Planning Department, once a series of consultative meetings with working groups had been held with others interested in nature conservation, such as representatives from English Nature (EN); Farming and Wildlife Advisory Group (FWAG); Ministry of Agriculture, Fisheries and Food (MAFF); Berkshire, Buckinghamshire and Oxfordshire Naturalists Trust (BBONT); Northmoor Trust; Council for the Preservation of Rural England (CPRE) and others. The primary objective of the Strategy was to set up a nature conservation forum in Oxfordshire into the longer term, to include representatives from local authorities, government agencies, voluntary organisations and landowners in order to 'stimulate discussion on nature conservation issues; aid the establishment of working parties to be responsible for implementing key objectives; monitor and update the Strategy; promote countryside initiatives; and, publicise available sources of grant aid' (Selman and Wragg, 1999a, p.334). Initially members of ONCSF were instrumental in the establishment of this wider forum, which was renamed Oxfordshire Nature Conservation forum (ONCF), and a number of working groups were then established to take the Strategy's objectives forward. Each member of the Forum was encouraged to join at least one working group, with the forum providing an overview and opportunity for communication; also a voice for Oxfordshire.

The Forum operated in a flexible way with no constitution as such. To date it is still an independent entity and claims to, 'represent a united platform for wildlife conservation in Oxfordshire, and as far as we know, still the only independent forum of its kind in the UK' (<http://www.oncf.org.uk>). It is described on its website in 2006 as an 'innovative and expanding partnership of 60 conservation organisations, farming bodies, environmental and recreational interests and local authorities....English Nature and others see us as an innovative leader in our field giving Oxfordshire's environmental groups an excellent competitive edge in bidding for resources'. Since its formation, the ONCF has grown gradually and the processes by which new actors were enrolled is described in the narrative that presents the data for Oxfordshire's biodiversity planning activities in Chapter Eight.

In 1994 activities moved towards the need to plan for biodiversity, and to this end the Oxfordshire 100 Group was set up to produce the 'Biodiversity Challenge for Oxfordshire' (BBONT, 1996). Once this was launched in 1996, a new group was convened – the Biodiversity Link Group which represented a coalition with an Oxfordshire Local Agenda 21 Group. It was this larger group which embarked on writing the Local Biodiversity Plan for Oxfordshire (Oxfordshire Nature Conservation Forum, 1998). These texts are discussed in more detail in Chapter Five, and the narrative of how they were developed is presented in Chapter Eight.

Institutional arrangements within Oxfordshire in relation to biodiversity planning link back to the local authority-led process of writing the Nature Conservation Strategy but from this evolved a flexible network which comprised actors who represented initially around 40 organisations, although numbers have now expanded. As well as these 'soft' planning arrangements it is acknowledged that many organisations have been addressing biodiversity targets within their own remits in addition to their role in county biodiversity planning. In this sense the concept of biodiversity has been very much institutionalised into bodies of all different sizes and structures. The way in which this network has changed in terms of its focus and activities throughout the 1990s in response to scientific information, new ideas in terms of approaches to planning, and policy requirements is explored in this research, particularly in Chapter Eight. Patterns of allegiance between actors and their institutions have mutated and evolved through time and space and this research uncovers some of these dynamics.

## **Chapter Five: The Production of Practices**

### **5.1 Introduction and Organisation of Chapter**

The 'practice pole' (refer to Figure 1, Chapter Two) is understood for the purpose of this research as including environmental policies and practices which stem from the institutional framework, and the planning and administrative activities therein, but which tend also to be driven by scientific knowledge and empirical evidence (Selman and Wragg, 1999c). Practices tend to be generated within the institutional framework by policy-makers, usually involving some aspects of negotiation with others. Usually, but not always, a 'practice' is contained in a text, and such texts may hold actors (often representatives of institutions) in place within stable 'partnership' relationships, particularly if such actors have 'bought into' the text either through practical action (e.g. through offering funding, research, data, involvement in consultation/partnership), or by 'signing up to' an agreement relating to a particular strategy, or if they have some ownership (e.g. through authorship/sponsorship/administration) of a given policy or practice. Informal practices also operate with regard to land and water management situations; they may just be an agreed way of 'doing things' within an area. Practices that are contained within texts (strategies, management plans) are then translated onto the ground resulting in the 'protected environment' which is discussed in Chapter Six.

This chapter first discusses how practices and texts may be viewed by some social scientists and then moves on to present a review of practices that are relevant to the local biodiversity planning context from the global to local level. This Chapter therefore presents information that later will enable objective 2 of this research to be realised, that is, it will provide information as to the types of texts that will be explored further within this research in Chapter Eight and outline the key documents that hold biodiversity planning networks in place or act as foci for achieving consensus.

## 5.2 Defining Practices and Discussing Texts: A Social Science Perspective

A practice may be described as, 'a method for doing something'; a 'routine'; a 'rule'; a 'system'; the 'usual procedure'; a 'discipline'; an 'action'; or an 'application' (Collins, 1998, p.479). In environmental planning terms, practices may be rigid in the sense that they are enshrined in law (with fines, for example, for damaging an aspect of the environment); they might be linked to routine environmental maintenance, for example, grass verge cutting following certain guidelines (produced by local authority) at certain times of year; they might be land management practices that form part of a system, for example, set-aside land with some form of crop rotation on farms, and so on. In other words practices may have to be followed by a landowner or an environmental stakeholder, or, they may be informal voluntary agreements, or, they may involve financial incentives via grants, for example, for planting, and maintenance of, farm woodlands. Within any rural locality there is a large range of practices being adhered to by many different actors that have an impact on the local landscape and stem from different sources. Some sources are macro-actors acting at a distance but with scientific or legislative authority, for example, government legislation on pollution of waterways with chemicals. Protected areas are managed by government agencies, for example, SSSIs are designated by English Nature which has national authority and obliges landowners to enter into management agreements. Other practices might stem from local authorities, for example, farmland might be located in an area with planning restrictions perhaps because of nature conservation issues addressed in a local development plan.

The practice pole represents the arena where policy makers have developed codes within the institutional framework and these have been agreed on, often with the achievement of consensus through deliberative inclusionary processes. The development of plans or strategies through consensus may be via the activities of many actors who see the problematisation of a particular issue such as biodiversity as being of paramount importance and therefore are willing to become enrolled in the process of producing practices that are held in texts but result in 'good practice' on the ground. Thus a given actor might be involved in the generation of institutionalised codes of practice, or in actually adhering to practices in terms of daily actions. Either

way, unless the actor is party to a heavily black-boxed practice, involving legislation and punishment if broken, the actor must have some sort of will to connect. Brown and Capdevila (1999, p.41) write about this, 'Forming relations and inciting connections is the expression of a will-to-connect. This will-to-connect is the actant's way of endeavouring to persist in being....it is also what drives networks to incorporate and fold around actants', thus the involvement of actors in the development of plans and practices means that they have chosen to be part of that network territory and in return, the network will incorporate them as another point, although this may just be presented nominally, for example, the name of one of the contributors to a strategy may be inscribed on the text of a practice but its inclusion does not explain the actual actions of that actor and the translations that the actor has been involved with. However, their will-to-connect involves actors in the production of practices as they become locked into a particular set of relations. Similarly, Callon (1986, p.205) describes the way that the new towlines made up of collectors (a technique that had been invented by the Japanese) were adopted by the fishermen of St Brieuc Bay as a new practice in order to encourage scallop larvae to anchor. This technology and method signified a device of *interressement* for engaging fishermen and scallops, whereas texts containing recommendations on practices acted as another device of *interressement* for enrolling fishermen and scientific colleagues. Thus the production and implementation of practices aims to stabilises network relations. It should be remembered that environmental planning practices, essentially, are aiming to engage non-humans in the form of elements of nature (biodiversity/landscape) in cooperation in order to achieve the type of environment/environmental assets that society wants to exist. Soderstram (1997, p.10) discusses how practices are developed within 'planning' and suggests that practices are representations of space that are produced on the ground, 'Following the planners around shows that....there are doubts on the visual perception and representation of space (what is/should be selected, inscribed?) as well as on what is/should be materialised (for whom is a new environment framed?), and, 'the focus here is on how these microcosms are encoded. What is selected?'. In relation to examining the practice pole within this research, ANT and the sociology of translation is used to expose the way that consensus is built in relation to the aspects of biodiversity (habitats and species) that are selected as being of local importance as well as those that are nationally important. A key

question is whether the translation constructionist approach is useful in terms of understanding how aspects of the environment are encapsulated within planning texts.

A practice is something that is accepted as being the best way of acting given certain circumstances, although practices may eventually be challenged by dissident actors or new knowledge that deems them to be no longer appropriate. Cussins (1997) writes about the importance of exploring intentionality (p.1) and this is important in relation to actors' voluntary involvement with contributing to the writing of, for example, Oxfordshire's BAP. He also explains how practices are accepted as the norm, 'Members of a practice act as they do because of these same norms' (p.4); it can be assumed, therefore, that practitioners may accept a plan or strategy or code of conduct to be taken as read, and this normativity may delay changes to an accepted practice, depending on how dynamic actors are within a given network territory. Leigh Star (1991) cautions that although scientists and technologists move in 'communities of practice', 'these sets of conventions are not always stable (p.41).....there is thus a critical difference between stabilisation within a network or community of practice, and stabilisation between networks, and again, critical differences between those for whom networks are stable and those for whom they are not, where those are putatively the same network (p.42).

Local BAPs are practices that are developed within a particular local context although they are the result of practices acting at 'higher' levels. Soderstrom (1997, p.9) discusses the contrast between practices that are developed at different scales by referring to the work of Castells, 'it has indeed been argued that there is a growing divide between, on the one hand, practices inscribed in the networked spaces of flows of global economy and, on the other hand, practices locally rooted in place'. This is an interesting observation and worth reflecting on later in relation to the biodiversity planning situation.

Also, it is important not to forget that agreed practices from previous points in time may govern the generation of more recently developed practices as shown by Parker and Wragg (1999) who explained the way in which an old disposition of power



(dating back to 1662 when Charles II granted the 'right') still held force in relation to navigation on the River Wye. Similarly, the UK statutory planning system and associated practices operating at different levels, and developed at different times, have an impact in terms of what they enshrine as important in relation to environmental and landscape protection and development opportunities. They dictate to some extent what is achievable in the development of a LBAP. This is also true of international conventions and of obligations such as the Biodiversity Convention. This research uses the tool of ANT and the Sociology of Translation to show how previously developed practices and those that operate at different spatial scales are important in terms of network linkages to county level biodiversity planning (refer to Figure 3, Chapter Two).

In considering the relations held by practices further, Myers (1997, p.9) is referred to. He discusses the relationship between texts, media and ANT drawing on Callon's statement that, 'Intermediaries both order and form the medium of the networks they describe'. Myers explains this, 'so, for instance, a map or organisational chart or product instructions both tell us what some relevant entities and boundaries are, and themselves constitute and maintain those boundaries across time and space. ANT approaches direct our attention to the materiality of texts and their role, parallel to that of expertise and artefacts in constituting networks'(p.9). This is a key idea in relation to this research since an examination of practices that are enshrined in biodiversity-related texts will show who the authors are; who is involved in partnership arrangements; how the consensus has been built; what scientific data has been drawn on and how the texts translate ideas into networks of actors cooperating on the ground. As well as the texts such as the LBAP for Oxfordshire and more localised agreements, texts such as minutes and working group reports are drawn on in examining how strategies are produced through participatory ways of working (refer to Chapter Seven (research methods) and Chapter Eight (presentation of data)). This enables understanding of the way in which texts (practices and the texts behind them) can be seen as part of the translation movement, so that the force of translation gives the text its force; 'the real challenge is to show how talk, text, discourse exerts power' (Rip,1997, p.10).

As with the previous two chapters, relevant biodiversity and sustainability-related practices will now be presented from global to local levels as part of the background to explaining how these act as intermediary devices that can hold network relations in place in space and time.

### **5.3 Global Practices for Nature Conservation and Protection of Biodiversity**

International Law is crucial for biodiversity conservation at the global scale, and wildlife practices have been initiated by many organisations, but notably the IUCN (International Union for Nature Conservation) and UNESCO (United Nations Educational, Scientific and Cultural Organisation). Generally speaking, on the world 'practices' stage, conservation issues are raised by interest groups within different countries, and on recognition of a valid cause, an international conference or forum is called. Following such an event, countries become signatories and later endorse a convention so that it becomes international law. The value of international conservation conventions goes beyond the strict legal provisions laid down. They provide, for example, a means for international cooperation and sharing of information and other conservation resources; they set standards for national legislation and requirements for conservation personnel who can take on broader conservation responsibilities (Oldfield, 1987 p.43). However, global conventions tend to contain language and legal content that make their objectives and commitments rather vague. For example, the Biodiversity Convention 'enjoins Party states to develop programmes for the conservation and sustainable use of biodiversity (Article 6) and to establish systems of protected areas (Article 8). Such commitments if taken literally and enforced to the limit by all of the Parties, would, in themselves, transform the plight of biodiversity' (Swanson (1997, p.1). Governments are implementing the commitments in their own manner within their own contexts of development. The Department of Environment, Food and Rural Affairs is responsible within the UK for implementing international wildlife conventions; formerly the Department of Environment, then Department of Environment, Transport and the Regions were responsible.

Some international conventions date back several decades, for example, The Ramsar Convention is an important piece of international legislation for biodiversity which

came into force in 1975 and facilitates international conservation of wetlands. It addresses problems of the world's wetlands on a regional basis – wetlands are sensitive but very productive ecosystems, and the definition of wetlands for the purpose of this convention included a range of habitat types; lakes, ponds, rivers, swamps, mangroves, reefs and other stretches of coastline (see Oldfield, 1987 p.48). Parties are obliged to designate at least one site for the 'Ramsar List' and these are entitled to special protection, although the Convention promotes the wise use of all wetlands.

The Bonn Convention (on the conservation of migratory species of wild animals), from 1983, gave strict protection to migratory species of conservation concern which were endangered throughout all or a significant proportion of their range. It promoted agreements between particular countries for populations of species. This became operational in the UK in 1985. At the first meeting of the parties to the Convention in 1985, the UK was unable to offer full support to certain species (Hawksbill Turtle, Loggerhead Turtle, Olive Riddley Turtle) since there had not been consultation with some of its dependencies (Oldfield, 1987, p.48). This resulted, at the time, in the UK being unable to accept the stricter protection requirements necessary. Such reservations can render international agreements less stable and weaken their impact.

Other international practices include the Convention on International Trade in Endangered Species (CITES) and the Convention for the Protection of World Cultural and Natural Heritage. The former was ratified by the UK in 1976 and aimed to control, and in some cases prohibit, trade in plants and animals that were threatened with extinction. The World Heritage Convention (ratified by the UK in 1984) aims to protect sites of outstanding universal value – sites are proposed by governments and selected by a World Heritage Committee for the World Heritage List. Countries are then legally obliged to take all steps necessary to protect such sites. In this way certain facets of the environment that society deems to be important are protected on the global stage.

Prior to the Rio Summit in 1992, the most significant 'practice' produced at the international level for nature conservation, is deemed to be the World Conservation

Strategy which was produced by IUCN (1980) and this was financed by WWF and FAO (Food and Agricultural Organisation of the UN) – it was subtitled *Living resource conservation for sustainable development* and provided policy guidance. Many countries responded to it by focusing attention on conservation issues and producing national strategies (Spellerberg and Hardes, 1992, p.15). The main aims were: to maintain essential ecological processes and life-support systems; preserve genetic diversity; and, to ensure the sustainable utilisation of species and ecosystems by rural communities as well as industries.

Following this, in 1982, the World Charter for Nature was published by the UN and contained text that promoted the wise use of natural resources and the conservation of biological resources within the process of economic development. It stated that its principles should be reflected in the laws and practices of states and that all planning should include in its considerations, the formulation of strategies for nature conservation and inventories of ecological systems, and these should be made accessible to the public for effective consultation and participation. Although the Charter contained a set of general statements and principles it did, importantly, enshrine important codes of practice relating to dissemination of information from the scientific pole; the need for participatory solutions to be found and the importance of conserving stocks of biodiversity and non-renewable resources.

In 1992, the UN Convention on Biological Diversity (CBD) set out a commitment to conserve biological diversity, the sustainable use of its components, and, the equitable sharing of the benefits arising out of the use of genetic resources. Four important global initiatives were key steps leading to the production of the CBD; these were:

- The declaration of the United Nations Conference on the Human Environment, 1972; *Stockholm Declaration* which emphasized interdependence between ecological and development goals;
- The UN Working Group on Indigenous Populations, 1982;
- The World Charter for Nature, 1982; and,
- The Report of the World Commission on Environment and Development, 1987; *Our Common Future (WCED)*.

These initiatives communicated the importance of the relationship between humans and the environment and the need for wise use of resources. 'Our Common Future' was a key text in relation to promoting the term 'sustainable development' and was a turning point for the adoption of certain principles in planning at all levels. Thus the CBD adopted the concerns that had been put forward in these international agreements and this stemmed from a gathering of the world's state representatives at the Rio Summit in 1992. The CBD is a legally binding document or international practice whereas Agenda 21, although not enshrined in law has become a driving force in terms of how nations respond to the demands of the CBD. It is far more complex and definitive in its recommendations and Chapter 9 of Agenda 21 is devoted to biodiversity. Since 1992 there have been many further meetings held at the global scale to discuss how article 8 and others should be implemented in practice within nation states. Other world summits have taken place since to discuss pressing environmental issues but in relation to the context of this research and the data that is presented in Chapter Eight, it is the Rio Summit and the CBD that were crucial in terms of how the UK Government sought to implement sustainable development strategies and biodiversity planning at the local level during the nineteen-nineties. As Swanson (1997, p.171) states, 'what will be required (to conserve biodiversity) is some substantive and enforceable commitments to real and concrete actions at ground level. The Biodiversity Convention as it stands does not accomplish this object. It will be the role of the protocols of the Convention to take the lofty language and bring it down to earth'. This research examines this process using the county of Oxfordshire as a case study.

The European Community is bound by provisions under the CBD, and the Biosafety Protocol, Climate Change and Desertification Conventions, and the Montreal Protocol along with international practices such as the Pan European Biological and Landscape Diversity Strategy. The UNE/ECE Aarhus Convention promotes access to information, public participation in environmental decision-making and access to justice (IEEPb, 2001, p.1). European practices for biodiversity protection will now be presented.

#### **5.4 The Production of Practices at the European Scale**

During recent decades there have been significant losses in all types of ecosystems within Europe, with more than two thirds of the existing habitat types considered endangered (IEEPa, 2001, p.1). This is seen as being the result of trends such as agricultural intensification in productive areas and under-utilisation of land in marginal areas; over-fishing by commercial vessels; pollution of land and water; commercial forestry methods; increased urbanisation; infrastructure development, and, tourism.

In terms of nature conservation a number of European practices have been of key importance. The Berne Convention on the Conservation of European Wildlife and Natural Habitats is one and it came into force in 1982 and aims to conserve wild fauna and flora in their natural habitats. By 1986 seventeen states out of twenty had ratified this Convention. However, there has been some controversy over the species lists included since some biological conservation organisations felt that the Convention is limited as it did not include some of Europe's vulnerable species (Spellerberg and Hardes, 1992, p.17).

The legal framework for nature conservation is provided by Directives 79/409 (Birds) and 92/43 (Habitats) that together create 'Natura 2000', an EC-wide network of sites for the protection of habitats and species of Community importance, and this resulted in the designation of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) across Europe. Outside these designated areas, measures are less comprehensive though some steps were taken to improve rigour in the Fifth Environmental Action Programme.

Regarding different sectors, several items of legislation operate including the Framework Directive on Water Resources (2000/60), the Rural Development Regulation (1257/1999) and elements of the Common Agricultural Policy (CAP) and Common Fisheries Policy, along with the Integrated Coastal Zone Management Strategy (COM(2000)547). Other relevant sectoral practices at this level which have an impact on biodiversity include transport, energy, international development,

tourism, regional development and cohesion funding (these are all linked to natural resources) and are regulated through many different EC and Member State mechanisms (IEEPb, 2001, p.1). Within the EU Treaty concepts such as the precautionary principle and sustainable development are now enshrined. In addition, legislation such as the Environmental Impact Assessment Directive (1980/2000) and the Genetically Modified Organisms Directive (90/22) are aimed at ensuring that natural resources are not harmed. Also, voluntary environmental standards such as EMAS Regulation (1836/93) on environmental performance and other eco-labelling initiatives can play a valuable role.

European Union Policy has undergone a process of 'greening' through environmental policy integration, although this process has taken a number of decades to come about since it was declared in the first Environmental Action Programme in 1973. Even in 1999, Margot Wallstrom described current negotiation strategies that were being adopted in the fifth EAP as the beginning of a learning process in thinking and attitudes (Lenschow, 2002, p.1). European environmental regulatory policy had failed in many ways, and in order to improve the state of the European environment within an increasingly deregulatory policy-making climate, sectoral policies were questioned in terms of their outlook as the new paradigm of sustainable development was adopted. The Single European Act in 1987 confirmed the legal obligation to policy integration and later, the Amsterdam Treaty in 1999 announced a commitment to sustainable development. What is interesting is that the UK had already adopted such principles and produced a national level Agenda 21 framework and biodiversity plan. The European institutional machinery was somewhat behind in terms of its production of, and adaptation of practices, although 'the concept has travelled from international fora to the Environment Directorate General in the EC and via the European Council to leading sectoral policy-makers in the EU and Member States' (Lenschow, 2002, p.12). The integration of environmental and agricultural policy had proved particularly problematic across European Member States. The CAP as a major feature of the European practice pole has proved resistant through 'strong institutional acceptance of environmentally harmful practices and by a strong clientele in favour of the status quo' (p.15). This may be partly explained by the often marginal position of environmental policy makers in the overall EC political structure.

Of relevance to this research is the way that UK policy-making, especially under the current Labour Government, has attempted environmental policy integration. Jordan (2002) describes the UK as having efficient governmental 'hardware' and 'light green software', in fact having one of the strongest and most effective systems for coordinating departmental policies of any Member State in the EU, particularly because of the sharing of information across departments (horizontal coordination). They have promoted the concepts associated with sustainable development although as Jordan states, 'currently over 80 per cent of UK environmental policy originates in the EU' (p.41) but, 'the UK has done much to sell the need for environmental policy integration to other EU states'.

In the UK the way in which environmental issues gained public attention during the nineteen-eighties and pressure from NGOs, notably Greenpeace and Friends of the Earth, meant that Government Departments had to start justifying their policies in environmental terms. A small NGO called Green Alliance that was based in London ran an effective 'greening government' campaign during the early nineteen-nineties which looked at the practice of different Government Departments. These NGOs were effective in raising the profile of environmental matters politically.

Regarding biodiversity, perhaps the most important area for integration of policy stemming from the EU is that of the marriage between agricultural and environmental policy. The 1992 Agri-environment Regulation (2078/92) marked the beginning of a stronger link between environmental and agricultural policy and, under this, Member States were able to start granting subsidies to farmers who wished to maintain traditional practices in terms of land management which were less intensive. Article 19 of Regulation 797/85 enabled the establishment of Environmentally Sensitive Areas (ESAs) and this was a British-led agenda. The UK was the first Member State to implement the policy. This was based on a tiered system of payments to farmers in certain types of landscape areas. These could be criticised on the basis that essentially payments were made to farmers not to pollute rather than to deliver tangible environmental gain. Later the Agenda 2000 reforms to the CAP and the Rural Development Regulation (RDR) meant that the following areas could be exploited or



further adapted by governments in relation to encouraging good environmental practices: the agri-environmental schemes, the codes of good agricultural practice and cross-compliance. Also, modulation now enables money to be channelled away from commodity support towards environmental objectives (Buller, 2002, p.118).

The details of the way that the UK Government has implemented the RDR and Agenda 2000 reforms will not be discussed further but it is important to acknowledge for the purpose of this research the way in which European policy has an impact on the local environment. Many key agricultural practices emerge from Europe but there is some flexibility in the way that these can be translated into national practices by the UK Government. This is important in terms of the sustainability agenda and the penetration of environmental and biodiversity-related objectives into the agricultural practices that emerge from Government. At the local level, agricultural practices are discussed by environmental fora and NGOs such as Wildlife Trusts; RSPB; Woodland Trust; and Farming and Wildlife Advisory Group, work with farmers and landowners within the constraints of Government measures and incentives to protect biodiversity.

The EC Biodiversity Strategy (COM(98)42) was published in February 1998, four years after the UK Government published its national Biodiversity Action Plan. The Community's contribution to meeting its commitments under the Convention has the stated aim, 'to anticipate, prevent and attack the causes of significant reduction or loss of biological diversity at source' both within and outside the EU. It aims to provide a mechanism for translation of the CBD and European Conventions to national, regional and local levels of activity. The Strategy defines a framework for addressing many issues associated with EU policies. IEEP (2001b) explains how the biodiversity problem is tackled in the EU BAP, 'The Strategy indicated that it would implement actions through the integration of biodiversity into (interestingly) eight key policy sectors, as well as pursuing cross-cutting policy objectives: to conserve and use biological diversity sustainably; to share the benefits of this use; to continue research, monitoring and information exchange (including activities under the Fifth Framework Programme for Research); and, education, training and awareness'. See Figure 5 for details of the contents of BAPs for four key sectors.

Of note is the fact that the Strategy objectives aim to encourage participation of a variety of people in biodiversity planning and protection. It states the groups of actors who need to be mobilised as being the following: national authorities (local, regional and national governmental authorities); bilateral donors; international organisations and financial institutions; organisations and associations active in the economic sectors, and private enterprise; research community (research institutes, universities, researchers and scientists); information dissemination organisations (including museums, zoos and botanic gardens and other ex-situ gene depositors), as well as the educational systems at every level; private and public landowners; non-governmental organisations (including nature conservation and environmental protection bodies at the local, national and international level); public (grassroot and citizen groups, consumer organisations, churches and religious groups/orders, recreational and sports associations); and, indigenous and native peoples of the regions of Europe.

Much work still needs to be undertaken in developing appropriate biodiversity indicators across Europe, 'Member States will be invited to submit proposals for indicators to assess the performance of the Action Plans and other relevant policy instruments, in relation to local biodiversity. This will support the establishment of an integrated information system for the Biodiversity Strategy and its Action Plans, drawing also upon scientific advice' (IEEP, 2001a p.3). This represents one way in which the scientific pole feeds into the production of practices at the European scale.

This section on practices at the European level has presented some of the key Conventions that have needed to be implemented by the UK Government and has also highlighted the way in which the UK Government has been strong in taking forward some methods for integrating agricultural and environmental objectives albeit that ESAs, for example, are open to criticism. Also, an important point is the way that actors at EU level have not traditionally taken an integrated approach in relation to inclusion of environmental goals in other sectoral policies, and again, the UK appears to be ahead in certain respects in relation to its relatively strong adoption cross-sectorally of the principles of the global Agenda 21 Strategy and the CBD aims. It seems that the UK to some extent 'cut out the middle man' of Europe because a

rapid cascade can be identified in terms of the way in which biodiversity planning became adopted at the local level during the *early* nineteen-nineties.

The EU Biodiversity Strategy is attempting to use principles of landscape ecology and engender participative approaches within Member States and across Europe in terms of information sharing from the scientific, institutional and practice poles. Perhaps its key role in terms of linkage to local planning environmental networks is that of its *injection of intermediary devices*, namely funding channels, for example LIFE funds that are aimed at environmental initiatives. In relation to other fiscal measures, local actors can only work within the parameters of UK Government decisions and their own translations of policy, in particular with regard to the agricultural sector and water resources management. Figure 6 below gives a summary of EU BAP content for certain sectors.

Figure 6: Summary of EU BAP content for four identified sectors (IEEP, 2001b)

*Conservation of natural resources*

The aim is to maximise the potential of existing and proposed environmental legislation in the EU in so far as it contributes to achieving the goals of the Biodiversity Strategy. A key element of this Action Plan is to fully implement the Birds and Habitats Directives through, e.g. providing financial and technical support for the conservation and sustainable use of the Natura 2000 Network. The Plan also outlines steps to support biodiversity conservation outside designated areas, and focuses on measures to enhance opportunities and synergies within relevant international agreements (e.g. the EC CITES Regulation) and processes, to maximise benefits for biodiversity. Other objectives include the enhancement of the ecological function of land cover, including riparian and alluvial vegetation, and use of the Water Framework Directive as a tool for conservation and sustainable use of biodiversity; also, the restoration of wetlands.

*Agriculture*

This identifies 7 priorities for future action in the area of agricultural policy, including ensuring more reasonable and rational agricultural practices, maintaining economically viable and socially acceptable agricultural activity, and exploiting the potential of agri-environment incentives to deliver conservation and sustainable use of biodiversity. Within the framework of these priorities, the Action Plan identifies several core instruments to support the delivery of biodiversity objectives within the CAP, especially measures introduced by Agenda 2000 reforms (the Rural Development Regulation and the 'horizontal' Regulation on common rules, as well as the SAPARD fund for accession countries).

*Fisheries*

A set of Measures are identified to preserve or rehabilitate biodiversity where it is under threat due to fisheries and aquaculture activities. Measures have been identified to address three main needs: the conservation and sustainable use of fish stocks; the protection of non-target species, habitats and ecosystems from fishing activities; and the prevention of negative ecosystem impacts from aquaculture.

*Economic Development and Co-operation*

This Plan is set within the context of International Development Targets agreed for 2015, and points to a need for improved links with EU Member States and at international level. It considers the need for capacity building within the Commission to manage development and environment issues, emphasises the importance of using Strategic Environmental Assessments and Environmental Impact Assessments in development activities, and highlights the need to develop capacity building within recipient countries to enable them to implement these measures effectively.

## **5.5 The Production of Practices at the UK National Scale**

In 1949, the National Parks and Access to the Countryside Act established a statutory framework for the protection of wildlife habitat, geological and landscape features as protected areas were delineated. At this time statutory powers were given to Nature

Conservancy (which became the Nature Conservancy Council in 1975), which emerged as the first official body in the world solely devoted to nature conservation at the national level (HMSO, 1994). Local Nature Reserves may be designated by local authorities under this Act, in consultation with the countryside agencies and some are managed by local wildlife trusts or conservation bodies.

Later, the Countryside Act in 1968 provided a means for establishing Sites of Special Scientific Interest (SSSIs). In 1975, the Conservation of Wild Creatures and Wild Plants Act gave protection to a somewhat ambiguous set of animals and plants. The Wildlife and Countryside Act in 1981 superseded the aforementioned legislation; it affords protection to plants, birds and other animals. However, the Wildlife and Countryside Act did not protect all threatened and endangered species owing to the difficulties then in deciding which criteria should be used for selection of species to be protected, although it was relatively easy to amend the schedules. Following the production of the UK BAP, selection of species and habitats for protection has become clearer as criteria and biodiversity targets have been specified much more precisely. The Environmental Protection Act (1990) and Natural Heritage (Scotland Act) 1991 reorganised the way nature conservation was administered by creating separate agencies for England, Scotland and Wales and a Joint Nature Conservation Committee to co-ordinate UK and international functions. There was also, in 1991, an amendment to the 1981 Act to further strengthen the protection to wildlife.

Thus, the conservation of protected areas in the UK occurs through legislative protection, for example, operations likely to damage wildlife in SSSIs are subject to control; the Town and Country Planning Acts are important where cases involve development proposals or uses which can be regulated by the planning system. In the case of SSSIs, management agreements are made between land owners and English Nature (EN) (in England) to retain the biodiversity quality of sites, following notification of the landowner. Also, a list of potentially-damaging operations is sent to the owner. Whilst the Wildlife and Countryside Act made provision for identifying activities that might damage the interest of an area and for negotiation of arrangements for the management of the site, there was not a requirement under this for the production of site management plans. The ownership of a site does not alter

through designation but the preparation of simple plans is encouraged through, for example, the Wildlife Enhancement Scheme in England.

Thus, there is a set of practices associated with the protected area system in Britain which includes legislative arrangements and management plans. However, the move towards planning for the wider countryside, which includes non-SSSI land and land which has not been protected as nature reserves by local authorities, has resulted in a myriad of practices aimed at protecting biodiversity. For example, National Park Authorities are taking more positive actions to improve nature conservation. The Forestry Commission has moved towards planning for multi-purpose forests which has resulted in much greater emphasis being placed on conservation value, and a number have been designated as National Forest Parks giving scope for biodiversity enhancement. Within the agriculture sector, an important designation (and one which was relevant to the Oxfordshire context) was that of ESAs which are areas of high landscape and conservation value, and farmers benefitted from payments for managing their land in ways that conserved and enhanced habitats. In this case participants in the scheme entered into a ten year management agreement and payments offered relate to promotion of local diversity. Other schemes with similar arrangements include a Moorland Scheme, a Habitat Scheme, Organic Farming Scheme, Nitrate Sensitive Areas (NSAs) (which required low-input-low-output methods), all of which were developed in response to the EC Agri-environment Regulation, an important element of the CAP reforms (discussed above) dating from 1992. The Countryside Stewardship Scheme (CSS) initially involved the Countryside Commission (now Countryside Agency), English Heritage and English Nature and offered incentives for sensitive practices on chalk and limestone grassland, lowland heaths, waterside landscapes and habitats and in some cases public access. The Forestry Commission also operated a Farm Woodland Scheme which has encouraged the planting of new woods, especially broad-leaved varieties on land taken out of productive agriculture.

The schemes mentioned in the preceding paragraph all operate, or have operated, in wider countryside areas and have been implemented with various levels of success in terms of biodiversity protection. The ESA scheme has now, in 2006, finished and

Countryside Stewardship has become part of the new Environmental Stewardship arrangements for farmers. Also, arrangements for delivering woodland grant schemes are changing. These new arrangements will not be discussed here since they did not exist at the time of data collection, but they could be envisaged as contributing to a 'future nature' pole for the purpose of this research in that they have superseded the practices that sought to protect a particular 'nature' at the outset of data gathering.

The Planning Policy and Guidance Note (PPG 9) updated earlier advice to reaffirm the objective of 'conserving the abundance and diversity of British Wildlife and its habitats, or minimising the adverse effects on wildlife where conflict of interest is unavoidable, and meeting its international responsibilities and obligations for nature conservation'. The PPG provided guidance on how to reflect these objectives in land use planning, including paying proper regard to nature conservation outside designated sites' (HMSO p.71). EN with the Countryside Commission, Countryside Council for Wales and National Park Officers signed, in the early nineteen-nineties a joint statement on nature conservation in National Parks which was implemented through an action plan seeking to cover topics such as strategies, environmental audit and collaboration on survey and data collection, as well as developing good codes of conduct and practice (UKBAP p.74). PPG9 is now being superseded by a new Planning Policy Statement, but again, this did not exist at the time of research so will not be detailed here.

Within the UK, practices have evolved to be increasingly directed towards meeting biodiversity protection aims in terms of realising stronger nature protection objectives as sustainable development principles have cut across different sectors and as EU funding has become more flexible. The evaluation of practices, along with increased sharing of scientific information, has been key in terms of the regeneration of policy and practice at national level. For the purpose of this research and testing the usefulness of ANT and the sociology of translation for biodiversity planning specifically, the key document that has been produced at national level is the UK Biodiversity Action Plan which is discussed in the next section.

### 5.5.1 The UK Biodiversity Action Plan – description of the Strategy (i.e. the nationally agreed ‘practice’ and its targets

‘Biodiversity – The UK Action Plan’ (HMSO, 1994) was presented to Parliament in January 1994 and was drawn up to a tight timetable to demonstrate UK commitment to the Convention on Biological Diversity of 1992. It was the first attempt to draw up a programme of actions, and comment was invited, that is, it was not seen as a final Plan which would be ‘set in stone’. The Government had agreed to set up the Biodiversity Action Plan Steering Group (see earlier in Chapter Four) to develop targets and monitor implementation of actions. Concurrently, the UK Government produced a national Agenda 21 document in response to the Rio Declaration which addressed sustainable development needs and integrated environmental concerns across a broad range of activities. The UKBAP document outlines the importance of UK biodiversity, presents the UK science base and associated developments in thinking on conservation and introduces the key habitats of Britain. The need for a framework of coordinated action is stressed (p.74) in order to reverse fragmentation of the wildlife resource and to benefit wide ranging species which have suffered through isolation of sites within the landscape, ‘a series of local groups would enable conservation agencies and other statutory and voluntary bodies to work together with local communities. They could develop agreed targets and a shared vision in order to concentrate a wildlife enrichment efforts into those areas where there is scope for significant conservation gain’ (UKBAP p 74). To this end EN developed the Natural Areas approach which divides England into 76 ecologically distinct areas based on land use, biological and physical characteristics and flora. These are not constrained by administrative boundaries and are based on a sense of place. Within these, Prime Biodiversity Areas have been identified and these reflect places where the current state of the nature conservation resource reflects the overall character of the Natural Area thus offering the greatest potential for full restoration of the character of the Natural Area.

Wynne et al (1994) produced the ‘Biodiversity Challenge’ – a plan from the voluntary conservation sector, for the UK to enable the Government to develop its more detailed biodiversity plans, following what Wynne et al call the ‘mapping out’



of conservation aims in the first edition of the UK BAP. The material contained in the Biodiversity Challenge was offered to the Government. It was produced in a collaborative manner and is described as a consultative document with the key contributors being Butterfly Conservation, Friends of the Earth, Plantlife, The Royal Society for Nature Conservation, the Wildlife Trust's Partnership, The RSPB and WWF. The document is aimed at contributing knowledge and agreement to the practices that the Government was to then endorse in pursuit of biodiversity aims. The document is not a 'practice' as such, whereas the UKBAP may be taken to be; but contains recommendations for the development of good practice and policy. It is seen as a 'visionary but practical contribution to the production of a UK Biodiversity National Action Plan' (Wynne et al, 1994, p vii). The document sets out proposed targets for species conservation, for example for lowland heathland, the target is, 'to maintain and improve by management all existing lowland heathland (57,000 ha) and produce conditions during the next ten years to begin the process of heathland re-establishment on a further 6,000 ha in Dorset, Hampshire, Surrey, Devon, Suffolk, Norfolk. The aims of re-establishment should be: to increase the total heathland area; to increase the heathland patch size; to infill and reduce the edge/area ration; and to link heathland patches' (Wynne et al, 1994, p.85). This example shows the way in which biodiversity-related texts set specific targets that are quantifiable but that need to be implemented at the local level.

As well as targets, quality measures are suggested to illustrate the character of a good quality habitat types, and threatened and important species associated with habitat types are described, for example, for *Eriophorum gracile* (slender cottongrass) found on lowland heathland, it is suggested that the population and range should be expanded from its present five 10km squares by reintroducing grazing to heathland pools and preventing eutrophication or reclamation of pools. Thus species indicative of good quality habitat are detailed within the recommendations for biodiversity practice.

The 'Challenge' document also, importantly, recommends that the Act ratifying the Biodiversity Convention should give all government departments whose activities impinge on biodiversity conservation, a formal duty to promote conservation (Wynne

et al, 1994, p.47). In this way the recommendations of this text are fed back into the institutional framework for biodiversity protection and enhancement at the national level.

## **5.6 Review of Key Texts for Biodiversity-related Practices Within the County of Oxfordshire**

This review focuses on the key practices and associated texts produced after 1990 and before 2000, pertaining to the county of Oxfordshire. It provides an outline of the practices pertaining specifically to biodiversity planning within the county. It does not seek to critically appraise these texts but rather presents them as intermediaries that will be seen as being important in relation to the actor-network of environmental planners which is investigated further in Chapter Eight.

In 1992, 'A Nature Conservation Strategy for Oxfordshire' (Oxfordshire County Council, 1992) was produced. This essentially is a 'green plan' for the county which provides a 'framework for action for all those concerned with the long term security of our native flora and fauna' (p.1). The Strategy was promoted and formulated by Oxfordshire County Council in conjunction with a number of organisations that are detailed in Chapter Four. These organisations were directly involved at the county level with preparing the Strategy, having been elected to the task by a larger Countryside Forum. The document states that, 'ultimately its success will depend very much on the support of many local communities and private landowners which can play a key role in helping to safeguard and manage the nature conservation resource in Oxfordshire' (p.1). Figure 7 outlines the aims of the Strategy.

Figure 7 Aims of the Oxfordshire Nature Conservation Strategy (Oxfordshire County Council, 1992)

The aims of the Strategy are as follows:

- 1) To safeguard and encourage the sympathetic management of important wildlife and geological sites throughout the county
- 2) To safeguard and encourage the sympathetic management of the wider countryside
- 3) To improve access to appropriate wildlife and geological sites as well as the wider countryside and to facilitate enjoyment and educational value of the nature conservation resource
- 4) To encourage local community involvement in the creation, management and enjoyment of the nature conservation resource
- 5) To maximise educational benefits of the nature conservation resource

The aims are broad, and within these, fifteen objectives were set to detail the more specific actions needed to conserve nature within the county of Oxfordshire, these are listed in Appendix Two.

The Nature Conservation Strategy was a significant document in that it brought together many of the initiatives which were already in operation and set out priorities for future actions. It stated the need for a Nature Conservation Forum (Objective 1, see Appendix Two) which was established following the production of the Strategy; the organisations involved in producing the Strategy, and in the ensuing Nature Conservation Forum, 'bought into' the aims and objectives and began to use these, and the practices outlined therein, as a focus for collaborative working.

Chronologically speaking, the next significant county document relating to biodiversity and nature conservation in Oxfordshire to be produced was the 'Biodiversity Challenge for Oxfordshire' (BBONT, 1995). The production of county Challenge documents mirrored the production of a national Biodiversity Challenge but they were produced for smaller planning areas, usually counties. Again, the

Biodiversity Challenge for Oxfordshire was produced through the work of a number of organisations linked to the Forum, although at the end BBONT assumed an authorship and editing role. The following were involved: BBONT; Ashmolean Natural History Society; Banbury Ornithological Society; British Dragonfly Society; British Herpetological Society; Butterfly Conservation; County Botanical Recorder; FWAG; The Thames Valley Mammal Group; Oxford Ornithological Society; Pond Action; RSPB; West Oxfordshire Field Club. The number of organisations named on the document illustrates the extent of the partnership arrangements that were developing within conservation practice within Oxfordshire at this time and the network relations will be mapped out in Chapter Eight to show the linkages between different sets of actors who were involved with the production of practices.

The Oxfordshire Challenge, like the UK Biodiversity Challenge is not a practice as such but a set of visionary recommendations to drive biodiversity action planning. In the case of Oxfordshire, the Challenge was developed by the Oxfordshire 100 Group (a working group set up within the Forum), so-called because the Challenge selected 100 Oxfordshire species which were internationally rare or threatened, locally rare or threatened, indicative of rare or threatened habitat, characteristic of the county or culturally valued (BBONT, 1995, p.3). The document was seen as being part of the process for proposing clear steps for achievement of wildlife conservation, building on the knowledge of what exists in the county, and determination of biodiversity priorities. The Oxfordshire 100 species are detailed in Appendix Three.

Targets for the Oxfordshire 100 species were contained in the Biodiversity Challenge. Also, key habitats were outlined in the document with attached targets. Targets and suggested actions were produced for neutral pastures and meadows; chalk downland and limestone grassland; heathland and acid grassland; Oxfordshire fens; rivers and wetlands; intensively farmed land; woodland and scrub – these were seen as Oxfordshire's key habitats of importance. The relevant species from the Oxfordshire 100 list were included with each habitat indicating that actions to preserve an area of a specific habitat would consequently conserve certain elements of biodiversity. The production of The Challenge preceded the production of the LBAP. It represents the

prevailing ethos of reductionist thinking in terms of target setting for elements of the natural environment and the selection of priority species.

The LBAP for Oxfordshire 'Action for Wildlife' (ONCF, 1998) stated the vision, 'To pass on to future generations a county rich in thriving communities of indigenous plants and animals which are cared for by all' (p.1). The plan was written using existing publications and reports and the wealth of specialist knowledge in the county, and is couched in positive rhetoric from the outset, for example, 'It is important to realise that a great deal of positive conservation work already takes place in Oxfordshire (referring to the work of communities and volunteers and in response to district, county or nationally directed initiatives)...tremendous achievements have already been made, such as the re-introduction of the Red Kite to the Chilterns, the return of the otter to the county, the restoration of the River Cole, and the on-going restoration of damp meadows and pastures in the Upper Thames Tributaries ESA' (p.1).

'Action for Wildlife' also points out that a 'LBAP is both a product and a process – it not only identifies where action needs to be taken, but also specifies appropriate mechanisms and indicates how the various on-going initiatives can combine to achieve the targets, or where additional input is required, and emphasises the need for greater coordination of effort. It stresses the need for the increased use of partnerships and the involvement of a wider body of people, and demonstrates how each individual or organisation can contribute to the process' (p.2). The very wording of passages such as this in the document indicates that the production of the LBAP and associated practices was a key intermediary providing a focus for county nature conservation or biodiversity planning and in such a way acted as an obligatory passage point for planners and communities within the county.

Local initiatives which will contribute towards biodiversity targets in the county are identified within the 'Action for Wildlife' document, and are shown in Figure 8. The importance of some of these and the way that they act as intermediary projects with key associated practices that hold networks of actors in place is examined further in Chapter Eight.

Figure 8 Local initiatives contributing towards biodiversity targets within Oxfordshire (ONCF, 1998)

Parish Conservation Plans  
Local Agenda 21 Initiatives  
Local Environment Agency Plans  
Designation, protection and management of statutory and non statutory wildlife sites such as SSSIs, NNRs and LNRs  
District Nature Conservation Strategies  
The preparation of Local Authority Local Plans  
Whole Farm Conservation Plans  
Local natural history societies and groups  
Local and national species recovery projects  
Habitat creation and enhancement schemes undertaken in connection with developments and as 'stand-alone' projects  
Agri-environmental schemes such as Countryside Stewardship and ESAs  
Urban nature conservation initiatives  
Collation and analysis of records of locally important species

The document outlines the link back to the global and national biodiversity processes, 'This BAP is Oxfordshire's response to the initiative started during the 'Earth Summit' in Rio in 1992 – Local Action Plans are an essential part of the process. Their purpose is to focus resources to conserve and enhance biodiversity by means of local partnerships, taking account of national and local priorities, providing the biodiversity element of Local Agenda 21. LBAPs should include targets that reflect the values of local people, cater for local distinctiveness, and allow for a range of local conditions.....the Oxfordshire BAP relates the county to the national picture and provides a framework for reporting on progress towards local and national targets. It also shows how other plans such as district nature conservation strategies, can feed into the process' (p.5). The importance of conserving biodiversity is couched in these terms, 'We have responsibility for stewardship'; Biodiversity is important to our moral and aesthetic values'; 'Biodiversity has benefits for society'; and, 'Biodiversity has economic value'. The LBAP concentrates on the county's key habitat types (which are all lowland), and were grouped as being woodland, neutral meadows and pastures, chalk and limestone grassland, farmland, heathland, wetlands, towns and villages. Summaries for each habitat type are found in Appendix Four.

The species identified under each habitat theme were then planned for (or not) in the detailed Habitat or Species Action Plans (HAPS or SAPs) through consensual ONCF activities within working groups. The main priority, initially, was the production of Habitat Action Plans (HAPs) since they support the species, although certain species were seen as requiring their own plans, for example, bats who may live in different types of habitat, or species such as dormouse, tree sparrow and otter which require very specific measures not appropriate for inclusion in a general Habitat Plan. Certain species were prioritised as needing separate Species Action Plans (SAPs), for example, the Water Vole, Song Thrush and Marsh Fritillary Butterfly.

Thus 'Action for Wildlife' set out the priorities for HAPs and SAPs and, in effect, was 'signed up to' by all members of ONCF. Representatives from BBONT; Oxfordshire County Council; ONCF; Ashmolean Natural History Society; RSPB; EN; CPRE and Northmoor Trust were responsible for the writing of the document. The document was contributed to by all those on the Biodiversity Link Group (a Forum working group formed by amalgamating the Oxfordshire 100 Group and some of the Local Agenda 21 group the importance of which is made clear in Chapter Eight). 'Action for Wildlife' may really be seen as a guide to the specific practices to be produced, that is, the technical SAPs and HAPs. These have been produced by a number of Task Forces, and are held on CDROM rather than in a paper document; they were just starting to be developed at the time the data for this research were gathered.

Oxfordshire Agenda 21 (Oxfordshire County Council, 1997) was intended as a working document promoting action to improve the environment. The Local Agenda 21 process began in Oxfordshire in January 1995 when representatives from businesses, voluntary organisations, central and local government, and many others, attended a conference, 'Bringing the Earth Summit to Oxfordshire', and at that meeting the Agenda 21 Steering Group was formed which then proceeded to write the document. Agenda 21 is complementary to the draft Oxfordshire Structure Plan for 2011. The main objectives are, to:

- Reduce the need to travel, particularly by car, and encourage people to travel in less polluting ways such as walking, cycling and on public transport;

- Encourage the efficient use of energy and avoid the wasteful use of land and other resources;
  - Maintain a healthy and successful local economy;
  - Protect and enhance the county's environment; and,
  - Provide homes for Oxfordshire's residents.
- (Oxfordshire County Council, 1997, p. 3)

Within the Agenda 21 document there is a chapter on 'wildlife' written by the Chair of the Forum and a representative from BBONT. Three objectives are outlined: 1) Write and implement a Biodiversity Action Plan for Oxfordshire, 2) Provide information (for example, Alert Maps), 3) Education and public participation. A need to extend involvement of all sectors which affect biodiversity is identified (p.53), 'The Oxfordshire Nature Conservation Forum is an excellent start, and has been running successfully for nearly four years, but it needs to reach more of the organisations and individuals whose activities affect biodiversity including those who affect the social and economic development of the countryside' (Oxfordshire County Council, 1997, p.53). The Agenda 21 document was key in terms of showing how within different sectors within Oxfordshire environmental issues and biodiversity concerns could be considered and addressed. It was an important *dispositif* or device for action in relation to generating and sustaining actors' activities and the link to ONCF working groups, as will be shown in Chapter Eight, significantly expanded the biodiversity planning network.

The Chapter on 'farming' also draws a clear link to biodiversity and identifies the practice of producing Whole Farm Plans as explained in a 1995 leaflet produced by FWAG. WFPs are voluntary plans, drawn up through consultation between the farmer and a FWAG adviser. The Plan provides annual management targets and advice for the careful and targeted use of fertilisers and pesticides. Since the idea was launched the number of farmers using Whole Farm Conservation Plans has increased steadily.

Three national schemes, or practices, were particularly relevant to farmers in Oxfordshire at the time of data gathering, these were:



- 1) The Countryside Stewardship Scheme (CSS) under which farmers are eligible to receive payments if they are prepared to manage their land in ways which maintain or enhance significant features such as species-rich chalk grasslands, hedgerows etc. The Scheme was administered by the Ministry of Agriculture, Fisheries and Food, and detailed ten year management plans and contracts were agreed.
- 2) Upper Thames Tributaries Environmentally Sensitive Area (UTTESA). This encourages landowners who farm fields bordering the tributaries to the Thames to either reduce stocking and fertiliser inputs or, if arable, to consider reverting to grassland in order to restore the historic pattern of species-rich water in meadows.
- 3) Woodland Grant Scheme (WGS). This has been important in the management of small areas of woodland

Examples of best practice for trees and woodlands within Oxfordshire are: the Great Western Community Forest in the western part of the Vale of the White Horse; the Wychwood Project which aims to involve local communities in the restoration of the ancient Royal Forest of Wychwood, the intention of which is to plant 800 hectares of forest and restore the traditional features of the medieval forest by 2030; and, the Oxfordshire Woodland Group, which has 500 members and promotes all aspects of woodland management. The Oxfordshire Woodland Project also, has brought approximately 9% of Oxfordshire woodlands into management (Oxfordshire County Council, 1997). Thus, even for one habitat specified within the LBAP there are a number of projects associated with it and associated efforts to involve different stakeholders as members and members of the community. These types of conservation actions or practices are reflected for many habitats and, through their operation, actors may align themselves with a particular interest and demonstrate Brown and Capdevila's 'will to connect'. A similar range of projects and activities exist for wetlands and ponds as shown in the examination of a particular network presented in Chapter Eight relating to the Upper Thames Wetlands Project.

Oxfordshire Wildlife Sites Project is another important biodiversity-related initiative and represents a partnership between landowners, conservation bodies and local authorities. Key sites have been identified from wildlife surveys previously carried out by EN and BBONT. They have no statutory designation, but together with legally protected SSSIs, SACs, and Prime Biodiversity Areas (PBAs), they form an

important network of habitats for plants and animals. County Wildlife sites are recognised by local authorities within Oxfordshire and are flagged-up in situations where planning permission is applied for. Thus there is a code or practice associated with them in relation to planning (although this is not entirely black-boxed). The project offers free advice and support to owners of Wildlife Sites, including advice on appropriate grant aid schemes and on other initiatives such as Whole Farm Plans. However, it is only the landowner or manager who ultimately has control over the management of a Wildlife Site (ONCF, *Oxfordshire Wildlife Sites Project* leaflet, BBONT, not dated). The project was first funded by local authorities, EN, CPRE and Esmee Fairbairn Charitable Trust. Now local authorities and Berkshire, Buckinghamshire and Oxfordshire Wildlife Trust (formerly BBONT) are the key partners, and it is likely that many of the sites will be put into the new Higher Level Stewardship funding scheme as a means for financing conservation of these sites (interview with ONCF Project Officer (i21), February 2006). A map showing the local wildlife sites of importance can be found on the ONCF website under 'Target Areas'.

Policies and practices, often detailed in documents or texts, represent agreements between various actors, following varying levels of consultation. Clearly, certain aspects of the legal framework at all levels, for example, the designation of SSSIs and SACs may 'black box' areas of land and water and associated actor-networks, whereas other practices are voluntary, or develop through consensus building exercises, and are more open to negotiation, for example, non-SSSI Wildlife Sites in Oxfordshire and Whole Farm Plans.

It may be the case that actor-networks at any scale involve practices that are linked to a policy or legal 'hook', such as planning legislation. Chapter Eight illustrates how this can be the case in particular scenarios. Chapter Eight also explores the ways in which actors convened around, between and 'under the umbrella of' the different local, national and international biodiversity planning-related texts enshrining practices that are discussed above. The next chapter goes on to discuss the type of 'nature' and elements of 'the environment' that biodiversity and nature conservation

planners were seeking to protect and, as far as the social constructivist approach is concerned, 'construct' through the practices that were generated locally.

## **Chapter Six: The 'Protected Environment' Pole**

### **6.1 Introduction and Organisation of Chapter**

This chapter discusses the ways in which aspects of the environment(s), or elements of nature, are seen as being important by society and particularly by key actors within policy community and interest groups, and, consequently, how these aspects become priorities for protection measures via the institutionalisation of scientific knowledge and the development of particular practices that keep elements of nature 'safe'. The 'Nature Protected' pole (refer back to Figures 1-3, Chapter Two) is, in a sense, the culmination of the processes that occur within and between the other poles in that it is an outplay of knowledge and the policy and practice 'machine' since many elements of nature, including biodiversity, that exist now, are those that are deemed as being important. It could be argued that they reflect societal values, although nature acts in its own right and may also be viewed as constructing society by some sociologists. Therefore, in a sense, the 'Nature Protected' pole partly reflects the general consensus view as to what elements of nature should be preserved, particularly in terms of a consideration of which elements of nature 'make it into' key planning texts and documents.

This Chapter discusses some philosophical standpoints in relation to the relationships between humans and nature. Then, as with the previous three chapters there is a focusing down in terms of spatial scale, so, after an initial discussion about the theoretical aspects of environmental constructivism, international ideas on environmental protection are examined, followed by national priorities and county and community level concerns.

### **6.2 Discussion on Sociological Thought About how Society may Construct a 'Protected Nature'**

Dickens (1992, p.23) refers to Spencer, an early sociologist, who wrote in the second half of the nineteenth century and saw humans as being in some sense 'natural' as well as regarding nature as being socially constructed. He alluded to constant change, both to the social world and to the physical and social spheres within which people

and institutions develop, 'It needs but to think of the immense contrast between a wolf-haunted forest or a boggy moor peopled with wild birds, and the fields covered with crops and flocks which eventually occupy the same area, to be reminded that the environment, inorganic and organic, of a society, undergoes a continuous transformation of a remarkable kind during the progress of society; and that this transformation becomes an all-important secondary factor in social evolution'. He thus implied that societies undergo change processes very similar to those of the natural world, for example, hunter-gatherer societies may have simple social structures compared to the more complicated divisions of labour associated with advanced industrial societies. He saw society as an evolving community to which biological principles applied in the same way as they do to 'nature'. He recognised that society constructs landscape and the environment and that as the human community changes, so does its relationship with nature and how nature appears.

Dickens (1992) reviews the way that sociology has related to biological and evolutionary thinking. Much of sociology's history consisted of a dialogue with biology and Darwinism, particularly in that societies were seen by some thinkers as developing as live organisms, however, dualisms gradually developed that separated nature and society into two different realms: biology/society; nature/culture and so on. Dickens also explores the idea of the *fetishisation* of nature, for example, through the 'deep-ecology' movement's idea of close-knit communities integrated with nature whilst also recognising Giddens's thoughts on the 'disembedding' of social life from local contexts and small scale interaction, and the associated rise of 'science', expert knowledge and expertise. Eder (1996) explains how the modern crisis in the relationship between humans and nature, the ecological crisis, has required a need for re-defining the idea of the human 'struggle' with nature in that the goal of dominating nature has been replaced by the aim of preserving nature as an environment of society. Eder states (p.26), 'The domination of the knowledge of nature by science and the accompanying reflection on the relationship of nature and society are the second reason for the break-up of the struggle metaphor'. Thus Eder sees a morally-driven relationship between humans and nature which drives the scientific pole in that furthering our knowledge of ecology helps to re-dress the balances that society might have over-tipped. According to Dickens, some of the effect of this development is

that local knowledge becomes professionalised and extracted from its immediate context; it is placed into the hands of experts with much more abstract expertise (Dickens, 1992, p.148). Dickens also speaks of 'locales' as being environmental as well as social systems, and how 'time-space distancing' is increasingly affecting, and socialising the whole of the supposedly 'natural' world. He suggests that Giddens' work leads to a central paradox – on the one hand nature is becoming increasingly socialised and society and nature are becoming more integrated, but, on the other, it is precisely through such socialisation, and the attendant spreading of the social relations and institutions involved in its production, that people lose tangible association with the natural processes and mechanisms. Marx would attribute such spreading to the rise of the private ownership and manipulation of the rest of nature, 'Not only does the form in which integration is taking place seem to militate against a direct, engaged, involvement with nature of the kind which Marx saw as essential to the realisation of human capacities and potentials, but under these circumstances a purified, commodified and fetishised version of 'nature' seems to thrive; one which consumers encounter in the market-place or through the mass media' (Dickens, 1992, p.152). Thus according to Marx and Giddens, people have become disembedded or alienated from nature under modernity and time-space distancing. However, contemporary environmentalism does seem to offer some grounds for the full-scale integration of 'the social' with 'the natural'. There clearly are tensions between different viewpoints and movements towards society-nature integration which is one of the aims of sustainability planning, but also regarding the ways in which nature can be seen as a separate domain. A reified version of nature draws attention away from social relations and attributes an autonomous existence to a nature that has been socially constructed. In this sense nature is fetishised and comes to dominate human affairs.

These ideas are important in relation to the justification of taking a social constructivist stance to an examination of the relations between humans and elements of nature within the realm of biodiversity planning. The arrival by Dickens at the idea of a reified nature gives weight to the stance of many actor-network theorists who promulgate the approach of looking at nature-society relations through the lens of heterogeneous networks. In this research, the existence of a 'nature protected pole'

both signifies its reification but also allows relations with society to be studied in a way that ascribes agency to both elements of nature (in this case habitats and species), and human actors. It could be argued that ideas on the way that society fetishises nature can apply to elements of biodiversity as certain elements are revered by humans as worthy of protection, particularly within locales where people are keen to protect what is important in terms of local identity. Morris and Wragg (2003, p.80 and 81) show how biodiversity claims-makers have drawn on the human desire to fetishise nature by the use of the media and symbolic representations of elements of biodiversity to forward the concern of the public over biodiversity loss and the need for its protection. Eder (1996, p.28-30) also writes about the symbolic construction of nature and explains how this makes unknown and uncomprehended aspects of nature communicable.

Peterson (1999) suggests that Nature can be viewed as socially constructed in two distinct ways, first different individuals, times, and societies construct particular versions of nature insofar as they interpret it in different ways through cultural values and categories, and, the meanings assigned to nature can affect attitudes and politics. In terms of environmental ethics, alternatives can be argued for instead of the dominant mode of treating the nonhuman world as a passive, essentially alien, realm of 'resources' to be exploited. Essentially, Peterson argues, that a constructivist stance may be more accurately described as a way of 'construing' nature since it is not the physical objects themselves which are constructed (for example, trees, animals or rivers), but their identities and worths in a given context. But, in another sense, most of what people refer to as nature has tangibly been shaped by human actions, from city parks to rainforests and even wilderness areas. Nature may be seen as being shaped in both symbolic and physical ways. Peterson warns of the danger in social constructivist thought of emphasising a one-sided invention of nature by culture, which can be described as a hard constructionist stance. Rolston (in Peterson, 1999) speaks of the word *Nature* as describing a realm into which things have been put before humans arrive, that is, a container for the nonhuman forces and processes that exist outside society. Peterson concludes that there is a need for a productive tension between realism and constructivism, that is, a 'non-reductive realism' or a 'constrained constructivism' may be a useful compromise between different

approaches to viewing nature. This position strives to combine the constructionist insight that we can have no unmediated apprehension of nature with the realist claim that the world consists of more than human mediations, and linked to this the naturalist insistence on continuities between humans and non-human nature.

Peterson's ideas here are key to the way in which the 'nature protected' pole is treated for the purpose of this research in that the tension between realism and constructivism is recognised. Elements of biodiversity, habitats and species are seen as having their own existence value and consequently as acting within their own rights. The reductionist approach associated with biodiversity planning recognises the realm of nature and the way in which animals and plants act within their own habitats and draws on hard empirical evidence and target-setting. It reduces aspects of nature to its comprising individual elements. But, on the other hand, the way in which local people select certain species and habitats for inclusion in BAPs and other practices does result in a construed environment as these are seen as having societal worth. Therefore this research could be said to take a constrained constructivist stance. It assumes that 'the natural' is socially constructed to some extent but recognises that nature also has a large degree of autonomy. It can be argued that an actor-network approach enables a detached stance to be applied to examining heterogeneous relations but that the stance also incorporates the values of society that are encapsulated into local plans and practices as scientific knowledge and the work of policy makers is translated to what exists and will exist in 'the natural'. This research both recognises the way in which the natural environment generally can be seen as a social construction, and that it also constructs society (hence the directions of the arrows in Figures 1-3, Chapter Two); but, the key concern is with the way in which local elements of nature are incorporated into plans and strategies and therefore reflect local, national and global priorities for species and habitats.

### 6.2.1 Constructing, Problematising and Promoting the Biodiversity Issue

Hannigan (1995, p.41) refers to Solesbury, who noted in 1976, the 'continuing change in the agenda of environmental issues' which may be partly accounted for by changes in the environment itself. The rise of biodiversity on the agenda of environmental issues is clearly linked to public concern, which partly stems from



scientific evidence, over wildlife loss. It is a response to the way in which humans have caused environmental deterioration and again this represents the tension between humans and nature and requires analysis that stems from social science in order to explain the socio-political processes that problematise environmental issues in the public domain at global to local levels.

Hannigan (1995) writes about the way that environmental problems (such as biodiversity) may be viewed as socially constructed. He refers to Best (p.34) who wrote in 1989 that, 'constructionism is not only helpful as a theoretical stance but it can also be useful as an analytical tool'. Benton and Redclift suggest that the perception of society in terms of constructing environmental problems is more than just a function of power, and they pose the question, 'What are the processes of communication, discursive processing, normative orientation, 'moral entrepreneurship' by which the antagonisms of the environmental debate get formed and transformed?' (Benton and Redclift, in, Hannigan, 1995, p. 40). This research examines such elements of the environmental debate for biodiversity planning as the processes of negotiation and network stabilisation are followed within the county of Oxfordshire through the analytical tools of ANT and the sociology of translation. It examines the ways in which the biodiversity issue is problematised as an obligatory passage point for the environmental planning network.

As already discussed, it should be borne in mind that environmental priorities such as biodiversity tend to originate within the realm of science. Hannigan (1995, p.55) suggested that certain factors are necessary for the successful construction of an environmental problem: see Figure 9.

Figure 9: Hannigan's list of factors necessary for the successful construction of an environmental problem

- 1) Scientific authority for validation of claims
- 2) Existence of 'popularisers' who can bridge environmentalism and science
- 3) Media attention in which the problem is 'framed' as novel and important
- 4) Dramatisation of the problem in symbolic and visual terms
- 5) Economic incentives for taking positive action
- 6) Emergence of an institutional sponsor who can ensure both legitimacy and continuity

Source: Hannigan (1995) *Environmental Sociology* Routledge, New York.

Morris and Wragg (2003) show how some of Hannigan's factors were key in terms of the development of networks and their extension around the issue of biodiversity planning in Oxfordshire and in terms of enrolling farmers in other parts of England into biodiversity-related initiatives. The paper illustrates how environmental planning actors can forward the biodiversity cause by putting certain aspects into place that will engage others through framing the need for biodiversity action in certain ways that appeal to those that have the capacity to act. Some of these factors are also evident in the types of intermediary texts concerned with biodiversity planning for Oxfordshire, for example, scientific authority based on technical data supplied by international sources such as the Red Data book and local empirical sources such as scientific data generated by environmental NGOs operating within the county are referred to. Analysis of documents such as minutes of meetings also reveal the way in which the Oxfordshire environmental planning network constructed the biodiversity problem at county level (see Chapter Eight).

Within the UK, the environmental movement could be said to have been dominated by a relatively narrow set of concerns, for example, rural planning and wildlife preservation which may be seen as reflecting the white middle-class membership of the main environmental organisations. This may also be seen as a function of 'the tendency of the British Government to employ a style of consensus politics in which a few selected environmental groups (for example, RSPB, WWF, Wildlife Trusts) are invited to participate in policy-making in an inner circle, leaving the rest on the

outside (Taylor, 1993: 278-80, in, Hannigan, 1995, p.121). This may also explain why many NGOs have grown up to champion certain aspects of the natural environment, especially wildlife concerns. Within Britain there has been a discourse between science and landscape and nature appreciation that has enabled public understanding of biodiversity loss to result in action for over a century. The development of the UKBAP and its subsequent cascade to local level biodiversity planning has enabled smaller wildlife-based NGOs to enter into public debate as to the localised nature(s) that should be protected, constructed, or re-constructed. Much of this movement has arisen from the need for organisations to work in partnerships and a network style approach to local planning.

In relation to the principles of sustainability, 'the environmental movement has reminded modern society that development inevitably binds humans and nonhumans more closely together within complex socio-natural assemblages', however, it is also caught up in dualistic thought, 'for many environmentalists cling to the belief that nature can ultimately be separated from society' (Murdoch, 2006, p.108). Hannigan concludes that three key concepts – nature, ecology and environmentalism – are by no means fixed in meaning, but instead are socially constructed and contested. Macnaghten and Urry (1998, p. 15) following their assessment of movements within society in terms of its view of the environment, conclude that 'there is no singular nature as such, only natures.... (which) are historically, geographically and socially constituted...they are not fixed and eternal but depend on particular historical and geographical determinations, as well as on the very processes by which nature and the natural are culturally constructed and sustained'. Thus it can be said that nature and society influence each other in time and space and, to reiterate, this research assumes that elements of society and nature hang together through association as heterogeneous networks in time and space. In fact, as Yearley (2005, p.62) states, 'one of the things about which ANT boasts is its ability to transcend social constructionism because it extends symmetry to all kinds of actors'.

In terms of its relationship with scientific paradigms, the biodiversity issue has not been constructed from scratch but has flowed out of the already long-standing problem of endangered species which gives this concern a theoretical grounding. The

location of biological diversity at the centre of the discipline of conservation biology means that, unlike acid rain, global warming and other more cross-disciplinary scientific problems, it has, according to Downs's work from the early nineteen-seventies been buffered against the 'issue-attention cycle' (Hannigan, 1995, p.161) which affects many other environmental issues. Conservation biology (see Chapter Three) 'provides biodiversity loss with a centre of gravity around which it can revolve, rotating out into the realm of international diplomacy and conflict but stabilised by the continual pull of research within this speciality area' (Hannigan, p. 161).

The discussion above illustrates the ways in which there is a tension between nature and society in the ways that the relationship is perceived from different philosophical standpoints within the body of social science. These tensions are inevitably played out in space at all different scales from very localised tensions to global relationships that also result in situations where environmental bodies seek to protect certain aspects of nature. The rest of this chapter presents information on some of the spatial manifestations of nature protection at different spatial scales, again with a focusing down on the county of Oxfordshire.

### **6.3 Perceptions of Nature, and Planning for Nature Conservation and Biodiversity Protection at the Global Scale**

During the 1970s, concerns over the importance of the global environment to individual states took a hold. The United Nations Environment Programme (UNEP) was established in 1972 and a number of reports were produced throughout the 1970s and 1980s on the state of the global environment, highlighting concerns. The World Conservation Strategy produced by IUCN sought to identify the main threats to ecosystems and species and was launched in the fear that we were living beyond our means in terms of natural resources and wildlife – the authors emphasised that conservation and development are mutually dependent, not mutually exclusive (Evans, 1992, p.189). The UN Brandt Commission produced the Brandt Report in 1980 which identified growing social and economic inequalities between North and South and how this threatened common survival. The Brundtland Report produced in

1987 popularised the term 'sustainability' and introduced the need to link the concept of the environment with that of development (Macnaghten and Urry, 1998, p. 61). These reports provided the background for the Rio Summit discussed earlier, and this represented a new movement of international environmentalism as the principles of sustainability were endorsed and global action plans resulted. Essentially, a more integrated approach to nature conservation planning was born, reflecting a different understanding of the role of nature on the global scale.

Hannigan (1995, p.84) suggests that the holistic character of ecosystems means that rising scientific and public interest in one environmental problem readily generates interest in inter-related problems, thus scientific concern over tropical deforestation has spread well beyond the boundaries of silviculture due in large part to the key role which the loss of tropical forest plays in two high profile global environmental problems: global warming and the loss of global biodiversity. The identification of such environmental threats and the degradation of 'nature' in other parts of the globe are, as shown earlier, dependent upon a network of international scientific conferences and collaboration. The media also now plays a key role in bringing concerns over environmental degradation overseas into, for example, British households or the education system. The globalisation of economies is associated with 'time-space compression' in the post-modernist era (Adams, 1996, p.57), and has major implications for consumer choice (which could incorporate environmental and social justice issues). The principle of 'think globally, act locally' has also been taken up by local authorities in Britain who have set up Local Agenda 21 Groups following the production of Rio Summit practices and, the subsequent production of the UK Agenda 21 document. This process of a 'cascading down' of concerns reflected in policy from the global to the local level illustrates how actor-networks which appear to be acting on or with Nature(s) at the local scale, may incorporate actors from different time-space locales. Indeed such networks incorporate ideas and concepts of nature which are prevalent within science and natural resources planning at various 'scales'.

## 6.4 Nature in Europe

Across European states there has been a history of protecting areas as national parks or reserves. The EU itself did not begin to address biodiversity seriously until a relatively late stage in the development of its environmental policy, having first concentrated on pollution issues. The approach it has taken remains somewhat rigid and static and is implemented via regulatory means (Ledoux et al, 2000). The EC Directive on the Conservation of Natural Habitats (1992) represents Europe's main contribution to the Biodiversity Convention and listed 169 habitat types and 623 species (over 400 of them plants) worthy of conservation. The EC envisages a network of protected sites across Europe which are seen as being of community-wide importance, 'Natura 2000' consisting of the Special Areas of Conservation and SPAs of the Birds Directive (as mentioned in Chapter Five). Ledoux et al (2000) describe the Habitats Directive as a biodiversity strategy based on regulations and protected areas, 'one of the most long-standing and commonly used precautionary measures for nature protection.... In effect, a 'no-net-loss' policy in so far as it requires all NATURA 2000 areas to be protected from deterioration and damage'. The EU has taken a very regulationist stance to the protection of nature because of the need to enlist the support of all Members, and has been slow to adopt the voluntary principle because of concerns about enforceability.

The 1992 CAP reforms took a more sustainable attitude towards agricultural production and provided for agri-environment initiatives as more account began to be taken of wider economic, environmental and social objectives. During the early 1990s the EC seemed far greener than some individual European Governments. The EC's financial arm for the environment (LIFE) provided funds for relevant projects and its fifth environmental plan, *Towards Sustainability*, adopted in 1993, was significant in that unlike its predecessors it viewed the environment not as something separate, but as an integral part of the healthy continuation of human activity and development (Evans, 1992 p.248). The Agenda 2000 reforms and the application of the RDR means that less agriculturally productive areas could witness a progressive 'greening' of the CAP as the EU has started to recognise the negative environmental effects of intensive agriculture. According to Tilzey (2000), however, the CAP commodity

regimes continue to have a productivist orientation with effects most marked in areas of intensive agriculture. Tilzey stresses the need for a new mode of regulation embodied in an Integrated Rural Policy. However, a range of EU policies now are designed to promote environmental benefits on the ground, including the conservation and sustainable use of biodiversity. The EU recognises the need for partnerships and collaboration in making Biodiversity Action Plans work, and concepts such as the precautionary principles and sustainable development are now enshrined in the EU Treaty.

The European Community's Biodiversity Strategy, similar to the UK's, proposes that BAPs should incorporate clear targets, timetables and indicators for reaching biodiversity goals through concrete actions. The Strategy and Action Plans should be viewed in the wider context of the European commitment to achieve sustainable development and to integrate environmental concerns into other sectors and policy areas (IEEP, 2001a).

Thus the EU is taking on the principles, disseminated from Rio and the style of UK national biodiversity planning, of a reductionist approach to biodiversity within the wider context of sustainable development and integrated policy approaches.

**6.5 The 'Nature Protected Pole' within the UK, and Spatial Manifestations**  
Macnaghten and Urry (1998) write about the way that traditions of nature have changed within the UK, beginning with the establishment of the first national voluntary organisations (e.g. Society for the Protection of Birds) towards the end of the nineteenth century. This was largely a response to perceived concerns about the negative impacts of industrialisation and urban growth. This was a preservationist movement and also represented a reaction to 'changing intellectual discourse'. The CPRE was established in 1926, and the National Trust had become an important organisation by this point. The main aims of conservationists were to preserve the traditional landscape. Macnaghten and Urry (1998) suggest that, with time and as planning became seen as crucial for the protection of the traditional countryside, the issue developed into a question of 'order or disorder'; in the 1930s preservationism became a 'modernist' concern to regulate boundaries, especially between town and

country. Healey and Shaw (1994) state that 1940s and 1950s planning reflected three competing constructions of nature: 'around the notion of the countryside as a resource for agriculture production, as an aesthetic landscape to be conserved, and as a place for recreation.....The planning tradition.....embodies a peculiarly British marriage between economic modernisation and a romantic nostalgia for a particular ideal of rural life and landscape'. Murdoch (2006, p.109) also suggests that 'the countryside came to be portrayed as the main repository of nature. Thus efforts to distinguish between urban and rural have, in England at least, been interpreted as efforts to distinguish 'nature and 'society''. Such ideas are familiar to environmental planners and often the source of conflicts, and the need to build consensus in rural planning debates at the current time.

The 1947 Town and Country Planning Act restricted development of agricultural land for industrial and residential purposes, but agriculture and forestry were not subject to planning control and the post-war productivist approach to agriculture and indeed the presiding approach of monoculture in forestry (and associated policies) resulted in severe deleterious effects on wildlife and the landscape. Tilzey (2000) summarises these as including loss and fragmentation of semi-natural 'infield' habitats through agricultural improvement or arabilisation; lack of management of extant semi-natural 'infield' habitats; overgrazing of semi-natural habitats; loss or mismanagement of hedgerows, field margins and ditches; drainage of wetland habitats; pollution and eutrophication of surface and groundwaters leading to degradation of aquatic ecosystems; loss of crop rotations and arable-pasture mosaics leading to severe reduction in characteristic farmland species; shift from spring-sown to autumn-sown cereals leading to loss of winter stubbles and suitable nesting sites for birds; universal application of pesticides resulting in loss of arable weeds, invertebrates, and thereby, food sources for other wildlife groups; application of fertiliser leading to loss or degradation of characteristic hedgerow and field margin vegetation. There was no real attempt to address these effects until the 1981 Wildlife and Countryside Act which afforded some legal protection to semi-natural infield habitats, and the introduction of the Countryside Stewardship and ESAs since the late 1980s. These measures target land of heritage value and defined habitats, landscapes and other features in the wider countryside.



The 1949 National Parks and Access to the Countryside Act (which, as discussed earlier, led to the designation of National Parks, National Nature Reserves and SSSIs) combined romantic and scientific ideals, according to Macnaghten and Urry (1998, p. 40). Nature conservation became far more important in the post-war era and as ecology grew in stature as a science, calls to preserve wildlife became integral to countryside preservation. Much of the concern was manifest in the setting up of Nature Reserves and protecting of tracts of land. By 1953, for example, 1,098 SSSIs had been designated and by 1975 140 Nature Reserves were in existence (Macnaghten and Urry, 1998, p.43). Thus Nature was seen as being protected, especially for scientific reasons, within the boundaries around different sized areas of land. Rubric about 'scientific interest' of nature persists in conservation today, which according to Adams (1996, p.91) is somewhat surprising because ecological science has changed more than conservation has. He states that, 'to set the principles of post-war conservation, British ecology was highly descriptive, and a complete 'set' of natural or semi-natural habitats was indeed vital to scientific advance....a good case could be made that scientists needed Nature Reserves for their research, however as time wore on, ecology became more experimental, more interested in modelling and in reductionist approaches to nature (for example, biodiversity targets) and Nature Reserves and SSSIs were no longer essential to scientific progress (indeed Adams argues that SSSIs designated latterly are selected not necessarily for scientific value but are seen more as places for Nature, not scientists). The ideas explored earlier, in terms of the move towards planning for the wider countryside rather than nature being something that was protected 'out there' in National Parks or Nature Reserves or AONBs, have become incorporated into conservation planning. Thus, there have been changes towards agri-environment incentives for land managers to enable wildlife to exist within agricultural landscapes; the move towards multi-purpose forestry; and landscape ecological concepts taking a hold in terms of connectivity and biodiversity planning within the wider countryside.

The different practices and legislation in the UK and Europe have been discussed in earlier chapters along with the movement towards the adoption of biodiversity as an environmental concern; also, the development of the common language of

'sustainability' at all levels has been described. Macnaghten and Urry (1998, p.73) explain how this new language has enabled environmental groups to work in partnership with the state and industry, often by way of consensus seeking round-table discussions, striving to influence policy. Public participation in environmental matters has also grown with the rise of environmentalism. Lowe and Goyder (1983, p. 81) showed how the organisation of the environmental lobby relied on networking and partnership, and links between groups associated with conservation, resources, amenity and recreation. However, many voluntary organisations inevitably champion their own causes and hold their own view of the elements of nature that should be protected, perhaps at the expense of other people's priorities. Biodiversity planning therefore reflects such conflicts of interest to some extent, despite its very ends-focused approach to establishing priorities.

Adams (1996) believes that the new language of 'biodiversity conservation' simply re-expresses themes that have been long established in British conservation through protected areas. He states that, 'the 'Biodiversity Challenge' approach is very simple and logical: carry out an audit of the present status of biodiversity in the UK; agree objectives; set targets for both species and habitats (which are quantifiable, for the next ten years); agree priorities; implement a plan of action to deliver these targets, and finally monitor progress and review actions' (p. 48). The UK Biodiversity Challenge argued that new attitudes are needed on the part of the Government in that the conservation of biodiversity should be made an integral and effective part of all government programmes, policy and action across all sectors. In signing 'Biodiversity: The UK Action Plan' government departments are committed to taking biodiversity seriously and it also gives conservationists a whole new dimension for applying pressure. However, Adams (1996) suggests that there are dangers associated with the Strategy, for example the 'mind-boggling effect' of a conservation strategy that is organised species by species; also a species-by-species strategy will focus resources on species that are rare, but not particularly acutely threatened. Economic, technological and landscape change is sufficiently rapid that there may be significant threats to relatively common species and habitats that demand action and resources but are not prioritised in formal BAPs. Adams also warns that the Action Plan is not going to bring in any new money and that money

spent on new biodiversity initiatives may have to be taken from existing programmes and action, 'It is widely believed that the best way to protect species is to protect habitats, and it would not be surprising if the 'new thinking' about biodiversity were rapidly translated back to the 'old thinking' about lowland raised bogs, heathland and Caledonian pine forests' (p.50). Adams suggests that the idea of biodiversity and the language contained within the Biodiversity Challenge is really a 'set-piece of applied business management thinking...in the new language of biodiversity, conservation efforts must be targeted on critical priorities, and locked into a tight programme of activities designed to achieve a specified and agreed output. In a predicted time and with a known budget. These ideas match the contemporary rhetoric of public life, and quite fundamental shifts in the way people think – not only about the proper work of the government, but also about themselves and the world around them' (p.50).

Treatment of the countryside has also changed with recent shifts in society so that it is 'consumed' as a leisure product. This may be illustrated by the recent growth in demand for 'heritage' as people's interest in place and past grows as a response to modernisation and globalisation. Nature is consumed, for example, Adams (1996) speaks of the North Norfolk Coast as a great place to see migrating birds, 'but no fall of migrants is more fantastic than that of the fully equipped bird watching brigade, protected in high-tech jackets of laminated plastics, shod in special footwear and festooned in electronic and optical equipment to capture sights and sounds and take them home' (p. 65). The notion of 'charismatic megafauna' and key local species which represent local distinctiveness is important in this respect and to engaging the public in the production of local BAPs, for example, the process of producing the LBAP for Buckinghamshire engaged local landowners and other local interests in the process of developing a consensus on priority species and habitat actions through a series of mediated meetings.

The ends-focused approach to biodiversity in some ways may represent an attempt to reject the idea that nature is an entity which may be perceived differently via different value systems. It is a targeted approach, focused on empirical evidence and the science of ecology. However, the process of achieving consensus in biodiversity planning at the national and local level does reflect the priorities of different groups

and local communities' perceptions. The next section looks at 'nature' within the county of Oxfordshire and explores the priorities for conservation within the county from available literature.

## **6.6 'Nature Protected' in Oxfordshire**

Oxfordshire Nature Conservation Strategy (Oxfordshire County Council, 1992, p.2) states that only a small proportion of wildlife and geological sites within the county have any measure of formal or statutory protection, and these include NNRs, County wildlife Trust Reserves, LNRs and SSSIs, 'there are many other known sites of wildlife importance which are not designated, including Regionally Important Geological Sites (RIGS)'. The Strategy aimed to work towards promoting a better understanding and recognition of these sites. Such areas represent the best remaining examples of the 'traditional' nature conservation resource, but the Oxfordshire Nature Conservation Strategy Forum recognised that these could not survive in isolation and needed to be appreciated within the context of the wider countryside 'with its small woodlands, hedgerows and wetlands' which need sympathetic management through the expansion of integrated countryside policies such as the ESA for the Upper Thames Tributaries. The Strategy aimed to promote greater involvement of the public with respect to important sites since this would provide people with 'a better sense of local identity and help them appreciate and understand the importance of nature conservation' (Oxfordshire County Council, 1992, p. 3).

Oxfordshire's countryside has been influenced by large scale woodland clearance for farmland (which is now the major land use within the county occupying 72% of the land surface); urban expansion (the built environment and roads occupies another 20% of the county. Mineral extraction and forestry occupy most of the remaining 8% (Oxfordshire County Council, 1992, p. 4). The impacts on wildlife are summarised as: losses in species-rich grassland, wetlands, hedgerows, ancient woodland and increase in conifer plantations of low wildlife value and overall loss of small broad-leaved woods. The potential for the promotion of agri-environment schemes, for example, then, the ESA and Countryside Stewardship were noted as being significant for conservation for the wider countryside for the county. Also, opportunities for new habitat creation on mineral workings was recognised. A Habitat Survey by BBONT

revealed that less than 8% of the land can still be considered as high conservation value (Oxfordshire County Council, 1992).

The Oxfordshire Nature Conservation Strategy represented the consensus view of the actors involved in its production, they were: Oxford City Council, Cherwell, South Oxfordshire, Vale of White Horse and West Oxfordshire District Councils, BBONT, CLA, EN, FWAG, NFFU, NRA, and RSPB. The document summarises the nature conservation resource within the different district council boundaries, however, the summary of the nature conservation resource found in Action for Wildlife (ONCF, 1998) is possibly more useful as a county-wide planning tool since this is based on the Natural Areas Map produced by English Nature and the former Countryside Commission. This indicates within the county planning context how environmental planning has become more holistic in that it illustrates the movement away from the artificial boundaries associated with local authorities towards planning for wider countryside and local distinctiveness associated with nature. Tilzey (2000) outlines the shortcomings of legal protection or environmental land management schemes in terms of protecting the biodiversity interest of special sites independently of the adverse changes taking place in the surrounding countryside. He draws attention to the urgent need to enhance semi-natural habitats through site buffering, linkage and re-creation and to also address the decline in 'common' habitats and species in the wider countryside. He promotes the importance of the Natural Areas programme and similar whole countryside/landscape ecological perspectives as important conceptual frameworks for carrying forward such objectives.

This move towards Natural Areas planning also shows how different boundaries can be 'set' around areas of nature as values and conservation planning concepts change. Oxfordshire contains parts of six nationally 'created' Natural Areas. A Natural Area is described as, 'an area of the countryside identified by a unique combination of physical attributes such as the geology, plant and animal species, land use and culture. These features give it a 'sense of place' and a distinctive character. Wildlife rarely pays regard to administrative boundaries, therefore an alternative division of the countryside is needed for identifying nature conservation priorities and coordinating action' (Paper tabled at Oxfordshire Nature Conservation Forum

Meeting, 1998, p. 5). More detail on the county 'consensus' views of conservation aims and priority species and habitats is detailed earlier in Chapter Five on the 'practice pole'. As has been seen earlier, the Biodiversity Challenge process and product selected 100 key species for protection in the county, and the LBAP has organised its conservation aims by the habitats of woodland, neutral meadows and pastures, chalk and limestone grassland, farmland, heathland, wetlands, and towns and villages. Thus local key documents show variation in the spatial boundaries and the elements of nature deemed to be important for protection over time as new scientific ideas and new paradigms in planning thought have emerged as being significant. Different actors have been enrolled into different network-spaces which sometimes roughly correspond to space on the ground although the networks tend to be overlapping with macro-actors being involved in more than one at any given time and more than one spatial area. This will become clear in Chapter Eight where the processes of planning for space, be it a small key habitat area or county-wide planning owing to administrative boundaries, such as with the LBAP, are explored: there is also the recognition that what is already on the ground existing in nature, spatially, also constructs networks that may correspond to a given area.

A much more detailed analysis of the local situation with respect to biodiversity planning follows in Part Two where the processes of developing consensus between actors concerned with nature conservation planning in the county are documented from available data, and conclusions drawn as to the application of ANT and the sociology of translation within this context. Part Two of this thesis analyses the 'networks' that have developed and changed in Oxfordshire over the past decade and, as such, time and space dimensions are incorporated into the analysis. Certain 'micro-networks' are also examined in order to assess nature conservation planning processes and priorities at the parish and farm scale levels, and for the Upper Thames landscape. The role of scientific and local knowledge is considered, along with the types of practices that have evolved through building consensus and collaborative working within the county.

Chapter Seven will present the methodology and research methods.

## CHAPTER SEVEN: METHODOLOGY AND RESEARCH METHODS

### 7.1 Introduction and Organisation of Chapter

This Chapter explains the methodological approach taken with regard to undertaking the research and sets out the research methods used in order to answer the aims and objectives outlined in Chapter One. It is useful at this point to re-visit these.

The *research questions* are as follows:

1. How applicable is the theory of the Sociology of Translation to the study of consensus building in the UK, using the idea of network stabilisation, and in what way(s) might the theory be applied in this context?
2. What are the nature and dynamics of stakeholder relationships in building agreements in biodiversity planning pertaining to land and water use, and how do these characteristics conform or depart from theoretical notions offered by translation theory?

The overall *aim* is:

To investigate the processes involved in consensus-based approaches to planning and managing the wider countryside.

This is fulfilled through meeting the following *objectives*:

1. To examine ANT in relation to consensus-based approaches to biodiversity planning for the wider countryside.
2. To explore the more specific processes used in resolving conflict and building consensus between stakeholders in rural land and water planning with reference to texts as intermediaries (which may hold networks in place or act as foci for achieving consensus), and the role of knowledge.

3. To apply principles from the Sociology of Translation and ANT in empirically assessing the dynamics (past, present and ongoing), between stakeholders in the selected case study area, through exploring the nature of relationships between actors, the groups they represent, and, sources of data.

The approach to the research requires an uncovering of the consensus-based processes and products of wider countryside planning with a specific focus on biodiversity planning within the county of Oxfordshire. The theoretical framework outlined in Part One sets out the need to explore how knowledge is produced and used in biodiversity planning scenarios; then, how this becomes ‘institutionalised’ and deemed as important by networks of ‘conservation planners’ and turned into accepted practices at different spatial scales. These processes, and the poles around which consensus-based approaches and associated networks and partnerships are based, result in specific protected environments and/or particular elements of nature, such as species and habitats being conserved and/or reconstructed. Bearing in mind the way that networks ‘hang together in space and time’ a temporal element needs to be incorporated by the research methodology as changes in the nature of planning activities are considered over different time frames.

A qualitative approach is adopted, the features of which, according to Patton (1990, in Sarantakos ,1993, p.40-41) include naturalistic inquiry (study of real-world features as they unfold); inductive analysis; holistic inquiry (the whole phenomenon under study is understood as a complex system that is more than the sum of its parts); qualitative data with thick description; personal contact and insight (with the researcher getting close to the people, situation, and phenomenon under study); dynamic systems (with attention to process and change); unique case orientation (assuming each case is special and unique); context sensitivity (placing findings in a social, historical and temporal context); emphatic neutrality; and, design flexibility (with the evaluator open to adopting inquiry as understanding deepens). Each of these features is, to a greater or lesser extent, incorporated into, or evident in, the data-gathering processes used in this research.



This Chapter explains how the chosen research methods enable the objectives to be addressed through operationalising the theoretical framework associated with ANT and outlined in chapters one and two.

The first section discusses the use of the qualitative approach. The ways in which research objectives are addressed through the research process are then outlined and detail presented on the specific methods used. Some practical issues endemic to research within the chosen case study area are outlined along with research ethics and sensitivities and the role of the researcher.

## 7.2 The Use of a Qualitative Approach

The research objectives are to do with exploring relationships and processes in consensual planning situations, identification of actors and who they represent, and the role of knowledge. Also, texts are to be examined in terms of their role and the way in which they hold networks of actors in place. A qualitative approach is entirely appropriate for investigating these factors particularly since ANT is a relational approach to the study of power and ANT writers do not appear to use quantitative methodologies at all. Relationships between actors are not quantified. Instead, ANT researchers observe; they focus on texts and other intermediaries and follow actors looking for moments of agreement and dissidence in order to identify stable and unstable networks and their boundaries.

McNeill (1985) explains that, 'most research designs involve more than one technique for data collection, but they usually have a preference for one or other of the two major research styles, survey research or ethnography, producing quantitative or qualitative data.....the more people who are studied, the less the researcher becomes personally involved with them. If the researcher thinks personal involvement is important, the price to be paid is that fewer people can be studied' (p.121). Whilst survey researchers tend to claim that data is reliable and representative, the ethnographer will be more likely to claim that data collected is valid because it tends to be of a more in-depth and thorough nature which takes into account the world-views of others. Lofland and Lofland (1995, p.3) emphasise the

nature of researcher involvement in qualitative research: 'Qualitative field study differs from other research methods in that it features researchers themselves as observers and participants in the lives of the people being studied. The researcher strives to be a participant in and a *witness* to the lives of others. This is quite different from other kinds of research in which the investigator is not her or himself a sustained presence in a naturally occurring situation or setting'. The researcher becomes an *instrumentality* or *medium* of the research.

For this research, which, in terms of methodology, seeks to explore the significance and nature of texts as intermediaries that may hold networks in place and the experiences and views of actors over time, a qualitative approach is applicable. It was decided that three main methods would be employed in the data collection process, firstly document analysis, followed by participant observation (an ethnographic method), overlapped by interviews with key stakeholders or actors. These methods are explored in more detail below.

In this research the principles identified from the literature review based on the sociology of translation and ANT and outlined in Chapter Two are adhered to as guidance for the methodological design. The theoretical framework is in itself a methodological tool. It allows information to be deconstructed and assigned by the researcher to one of the poles or to one of the arrows in Figures 1 and 2 (Chapter Two). Figure 2 shows routes that can be followed during the research process in that actors may be representing other actors that may be other humans or elements of nature. The researcher can follow that chain of translations, the first evidence of which might be the name of an actor in a text, perhaps as a contributing partner to a new practice. This means that the researcher must be flexible and able to 'go with the flow' as certain linkages become important and should therefore be followed. These routes may go back in time or they may be linked to a particular spatial area. In this way networks are traceable and their boundaries can be delineated. In order to follow actors and networks, the researcher needs to be fairly immersed in the situation under study which requires ethnographic methods such as participant observation, and semi-structured or unstructured interviewing to be employed.

### 7.3 Selection of the Case Study of Oxfordshire

The research began during 1997, five years after the Rio Summit had taken place and the subsequent launch of the Convention on Biodiversity and Agenda 21 Framework, and three years after the production of the UK Biodiversity Action Plan. It was relatively early days in terms of biodiversity planning at the county scale although Agenda 21 groups were already active in many locations within England (see Selman and Parker, 1997). In order to achieve the qualitative depth that the operationalisation of ANT requires, and to investigate how the theory could be used to examine changes in network relations over time, it was necessary to become embedded within a particular biodiversity planning scenario and follow activities over time from the point when the research began, but also it was necessary to go back in time to see where the actors and practices and associated texts had come from, and how certain elements of nature came to be mobilised. Thus, it was decided that a case study should be explored; one where biodiversity planning had already begun and where there was some evidence of consensual approaches via partnership arrangements and networks existing. Oxfordshire seemed to provide an opportunity for testing the usefulness of ANT and the sociology of translation in relation to the translation constructivist approach detailed in Figure 3. The county was already further forward than most in the biodiversity planning process and had had a Nature Conservation Forum in place since the production of the Nature Conservation Strategy for Oxfordshire. The Forum provided a context for considering the activities of a network of actors who represented many stakeholder bodies in terms of land and water planning and management in the county, and, under the umbrella of the Forum, a number of biodiversity-related projects were already operating. A wide constituency of actors was involved in biodiversity planning in Oxfordshire in comparison to the situations of other counties at the outset of this research.

Oxfordshire was also selected as a focus for certain practical purposes. In terms of research time and cost considerations, the county was within easy reach of the University of Gloucestershire which was useful in terms of enabling immersion in the planning context and face-to-face communication. It meant that it was easy to regularly visit the area for research processes over a period of several years as

consensual approaches in biodiversity planning were followed, rather than spending a concentrated few months in a more distant location.

Also, the Chair of the Nature Conservation Forum was very amenable to the idea of the research being conducted within the Oxfordshire context. He acted as the key 'gatekeeper', providing access to other key actors and different biodiversity groups. In practical terms it was important to ensure that the required data would be forthcoming and easily accessible, thus initially, discussions were held with the chair of ONCF. Thus the process of 'getting in' to the setting to be studied was overt – 'the major strategic problem of 'getting in' falls to the outsider seeking admission to a setting for the purpose of observing it or access to individuals for the purpose of interviewing them' (Lofland and Lofland, 1995, p.37). The nature of available data was established, plus the potential opportunities to follow the actors and speak to them. The ONCF Chair agreed to make files and documents available and to allow attendance at biodiversity-related meetings held within the county of Oxfordshire.

The research was conducted largely in Little Whittenham at the Northmoor Trust Offices where the forum is based, but also in other areas of Oxfordshire as research activities developed and different areas of the network were explored, and other micro-networks were identified that could aid the aim of testing the usefulness of ANT.

#### **7.4 The Research Process and Methods Used**

This section outlines the various research methods used and the different phases of research.

##### **7.4.1 Phase One – Literature Review**

The review of literature relating to ecological planning and consensual approaches drew on journal articles; books on rural planning; and, planning documents and agreements, or strategies developed at different levels. Various research reports were also consulted. Literature for each of the four poles of the constructivist approach was explored. As explained in Section 1.4 it, was decided to develop the literature review in a way which reflected the methodological approach, thus focusing down from

developments at the global scale to the local level for each of the four poles, that is, scientific /technical knowledge; institutional framework; practice pole; and the nature protected pole.

Another important area to explore was literature on the realm of the Sociology of Translation and Actor Network Theory. Here, editorial work by John Law and Bruno Latour was important, and, as the body of sociologists interested in such constructivist approaches to looking at the world felt that they may have invented a 'theory' - which was not even meant to be a theory but a tool for analysis – which was running away with itself, an important conference was held at Keele University called, 'Actor Network Theory and After'. This was a very useful source of information and interesting debate, and yielded a large number of key papers which have been drawn on in terms of the theoretical framework for this research, and a book, 'Actor Network theory and After' (Law and Hassard, 1999). More recently still, there seems to have been more attempt by writers at making ANT and the sociology of translation accessible to a wider range of social scientists through clear synthesis such as that by Jonathan Murdoch (2006) and the incorporation of the theoretical concepts in text books dealing with post structural geography and social constructivism, for example, Aitken and Valentine (2006); Yearley (2005).

#### 7.4.2 Phase Two - Document Analysis

It is unusual for any research to be conducted that does not employ some type of documentary analysis. Documents are usually referred to as secondary material since they are not generally prepared specifically for the study. Sarantakos (1993) states that the most commonly used documents are:

- Public documents, for example, census statistics; statistical year books; archives and records; mass media, and literature;
- Archival records such as records of organisations;
- Personal documents such as life histories, memoranda, letters;
- Administrative documents, such as proposals, memoranda, progress reports, agendas, minutes of meetings, announcements and other internal documents; and,
- Formal studies and reports related to the research topic.

In undertaking qualitative documentary research, Sarantakos's (1993) guidance is useful: 'the researcher identifies and interprets information contained in the documents; ascertains aspects of the issue in question and the main ideas, statements and thoughts on the subject; asks questions about the main theme of the document, who the author is, when the document was written, the reliability of the source, and discusses relevant conclusions' (p.207). In terms of the process of documentary research, Sarantakos (1993) suggests that there are four stages. The ways in which these stages were undertaken with regard to biodiversity planning in Oxfordshire is explained in Figure 10 below.

Figure 10: Stages in documentary analysis, adapted from Sarantakos (1993) (p.207-208)

Sarantakos's stage	Explanation	How this was executed for PhD research
Stage 1: Identification of relevant documents	Choice of documents dependent on availability, accessibility, relevance, and personal interest of researcher. The use of documents may constitute a part of a larger study (e.g. in the form of literature review, or exploration), or may take up the main study.	Key biodiversity-related texts produced at county level were identified: Oxfordshire Nature Conservation Strategy; Biodiversity Challenge for Oxfordshire; Oxfordshire's LBAP 'Action for Wildlife'. Their authorship, scientific/empirical content and translation into prescribed or encouraged actions was analysed. Minutes of ONCF-related meetings were examined, dating back to 1990. This included notes from different working groups. Actors involved in key moments of agreement or disagreement, or in various translations, and their contributions to biodiversity texts were identified. Also, sub networks and off-shoot networks of interest under the umbrella of the Forum were identified.

<p>Stage 2: Organisation and analysis of the documents</p>	<p>If description is the purpose of the study and if the methodology is 'overly qualitative', reading and note taking may be sufficient. Content analysis on the other hand is more complex.</p>	<p>The methodology is seen as 'overly qualitative' and employing the more quantitative technique of content analysis was not seen as appropriate here where 'telling the story' of events was seen as the key role of documentary analysis. Relevant quotations were extracted from the data. Relevant data was extracted to form a narrative.</p>
<p>Stage 3: Evaluation of the information</p>	<p>In general, data will be related to the assumptions made before or during the study and assessed with regard to the degree to which these assumptions are valid. Whether the findings can be generalised in statistical or analytical terms depends on the evidence obtained and the type of methodology used.</p>	<p>Data were analysed in terms of the theoretical framework – i.e. scientific and technical input to the biodiversity process; how knowledge is then used and linked to, or accepted and incorporated by institutions; how plans and practices come into being; and, what type of environment is perceived as being protected or seen as requiring protection. The question is also posed: by whom are these things done, and who or what are actors representing? In evaluating the information then there are two factors to consider: whether the framework is a useful tool for analysing the process of consensus building in terms of the type of information available (and what it illustrates), and, whether the quality and nature of information actually feeds usefully into this type of framework. Also, the data need to be evaluated in terms of validity and accuracy in relation to bias from the recorders and the researcher.</p>

#### 7.4.2.1 Reasons for using the documentary method

Documentary methods may be used in a retrospective sense to enable past issues and events to be analysed. In this case documentary evidence (in the form of minutes, letters, memoranda, newsletters, proposals, databases, working papers and strategy documents that had been produced) was easily accessible via the Chair of ONCF. The fact that documents tend to be produced by the writers with no call from researchers means that they generally are valid records of events, although there could be some

writer bias within them. They also were generally representative of what occurred in forum-related meetings. Whilst this is very much an umbrella 'organisation' which focuses and disseminates information on biodiversity planning and initiatives, documents of other partner organisations might also be usefully explored if networks were explored outwards from ONCF-recorded activity. Also, documentary research is a low-cost way of accessing (in this case) reams of relevant information, and, in fact the documents examined for the purpose of this research were probably the only really reliable record of conservation-related activity in Oxfordshire – hearing the stories of actors via interviews alone would not have been adequate in terms of mapping networks and sequences of events.

Twelve ONCF files were analysed for the types of documents outlined above that were placed on file. Detailed notes were made and copies of some of the material. This enabled a historiography to be developed telling the story of nature conservation and biodiversity planning in the county and the ways in which actors were involved in the network(s) to be identified and traced.

#### 7.4.3 Phase Three - Participant Observation

Observation is one of the oldest methods of data collection that literally employs the senses of vision and listening as its main sources. There are various types of observation. Participant observation has always been the central method for ethnographers (developed substantially by the Chicago School in the 1930s), and is often combined with data from other sources, especially informal or unstructured interviewing (O'Neill, 1990, p.68). It is seen as a naturalistic method since the account generated is rooted in the natural setting of what is being described (O'Neill, p.69). The degree of involvement of the researcher as observer varies from no participation in events at all, that is, studying subjects from outside the group, to full participation where the researcher becomes a member of the group under study. Thus a scale can be envisaged from non-participant observation to complete participant observation. Such a scale also includes partial participation (where the researcher is more a participant than an observer) and partial observation (more an observer than a participant).



Another distinction can be drawn between styles of conducting observation – that of structured or unstructured observation. Structured observation employs a formal and strictly organised procedure, with a set of well-defined observation categories, and is subjected to high levels of control and differentiation – defined and planned before the study begins. Unstructured observation is loosely organised and left up to the observer to define; semi-structured observations lie between the two (Sarantakos, 1993, p.223).

O'Neill (1990, p.77-81) suggests that there are three main phases of research employing the participant observation approach and these are preceded in tabular form below (Figure 11). How the phases were executed with respect to observing biodiversity activities in Oxfordshire is also explained. There is some self-reflection within the contents of the table.

Figure 11: How O'Neill's phases of observation were implemented with respect to research in Oxfordshire

Description of research phase	Summary of O'Neill's explanation	How this was executed for PhD research
<p>First Phase: Entering into the group</p>	<p>Access to the group is obtained either covertly or overtly. Initially broad lines of action should be followed with as open and receptive a mind as possible. The researcher should remain detached from the group whilst becoming a member of it. Researchers should monitor not only other people's behaviour but also their own in relation to the group. The social context should be viewed as regular participants see it, but the researcher should also remain a detached observer. There should be a degree of non-conspicuousness – listening rather than talking. Detailed notes and records should be kept including a note of impressions gained. These notes are selective according to the researcher's observations and interpretation.</p>	<p>Contact was made with the identified gatekeeper, Chair of ONCF. Following the documentary analysis, the types of meetings that it would be useful to observe were identified (and continued to be identified as the research progressed). These included full Forum meetings; Habitats Working Group; Parish Plans Working Group; and, later the Biodiversity Link Group. In adherence to the principle of agnosticism, a neutral and detached stance was taken, although I was treated as part of the groups under study in terms of their circulation of agendas and minutes. My role and interests were made explicit as I was introduced at the beginning of series of meetings. Detailed notes were taken at each along with personal notes on the 'feel' of the meeting and any notable conflicts or agreements.</p>

<p>Middle Phase: The emergence of key informants, development of greater understanding of the setting; interviews may begin.</p>	<p>As the research progresses ideas begin to crystallize and the researcher builds relationships with people, with certain individuals emerging as key informants. The researcher begins to penetrate the 'fronts' that are always put up for an outsider. This is a more active stage and the researcher may start to conduct interviews with some people – these may be 'guided conversations' and notes may be made of the respondent's answers.</p>	<p>Whilst a number of working groups were attended in the initial stages, some were soon identified as being more relevant to the research interest than others, thus there was a honing down of research activities. As I became a familiar face and got to know some of the members of groups I was aware that barriers were breaking down and people were more willing to give me their real opinions on matters, including some of their misgivings about the biodiversity process and their own organisations' perspectives as applicable. Through talking to actors and being specifically introduced to some (who were perceived as being important for me to talk to by the Chair and Forum Project Worker) I began to identify potential interviewees. Thorough notes of meetings and informal conversations continued to be made.</p>
<p>Final phase: Testing ideas and identifying patterns</p>	<p>The researcher begins to withdraw from the Groups under study and to analyse the data and test ideas. Here anonymity may be an important issue as research reports and papers are produced.</p>	<p>As I moved into the interview phase of research I did attend fewer meetings within an observer capacity, although the period of observation continued over a four year period (1997-2001). Minutes continued to be acquired as my attendance declined. Actors identified through the participant observation were then interviewed.</p>

#### *7.4.3.1 Meetings attended*

Between June 1997 and June 2001 I attended eight meetings of the full Oxfordshire Nature Conservation Forum; eight meetings of the Habitats Working Group; four meetings of the Land Managers Working Group; two meetings of the Parish Plans Working Group; two meetings of the Education Link Group; two meetings of the Policy and Resources Group; four meetings of the Biodiversity Link Group; and, the Launch meeting for the county Local Agenda 21 Document.

#### *7.4.3.2 Some personal reflections on the researcher role in terms of participant observation*

I endeavoured at all times to take an agnostic stance. In looking at the research process reflexively, I would say that during the process of participant observation I moved from merely taking notes on documents to the introduction process, where I joined groups to be observed. The initial part of the observation process saw me as a partial observer, but as time moved on and I became more a part of the Groups there were moments when I felt more of a partial participant. There were times when my opinion would be asked on issues under discussion, and at one point I was asked to contribute an article to the ONCF Wildlife Newsletter (which I did). Also, my services were sometimes called upon by the Forum workers in terms of setting up meetings, refreshments, furniture layout and so on. Certainly I found that some members of the groups were keen to talk to me about my research and opened up willingly even without an interview context. Thus allies were identified and it was important that the research was not biased from talking to those who naturally included me as part of the group, or, indeed, naturally trusted me when observing their planning activities. I believe I managed to retain a neutral position as far as possible without being in anyway offensive or stand-offish, and I do not believe that my presence at the meetings altered the natural course of discussions in any way. A limitation of participant observation is 'observer bias' which 'refers to an observer's consistent tendency to perceive situations according to personal ideology and bias, producing a distorted reality' (Sarantakos, 1993, p.223). To try to limit the inevitable bias, minutes of meetings were compared with observation accounts. However, as a researcher I was aiming to detect conflicts and consensus and to consider who was

speaking on behalf of whom and which elements of nature were being mobilised through representation by certain actors in meetings.

Participant observation enables large amounts of information to be collected and enables information to be collected first-hand without relying on the reports of others. However, it cannot be used to study opinions or attitudes directly, therefore, the deeper opinions of actors were sought through a number of interviews.

#### 7.4.4 Semi-Structured and Informal Interviews

Interviewing employs verbal questioning as the main form of data collection. Since this research aimed to gain qualitative depth from the actors studied, the technique of semi-structured interviewing was employed. A series of similar questions were asked to each person interviewed, however, there was a high degree of flexibility in terms of the order of questions or issues covered in what really developed into a series of discussions with different actors. In selecting interviewees, the principle of 'following the actors' was adopted. As the researcher I firstly identified key actors within ONCF on the basis of their role in biodiversity planning. I wanted to speak to people who represented the different poles of the theoretical framework. As the research process deepened through the documentary analysis and participant observation, sub-networks were identified which were linked to particular elements or more localised areas of nature, or specific knowledge developments. I was also open to suggestions from the ONCF Chair and project worker as to who it might be useful to speak to in relation to the research objectives. Thus the identification of interviewees developed in a naturalistic way, as I tried to 'go with the flow' in the research setting. In the final phase of data gathering, more reflective interviews were undertaken, and these incorporated some actors from outside of Oxfordshire whose activities were linked to UK and European biodiversity planning. Similar questions were asked, although there was some deviation from the original interview schedule. This move is defended on the grounds that (i) an ethnographic method was adopted (which involves listening in terms of developing ideas), (ii) the principle of following the actors was held which meant that the research was open to changes in direction, and, (iii) this enabled further exploration of the global to local dimensions of actor-networks over time.

In addition, informal interviews took place during the data gathering phase (1997-2001) and since then as additional information has been sought. These took the form of informal chats and telephone conversations. Details of those actors who were interviewed either through semi-structured face-to-face interviews or over the telephone are shown in Figure 12 below.

Figure 12: Actors involved with biodiversity planning activities who were interviewed during the research process

<b>Interviewee Number</b>	<b>Actor Role (s) in Biodiversity Planning Activities</b>
I1	Chair of ONCF
I2	Project Officer for ONCF
I3	Vice Chair of ONCF; Chair of Habitats Working Group; Employee of Environment Agency
I4	County Ecologist in Land Use Planning Section within Environmental Services Dept of Oxfordshire County Council; Chair of Local Authority Working Group and Parish Plans Working Group. Responsible for production of Nature Conservation Strategy.
I5	Senior Conservation Officer in Central England Regional Office of RSPB; Member of ONCF and Biodiversity Link Group
I6	Team Leader of Fisheries and Ecology Department of the Environment Agency, Wet area of Thames Region, Wallingford Office. Involved with Development of Nature Conservation Strategy and consultee for LBAP. Member of Land Managers Working Group and Biodiversity Link group.
I7	Conservation Officer for English Nature for local level delivery. Contributor to Biodiversity Link Group.
I8	Employee of Farming and Rural Conservation Agency in South of England Agri-Environment Team. Project Officer for Upper Thames ESA. Involved with Land Managers; Habitats and Biodiversity Link Working Groups.
I9	FWAG Chair in local group; Vice Chair of CLA; Member of Oxfordshire Nature Conservation Forum; Farmer and key actor in Four Parishes Project.
I10	Representative of Brightwell cum Sotwell Environment Group and involved with Four Parishes Project
I11	Employee of Pond Action

I12	Instrumental volunteer for Council for the Preservation of Rural England (CPRE); involved with Four Parishes Project; member of ONCF and Habitats Working Group and editor of LBAP.
I13	Manager of Environment Agency's Regional Fisheries Conservation Section of Water Management Department, Thames Region, Reading Office.
I14	England LBAP Co-ordinator, Biodiversity Group, DEFRA, Bristol Office. Based in Biodiversity Department of European Wildlife Division
I15	ONCF Project worker
I16	Senior Officer for English Nature and member of ONCF and Habitats Working Group
I17	FWAG Officer and member of ONCF and Land Managers Working Group and Habitats Working Group
I18	Project Officer for Berkshire Buckinghamshire and Oxfordshire Naturalists Trust (BBONT); member of ONCF and Biodiversity Link Group
I19	Berkshire Buckinghamshire and Oxfordshire Naturalist Trust; member of ONCF and Habitats Working Group
I20	Oxfordshire Regionally Important Geographical Sites (RIGS) Group Manager
I21	Oxfordshire Nature Conservation Project Officer (2006)

#### *7.4.4.1 The interview process*

A series of open questions and issues were discussed with each interviewee. In each case far-reaching conversations developed and, as interesting aspects emerged, the use of the probing technique was very helpful. However, what really were 'guided conversations' in effect tended to take their own course although the same issues were addressed in each case. The actors did not necessarily see themselves as representing organisations that employed them, and if they did these organisations varied greatly in size and composition so again there was flexibility in terms of posing questions relating to this area. Essentially the questions aimed to find out who the actors were representing; to determine their role in biodiversity planning; to explore their use or role in generating scientific or technical knowledge; to explore how they related to other actors and institutions; and, to uncover any conflicts or agreements. Many actors assumed more than one role in biodiversity-related activities as can be seen in Figure 10.

The interview schedule is found in Appendix Six. Semi-structured interviews were taped and notes were made. Very often conversations carried on after the tape was switched off so the additional notes proved useful. Interviews generally took between one and two hours and involved travelling to various locations within and around Oxfordshire to meet the key actors to be questioned. The semi-structured interviews yielded rich data because of their open-ended and in-depth nature. Many informal conversations also took place at meetings that were being observed and notes were also kept of these. The semi-structured interviews were fully transcribed and Appendix Seven contains an example.

### **7.5 Development of the Enquiry**

Through the process of documentary analysis which took place at the ONCF offices over several months, and through informal conversations with the ONCF Chair and staff certain areas of the actor-network were identified as being worthy of more detailed focus. It was decided that attendance at ONCF meetings would be ongoing throughout the data gathering phase so that an overall picture of county activities linked to wider countryside and biodiversity planning could be gained. Attendance at the Habitats Group meeting allowed the identification of two interesting projects for further research via more document analysis and key interviews. These projects were the Upper Thames Wetlands Project and the Four Parishes Project. These were seen as micro-networks within the broader network of the ONCF. Also, it seemed that the most appropriate working groups to follow were the Habitats Working Group and the Biodiversity Link Group (as this developed) and therefore the activities of these were observed and followed and the enrolment of actors was noted as they progressed their aims. Key actors within these groups and the micro-networks identified were interviewed at different points in time between 1998 and 2000. In this way the nature of relationships between actors was explored as they were questioned about their involvement and role in networks and over the people and elements of nature that they represented.



## 7.6 Data Analysis

All data was in textual form, whether recorded interviews; document analysis or notes from participant observation at meetings. It was decided that the qualitative data should be presented in the form of narratives as is the case with many ANT-related papers so that the story of translations could be told and moments of agreement and dissidence portrayed. However, in so doing, the four poles were borne in mind so that relevant information was extracted that related to scientific knowledge; the institutional framework; production of practices and the type of environment and elements of nature (usually habitats and species) that actors were seeking to protect and enhance. These poles and Callon's 'moments of agreement' were the key axes in terms of the organisation of the data and selection of the information that was relevant in terms of testing the usefulness of ANT and the sociology of translation in this context. The guiding methodological principles set out in Chapter Two were constantly borne in mind. Thus in terms of organising data, the poles, moments of agreement and methodological principles were the key themes that were looked for in investigating the dynamics of networks. Actor-networks were then mapped (see Chapter Eight) to illustrate the relations between human and non-human actors and the intermediaries (mainly practices and resources) that held them in place in stable or semi-stable relationships.

It is useful at this point to bring forward the guiding principles developed from readings of papers using ANT and the sociology of translation to show how these were operationalised within the research on biodiversity planning in Oxfordshire, see Figure 13.

Figure 13. The Operationalisation of the Guiding Principles for Methodological Design in the Research Process

Guiding principle	Operationalisation of the Principle
1. The importance of following the actors – the researcher should not just be concerned with those that are most prominent in terms of activities or management.	Key actors to follow and networks with which they were involved with were not defined in advance but identified through document analysis and participant observation and through conversations with actors involved and their suggestions.
2. The need to be prepared to incorporate actors who operate at different scales from the global to the localised context.	Through reading of key texts concerned with practices at global, European, national and county scale, actors who were involved in their production were identifiable and could be incorporated into actor-network maps that represent slices through the evolving network of biodiversity planners. Some interviews were with actors who were employed at different levels other than county, for example, regional and national.
3. The need to remain agnostic and endeavouring to explain society and nature in the same terms.	I remained neutral in terms of abstaining from debates and not forming opinions on the motives of different actors. The Actor-network maps include elements of nature that were being mobilised through human actors. I was not in a position to monitor the behaviour of natural elements and, at the time of research, monitoring related to HAPs and SAPs had not begun since they were still in the process of development and early implementation.
4. The importance of looking for stages of translation as identified by Callon (1986): problematisation; <i>interessement</i> ; enrolment; and, mobilisation. This enables the way that the network has been constructed over time to be revealed.	In developing the narratives associated with the county biodiversity planning network and the micro-networks of the Upper Thames Wetlands Project and Four Parishes Project some moments of translation were identifiable. I looked particularly for the ways in which actors sought to problematise a new issue or new OPP and how they sought to interest and enrol others in order to promote a biodiversity-related cause and mobilise elements of nature through co-opting others who could act.

<p>5. The importance of looking for moments of agreement or consensus and moments of disagreement or contestation. This enables the processes by which actor-networks are stabilised or destabilized to be identified.</p>	<p>The acceptance of the need to produce biodiversity-related strategies such as the Biodiversity Challenge and LBAP and then arriving at a consensus as to what aspects of nature should be incorporated into these were identified as moments of agreement. However some points of contestation were identified and, with the Upper Thames Wetland Project in particular, there was some reluctance by some actors in terms of seeing this as an OPP around which consensus was needed (see Chapter Eight).</p>
<p>6. The need to identify who is speaking on behalf of the entities associated with the network, and where displacement is occurring.</p>	<p>This principle was operationalised though the use of document analysis and interviews where actors were asked about their roles and who they represented. Through participant observation and through tracing the activities with which actors had been involved it was possible to see which elements of nature particular actors were advocates for.</p>
<p>7. The building in of a time dimension in following the actors in a given network to see how actors or entities who may have been involved in constructing a passage point some time ago may by virtue of its acceptance by others at a later date, still be a valid part of a network.</p>	<p>This principle was adhered to by undertaking document analysis that delved back to 1990 when the Nature Conservation Strategy was being developed. For, example, actors involved at that time were, in many cases, still involved in biodiversity activities some years later. Some were not. However, because of the time dimension they were still seen as being a valid part of an actor-network map which might have involved 'slicing' back through time (refer back to Figure 3, Chapter Two).</p>
<p>8. The retaining of flexibility in order to delineate the key networks and draw sensible boundaries by retaining a focus on relevant activities and processes.</p>	<p>It was clearly impossible to follow all actors within a network since networks stretch almost infinitely in time and space. The focus was on biodiversity-related planning documents, texts or practices and the direct relationships emanating from these incorporating actors that were linked to the four poles.</p>
<p>9. The importance of identifying the relationships which exist between different poles in the framework for analysis, for example, how scientific knowledge or ideas become accepted wisdom and institutionalised, then built into practices which result in a certain 'environment' being protected.</p>	<p>This is about identifying the processes that are linked to the arrows in Figures 1 and 2, Chapter Two. It involves looking at the 'flows' between the poles. These linkages were explored through each of the research methods where instances of funding, provision of personnel, consultation, generation of empirical data and its accessibility were identified.</p>

<p>10. The possibility of identifying spaces of prescription and spaces of negotiation and awareness that some networks may be more convergent than others depending on informal and formal relationships.</p>	<p>Because of the nature of protected areas and statutory planning requirements it was clear from looking at the practices that pertain to the county's area (See Chapter Five) that some physical areas such as SSSIs and planning controls represented relatively prescriptive network spaces whereas the discursive nature of the ONCF and the way in which actors could pass in and out through its boundary was seen as being a more negotiative and fluid as a network space.</p>
<p>11. Consideration of the activities of different groups or 'layers' to find out about the different talk occurring within different niches or sectors.</p>	<p>As well as following the activities of the Forum which was seen as an umbrella network, the activities of its working groups were followed, i.e. sub-networks. The Upper Thames Wetlands and Four Parishes Projects provided an opportunity to test theoretical principles in a wetlands planning situation and a hedgerow management scenario.</p>
<p>12. The identification of boundary objects on the edge of networks which may represent co-operation between different sectors or may represent the edge of a network.</p>	<p>One such boundary object was identified as the Upper Thames Wetlands Scoping Study. Its principles were backed by ONCF, thus it could be seen to be on the edge of that network but whether it was successful in incorporating actors working in the Upper Thames fully into its aims was debatable. In that way it could be seen as an intermediary sitting on the edge of the ONCF network.</p>
<p>13. The need to identify key actors, flows of resources; the direction of translations; incidences of displacement.</p>	<p>These were identified through each of the research methods and by developing the narrative in Chapter Eight and the associated maps. There are undoubtedly many incidences of displacement that were not identified as certain aspects of nature might have been ignored through a focus on generating empirical data about certain species and not others or through a focus on specific habitats and their boundaries but perhaps ignoring areas immediately outside of these, because project areas were delimited by resources and available knowledge.</p>

<p>14. In practical terms, examination of documentation such as minutes of meetings, texts (key agreements and practices) and working papers. Also discussions with the actors should take place. The research design needs to be towards the ethnographic end of the methodological spectrum in order for the researcher to be able to 'go with the flow' in discovering the direction of translations. The researcher should remain impartial during the research process.</p>	<p>This guidance speaks for itself and is evident in the research design.</p>
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The Prologue to Part Two explains how the data will be presented in the next Chapter.

## PROLOGUE TO PART TWO

The next Chapter presents the story of biodiversity planning in Oxfordshire in the form of a narrative that is punctuated by a number actor-network 'maps'. These 'maps' represent 'slices' through the network, bearing in mind the time and space dimensions incorporated into the model in Figure 3, Chapter Two. They show how actors that might be physically distant may be locally linked through the ways in which key practices and developments in knowledge that are institutionalised are adhered to or incorporated into the production of local biodiversity plans.

The first part of Chapter Eight reports on the activities of Oxfordshire Nature Conservation Forum (ONCF) and the way that the network of environmental planners initially formed around the production of the Oxfordshire Nature Conservation Strategy as an Obligatory Passage Point (OPP). Following this, the network expanded in order to take the Strategy aims forward and a Conservation Forum was formed into the longer term in the form of an expanded network. As counties became obliged to produce Local Biodiversity Action Plans the actors involved in the ONCF reconvened around the OPP of producing a Biodiversity Challenge document for Oxfordshire setting out key species for protection and then again mutated around the objectives of the production of the county Biodiversity Action Plan which involved expanding the network territory further to incorporate some Local Agenda 21 groups. Ideas to do with different types of network space are illustrated with this case study, as are the way in which global and national actors are linked to a localised network of wider countryside planners.

The second part of Chapter Eight reflects on two micro-networks that operate under the umbrella of the Forum. One is based around the production of a hedgerow management leaflet and represents a stable set of relations although these are based around a voluntary code of conduct. The second micro-network shows how a macro-actor attempts to enrol others into the scientific principles behind full integrated catchment management. However, this second example is less successful in terms of network stabilisation and the actors approached are not fully enrolled.

In Chapter Nine conclusions are presented based on the data gathered and the model applied as to the usefulness and applicability of ANT and the Sociology of Translation to an examination of consensual planning approaches.

## CHAPTER EIGHT: APPLYING THEORETICAL PRINCIPLES FROM ANT AND THE SOCIOLOGY OF TRANSLATION TO THE CASE STUDY OF LOCAL BIODIVERSITY ACTION PLANNING IN OXFORDSHIRE

### 8.1 Introduction`

In this Chapter, the principles of ANT and the sociology of translation are applied to the case study of the story of local biodiversity planning within the county of Oxfordshire with the aim of examining the socio-political changes that occurred between 1990 and 2000 within the arena of nature conservation policy and practice in the county. The aim is to answer the research questions, re-visited in Chapter Nine, through analysis of the data. The concerns, therefore, are with applying ANT and the sociology of translation to the case study using the idea of network stabilisation as representing consensual situations, and with exploring the dynamics of relationships between stakeholders or actors in terms of building agreements. By doing this the usefulness and applicability of the constructivist framework employed can be established.

The data are presented as a narrative that tells the story of biodiversity planning in Oxfordshire and are drawn from extensive documentary analysis; participant observation at meetings of the Nature Conservation Forum and related groups; and, from interviews and conversations with key actors. In deciding what elements to include within the story and in the presentation of models, the guiding theoretical principles outlined in Chapter Seven, Section 7.6 are adhered to. In other words the factors that should be looked for based on interpretation of papers related to ANT and the sociology of translation are identified.

In applying the theoretical principles the research explores the mechanisms by which actors are *interested* into and enrolled into networks and how elements of nature and the interests of those actors who represent these – and, indeed the interests of other human actors - are mobilised through biodiversity planning. Central to understanding the application of the theoretical principles is the consideration of the ways in which actors within the county set out to ‘construct’ the nature that they deem as being important for protection as originally depicted in the model shown in Figure 3,



Chapter Two; the 'nature protected' pole. The data are considered in relation to the poles of the social constructivist framework being used in this research in that scientific and technical sources are identified, along with the nature of institutional frameworks and the production of practices relevant to land and water management that pertain to the types of environments that actors are looking to 'protect'. The processes operating between the poles are identified, for example, flows of information and resources, and consultative and participative procedures, and also the ways in which consensus is represented in intermediary objects such as texts that networks converge around is explored. Instances of non-aligned networks are discovered, along with spaces of prescription and negotiation. *Dispositifs* or drivers for collective action are also recognised.

In order to answer the research questions and meet the objectives, the author draws on material that has already been published in the following journals: Planning Practice and Research; Journal of Environmental Planning and Management; and, Environmental Values (refer to Appendix One). These papers include some of the findings from this research in terms of the way theoretical principles have been applied to the biodiversity planning scenario. Parts of the network (and it is acknowledged that the biodiversity planning network extends beyond the boundaries that delimit this study) are mapped out in the form of diagrams in this Chapter, based around one or more of the poles presented in Chapter Two. Moments of agreement around which network stabilisation can be seen to have occurred are presented within the diagrams; some of the illustrations contain more than one moment of agreement and therefore can be seen as capturing several snapshots in time. The purpose of the diagrams is to show how ANT can be used as a tool to highlight aspects of the planning process and the ways in which actors are drawn into relationship with each other with the end goal of producing practices for nature protection. The diagrams represent slices taken either longitudinally or horizontally or at an angle across the network(s) as depicted in Figure 3, Chapter Two. They essentially are to be seen as cross sectional views of the network(s) and may include actors from different space-times that are drawn into the local planning situation.

Clearly a myriad of institutions and practices exist pertaining to nature conservation and biodiversity planning within the county, many of which have been presented in Chapters Four and Five; it is beyond the remit of this research to examine all of these and their associated networks, but they are acknowledged as being part of the fabric of environmental planning activity within Oxfordshire. Links to some of them are shown in the network maps.

The story traces biodiversity planning activity for a decade throughout the nineteen-nineties. This was the period when the term 'biodiversity' gained credibility in planning, conservation activities, community initiatives, planning documents that were adopting the principles of sustainability, and, within the remit for policy of other organisations concerned with land or water management. Crucially, this study shows how the principles and terminology signed up to by the UK at the Rio Summit was implemented within the UK in terms of the cascade to local action. It shows how actors convened around the 'need' to produce local biodiversity plans. It shows clearly how the Obligatory Passage Points changed over this time frame and how different actors became enrolled into associated networks.

The Chapter is divided into two parts. Part A presents the story of biodiversity planning in Oxfordshire in general and discusses the activities of the Oxfordshire Nature Conservation Forum and associated networks of actors, crucially focusing on biodiversity practices as OPPs and the ways in which actors assembled around the need to develop these important texts. Part B presents data on two projects, the Upper Thames Wetlands and the Four Parishes, that are under the umbrella of the county Forum and which for the purpose of this research are referred to as 'micro-networks' in that they are smaller scale both spatially and in terms of the actors involved. They represent discrete areas of activity organised around specific goals related to mobilising certain elements of nature.

It should be noted that the researcher, as an actor, was led by the historiography of events and so the story is told, more or less chronologically based on data extracted through implementing the research methods, but it is punctuated by network maps as

particular features of ANT and the sociology of translation are identified as being a useful way to illustrate the planning processes.

## **PART A**

### **8.2 Oxfordshire County Biodiversity Planners: An Expanding Consensual Actor-Network**

#### **8.2.1: The development of the Nature Conservation Strategy for Oxfordshire**

The research process enabled the story of county-wide biodiversity planning and changes within the ONCF during the early nineteen-nineties to be pieced together largely through documentary analysis. This section explains, through the application of ANT and sociology of translation, how the production of particular nature conservation and biodiversity-related practices, enshrined in texts, became OPPs as their aims were problematised by actors who saw the need to produce them as imperative for sustaining and enhancing the wildlife resource within the county. Evidence is used to illustrate the way in which the biodiversity planning network mutated as actors first convened around the need to produce a Nature Conservation Strategy, then the Biodiversity Challenge document and finally the LBAP for Oxfordshire. This mutation of the network took the form of the re-assembly of actors around new priorities that descended from the UKBAP, and, the enrolment of other actors in terms of persuading them to accept the problematisation of the biodiversity issue and the importance of new strategies as OPPs. The story is now presented.

The era 1990 to 1993 comprised three years of planning, hard work and diplomacy between nature conservation and planning-related bodies in Oxfordshire. New district-wide local plans were providing a planning framework in which nature conservation was at last given recognition, representing a turning point in countryside management (ONCF Chair, 1993). Out of changes in the planning processes that had led to the production of Nature Conservation Strategies, which essentially were 'green plans', the Oxfordshire Nature Conservation Strategy was developed (Oxfordshire County Council, 1993). The Strategy was produced by Oxfordshire

County Council in conjunction with BBONT; EN; RSPB; FWAG; (the then) NRA; CLA; NFU; Cherwell District Council (who represented all other district councils in Oxfordshire) and Oxford City Council. Thus the Strategy represented a consensual agreement between this partnership that comprised local government, NGOs and government agencies, in that they all 'signed up' to its authorship. Representatives of these organisations had focused around the goal of producing the Strategy and in so doing had formed a network. They called themselves the Oxfordshire Nature Conservation Strategy Forum (ONCSF). This Forum, which effectively was a consultation group, may be seen as possessing many of the characteristics of an interest-driven network in that it was focused on the single exercise of preparing the Strategy (Selman and Wragg, 1999a, p.334). A practice-driven network might be a better way of describing it since it was intended that the aims and objectives of the Strategy were to be picked up by the planning and policy community, essentially within local authorities in the county.

Although the bodies involved in the process of producing the Strategy had offered a great deal of support and participation in the process, it was stated at the time that 'ultimately its success will depend on the support of many local communities and private landowners who were said to be able to, 'play a key role in helping to safeguard and manage the nature conservation resource of Oxfordshire' (Notes of Forum meeting, 27/05/03). Thus in terms of making the Strategy operational and enabling elements of nature to be mobilised through its aims, from the outset it was seen as important to enrol actors who were directly involved with land management (see Objectives of the Strategy in Appendix Two). Objectives 5, 6 and 7 of the Strategy also emphasised the need for local authorities to be *interested* into the process of implementing the Strategy via land management agreements, designation of Local Nature Reserves (LNRs), and, preparation of district-wide nature conservation strategies. Within the Strategy, which is seen as being a key text in the practice pole, other practices pertaining to more localised areas were promoted, such as Whole Farm Plans (WFPs) and Parish Plans. This would involve locally-focused actors working on smaller scale initiatives to identify priorities and protect certain elements of nature. Information for the scientific pole was also addressed within the Strategy objectives in that the importance of establishing a centralised database for

biological and geological records was stressed, as was the need to prepare Alert Maps to highlight all-important biological and geological sites throughout the county. Alert Maps were also identified on Parish Plans as key sites for nature conservation.

At the Forum meeting of 18/04/94, the Chair of ONCF emphasised that because of the means by which The Strategy came into being it was the property of a partnership, 'It was put together by a core group (as outlined in previous paragraph) representing the rest of us.....nobody should feel that it is a county council initiative or responsibility, although the enormous support from the county council (which is highly appreciated) may give that impression' (ONCF Chair, 1994). Figure 14 illustrates the elements of the actor-network that brought the Strategy into being in 1992. In ANT terms the County Council can be identified here as a macro-actor, because it was responsible for drawing together the views of the other actors involved in developing the Strategy and for its production. It was obliged, as the relevant local authority, to draw the Strategy together in order to adhere to Government Planning Guidance which was institutionalised at the county level in the form of green plans. Oxfordshire County Council, via the Oxfordshire Nature Conservation Strategy Forum, coordinated the input of various government bodies and NGOs that operated in a local capacity. The ultimate aims of the Strategy were to protect wildlife and geological sites and the wider countryside.

The other organisations (or representatives of them) can also be seen as key actors in terms of the fact that they represent certain elements of nature and other human actors, for example, CLA and NFU represent farmers or landowners and the nature (often supported by grants and subsidies) that is found on farms and estates. EN represents rare flora and fauna that is located in SSSIs; RSPB represents the interests of birds and their habitats. The representation by key actors of other humans and elements of nature is depicted in Figure 14. Through the translation of the interests of actors in specific parts of the local environment, elements of nature (or non human actors) were mobilised into discussions around the production of the Strategy and in terms of local priorities for action. The macro-actors and key actors that made up the ONCSF at this time are shown in the diagram as being assembled around the practice pole, however, data from some of these organisations (EN, RSPB, BBONT and

NRA) is incorporated into the scientific/technical pole and provided significant input in terms of information on species and habitats. Although this is a snapshot, the time dimension is built in – the nature that is striven for in the Nature Conservation Strategy that was developed by the Oxfordshire Nature Conservation Strategy Forum (ONCSF) partnership in 1992, and then produced by Oxfordshire County Council, will only be achieved through the ongoing work of private landowners and communities as indicated by the links between the practice pole and nature protected pole. Thus, the nature protected pole, essentially, may be seen as being further on in time than the moment of agreement that was the production of the Strategy that locked the partner actors into place. It was not yet fully achieved but ‘would be’ through *interessement* of others and through enrolling actors on the ground.

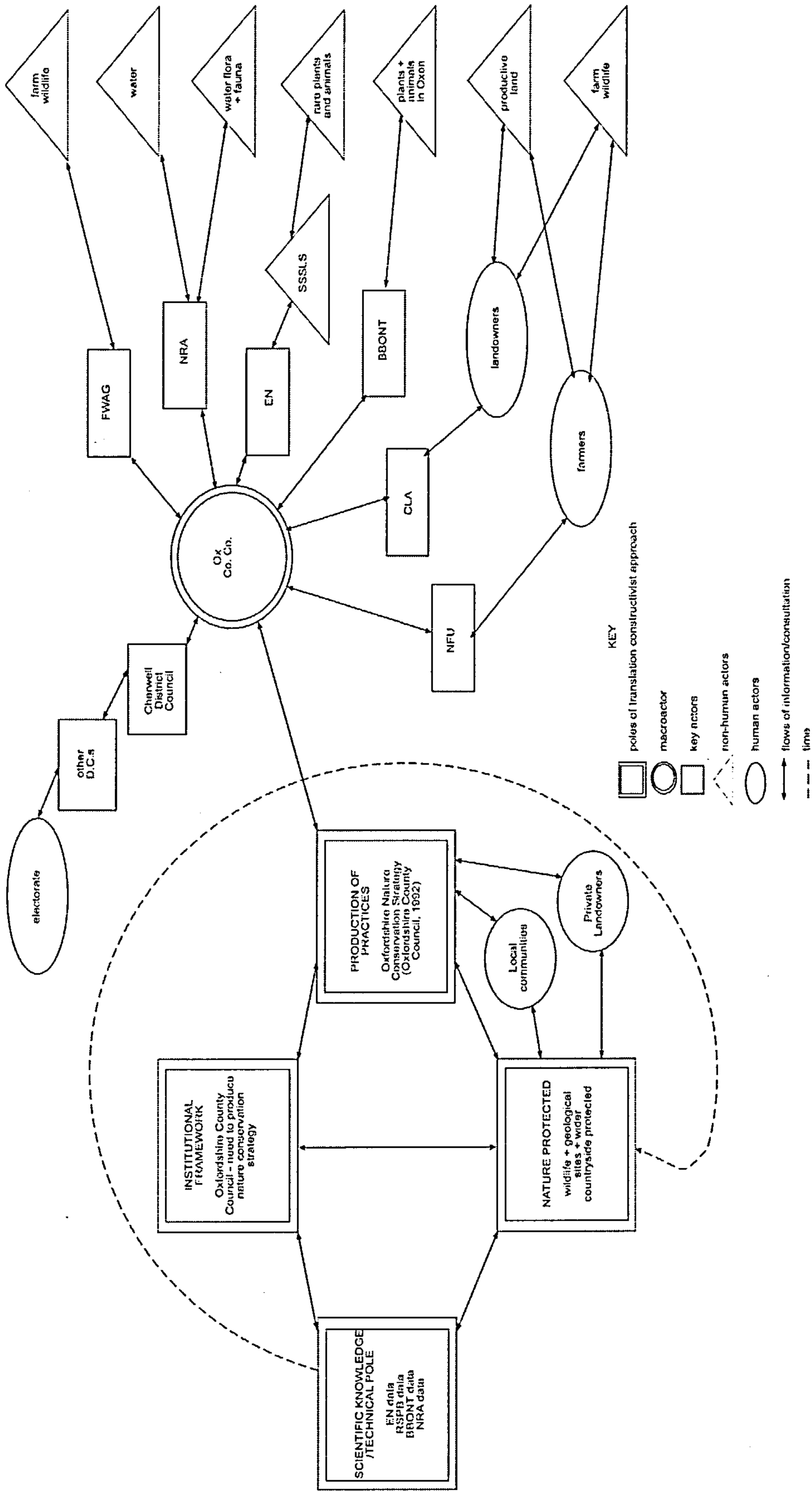


Figure 14: Snapshot of Actor-Network Surrounding the Production of the Oxfordshire Nature Conservation Strategy

### 8.2.2 The Development of the Oxfordshire Nature Conservation Forum through *Interessement* of Actors and Enrolment of Different Organisations and the Elements of Nature that they Represented

The primary objective of the Strategy was to establish an ongoing Forum based on representation from local authorities, government agencies, voluntary organisations, landowners and other parties that were interested in nature conservation and landscape conservation issues, 'it was hoped that this county Forum would stimulate discussion on nature conservation issues; aid the establishment of working parties to be responsible for implementing key objectives; monitor and update the Strategy; promote countryside initiatives; and publicise available sources of grant aid (Selman and Wragg, 1999a, p.334). The Forum was also intended to be a voice for environmental organisations to speak out on national/international nature conservation issues, as well as acting as a meeting place for decisions related to the Oxfordshire and the UK to be made. In other words, as a body, it could be seen as an actor in itself speaking for nature conservation in Oxfordshire and liaising with regional and UK level decision makers. There was also discussion at the outset about whether the Forum needed its own identity in which case its coagulative nature would need to be acknowledged,

“There may be difficulties in cooperative routes but this must be the strength of the venture, that it involves all the important organisations and through them most individuals who influence nature conservation in Oxfordshire”  
(Chair of ONCF, 27/05/92).

The discussion over the identity of the Forum and as to whether it should have its own status and associated financial account was one that was repeated at intervals over the following three years, and reflected the idea that it should be a more officialised entity with more a prescriptive basis.

Initially, members of the ONCSF were instrumental in terms of establishing the wider Forum (which then became known as Oxfordshire Nature Conservation Forum (ONCF)) through inviting representation from many conservation-related organisations. At the beginning of the venture, other organisations invited onto the Forum were: Forestry Authority; Oxfordshire Woodland Group; Friends of the Earth for Oxfordshire; BBONT; Pond Action; Oxford Urban Wildlife Group; National



Trust; Community Forest; County Recorder; and Game Conservancy. Membership was derived by invitation from the Forum itself by agreement between those actors who had already been involved with producing the Strategy. There were concerns expressed at an early stage over the importance of also inviting representatives from industry in order to achieve the right balance. Within a few months more than thirty organisations in addition to the ONCF Chair and staff were invited onto the Forum through direct invitation via letters, as it commenced activities in 1993. These are listed in a table in Appendix Eight. These representatives were from statutory government departments and agencies; non-government organisations operating at global, UK, regional, county or more localised levels; local authorities and QUANGOs such as Oxford Brookes University. Thus the network expanded rapidly in order to implement the first objective of the Nature Conservation Strategy, that is, the formation of a county-wide Nature Conservation Forum.

At this time, in 1993, there were no specifically educational bodies on the Forum and this was a concern – it was agreed amongst members that most environmental education aims to raise awareness but the need to empower individuals with knowledge, skills, and motivation to take effective action was acknowledged. It was also agreed at the first meeting that it was necessary to ‘get the balance right between academic and practical skills’ (Minutes of Forum Meeting, 27/05/93). Thus it is apparent that the ‘right’ balance of representation was sought from the start and that there was an ‘awareness and educative function’ sought by the ONCF, the aim being to later interesse members of the public and young people in educational settings into nature conservation activity and awareness.

A number of working groups were then set up, once the Forum membership had been expanded, in order to take the Strategy’s objectives forward. These included: Alert Maps and Database; Land Managers; Habitat Management; Parish Plans; Access and Public Participation; District Councils; and, Education. Each Group had a facilitator to convene their activities and Groups reported back to the wider Forum on a regular basis. The activities of these groups are detailed later on and are significant in terms of the fact that they illustrate the way in which sub-networks operated around their own OPPs in relation to achieving first the objectives of the Strategy and later in

developing the LBAP. These groups are seen as operating under the much larger network of the Forum.

Once the Strategy was launched all members of the ONCF were encouraged to join at least one working group with the Forum providing an overview and ‘umbrella’ network for communication between the groups, ‘in this way a flexible system would be set up involving as many organisations as possible rather than just establishing an exclusive group for the elite’ (ONCF, 1993). The limitations of movement forward in nature conservation work within the county were stated as being ‘a shortage of ‘hands’ and specific farming skills’ (Notes of Forum Meeting, 27/05/03), thus encouraging the involvement of more organisations (including those that enrolled volunteers) and landowner interests was seen as crucial. Such organisations included some of those that were initially invited to join the Forum, for example, BBONT because they enrol elements of nature and volunteers through giving advice to landowners and through the practical management of reserves; FWAG because they give environmental advice to farmers; BTCV because they enrol volunteers into practical conservation activities, to name a few. In this way the Forum became a macro-actor that co-opted smaller networks established around the goals of specific environmental organisations, so that there could be some coordination of activities through information sharing and ease in partnership working. At the same time, all those involved, whether it be through volunteering or through membership of landowner or environmental campaigning organisations, were being represented within the county environmental arena by the actors that spoke on their behalf; albeit that the aims of the Nature Conservation Strategy and later the interests of producing the biodiversity plan were seen as paramount within the context of the aims and workings of the Forum itself.

### 8.2.3 The ways in which the network of the Forum worked in terms of benefiting the partners

The ONCF Chair stated in 1994 that the Forum needed to consider the resources available to the bodies and individuals who would be responsible for implementing the Strategy as it would involve an increased workload. It was stressed that organisations needed to be aware of each other’s changing circumstances, so enabling

the development of mutual support. It was also emphasised that individual bodies would be able to use the Forum 'channels' to develop their own marketing strength – one of the benefits of the partnership approach (Notes of ONCF Meeting, 1994). These channels were those of communication between organisations, sharing of information, actors being able to work on joint funding applications more easily and share resources such as staff and volunteers. A discussion paper by the ONCF Chair re-visited some of the purposes of the Forum stressing that the Forum and Working Groups were fulfilling the function of improving liaison admirably and stated that,

“Partner organisations fall into three groups: commercial organisations’ representatives (CLA; NFU); councils and other statutory bodies which can be seen as grant-givers as well as ‘doers’ (county and district councils; English Nature; NRA) and ‘money-hungry do-ers’ or charities (BBONT; FWAG; RSPB)” (ONCF Chair, 10/02/94).

He hoped that the liaison function was helping the flow of resources within the partnership and perceived an important role for The Strategy in terms of fostering a commercial and political culture in which the need for resources would be better understood, and in creating personal and organisational contacts which would build up the fund-raising potential of the ‘hungry’ partners. This statement is indicative of the socio-political changes that came about in the way that actors began to work together in a networking capacity as outlined in Section 1.1 Chapter One.

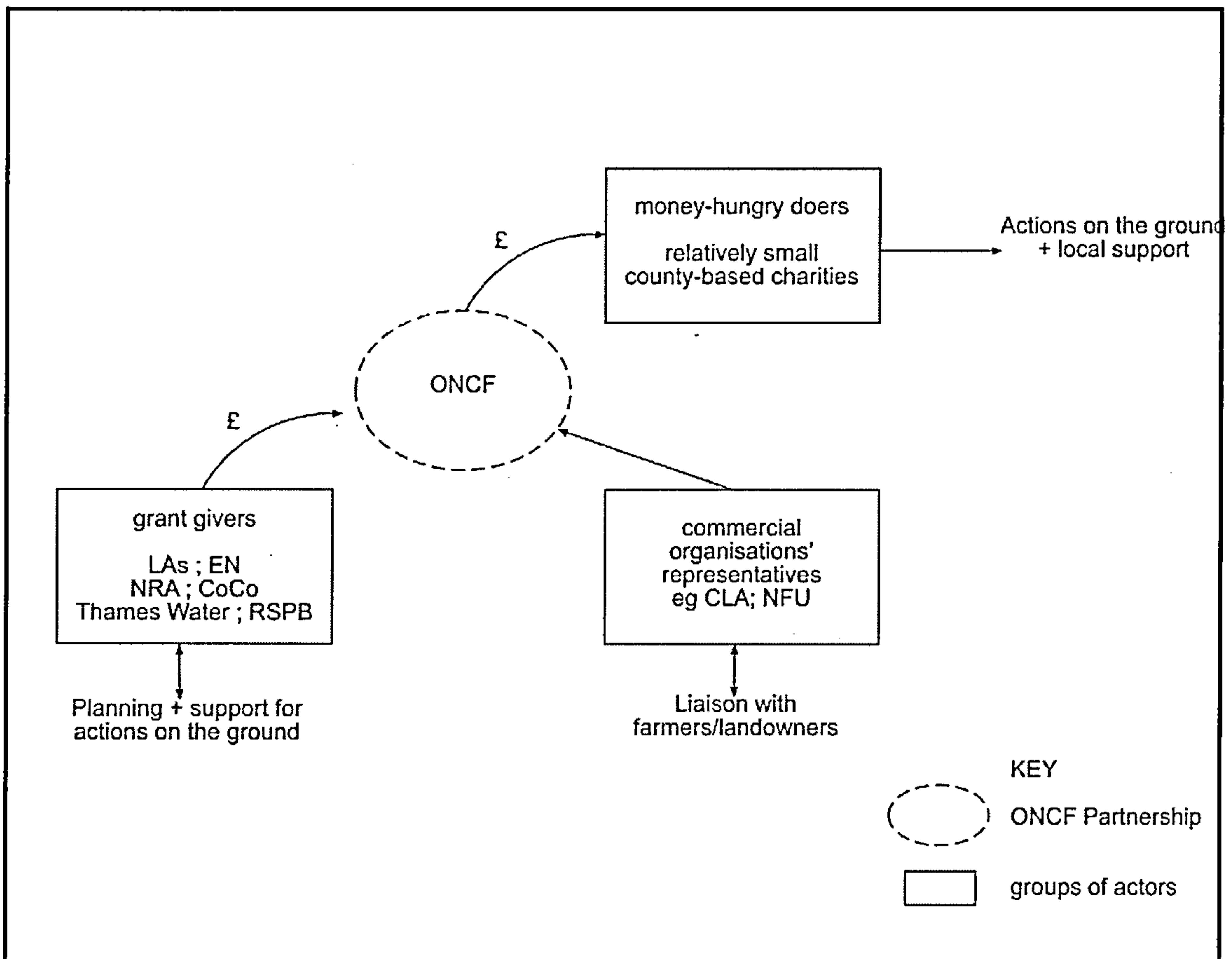
Figure 15 illustrates some of these different factions within the ONCF partnership as explained by the quote from the ONCF Chair above that was uncovered via documentary analysis. The ONCF is portrayed as having a semi-permeable boundary around it as actors can pass in and out of the network as they choose, or as is relevant to their aims. This is an illustration of the types of partnership actions that are linked into the institutional pole, where here, the ONCF is the ‘loose’ institution. The arrows stemming from the grant-givers and money-hungry doers (two groups of actors identified by the ONCF Chair) represent flows of financial resources which result in actions and support on the ground for land managers. Actors from commercial organisations that represent landowning interests are shown as liaising with actors on the ground and then feeding back their viewpoints to the Forum. Meanwhile, these landowners may have been supported by the grant givers and money-hungry doers.

This is just one illustration of the mechanics of the way that the partnership worked in terms of supporting actions on the ground that could enrol elements of nature deemed as being of importance within the county. The network was seen as being financially positive for the different bodies involved by one actor (i12), rather than encouraging conflict,

“the only possible conflict which is one I mentioned at the beginning that BBONT do feel that other projects and organisations are drawing money that might otherwise go to BBONT. I don't actually think that's true but it's the way that they perceive things - I don't think that there is actually a finite pot of money to be spent and I think that the more people become environmentally aware the more money is available - the more individuals contribute and the more money and expertise, and expertise is as valuable as money - this is what we're trying to persuade people - and people are often more happy donating their expertise or their time rather than just signing a cheque”.

Information from documentary analysis sheds light on the way that it was hoped from the outset that the Forum would work. The vehicle of 'The Strategy' became a focus from the outset for developing priorities for action, as reflected in this quote from the Chair, “Decisions we make today will be crucial to achieving the targets identified in the Strategy.....we are not interested in the Forum becoming a 'talking shop'....there needs to be a commitment to action and a setting of a pattern for future review, renewal of commitment, and, extension of targets. There is a clear corporate objective in the form of targets identified in the Strategy and we have a board, this Forum. It is more than a loose coagulation of common interests, but not an independent body. Each person is a representative of an organisation, and, if we had set up a charity, you as trustees would be required to give priority to the interests of the Strategy rather than the bodies you represent. I hope that if you ask me to continue as chairman, that you adopt this as the spirit of our cooperation, while recognising the multitude of different 'hats' around the table.”(ONCF Chair, 27/05/92).

Figure 15: Network Map to Show Some of the Different Type of Partner Organisations within ONCF and the Flows of Financial Resources



In actor-network terms, actions deemed as being important for Oxfordshire’s nature had been originally problematised by the actors that had worked on developing the Nature Conservation Strategy and in defining its aims. This statement from the ONCF Chair emphasises that actors who had chosen to represent certain interests within the Forum needed to adopt the Strategy aims and objectives as a key obligatory passage point as they were enrolled into the interests of the Forum.

Thus there was an obligation for actors to ‘sign up to’ the aims of the Strategy and, within the context of the Forum, to put these aims first. This ‘obligation’ could not be prescribed since representation on the Forum from organisations was voluntary. In a sense, also, the identities/roles taken on by different actors within the context of the

Forum could be seen as voluntary in relation to the discretion with which they might detach themselves to some extent from the main objectives of their own organisations: the role/identities they assumed would in turn effect the translation into documents and the space of the Forum of the voices of absent others. To use the current terminology of people 'wearing different hats' in different roles on different fora to illustrate this, the ways in which actors had to negotiate their own identity and decide who they were speaking for could be referred to as 'hat removal' or 'hat substitution'. Many of the ONCF actors performed various roles in terms of their position within their own organisation and their role within the Forum. For example, some actors were working group facilitators within ONCF; they undertook voluntary activities on various boards and some were involved in the training of volunteers, and so on. For example, one individual worked for the NRA, was coordinator of the Habitats Group, was on the board for Pond Action, was instrumental in writing the LBAP, and, was also involved with the Four Parishes Project. Thus as well as the network of the Forum being seen as a space of negotiation in itself (after Murdoch, 1997a), in that it is loose coagulation of interested parties that can change shape as actors join and leave, the identities of actors are also open for negotiation. Actors may be seen as actually negotiating their own roles and identities as they bore in mind their own organisations' objectives and their loyalties to the principles of the Nature Conservation Strategy and Forum priorities and activities.

#### 8.2.4 Further expansion of the ONCF network

The original Chair of ONCF did continue in his role and was based in offices at the Northmoor Trust, Little Wittenham, Oxfordshire; according to several informal conversations with the researcher, this continuity was seen as helpful by the actors involved with the Forum. Also, the Forum continued to expand in membership, for example, Thames Water was approached later in the 1993 following discussion between Forum members via a letter to a representative of NRA in Reading (ONCF Chair, 12/07/93). Also, spokespeople from industries other than farming were sought, for example, the water and mineral extraction industries. Some actors were *interested* because they possessed specific and useful skills, for example, a representative of Oxfordshire Rural Community Council was invited for his fund-raising skills,

knowledge of forestry and bird-related issues, and links to Oxford Colleges who are important landowners within the county (ONCF staff, 1994). In October 1993 it was proposed that gamekeepers should be invited onto the Forum (ONCF Chair, 26/10/93); also, the Ashmolean Natural History Museum was invited onto the Forum, again by letter. Generally speaking, there was consensus within the ONCF as a whole over which other actors would be enrolled into the activities of ONCF, however, some of these ideas for representation were contested. For example, one individual led a lobby against representation from the minerals industry. However, on the subject of inviting representatives from relevant industries, the County Ecologist wrote to the Forum Chair (County Ecologist, 08/11/93) supporting the proposal and stating that he did not believe that this prejudiced them in any way in terms of conservation planning-related issues since they could still object as individuals, for example, about a new reservoir, whilst at the same time giving support for the development of a Nature Reserve nearby to a reservoir. This is another example of the ways in which actors could negotiate their own identities or 'hats' within environmental planning situations in the county within the arena of the Forum and outside of it.

Thus in ANT terms, all the actors mentioned above and those listed in Appendix Nine were *interested* into the network of the Forum through being directly approached by, or recommended by, other actors. They represented either different elements of nature, for example, Pond Action representing ponds and small wetlands; Woodland Trust representing woodlands; or, representative bodies for humans that acted on Nature, such as the NFU and CLA, representing landowners. In agreeing to send a representative along to Forum meetings and Working Group meetings, organisations committed themselves to becoming actors that were enrolled into the Nature Conservation Planning network. It should be acknowledged that this was a process of mutual enrolment – although the Forum could be seen as a large body in terms of its membership, actors are invariably self-interested (as Doolin, 1993, p.3 suggests) thus actors joining the network would be seeking to gain benefit for their own, or their organisation's purposes as well. This represents a win/win consensual situation with outcomes where actors work successfully together being the stabilisation of network linkages.

The process of producing the Nature Conservation Strategy had 'problematized' the key conservation issues in terms of setting out objectives for Oxfordshire and the Working Groups and these were one aspect of the Forum activities that were able to 'mobilise' the interests of human and non-human actors. It was recommended initially that the Working Group facilitators should come from the 'Working Group' that had been responsible for drawing up the Strategy. These individuals were from BBONT, FWAG, Cherwell District Council, CLA, EN, and two from Oxfordshire County Council. Thus these actors 'headed up' initial progress towards fulfilling the objectives of the Nature Conservation Strategy, the first OPPs that were accepted by Forum members.

#### 8.2.5 ONCF as a 'Space of Negotiation'

The network of the Forum could be described as a 'space of negotiation' (Murdoch, 1997a) in that it is a loose network that was able to expand and contract through co-opting partners who could then act on behalf of the Forum's interests in relation to giving information back to their own organisations. This was identified through file analysis where letters and minutes of meetings were contained that illustrate the embracing ethos that prevailed within the Forum (refer to earlier quotations from the ONCF Chair), and the ways in which members could recommend other actors to be invited by letter. Thus the Forum could be seen as negotiative space hanging between institutions and agencies of various types, some of which have more prescriptive arrangements within themselves and in relation to legislation: this conclusion stems from operationalising principle 10 in Figure 13, Chapter Seven. Document analysis, including the content of key texts such as the Nature Conservation Strategy, shows how the Forum, by adhering to the objectives of this green plan provided a space where actors could work together and certain more prescriptive arrangements could result which link to those objectives detailed in Appendix Two. For example, local authorities were being encouraged to enter into Section 39 Management Agreements under the Wildlife and Countryside Act and, with EN, to enter into management agreements for key wildlife sites. Essentially, the Forum could be seen as hanging off what, for the purpose of this research, could be termed 'policy hooks' which enable



its aims to link in with existing policy and legislation although in itself it represented a fluid space.

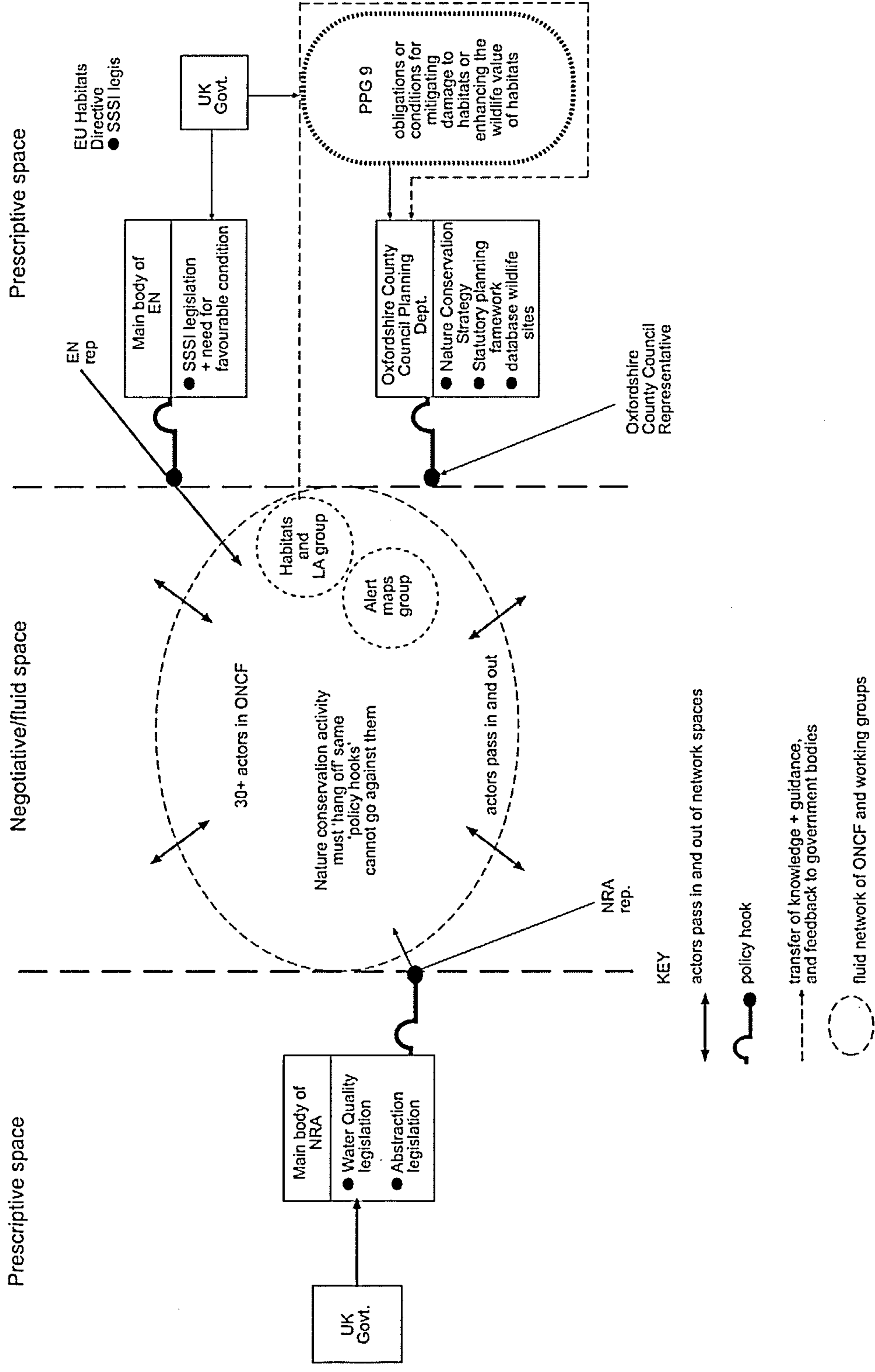
To expand on this further, Figure 16 should be consulted. This shows examples of the types of prescriptive space that the ONCF linked into via such policy hooks. Again, the network boundary of the Forum is shown as a semi-permeable one with actors passing in and out. However, these actors also pass in and out of more prescriptive areas such as those represented by EN, the NRA and the UK Government. The NRA as an agency represented prescriptive conditions in relation to water management that were negotiated at Government level. The recommendations contained in Planning Policy Guidance 9 (Department of Environment, 1994) may be seen as an intermediary text or practice that obliged Oxfordshire County Council Planning Department to adhere to domestic and international law relating to nature conservation. This relationship enables the EC Habitats Directive to be implemented at county level through Local Plans and the Nature Conservation Strategy. There is also a direct link from the Government (at this time, specifically the Department of Environment) to EN in terms of obligations on this agency to notify and protect SSSIs (other practices) and to establish and maintain Nature Reserves and advise central and local government on nature conservation. An EN representative is shown as being incorporated into the Habitats Management Group and acting as a go-between in terms of dissemination of information between the more prescriptive space of the agency and governmental structures and the more fluid space of the ONCF.

In terms of planning legislation, PPG9 was significant at this time in emphasising the importance of obligations or conditions in mitigating damage to habitats or enhancing the wildlife value of habitats. It suggested that planning authorities should be provided with simple guidance on conservation management that might be encouraged as a planning condition and needed therefore to be made aware of: sympathetic management of hedgerows, grasslands, ponds, habitat enhancement for amphibians, badgers, dormice; and, improvements in access provision to sites in urban areas. In this way the interests of these elements of nature were mobilised. Opportunities for the Habitats Group to work with the Local Authorities Group to

create a simple advisory document were highlighted by the ONCF Chair. There was a joint workshop held between these two Groups on planning conditions and regulations,

”PPG9 clearly encourages greater use of conditions in order to meet targets for sustainable development, to protect against potentially damaging impacts, or to enhance the wildlife value of a degraded landscape. There is also strong encouragement to secure the management of features of nature conservation interest by means of obligations to maintain that interest or to re-create features where there is unavoidable loss” (ONCF staff, 1994a).

After the workshop, documentary evidence from ONCF Habitats Group file showed that planners requested guidance on the use of conditions and obligations in relation to nature conservation. The transfer of knowledge, guidance and feedback to government bodies by actors who are members of ONCF, following discussion regarding PPG9 is an example of where actors from the fluid space have ‘broken into’ more prescriptive space through what has been termed here a semi-permeable network barrier, and taken a piece of Government guidance that is partly open to interpretation and translated it for local statutory bodies for the county context.



**Figure 16: Network Map Showing how ONCF may be seen as a Space of Negotiation Fastened onto more Prescriptive Network Spaces by Policy Hooks**

### 8.2.6 Adoption of 'New' Scientific Principles by ONCF

The Forum also acted as a 'sounding board' for ideas based on scientific knowledge to be conveyed to the actors involved. For example, the Chair of ONCF (1993) stated that it was vital that the work promoted by the Forum was well-founded in best practice and, in this case, he alluded to scientific knowledge from the field of landscape ecology,

“one example, near to my own interests, is the assumption that the solution to the isolation of rich wildlife sites is the creation of corridors of woodland or grassland to form links. These will undoubtedly increase the populations of the common species of these habitats along the length of the corridors, but will be very unlikely to solve the complex issues of dispersal of our rarer species. Assisted dispersal is almost certainly the only viable means of enabling these to spread”.

This is an example of the way in which the science of landscape ecology, which has been discussed earlier in Section 3.2.2, was adopted as sound planning philosophy by wildlife planners, and it forms part of the scientific pole as it became accepted as good 'wisdom', partly through its adoption at EU level with the idea of the EECONET across Europe which was the idea of creating a network of habitats based on ecological principles such as bio-corridors and redressing habitat isolation and fragmentation. This idea was adopted also at small spatial scales as in the case of the Four Parishes Project (see Part B of this Chapter).

The next section describes the activities of the Working Groups that took forward the aims of the Nature Conservation Strategy and later became significant in terms of different aspects of biodiversity planning in relation to their contributions to the different poles.

### 8.2.7 Following the Activities of the ONCF Working Groups

The composition of Working Groups reflected the individual interests of Forum members, and the Groups may be seen as smaller interest-driven networks within the Forum, each working towards or around their own Obligatory Passage Points (in the form of targets and specific objectives) but encompassed within the larger ambit of the Forum. As one interviewee stated in reference to ONCF, “you see that that network (i.e. the Forum) does its work through working groups” (I3). Essentially, the Working Groups are viewed as sub-networks operating within the umbrella of the larger ONCF network and focused around taking forward, initially, the aims and objectives of the Nature Conservation Strategy and, later, targets associated with biodiversity action planning.

The following Working Groups were established by November 1993:

- Database and Alert Maps
- Parish Plans
- Land Managers
- Local Authorities
- Habitats Management
- Education
- Access

Their separate activities are summarised below in relation to them taking forward the aims of the Nature Conservation Strategy. The Parish Plans Group, Land Managers Group and Habitats Management Group were all key in terms of developing the Four Parishes and Upper Thames Wetlands Projects. Some of the details relating to these are presented under the Working Group headings below in order to show how the groups were involved and linked into the micro-networks presented later in this chapter. Information about the Local Authorities Group and Access Group and further detail on the Habitats Group aims is presented in Appendices Ten, Eleven and Twelve. The information on Working Group activities below also shows how the

Forum worked in terms of linkages to the planning and conservation activities of other actors at regional and national level.

#### 8.2.7.1 Database and Alert Maps Working Group Activities

*Aim of Strategy: To safeguard and encourage the sympathetic management of important wildlife and geological sites throughout the county*

This Group could be said to be a strong contributor to the scientific knowledge/technical pole within the county in that it dealt particularly with biological data. With the leadership of the county council ecologist, Alert Maps were compiled from site and species records held by the County Council, BBONT, EN etc. These show the important known remaining wildlife areas and give a clear idea of the abundance of habitats which survive as well as providing a quick reference for planning officers to assess potential impacts of planning applications (shown as dots on maps with accompanying description). Initial activities for the Working Group involved updating all the Alert Maps. Second Tier Maps showing locally important sites were also produced during 1993/94. The Group aimed to prepare management prescriptions for certain areas. By October 1993 one third of the data for Alert Maps had been examined, resulting in 144,000 records having been entered on the county database (Minutes of ONCF meeting 21/10/93). By October 1994 it was reported that 60 planning applications had been received that could affect Alert Map sites – all except two had proceeded smoothly.

This Working Group did not meet particularly regularly, for instance, at a Forum Meeting in 1995 it was reported that this Group had not met for over 12 months but that ongoing work was being coordinated (Minutes of ONCF Meeting, 01/11/95). The consultation system for Alert maps was working successfully and all Alert Map sites in the county were being re-surveyed and relevant landowners contacted; also, a merger with BBONT's database was underway, indicating how actors around the scientific/technical pole were working together in terms of sharing information and making it available to the planning network. Funding from EN and Oxford City Council had been secured to employ someone to edit the data and 'iron out any problems' which shows a link back from the institutional pole to the scientific pole

via the intermediary device of financial resources which enabled stable relations to exist between these actors. In relation to the production of practices, most landowners were reported as being very receptive to the mapping of wildlife sites on their land (Minutes of ONCF meeting, 01/11/95). By April 1996 it was reported that EN had carried out a survey to establish the integrity of the sites and maps and that the databases of BBONT and the Biological Records Centre (BRC) had been successfully amalgamated, and, that the BRC database contained 345,000 records (Notes on file, April 1996).

The question arose about how to approach individual landowners who were unaware that they had an Alert Map site on their land. It was to be done through MAFF – information on individual Alert Map sites could be sent out annually on behalf of the Group with IACS documentation (Minutes of ONCF Meeting, 26/04/96).

Identification of this text in the ONCF Meeting Minutes demonstrates how Methodological Principle 4, Figure 13, Chapter Seven was borne in mind in the process of documentary analysis.

Figure 17 shows how the activities of this Group can be seen as contributing to the scientific knowledge pole drawn on by planners within the county. The actor-network map shows how nature could be protected through the activities of landowners who were to be advised by MAFF, and also through the planning process where decisions are based to a large extent on species records data held within the scientific pole. The unsuccessful developers can be seen as not being enrolled into what is deemed to be the 'acceptable network', therefore they are not aligned with the accepted planning wisdom relating to nature conservation purposes. On the other hand the successful developers could be seen to be 'black boxed' within the planning network since they have met the statutorily prescribed criteria for different factors including wildlife protection considerations. This illustrates how the institutional pole, here concerned with the planning system, is a network that is 'heavy with norms' and well aligned in terms of network stabilisation (refer to Section 2.3, and principles 9 and 10 in Figure 13 Chapter 7). The Alert Maps Working Group here is seen as a *dispositif* or device for action in that it provides a means for communication between various actors involved with the process of data production and protection of sites. Landowners

were enrolled into the network through MAFF at the time of the research. The activities of the Parish Plans Working Group will now be outlined.



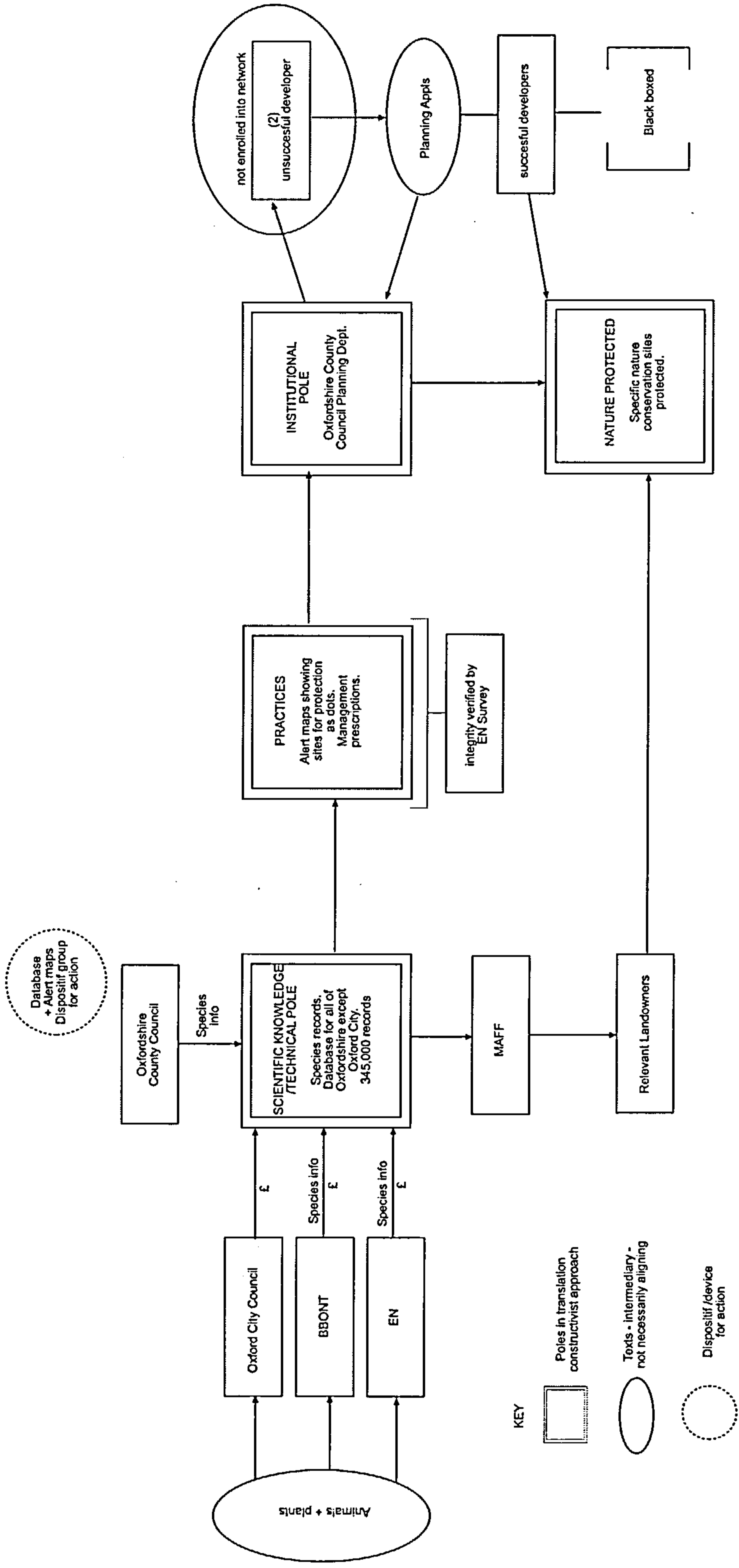


Figure 17: Network Map Related to the Database and Alert Maps Working Group Activities (years 1993-1996)

#### 8.2.7.2 Parish Plans Working Group Activities

*Aim 4 of the Strategy: To encourage local community involvement in the creation, management and enjoyment of the nature conservation resource*

The production of Parish Conservation Plans (PCPs) was the focus for this Group. These were developed through a high level of community participation in different parishes across the county and channelled the communities' nature conservation interests into the production of local documents. It was stressed in the Forum meeting in October 1993 (Minutes of ONCF, 21/10/93) that this was a 'bottom-up approach' to local planning activity. The PCPs as a practice may be seen as devices of *interessement* for enrolling local communities into 'the creation, management and enjoyment of the nature conservation resource', that is, the key Obligatory Passage Point for this Working Group in the form of Aim 4 of the Nature Conservation Strategy. They were adopted quite rapidly as a useful idea for identifying communities' landscape, heritage and natural resources, and fifty parishes within the county, by the end of 1993, had shown an interest in producing a PCP. The PCPs may also be viewed as intermediary texts around which there is local cooperation by various actors in terms of respecting the conclusions made by the community and landowners.

The Forum Chair pointed out that parish councils should be encouraged to find key individuals to work on plans, and it was also stressed by NFU that farmers who were often represented on parish councils were sometimes cautious over such initiatives therefore it would be useful to gain support from the top of the farming community with help from NFU and CLA representatives on ONCF. Thus it was seen as important to enrol parish councils who would then enrol key local individuals as actors, and the NFU and CLA who would enrol farmers and landowners respectively. Forum members were also tasked with the job of enrolling more participants, even just in relation to disseminating the information as they were asked to put a copy of an article about the Plans into their organisations' newsletters (Minutes of ONCF 26/10/94). District co-ordinators were available to help parishes with the task of producing plans.

Later, in 1996 a PCP register was published detailing information on hedgerows, landscape features and existing land use, thus the knowledge pole was enhanced through parish plan production. There were some potentially conflicting issues regarding how much information would be made available to Parish Councils, for example, should the location of badger sets (a protected species) be included? Also, access issues were paramount with regard to accessibility for surveying individual habitats. During discussion it was confirmed that all data for Alert Sites would be made available except for that on rare species. Legal advice was going to be sought with regard to whether local authorities actually had the right to withhold information on the location of rare species (Notes on Parish Plans file, 1996). At this stage then, rare species would not have been represented within PCPs and they were not mobilised into the texts and consequent actions on the ground by human representatives, although they certainly appeared in other technical texts relating to their whereabouts.

Between October 1994 and April 1995, the main activities promoted by the Working Group were the holding of workshops and meetings to promote Parish Plans in villages that were showing an interest and that were linked to Local Agenda 21 initiatives through the county council: there was a plan to encourage one or two of the more progressive parishes to prepare sustainable development programmes covering waste, energy issues etc. to create a link between environmental and social issues.

By November 1995 this Group was suffering from some disruption because its Chair felt over-committed and had therefore handed over the role to someone who also was soon no longer able to continue to chair the Group. At this point in time a new coordinator was needed along with 'revitalisation' (Minutes of ONCF, 01/11/95). This illustrates how many environmental actors had different roles within the Forum and their own organisations, and the importance of spreading the workload and drawing in new people. The dynamism of actors is often key to achieving results as found by Selman (1998). The workshops were, however, continuing, and these had

revived some interest, and extra information on ponds and rivers had been produced for the Parish Plans Pack.

Another area of conflict was related to whether PCPs were best encouraged through organisations, for example, through links to Whole Farm Plans through EN, the (then) Countryside Commission, FWAG and CPRE, or, through community involvement, and there were conflicting views on this (refer to Chapter Five, Section 5). Community-based development of plans was slow (Habitats Working Group Report, 25/01/96). There was, in fact, a very positive response from farmers in the parishes that had been identified for the linking of Whole Farm Plans and Parish Plans (see further detail later under the heading of the Four Parishes Project). At an initial meeting many farmers expressed the view that it was an ideal opportunity to educate the community about farming (Minutes of Habitats Working Group, 25/04/96). The manner in which the Parish Plans Group worked in terms of gathering momentum is depicted in Figure 18.

Figure 18 illustrates the activities of the Parish Plans Working Group between 1993 and 1996 which are based around the Practice Pole, the practices being the PCPs and Sustainable Development Programmes, mentioned above. Also Whole Farm Plans are included in the Practice Pole in this illustration because of the way in which the Land Managers Working Group provided impetus for linking these with PCPs in relation to developing the Four Parishes Project. This actor-network map is focused around how these practices were produced and which actors were held in place through their production. It shows how actors from ONCF and its Working Groups were linked to the development of localised practices within the county.

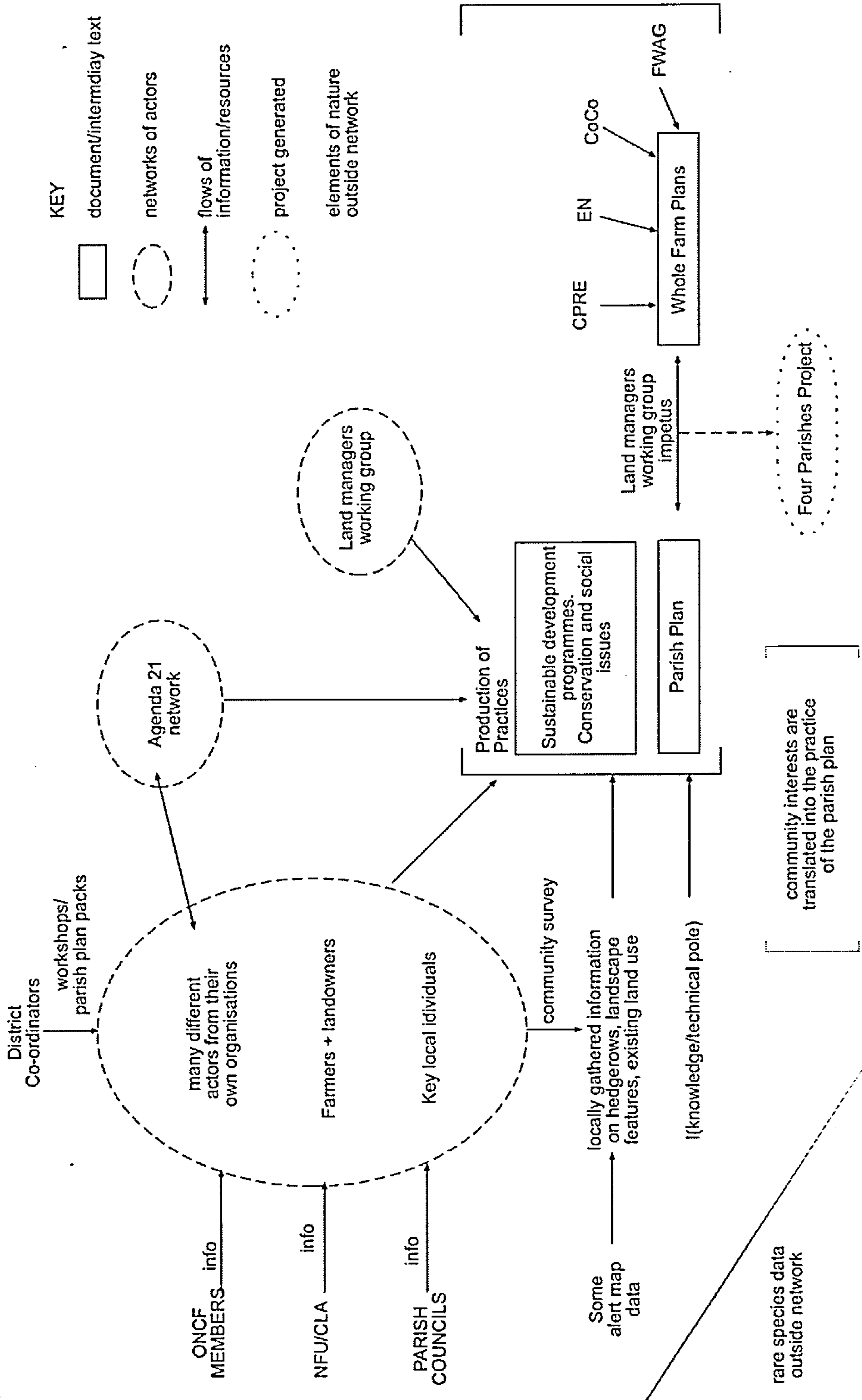
The ONCF members; NFU/CLA and Parish Councils are seen as being the key actors who are putting across information to enrol other actors from different organisations, farmers and landowners and key local individuals who are seen as making up the networks of actors within, or linked to, the communities involved. In addition, the District Coordinators through the devices of *interessement* of workshops and the intermediaries of Parish Plan packs also give momentum to the translations that occur within the community or parish networks. Also, the Agenda 21 network is linked to

the communities or parishes involved through its promotion of Sustainable Development Programmes through provision of personnel to enable parishes to develop these through local participation.

The Knowledge/Technical Pole (bottom left) in Figure 16 comprises information from locally conducted surveys and some Alert Map data although some of this was withheld, resulting in rare species data, and in effect, the elements of biodiversity that this data represented, being left outside the network. The Land Managers Working Group also provided some impetus, particularly in terms of the marriage between Parish Plans and Whole Farm Plans which was manifested in the Four Parishes Project (See Part B of this Chapter for explanation). Through these network linkages represented by the negotiations that took place within workshops and the writing of the key documents and all the actors involved, the interests of local landscape, heritage and elements of biodiversity were mobilised through being translated into the resultant practices. In this scenario there would have been many moments of translation, some to do with how individual species came to be represented: the chain of translation of their interests could be followed. Some moments of agreement or consensus were further along the process, for example, meetings within an individual parish to negotiate the key features of their local nature that should be included within a particular PCP. Thus there are many other network elements that could be included on the inside of this illustration, however, the overarching network is described by the diagram since it depicts the position of key actors and groups of actors in terms of their relative positions.

Figure 18 links to Figure 28 in Part B of this Chapter which illustrates the Actor Network surrounding the Four Parishes Project.

Figure 18: Activities of the Parish Plans Working Group and Associated Actor-Network, 1993-1996



### 8.2.7.3 Land Managers Working Group Activities:

*Aim 2 of the Strategy: To safeguard and encourage the sympathetic management of the wider countryside, later revised to: To safeguard and encourage the sympathetic management and improvement of the wider countryside for wildlife (April 1995)*

This Working Group drew together all bodies which offered conservation advice to farmers: FWAG; ADAS; MAFF; the (then) Countryside Commission; BBONT; local authorities; EN; farming organisations; NFU; and, the CLA. The aim of this group was to encourage farmers and other landowners to manage land sympathetically for conservation purposes and to encourage wider use of the Group to this end. The Group agreed at an early stage to extend its membership to include NRA, CLA, RSPB and local authorities. This series of decisions illustrates the ways in which the Forum Working Groups had autonomy in terms of being able to increase their membership as expanding sub-networks within the Forum through enrolling other actors around their OPPs. The way in which working groups themselves expanded within the expanding network of ONCF is illustrated later in Figure 20.

An early project for this Working Group was involvement with the production of the Whole Farm Conservation Leaflet for the Four Parishes Project. The Whole Farm Plans leaflet was launched in 1995 to a mixed audience of farmers, councillors and the press (notes on file, undated). Much interest had been generated by farmers and neighbouring county councils. Crucially, the Group was developing a project to bring together Whole Farm Conservation Plans and Parish Conservation Plans to create a 'model parish'. Parishes adjacent to each other were identified for this project – Brightwell-cum-Sotwell, Little Wittenham and Culham. The network of actors around the Whole Farm Conservation Plans leaflet is examined and presented in Section B of this Chapter, and the role of this Group is explained in the associated Actor-Network maps (see Figures 16, earlier in this Chapter and Figure 26 in Part B). During 1996, members of this Group also assisted with the development of the agricultural chapter in the Oxfordshire County Council Agenda 21 Report. Thus the Group was involved in producing some key practices and intermediary texts.

#### 8.2.7.4 Habitats Management Working Group (Habitats Group) Activities

*Aim 1 of Strategy: To safeguard and encourage the sympathetic management of important wildlife and geological sites throughout the county, later revised to: To safeguard and encourage the sympathetic management of important wildlife and geological sites and actively conserve vulnerable species (April 1995).*

This Group started to work with the idea of Natural Areas as defined by EN (refer to information in Chapter Three), and, to that end divided the county into five Natural Areas: the work was being led by a representative on ONCF from EN. The habitats within each area were to be identified and specific areas given priority. Minutes of ONCF (26/10/94) state that Oxford Clay Vale would be studied first using Alert Map information but there were only a few high quality sites here and the characterisation of the area would rely heavily on landscape features. For this, data from CPRE (hedges); Pond Action (ponds) and Parish Plans would be included. EN was, in fact, working closely with the (then) Countryside Commission to develop a joint EN/Countryside Commission map to show Countryside Character and natural features. Also, the EN representative considered data from English Heritage. The County Council Ecologist was responsible for summarising conclusions of the five sets of habitat information and submitting these as comment for the EN (Minutes of Habitat Group, 15/04/94). Plans were gradually generated for each of the areas with the Clay Vale Plan being the first to be published.

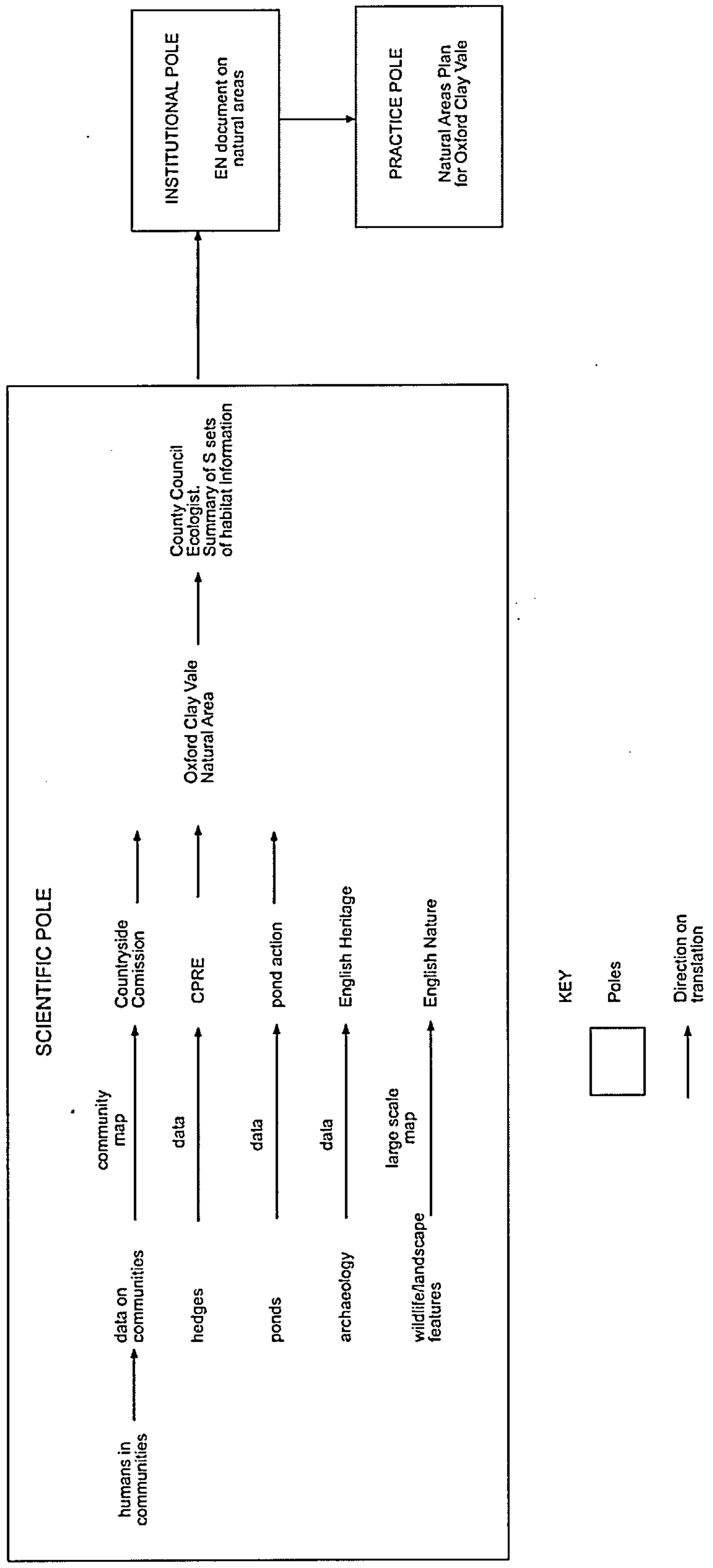
Figure 19 depicts the flows of information and translations within the Scientific Pole that are then fed into an intermediary text which is the EN document on Natural Areas showing how a number of macro-actors – the Countryside Commission; CPRE; Pond Action; English Heritage and EN combined their information on different elements of nature to fulfil the obligation or passage point of producing a Natural Areas Plan for the Oxford Clay Vale which is within the Practice Pole. This shows how macro-actors produced empirical information within a localised context that was then combined by the County Ecologist for Oxfordshire County Council in the form of a summary document. The summary document was absorbed into the Institutional Pole associated with EN (a macro-actor, acting at a distance in that EN



was producing a Natural Areas document that applied to the whole country). The Natural Areas Plan for the Oxford Clay Vale was then produced within the framework of EN and can be seen as being part of the Practice Pole for the county of Oxfordshire. To follow a chain of translation through this process for one element of nature, Pond Action data on small wetlands pertaining to the Oxford Clay Vale Natural Area was examined by the County Ecologist who translated elements judged as relevant, in negotiation with Pond Action and the other macro-actors shown within the Scientific Pole, into a summary document. The production of this document represents a moment of translation for the small wetlands concerned. This document was then examined by actors within EN at national level who drew up a Natural Areas Plan for the Oxford Clay Vale, which was another moment of translation for the small wetlands as their needs were translated into a practice that would affect their interests on the ground, eventually, as they became part of the Nature Protected Pole which is not shown in Figure 19.

Another Natural Area, the Upper Thames Wetland was designated as ESA (refer back to Chapter Five, Sections 5.4 and 5.5), and this was seen to be an ideal opportunity by the Habitats Group for a wide-ranging project aiming to bring, 'management and habitat creation into a co-ordinated focus' (Minutes of ONCF 26/10/94). The Group was supporting a Scoping Study at this time (The Upper Thames Wetland Project), funded by the (then) NRA, Thames Water and FWAG, and carried out by Pond Action. The Study sought to establish the nature of existing projects operating within the ESA and the nature of the organisations that were interested in the future of the area. There was a very large number of groups working within a small spatial area and not all were collecting data in a way that made it easily transferable onto a computerised system. The idea was to identify areas of common interest and investigate whether, by working closer together, organisations might be able to achieve more advanced wetland conservation schemes or establish a more truly integrated approach to catchment management (Minutes of ONCF Meeting, 11/11/96). The Upper Thames Wetlands Project is presented in more detail in

Figure 19: Map Showing Actors Involved in Generating Natural Areas Plans with Reference to Oxford Clay Vale



Section B of this Chapter, particularly Figure 29 shows how the Habitats Group, as one of the Forum working groups was an enrolled actor within a non-aligned network.

The Habitats Group was one of the ONCF Working Groups that was noticeably dependent on physical data collection and sources; the importance of this was acknowledged at a meeting of the Group in 1995 (Minutes of Habitats Working Group, 09/02/95). An example is that in relation to the 'production of knowledge', in this case species and habitat monitoring, the Habitats Group had purchased a copy of the Institute for Terrestrial Ecology's Countryside Information Survey with support from Northmoor Trust. This provided a quantitative source of information regarding the Oxfordshire landscape at a 1km squared resolution. The long-term aim was to acquire a GIS that could be used to coordinate species and habitat programmes and all monitoring work across Oxfordshire allowing a more strategic approach to conservation (Minutes of Forum Meeting, 26/04/95). The data could also be represented as maps and tables which were suitable for inclusion in documents or in presentations, for example, for raising the Forum's profile in schools. This project on the use of CIS data was developed in cooperation with ITE who were interested in ONCF re-calibrating CIS software to work more efficiently at county level (Minutes of ONCF Meeting, 11/11/96). This illustrates one way in which empirical information from the Scientific/Technical Pole was used to interesse members of the public, in this case young people within a schools setting through translating it into presentations that, in effect, mobilised elements of nature such as species and habitats into a setting where their interests could be appreciated by an audience that might not already be involved with conservation or biodiversity-related activities, perhaps engendering action on their behalf. It illustrates Morris and Wragg's (2003) point based on their evidence from an exploration of Hannigan's ideas about the way that scientific information can be used to raise the profile of biodiversity interests to enrol others.

The aims of the Habitats Working Group are found in Appendix Ten, and a short summary of detail relating to the Access Working Group is found in Appendix Eleven. Also, a new, more formalised Working Group was developed in 1996 in the

shape of the Policy and Resources Group which developed public relations and dealt with the finance and administration for ONCF formalising some of its arrangements. Some information on this Group is found in Appendix Twelve.

The next section explains how the ONCF had to work towards a new Obligatory Passage Point as biodiversity planning became adopted by the UK Government following the Rio Summit and ratification of the Biodiversity Convention. Thus far the key OPP for the environmental conservation network had been the need to produce a Nature Conservation Strategy and then to implement its aims through the sub-networks of the Working Groups that were formed. The whole ‘new speak’ associated with biodiversity planning and the ethos behind it, along with the principles of sustainable development and Agenda 21 resulted in some new challenges for actors within the Forum and Oxfordshire county more generally.

#### 8.2.8 The Biodiversity Challenge Group and a New Obligatory Passage Point for Oxfordshire Nature Conservation Forum

In 1994 a further ONCF Working Group was set up (the Oxfordshire 100 Group, or Biodiversity Challenge Group) to produce a *Biodiversity Challenge* document for the county, as had been previously produced for the UK (refer to Chapter Five). The UK *Biodiversity Challenge* was a key text produced by the Wildlife Trust, RSPB and other key environmental actors, setting out priorities and action plans for maintaining and enhancing the UK’s biological diversity (ONCF Meeting of 26/04/95). The ‘Challenge’ was to ‘convert government commitments and those of organisations, industry, voluntary groups, and so on, into actions’. Extracts from minutes of the fifth meeting of the Policy and PR Group of the ONCF (ONCF, 16/03/95) allude to a new Forum Objective, ‘To identify Oxfordshire 100 (species), prepare action plans and monitor change’. The idea was that 100 key target species would be highlighted as requiring conservation action. These were decided on in relation to their status in terms of how threatened or rare they were within the county, nationally and internationally, based on the Red Data List, UK BAP and long standing protocol within England over ‘what should be protected’, for example via SSSIs etc. The list of target species (the ‘Oxfordshire 100’) was widely viewed as a public relations

gimmick, but was thought to be a good tool for exciting people and for focusing attention. The choice of species on the list needed also to take account of current attitudes, and some research was required on this issue, along with effective management of the process (Selman and Wragg 1999a, p.334). The importance placed by the Biodiversity Challenge Group of taking account of current attitudes in species selection reinforces the usefulness of a social constructivist approach to examining environmental planning scenarios and is indicative of the way that, even though planning priorities may be based on empirical evidence, these are filtered through a socio-political lens. In other words, nature in this instance is socially constructed through biodiversity planning in that society's preferences and concerns, via scientific knowledge and research at global, national and local scales, and cultural values, translate the elements of nature that become prioritised for protection within strategies.

The production of the *Biodiversity Challenge* document for Oxfordshire became a key focus for many of the Working Groups as they were encouraged by ONCF staff to convene around this new OPP. The Oxfordshire 100 Group, therefore, moved the Forum towards recognising the need for actors interested in wildlife preservation to accept the importance of developing this document focused around the term 'biodiversity' as the next crucial step in county nature conservation planning.

There was some criticism at an early stage regarding lack of wider consultation over the species that should be represented in 'The Challenge', and a feeling was expressed by one Forum member that this would have generated stronger support from the City Council. This provides evidence for the idea that actors see strength in terms of problematising an issue as being related to co-opting actors that currently may be outside the network in terms of their not being enrolled. Another view was that whilst advice had been sought from many organisations, a consultation phase would have taken a long time and ultimately resulted in targets being 'watered down', producing a less effective document (Minutes of ONCF, 26/04/95). This viewpoint is interesting in terms of suggesting resistance to expanding the planning network too much in relation to efficiency and quality of targets for biodiversity. In fact, 'The Challenge', essentially, was developed by the Oxfordshire 100 Group which

comprised a number of different actors involved with the Forum (such as BBONT; RSPB; Oxfordshire County Council; Pond Action; refer to Chapter Five) and representing different organisations concerned with wildlife planning and conservation. As it was, the document was seen generally by Forum members to be based on sensible and realistic targets. The Forum Chair decided at the ONCF meeting of 26/04/95 to call a meeting with the Biodiversity Challenge Group to discuss its political role (Minutes of ONCF, 26/04/95), which shows the emphasis that was placed on this text in relation to holding the network of the Forum behind it and also the fact that it encapsulated the momentum that had gone into its production in terms of actors adopting the importance of focusing on key species.

At the ONCF meeting in April 1995 (Minutes of ONCF, 25/04/96) it was stressed that the species recommendations in the UK Biodiversity Steering Group Report should be taken into account in relation to developing action plans for species as they included a number of species omitted from the *Challenge* document thus far. This indicates the link between national priorities for species which, in turn, reflects international concerns prioritised in the red data list, and the way that the UK text represented actors acting at a distance but involved with constructing a localised nature through network associations (See Figure 24).

Once the Biodiversity Challenge was launched in 1996, target species were allocated to lead organisations that were responsible for championing their cause through representing their interests. Some targets were seen as being quite straightforward and therefore could be led by one organisation, whereas others were perceived as more complex necessitating the co-operation of several actors from the Forum to achieve them. The Oxfordshire 100 Group's role would be to set up and support special target groups. The monitoring of populations of targets and other organisms was seen to be a priority with the aim of measuring achievements. In ANT terms, in relation to heterogeneous networks, the idea was to examine the extent to which elements of biodiversity were cooperating with the network in terms of positively responding to Action Plans

Cultural change was seen as being vital to the long-term success of species protection and recovery and, to this end, the Group planned to work closely with other Forum Working Groups, Agenda 21 and other initiatives to move the 'whole of society' towards positive consideration for wildlife in all corporate and personal decisions (Minutes of ONCF, 25/04/96). This indicates the desire to *interesse* and enrol actors from other organisations and members of the public within Oxfordshire into an appreciation of biodiversity within the county. The way in which the production of the Biodiversity Challenge was problematised in terms of the new target-setting ethos of biodiversity planning was important in terms of providing new momentum for the Forum.

The interactions between actors and the way the network of conservationists grew and developed around first the Nature Conservation Strategy, then the activities of the Forum, followed by the Biodiversity Challenge and later the production of the county Biodiversity Action Plan are explored in more detail later as this narrative continues (See Figure 22 which shows how the network expanded).

### 8.2.9 The Forum Network Links to Local Agenda 21 Networks

This section outlines another interesting phenomenon in relation to ONCF's network expansion and what might be termed network cross-fertilisation! Concurrent with changes in the arena of nature conservation/biodiversity planning activity within the county, was the development of a Local Agenda 21 document (Oxfordshire County Council, 1997), which stemmed from the Government's commitment to sustainable development principles in that local authorities across the UK became obliged to produce these in order to operationalise the 'Agenda for the 21<sup>st</sup> Century' principles on sustainable development stemming from the Rio Summit. A Local Agenda 21 planning network supported by Oxfordshire County Council, the key macro-actor in this case, had grown up around various topics: the document was to contain chapters on biodiversity, for example, along with other environmental issues. Importantly, at the meeting of ONCF on 26/04/95 proposed changes suggested by the review of the Strategy's aims and objectives were put forward by the Policy and PR Group and subsequently approved by the Forum. These are shown in Figure 20:

Figure 20: Revised aims of Oxfordshire Nature Conservation Strategy:

- 1) To safeguard and encourage the sympathetic management of important wildlife and geological sites and actively conserve vulnerable species.
- 2) To safeguard and encourage the sympathetic management and improvement of the wider countryside for wildlife

(these aims implied a more active stance in relation to conservation and wildlife enhancement).

And, importantly,

*A new aim had also been generated:*

To encourage initiatives to protect the natural environment, linked to Agenda 21.

Source: Minutes of ONCF Meeting 26/04/95, File: Oxon Nature Conservation Forum '93-'96), ONCF, Little Whittenham, Oxfordshire

At the Habitats Working Group meeting in January 1995, it was reported that there was considerable overlap between the Forum's Education and Biodiversity Working Groups and Agenda 21 activities. Consequently there was unanimous support for links with the relevant Agenda 21 Groups (Minutes of Habitat Working Group, 18/01/95). In order to 'marry' the interests of ONCF in relation to biodiversity and education, two 'link' groups were established: the Education Link Group and the Biodiversity Link Group (BL Group). The Link Groups acted as joint fora so that the activities of the Forum and Agenda 21 and the Biodiversity Challenge Group could work in parallel and with efficiency and good use of resources. The first BL Group meeting was held in November 1995 and the group comprised members from ONCF and the County Agenda 21 Group. The idea was to further develop the work started by the Biodiversity Challenge/Oxfordshire 100 Group (Minutes of Biodiversity Link Group, 29/11/95). The ONCF Chair pointed out that a small group of people were doing most of the Forum's work and that this new (BL) group could only take off strongly if supported by 'new blood' (Minutes of Biodiversity Link Group, 29/11/95).



The actors involved with the BL Group at the end of 1995 were ONCF staff and representatives from BBONT' Oxfordshire County Council; Oxfordshire Biological Records; Chilterns AONB; RSPB; Other District Councils; EA; EN; Thames Water; CPRE; Butterfly Conservation; NFU; FWAG; Banbury Ornithological Society. These were a very similar group of actors who wrote the Biodiversity Challenge. There was seen to be a need to enrol more actors to generate further momentum. More people from Agenda 21 Working Groups subsequently were invited and the ONCF continued to expand and capture other actor- networks.

#### 8.2.10 The development of the Local Biodiversity Action Plan for Oxfordshire

The BL Group took on the task of writing the LBAP for Oxfordshire, and the Biodiversity Chapter in the Agenda 21 document, later, in 1996. Thus the ONCF network became refocused as actors once more went through a process of re-enrolment around yet another new OPP of producing the LBAP. Throughout the development of the LBAP and Agenda 21 Biodiversity Chapter, the BL Group (in the same vein as the other Working Groups and wider Forum) had a constant intention to involve the right range of representatives, as exemplified in this question: 'The Biodiversity Link Group has traditionally been more interested in the technical process than the politics – creating and maintaining common ownership and commitment. The Group has to attend to both. Is the membership of the Group itself wide enough to ensure common ownership or do we actively need to involve other bodies and individuals?' (ONCF Chair, 12/06/97).

The Group drew on UK Government Guidance in developing the LBAP. Guidance from the Local Government Management Board and UK Biodiversity Group (UK Local Issues Advisory Group, 1997) suggested contents for the development of a Local Biodiversity Action Plan as shown in Figure 21.

Figure 21: Suggested Contents for the Development of a Local Biodiversity Action Plan

1. Vision statement with broad objectives of the action plan partnership.
2. Review of the wildlife resource of the plan area identifying national and local priorities for habitats and species.
3. Review of priority habitats and species in terms of current status and factors causing loss or decline in the local context; also action already underway to meet conservation requirements.
4. Detailed Action Plans for priority habitats and species, covering, for example, site safeguard, habitat management, habitat creation, reintroduction, policy requirements, data needs, research needs, and advisory work.
5. A geographical analysis of biodiversity within the plan area identifying issues specific to particular geographical areas and indicating how implementation of habitat and species action plans relate to areas of different ecological character. This should include biodiversity maps showing location of key areas for action.
6. Review of generic issues affecting biodiversity within the Plan area with recommended action.
7. Proposals for raising public awareness and involvement.
8. Communication and publicity regarding the work or the partnership.
9. Proposals for monitoring progress of the overall action plan.

Source: UK Local Issues Advisory Group (1997) Guidance for Local Biodiversity Action Plans: Guidance Note 1, UK Local Issues Advisory Group.

The biodiversity planners in Oxfordshire went through the recommended stages as a series of passage points in the LBAP process. It was agreed that a Vision should be developed that built on the aims of the Oxfordshire Nature Conservation Strategy but which placed more emphasis on biodiversity. County habitats would be described

linked to natural and geographical areas that people could relate to, for example, the Chilterns. Then an idea of the scarcity/uniqueness of habitats/species within their local context would be given. Following this it was decided that the county action plan should be placed within the context of the National Action Plan and National Lists (short list, long list). The review of Oxfordshire's wildlife resource would draw on existing written material and empirical evidence from BBONT's Biodiversity Challenge, a biodiversity document produced by the RSPB, Butterfly Conservation's Review, and a new Rare Species Book produced by BBONT as well as county lists of habitats and species. The interests of existing specialist groups were to be borne in mind as was the importance of involving species-poor parishes who might feel marginalised by the 'lists' (thus addressing Point 7 from the UKLIAG Guidance Note above). At one meeting of the BL Group in 1997 (participant observation notes, 24/06/97) it was stressed that it was important that the LBAP was accessible to parishioners and beyond, and, in a subsequent meeting it was stated that,

“Many precise and measurable targets will come out of the LBAP process ....and....there may be merit in galvanising community effort in areas of local distinctiveness which go beyond parish boundaries – people often relate to areas based on different historical, social and landscape demarcations”

(Minutes of Biodiversity Link Group, 23/09/97).

This implied the need and/or potential for developing consultation networks outside of the administrative networks associated with parishes and, again, shows the way in which the Forum, and here, the biodiversity actors represented a fluid space within which more spaces and network shapes could be created and expanded to reflect spatial boundaries that either concurred with administrative units or perceptions of local distinctiveness.

Financial resources were perceived as a potential constraint so different members of the group volunteered to write different chapters of the LBAP to save money. There was some dispute over whether resources follow objectives or the other way round. This debate was set in the context of MAFF's interest in the LBAP from the point of view of the ESA. It was agreed that the document would be important for attracting funding but also that the development of action plans had to be an evolutionary process and that these two strands of thought could be in conflict (Participant

observation notes, 24/06/97). This illustrates how the *need to* develop LBAPs and the *importance of* devising local targets in lieu of Government commitment to biodiversity planning were being adopted as the governing ethos in wildlife planning to the extent that LBAP target-meeting was already fund-worthy prior to LBAPs themselves being produced. This demonstrates the very rapid global to local cascade of the concept of biodiversity planning into the consciousness of policy networks.

In terms of financial resources the production of the LBAP (Action for Wildlife) was said to cost around £2,600, made up of contributions from Oxfordshire County Council Agenda 21; Environment Agency; RSPB; Thames Water; Chilterns Conference; and, CPRE (Notes on File, 1997). The plan was to circulate 5,000 'Action for Wildlife' leaflets to parishes, libraries, schools, businesses, universities and other institutions/information points in order to raise its profile and interesse the public. In this way the problematisation of the biodiversity issue in scientific terms was, 'translated into a popular discourse in order to achieve legitimacy amongst local communities' (Morris and Wragg, 2003, p.78). The LBAP itself would not be copyrighted which was significant in that it would remain as open intellectual property representing the way in which it had been developed by an open partnership.

The Chair of ONCF stated in June 1997 (Minutes of Biodiversity Link Group, 12/06/97) that people who currently were active on the ground should have an input into the process so that they felt ownership, and also so that the LBAP could be used as a platform, although actors needed to say whether they wanted to stand on this platform, for example, the Bat Group. The view was also put forward at the BL Group in March 1997 (Minutes of Biodiversity Link Group, 1997) that too wide a consultation would be dangerous, especially if too many specialist groups or actors were included. This shows how the network of actors who were writing the LBAP reinforced their own allegiances between themselves to stabilise relations. The resisting of wide consultation meant that translations would be more set in stone, 'the more stable the network, the more irreversible the translations because the network will be able to fend off competing enrolments' (Murdoch, 1997). This is also an example, perhaps, of how actors attempt to delimit their own network boundaries.

Thus far, it has been shown, with reference to documentary analysis and participant observation at meetings how actors within the ONCF network and sub-networks in the form of working groups mutated and expanded around the need to develop different types of plans for the protection of habitats and species within Oxfordshire. The starting point for the purpose of this research was the production of the Nature Conservation Strategy that involved a relatively limited group of actors representing key environmental organisations. The Forum then took off as a wide communication network, a negotiative space for the sharing of ideas and resources. Then, as new UK Government guidance was introduced in order to translate the principles for sustainable development and biodiversity protection, the county wildlife planning network was obliged to address the new priorities associated with biodiversity plans. This is explained further as slices are taken through the network and actor-network maps show diagrammatically how actors were drawn into relation with each other later in this chapter. Meanwhile, the narrative continues in the next section with exploration as to how different actors within the county, many of whom were linked to ONCF and production of the LBAP, sought to import the principles of biodiversity planning into the remit and responsibilities of their own organisations, further exemplifying how the biodiversity speak became entrenched organisationally as a wildlife planning paradigm.

#### 8.2.11 The adoption of biodiversity principles by actors/organisations within the county more generally, and wider delivery mechanisms for meeting biodiversity targets

The production of the LBAP clearly involved many environmental actors within the county and the principles subsequently extended to the organisations that had representation within the Forum or Local Agenda 21 groups. Organisations/bodies were receiving information on the importance of meeting biodiversity aims (via the individual actors who represented them in Forum activities) from ONCF and also from Government literature that was linked to sustainable development principles and required consideration of social and environmental capital within the development process. As a consequence many other bodies and planning groups were beginning to adopt biodiversity considerations more strongly within their own vocabulary.

A discussion paper produced in February 1998 (participant observation notes, 06/02/98) reflected on the purpose and usefulness of the LBAP, 'There are many ways in which BAP style initiatives are already being developed in and around Oxfordshire. Groups such as BBONT, EN, EA, Butterfly Conservation, Banbury Ornithological Society and the Rare Plants Group have already embraced BAP concepts in targeting their conservation activities'. This was referred to as a 'gentle revolution that has gradually been building up momentum – probably because there is seldom any new money'. The 'limited shelf life' of the LBAP was acknowledged, however, its publication was seen as a powerful tool for stimulating broader involvement and new foci for partnerships. The paper suggested that duplication of effort would be unnecessary and that if actors were already working on particular species or habitats then they could be asked to take the lead on developing and then implementing Habitat and Species Action Plans, which would form the technical part of the LBAP and its implementation. These could be seen as key species and habitats 'champions' which would coordinate the work for specific habitats and species. This would involve actors reordering themselves around Species and Habitat Action Plans (SAPs and HAPs) as new OPPs in the process focusing on specific elements of nature. It was thought that, at species level, plans could be left to those actors who were interested already, and at habitats level that there might be more of a need for working groups comprising several actors.

Model SAPs and HAPs were to be included in the LBAP Framework document and, whilst the BL Group was to be responsible for promoting the production of priority Oxfordshire Action Plans, it was recognised that there might be groups who wished to prepare BAPs based on districts, parishes or 'species which have priority at a very, very local level' (Minutes of Biodiversity Link Group, 29/01/98). The BL Group was seen as a key ONCF/Agenda 21 Working Group in terms of its technical expertise, but other Groups were seen as important in terms of the way that they worked within different types of spatial planning boundaries, for example, Local Authorities Working Group and Parish Plans Working Group. In relation to the ethos of partnership working there was seen to be, 'no need to re-create the wheel if there are natural organisations or groupings ready to take the lead on specific HAPs or SAPs....but... lead organisations would be responsible for reporting back to the

Biodiversity Link Working Group' (Minutes of Biodiversity Link group, 29/01/98). Some organisations would be directly approached by the BL Group to ask them to take on responsibility for specific habitats or species.

Thus the LBAP was a very strong vehicle for persuasion in that, as well as ONCF and Local Agenda 21 partners signing up to the need to protect certain species, the target species were also then inscribed into the aims of partner organisations themselves; thus these elements of nature became mobilised into different encapsulated spaces within the wider planning network as specific organisations adopted their interests and translated these into their own rhetoric and actions.

One example of the adoption of biodiversity aims by a key actor is the role of the (then) Ministry of Agriculture, Fisheries and Food. An Annexe to the meeting papers for the BL Group Meeting, (participant observation notes, 06/02/98) stated that MAFF's agri-environment schemes were an important delivery mechanism for biodiversity priorities, with ESAs taking account of HAP priorities; CSS offering opportunities for enhancement of heathland, chalk and limestone grassland, old meadows and pastures, waterside land, arable field margins and hedgerows, with the mechanism for addressing BAP targets being through county CSS targeting and liaison meetings. Other delivery mechanisms linked to MAFF were seen as being the Organic Aid Scheme; Habitat Scheme; NSAs; Moorland Scheme and Nitrate Vulnerable Areas.

The Chilterns AONB, also, had produced a list of habitat and species targets reflecting both national and regional priorities. For all those listed it was stated that they had undergone a dramatic decline in recent years with future trends indicating that their status was threatened. Selection was also based on indicators of change and some were seen as 'flagships' for raising awareness, for example, the water vole, dormouse and red kite. The AONB was to prepare a priority list for the Chilterns of habitats and species for inclusion in the county BAP and adhered to the principles of a coordinated approach to the production of action plans for key species across the geographic range of the Chilterns. This illustrates the way in which there was a two-way information flow between the BL Group, the Forum and the AONB partnership.

In a similar vein, it was reported that water companies such as Thames Water and Severn Trent had recently launched their own BAPs (participant observation notes, 14/07/99). Thames Water had surveyed and recorded biodiversity on their sites and this data would be made available to other organisations, in fact, they were, at this time, developing a GIS and Recorder database that they hoped would link up with Biological Records Centres. In this way, water companies through the adoption of biodiversity planning principles, were beginning to feed information into the scientific pole for biodiversity planning within Oxfordshire. Also, the new Environment Agency was putting together a Biodiversity Strategy. This Strategy would feed into the LEAPs (Cherwell, Upper Thames, Pang and Upper Wye and River Kennett) but would also key into local BAPs, with ongoing consultation.

At the meeting of the BL Group (observed 06/02/98) a paper also emphasised that the county BAPS and some SAPs already produced provided a sound administrative basis for decision-making and monitoring on an administrative basis, however, they do not take an overall view of the species and habitats across their geographic range, particularly in such large areas as the Chilterns. The Natural Areas approach, adopted by EN, was seen as providing an ideal focus for determining where action could be taken to ensure the delivery of both national and local BAP targets.

And so it is clear that planners within the county of Oxfordshire were operating at different spatial scales in terms of forwarding the biodiversity 'claim', for example, at AONB, ESA, Natural Areas, Parish and farm levels, acting as different and variously constituted networks over different sized territories. These networks, some of which enrolled landowners and local communities, fed into the biodiversity planning process and were indeed influential in then meeting biodiversity targets for species and habitats. Ultimately, at county level it was the intermediary document of the LBAP that held these networks in place, along with the 'institutional backing that stemmed from the strength of the conservation network (ONCF), both in terms of financial resources and support for the biodiversity claim (Morris and Wragg, 2003, p.83).



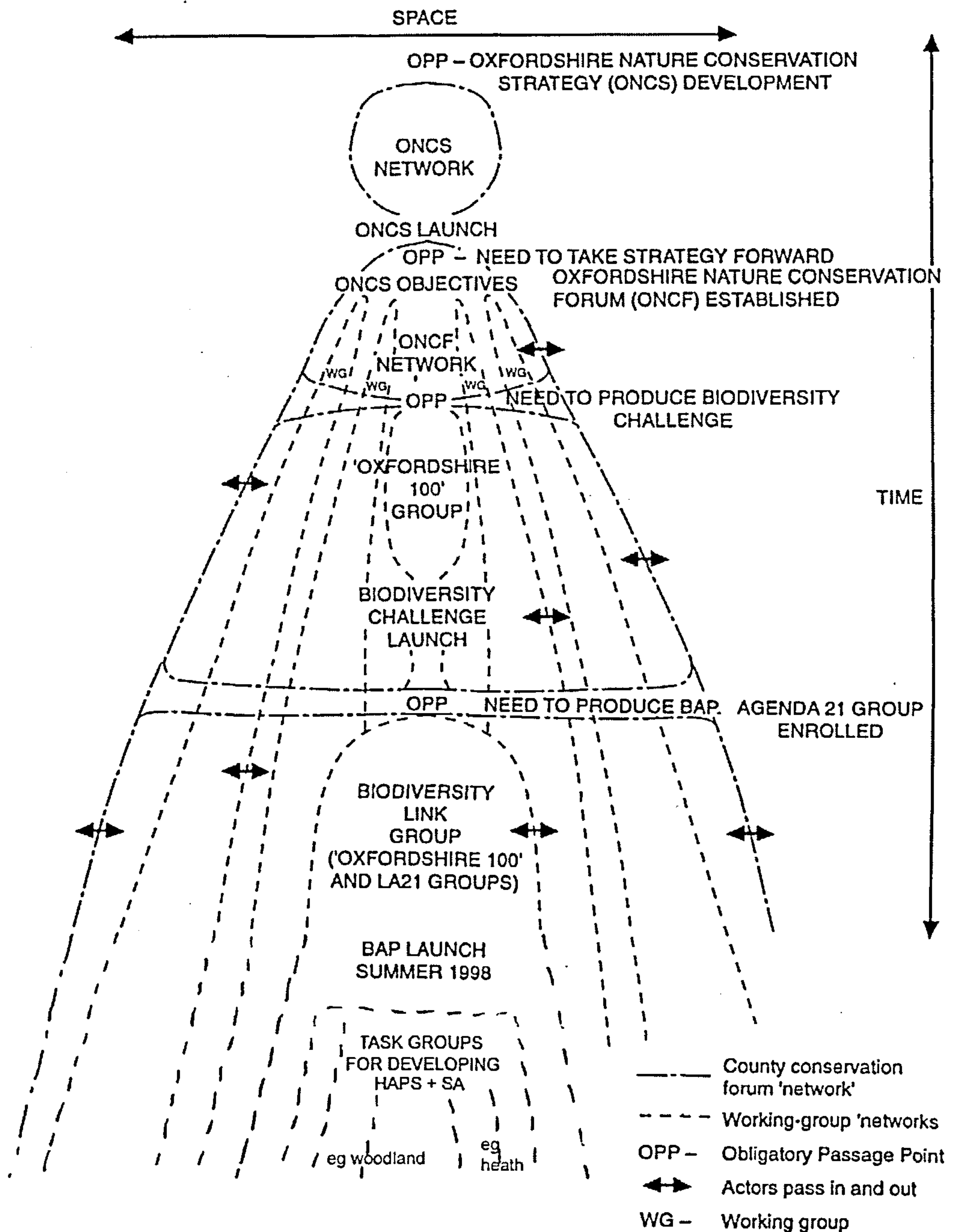
Figure 22 represents a longitudinal slice through the expanding network of ONCF. The space dimension shows how the network broadened and, through enrolment of more and more actors it, in effect, covered larger territory, or more territories, as different actors were brought in. These territories include SSSIs, AONBs, LEAPs, and other locations containing habitats or species of concern as biodiversity became a priority for all organisations having an impact on wildlife. The network map shows how, initially, the ONCS network was a relatively small group comprising those involved with the production of the Nature Conservation Strategy. The first OPP shown is the need to take the Strategy objectives forward which entailed the establishment of working groups (shown as WG in the diagram). These worked in parallel under the umbrella of the ONCF network. Actors then reconvened around the next OPP of the need to produce the Biodiversity Challenge for Oxfordshire. The Oxfordshire 100 Group was set up to develop the Challenge document and can be seen as a central working group in that this was a priority for the whole conservation network.

Following the launch of The Challenge it can be seen that the Oxfordshire 100 Group was combined with local Agenda 21 Groups to form a much larger central group – central in terms of its importance in developing the LBAP for Oxfordshire. This group was at the heart of ONCF activities and continued to expand in membership. Once the LBAP was launched in 1998 Habitat and Species Task Forces continued to develop the technical detail of Biodiversity Action Plans for individual species and key habitats (through HAPs and SAPs). These acted under the umbrella of the Biodiversity Link Group, and reported to it, since this was the main communication hub in terms of negotiating the elements of nature that should be included in HAPs and SAPs and for giving direction to the actors that were taking the Action Plans forward.

The boundaries of all Working Groups and the ONCF as a whole are depicted as semi-permeable, as actors were able to pass across them in what can be seen as a fluid but structured network that mutated to fit through new OPPs but retained its overall direction, and expanded to incorporate the actors necessary to enable biodiversity planning to come to fruition.

The narrative continues in the next section to consider the era from 1998 to 2000 in terms of the biodiversity planning activities that were focused around the new OPPs of HAPs and SAPs development.

Figure 22: Expanding Actor-Network territories for Biodiversity Planners in Oxfordshire (adapted from Selman and Wragg (1999a, p.338))



#### 8.2.12 Negotiating the Elements of Nature (Species and Habitats) into the LBAP

There was some debate during the process of gaining consensus over which species should be included in the LBAP and the rationale behind their inclusion, that is, which elements of nature would 'make it in' to the document and therefore be prioritised in the nature that was put forward for priority protection in the natural pole. At the BL Group meeting in March 1998 (participant observation notes, 23/03/98) there was some discussion over the section in the LBAP which gave the rationale for the need to conserve biodiversity in that much of this was for moral/aesthetic reasons, benefits to society and economic benefits (benefits to society were thought to be pre-eminent). Morris and Wragg (2003, p.92) allude to the 'positive rhetoric' that eventually, through consensus, featured at the beginning of the LBAP document in the form of four 'persuading statements: 'we have a responsibility for stewardship'; 'biodiversity is important to our moral and aesthetic values'; 'biodiversity has benefits for our society'; and 'biodiversity has economic value'. During the process of writing the document some people, though not the majority, thought this was a philosophical quagmire and should mainly be left out, but the majority view prevailed in terms of popularising the biodiversity issue.

There were also discussions around pest species (participant observation notes, 23/03/98) around why certain species were chosen for protection, reintroduction and so on, and not others such as the wolf and roe deer. It was also noted that there was variable perception as to what constituted a pest species, and that this could change over time, the LBAP being seen as a dynamic document. The editor of the document stated that pest species were not the main concern for the BAP, but that *increasing the variety of native species was*, although pest species would feature in some measure to protect some habitats and species in SAPs and HAPs. Without discussing here the definition of a pest species, clearly, some were seen as more acceptable and useful in terms of their role within certain habitat ecosystems than others in terms of the way in which they might act to protect certain rare native species. This is interesting in terms of viewing elements of nature that are non-native as key actors in the natural sphere, in that humans may ensure their protection in the 'nature protected pole' because they are beneficial to other species that might be seen as more scientifically or socially significant and inherently characteristic of an area.

The BL Group also debated the issue of reinstating floodplain woodland which at that time was unmentioned in the developing LBAP, but a few individual actors felt it to be a significant component of nature. It had been omitted since it was not included in the ESA provisions, but the Group agreed to include it in the LBAP as this was prospective and beyond current ESA regulations. This is an interesting example of the network of the ONCF adopting or 'picking up' an element of nature that had been left out of a more prescriptive network. Thus, floodplain woodland as a discrete element was included through actors operating within a 'space of negotiation' and was indeed negotiated into the LBAP.

During 1998 when the LBAP was near completion, there was further discussion within the BL Group about the species to be included in the lists in HAPs. The point was made that these seemed to be mainly illustrative, even arbitrary: a mix of key species, species of conservation priority in Oxfordshire (but not nationally) and common species that 'ordinary people' could associate with. The purpose of this mixture was not generally understood and some felt it to be misleading. However, it was acknowledged that the lists that had been generated through consultations and discussions were definitive and that it was mostly the woodland HAP that was controversial. After much debate it was agreed that some editorial changes to the woodland list would be accepted, but that it should not become too technical and must give 'ordinary people' a point of entry (participant observation notes, 23/03/98). The most important point was seen as being the process in implementing the LBAP with it cascading from the UK Action Plan but requiring a lot of local involvement so that it could not be too prescriptive and technical at this stage. A point of note was that some people in the BL Group felt that they would find the selection of certain species difficult to defend should they be questioned on reasons for their inclusion. It was finally agreed that the shortlist would feature all UK BAP key species relevant to Oxfordshire and that the second longer list would be a non-exhaustive list of other species that would benefit from the HAPs. This second list needed to be user-friendly and appeal to all sections of the public.

One interview comment (I3) was that,

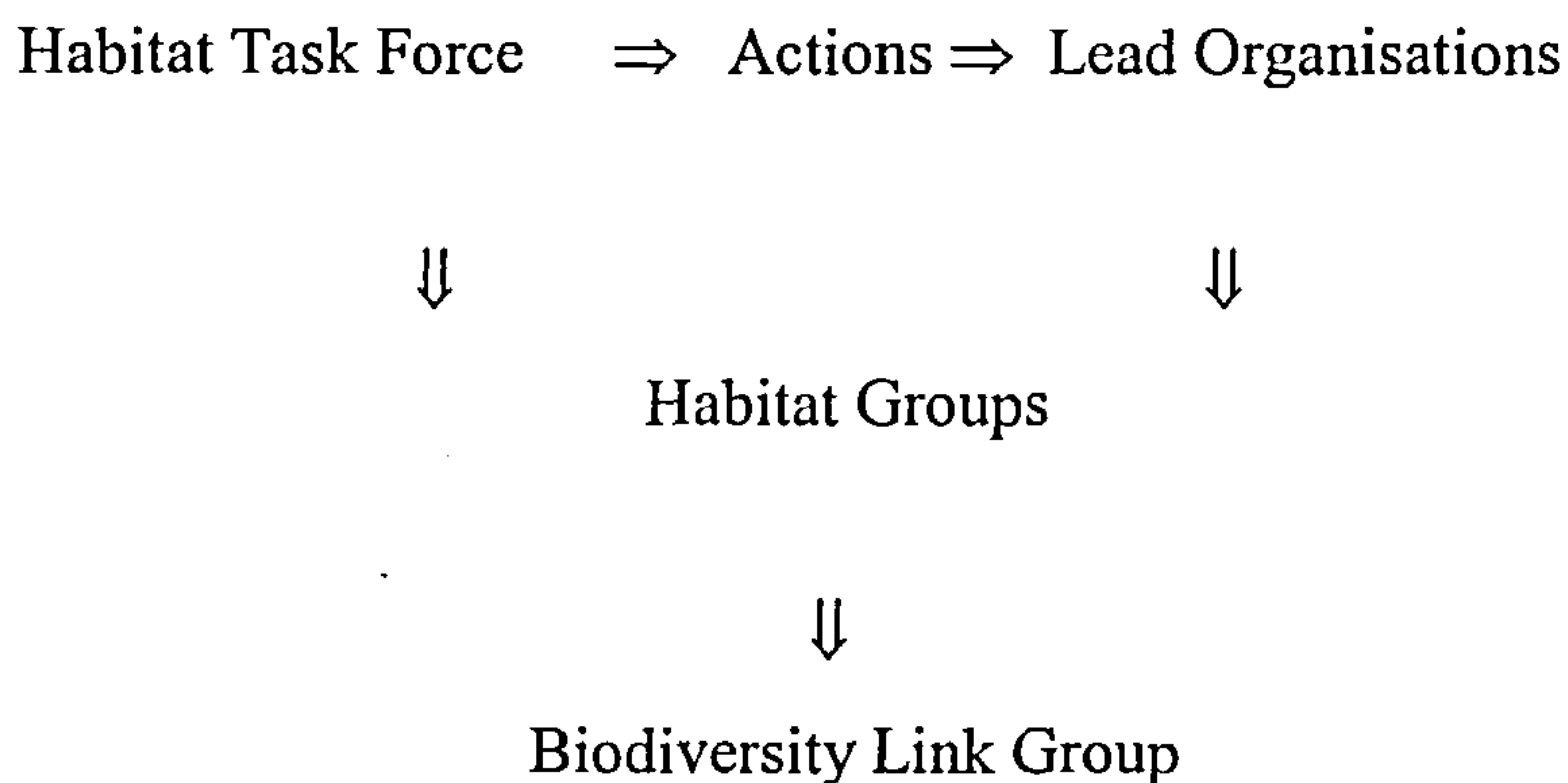
“ the selection of the habitats, the selection of species, the way we got the ‘Oxfordshire 100’ was our own, before there was even a firm ruling that counties or areas were going to produce (biodiversity) action plans – we started even before that - so Oxfordshire’s a bit like that - there’s a lot of interest so the Biodiversity Action Plan is moving on and the other very important thing, I think, is that because we have a full time officer in the Forum, we were able to move that study group (Biodiversity 100 Group/Challenge Group), forward ever so quickly .... the other big, big player which you have to acknowledge right from the beginning were BBONT. I think they really drove the technical side of this”.

This quote illustrates the cohesion of the network of biodiversity planners through the relatively stable relationships already developed through ONCF within Oxfordshire, in that the 100 target species of the Biodiversity Challenge was already developed as a list prior to the duty of producing a county BAP. The interviewee also emphasises the role of the Wildlife Trust as a macro-actor from the beginning in terms of the way in which they were very active in the development of the Biodiversity Challenge document. Importantly this section has shown how the production of the LBAP was by a process of negotiation and discussion and although the consultation could have been wider, it was very fluid in terms of actors being able to state their views and engender consensus as to what they felt should be included. It was very much an inclusive process that developed the key practice of the LBAP, and its inclusivity in terms of participation meant that voices were speaking on behalf of volumes of species that were already identified as being of paramount importance in the county. The research process did not reveal many examples of the views of representatives of species and habitats not being incorporated in relation to which elements of nature were included, or potentially covered, within the practice of the LBAP, pest species and floodplain woodland and the debate about heathland species detailed below being rare exceptions that were debated.

### 8.2.13 The Development of Habitat and Species Action Plans (HAPs and SAPs) for the LBAP, and their Role

HAPs and SAPs comprise the ‘nitty gritty’ of the Practice Pole within the LBAP process and eighteen HAPs were produced by Habitat Task Forces. HAPs were written by a wide variety of actors, with lead organisations or partners and the actions that they should fulfil being identified at the outset of their development (refer to previous section). The lead organisations (champions) were responsible for co-ordinating work and reporting on progress, although the work could be carried out by other partner organisations within the different habitats groups. The lead organisations can be seen as macro-actors representing elements of nature and the views of partner organisations. Habitat Task Forces also contained relevant representatives of species existing within a given habitat. The idea was to integrate work between HAPs so as to maximise gain and not duplicate effort. To this end Task Forces continued to report to the BL Group which acted as the communication ‘hub’. Figure 23 below summarises the process by which Habitat Task Forces were linked to the lead organisations and the BL Group.

Figure 23: Relationship between Habitat Task Forces, Lead Organisations and the BL Group



At the BL Group (participant observation notes, 14/07/99) it was pointed out that the UK Biodiversity Team had moved some species between lists and that the Task

Forces needed to take note of the changes. This is indicative again of the way in which national actors were 'acting at a distance' but influencing a local network (see Murdoch, 1997). There was also the need to build in objectives within HAPs relating to the 'favourable condition' of SSSIs which English Nature was then producing guidance on to improve the quality of habitats within these protected areas.

As mentioned above, another example of an issue to do with the representation of species in HAPs was related to the heathland HAP in that the species selection was not very detailed since most species associated with heathland do not actually live on Oxfordshire heathland sites (Minutes of Biodiversity Link Group 14/07/99). This is an example of potential species being excluded from the LBAP because they were not present at the time of negotiation over the HAP within the county. This illustrates the way that the 'Nature Protected' pole must be also considered as the 'Future Nature Protected Pole' in that in some instances policy makers and planners are not just concerned with preserving and expanding what exists but with what does not as yet exist. It was suggested that one particular heathland owner should be approached by the Group to encourage him to manage his site as heathland via the instrument of the Heathland HAP – it was thought that such an approach could 'tip the balance for that owner' (Minutes of Biodiversity Link Group, 14/07/99). In this way HAPS began to be seen as devices of *interessement* for enrolling landowners into good practice management and encouraging them to aspire to meeting county biodiversity targets through encouraging wildlife onto their own land. Appendix Thirteen details the different HAPs and the Task Forces and Working Groups involved in their production and implementation. The production of HAPs was more or less completed by the end of 2001.

In relation to the development of SAPs there was variation in opinion amongst Task Forces and Working Groups as to which were the most important species to focus on: some had been lost 50 or 100 years ago and others more recently. Thus it was decided to develop a database of species that were regarded as important in Oxfordshire. This included species that were: identified as needing a SAP; mentioned as important in relation to a HAP; identified in the Red Data Book for Oxfordshire; identified in the 1998 Species Review of Oxfordshire; and/or recommended by local species experts.



The database made it possible to summarise the current state of information about a species, whether it was present in the county today and whether it was likely to return. This information was then linked to the HAPs that covered the given species (Minutes of Biodiversity Link Group 10/07/01). Appendix Fourteen describes three different distribution classes that species were categorised into regarding appropriate actions for their conservation.

#### 8.2.14 The LBAP Product

The planning processes outlined above ultimately resulted in the product of the Biodiversity Plan for Oxfordshire, 'Action for Wildlife' which was published in 1998. It took the form of a brochure aimed at decision makers, community leaders and potential funders (for actions within the BAP), summarising the main targets and actions gleaned from the detailed HAPs. It listed interesting species, the aim being to engage the interest of these groups of actors, but it did not include technical detail which was not seen as necessary in terms of the initial process of *interessement*.

The technical HAPs took the form of working documents held in ring binder files that could be easily updated. Targets and actions for businesses, local planning authorities, local communities and landowners were then distilled (Minutes of Biodiversity Link Group, 16/12/00). The HAPs were launched in a targeted way rather than via a single large event. The idea was to draw in Councillors and MPs and senior officers of national agencies by using the vehicle of the brochure. Smaller workshops or seminars were to be held on parts of the LBAP that interested other audiences such as local landowners, parish groups and local businesses. There would also be Habitat/Task Force Launches, for example, via planned walks and popular talks. Thus it was agreed that different versions of the BAP were needed to interesse and potentially enrol different audiences of actors: a brochure, a working technical document, a leaflet representing the entire LBAP, and, leaflets for each habitat.

As HAPs were produced they were circulated for consultation purposes. Some of these were written by early summer of 2000. Some Task Forces used wider consultation methods via workshops: for example, there was one such event held for the Neutral Grasslands Habitat Action Plan in August 1999 for representatives of

organisations involved with grassland conservation, 'we really need your input if the plan is to be achievable and widely adopted' (letter from Northmoor Trust and ONCF, undated). The output of the workshop was a framework for the final action plan section of the document.

Thus the HAPs are documents that were reached via consensus and participatory planning mechanisms. Once they were developed, however, the network of actors around them was not punctualised or black-boxed since these plans have continued to be open to negotiation. They have also, in certain instances, been successful as devices of *interessement* for engaging amateur surveyors for monitoring as a means by which the scientific knowledge pole could be enhanced.

### **8.3 Links Between Oxfordshire Biodiversity Planners and the Wider Actor-Network of which they Form a Part**

As has been portrayed within the literature review earlier in this thesis, the biodiversity planners at county level acted in response to the stipulations of the Global Biodiversity Convention and the UK Government's Biodiversity Action Plan and Agenda 21 document. They sit therefore within a much larger network which is portrayed in Figure 24, again organised around the four poles of the translation constructionist approach used in this research. This Figure brings together many elements that were examined in the literature review in Part One. The key international intermediary texts are shown as feeding into the institutional pole which contains the Government's machinery for overseeing the development of the UK Biodiversity Action Plan which is shown as the key practice to emerge from this scenario within the Practice Pole. The RSPB is shown as the macro-actor representing other influential wildlife organisations who are also macro-actors, in terms of translating empirical information and expert knowledge held by various specialists into the content of the UK Biodiversity Challenge in the Scientific Pole.

The Biodiversity Steering Group acted in an advisory capacity for biodiversity-related national groups in the institutional pole and also provided information and data that is held in the UK Biodiversity Action Plan. The Steering Group promoted the concerns of the various macro-actors involved with it, that is, representatives of

central and local government, businesses, communities, academic bodies and voluntary conservation agencies. These actors translated the concerns of human and non-human actors shown in the top right hand side of the actor-network map, partly through the actors involved with the institutional framework, into the content of the UK Biodiversity Action Plan. The 'environment protected' pole is that of a 'conserved and enhanced biodiversity within the UK' and consequently a contribution made to global biodiversity through the enhancement of the UK genetic resource.

Key to achieving the UK environment that actors are seeking to protect and enhance is achievement of meeting habitats and species targets on the ground across the UK. The curled arrow represents the cascade of national to local thinking on biodiversity planning as county's were asked to take on board the task of producing LBAPs. Here Agenda 21 and principles for sustainable development and the associated groups that developed at local level acted as a *dispositif* or device for action. As has been shown in the case of Oxfordshire, the LA 21 networks joined forces to achieve a constructive partnership in terms of developing the county BAP.

This actor-network map incorporates actors who are distant in terms of time and space and texts that have been produced at the global level. It should be viewed as a three-dimensional diagram with the top left hand side containing global actors and texts being set back in time, and the protected environment pole being at the forefront of the diagram. ANT is highly useful here for allowing an exposee of the network linkages between what would otherwise be points that are far apart but brought closer through production of key intermediary texts that hold actors in place through relatively stable relations. This map shows how Callon's (1991, p.141) ideas on how actors take the last generation of intermediaries (in this case, global and national texts) and transform these to create the next (Local Biodiversity Action Plans). Oxfordshire's LBAP incorporates the past translations that have stemmed from national and international texts in its content relating to particular targets for habitats and species.

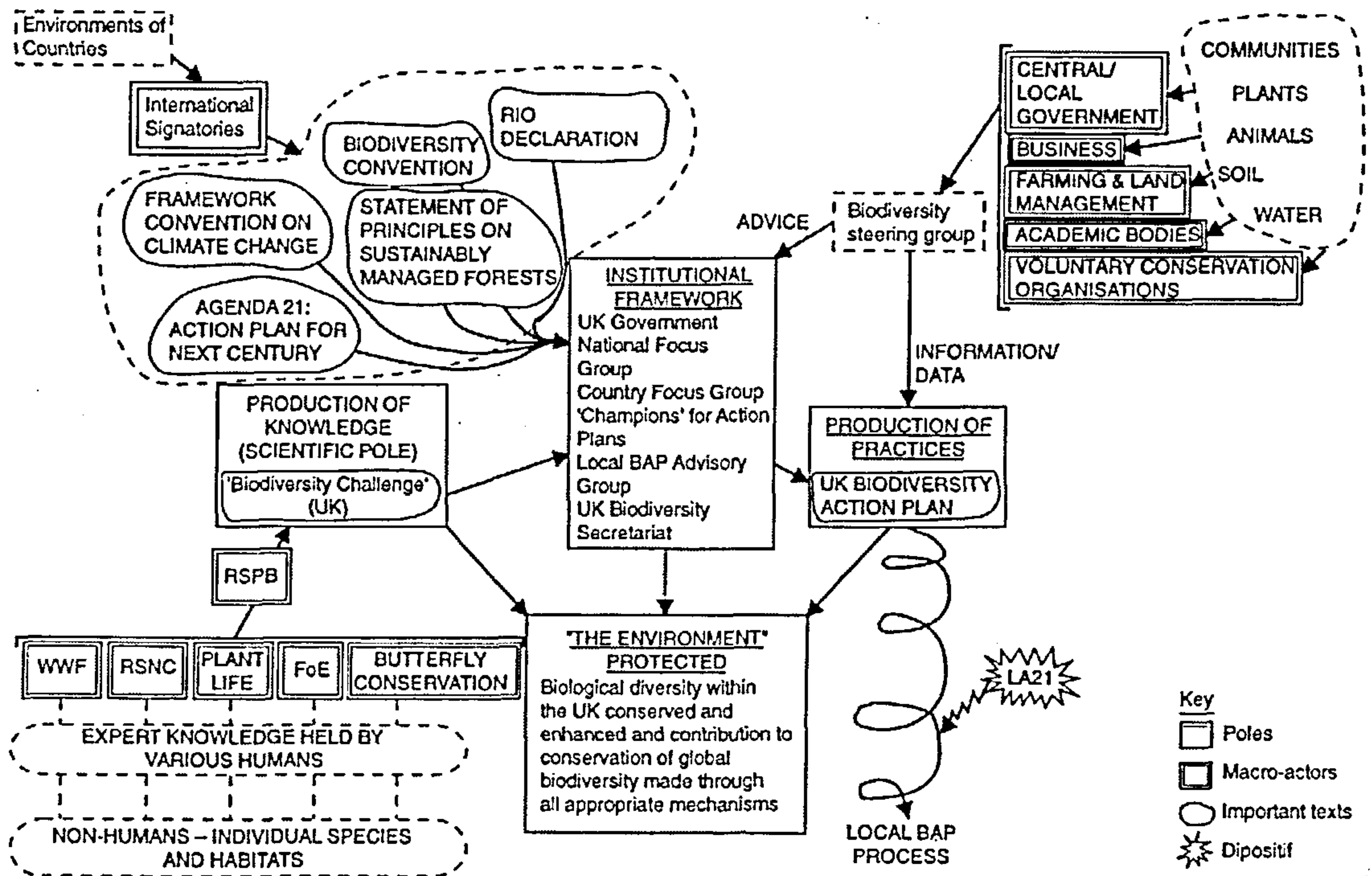
Figure 25 illustrates the how the Oxfordshire biodiversity planners formed a network around the production of the practice of the LBAP. This diagram represents more than one moment of translation since it includes key biodiversity texts – it could be imagined as having superimposed layers representing different moments in time, for example, the network that stabilised around the Biodiversity Challenge initially and later the translation of the aims of the Challenge into actions for species and habitats in the LBAP. However, the exact details do not matter here – the author is merely trying to convey what types of actors were involved in the process, at what stages and the type of nature that actors were aiming to protect. More detailed diagrams could be produced for exact different ‘moments’ in time where actors had signed up/bought into agreements (network stabilisation), but the idea is to show how this framework can generally be applied in this context.

On the left hand side of the drawing are the many actors who are representing non-humans in terms of contributing their knowledge and empirical data to the ‘production of knowledge’ or ‘scientific/technical pole’. For example, Pond Action is translating the interests of ponds and water features; the Thames Valley Mammal Group is pioneering the interests of mammals; and, the British Herpetological Society is speaking on behalf of reptiles. Through many meetings, the interests of these actors are then represented by BBONT and RSPB as macro-actors in terms of producing the Biodiversity Challenge document, and their interests feed into the production of knowledge on species and habitats within Oxfordshire. Regarding the institutional pole, this links to Figure 24 (the curled arrow) as the Biodiversity Convention is translated through the UK Government (and bodies shown in the institutional framework in Figure 24) to demands on local authorities to produce local BAPs.

On the right hand side of the diagram, is the network surrounding the practice pole in relation to producing, two years later, Oxfordshire’ Biodiversity Action Plan. Here, the Biodiversity Link Group became the key macro-actor through the joining of LA21 groups and Working Groups of the ONCF. LA21 was incorporating strongly the voices of communities and other aspects of the environment other than biodiversity. ONCF was largely representing the interests of elements of nature. Agenda 21 here is shown again as a *dispositif* in that it engendered action in relation

to sustainability principles but existed outside the stable linkages of this particular biodiversity-related network (aside from the LA21 group that was directly involved with the writing of the LBAP and Biodiversity chapter in the LA21 document). Current thinking on biodiversity science could also be seen as a scientific *dispositif*, for example, landscape ecological principles and population ecology, although this is not shown in the diagram. The 'environment protected pole' here is the vision stipulated in the LBAP of 'thriving communities of plants and animals' in Oxfordshire. This is further forward on in time than the other network elements, and is hard to measure, although for individual species and habitats and the sub-networks that exist behind them it should now, in 2006, be possible to assess the extent to which elements of nature have cooperated with the network aims.

Figure 24: Key actors and intermediaries in the national and international biodiversity planning arena, and the cascade to county level planning



(Adapted from Selman and Wragg (1999a) Local Sustainability Planning: From Interest-Driven Networks to Vision-Driven Super-networks?)

#### 8.4 Summary of County Biodiversity Planning Activities in relation to ANT

The research work provides clear evidence of the way in which new actors were enrolled into first, the *concept* of the production of biodiversity plans; and secondly, the *development* of them through participative consensual processes. The narrative above includes evidence of the ways in which the production of scientific knowledge or the technical pole was enhanced within Oxfordshire through the work of amateur volunteers in terms of monitoring; English Nature; the Environment Agency (or former NRA); BBONT; RSPB and specialist wildlife or conservation groups in the county. There is evidence for institutionalisation of the biodiversity planning process from the ways in which organisations such as the Environment Agency began to adopt the idea and link their responsibilities into the county BAP; similarly, with Severn Trent Water and AONBs which were managed by the (then) Countryside Commission. In theory, all those actors in the negotiative space of ONCF inputted into the institutional pole through the very fact that they had been involved in producing the LBAP and through voicing the concerns of different humans and elements of nature. Generally speaking the achievement of recognition of the views of all actors and the interests they represent was found to be the prevailing ethos in this consensual network-style politics, as one interviewee put it,

“The biodiversity process is very consensus driven with measured ways of getting over conflict. Biodiversity facilitators help common ground to be found within partnership. Not the place for big conflicts” (I14).

In relation to the production of practices, the HAPs and SAPs (the more focused and localised off-spring of the LBAP) were key documents within the practice pole, the intentions of which were later carried forward by many different actors on the ground as was deemed appropriate by the network of biodiversity planners. These represent the final outcomes of the LBAP process although there are key agreements that aid their implementation, for example, the existence of SSSIs or Local Nature Reserves, or regulations stemming from the EA or Government Departments which act as policy hooks, and agri-environment schemes. These may be non-negotiable network ‘spaces’ – in other words, prescriptive. They could be seen as forces of translation

that act in one direction as the ONCF activities would have to respect these and was also able also to use them to their advantage in their biodiversity planning activities. The ONCF could not directly alter them although lobbying is part of its purpose.

In terms of the type of nature that is protected, the documentary analysis work illustrates some of the debate around elements of nature that were prioritised within first the Challenge document, then the LBAP, and then Habitat and Species Action Plans. Some of this was given, for example, via the red data book, and some was negotiable within the county, for example, via advice from local species experts, and through community surveys such as parish plan production. There is evidence that nature is planned for and managed via Natural Areas planning; county LBAP SAPs and HAPs; SSSIs, agri-environment agreements such as ESAs, Organic Aid Scheme; Habitat Scheme; NSAs; Moorland Scheme and Nitrate Vulnerable Areas also, via SSSIs; water regulations; Catchment Management Plans and LEAPs. There are other examples too. Each of these in itself represents a nature conservation planning network. These may involve few actors, for example, a landowner and government agency in the case of the Organic Aid Scheme, or may involve many actors such as or a number of government agencies, local authorities and NGOs that work in partnership through consultation mechanisms in the development of LEAPs.

The key point is that the ONCF has proved to be a very important negotiative space both in relation to the production of the LBAP and associated HAPs and SAPs, but also in terms of the way it links into more prescribed nature conservation arrangements. The use of ANT and principles from the sociology of translation has enabled a detailed exploration of the linkages that stem from following the actors within ONCF and their activities over several years and allowed the machinery that exists in terms of network linkages to be explained.

The author will now proceed in Part B of this Chapter to give further illustrations of the way that ANT can be used to uncover the processes within two micro-networks that may be seen to be under the 'umbrella' of the ONCF and that are worthy of attention in this research.



## **PART B: EXAMINATION OF TWO MICRO-NETWORKS LINKED TO THE BIODIVERSITY PLANNING NETWORK IN OXFORDSHIRE**

### **8.5 Introduction to Part B of Chapter Eight**

Two projects emerged as being of particular interest through the course of the research process, both in terms of their biodiversity-related aims and in terms of their 'new' approaches to building a consensus/agreement over landscape management. Both the projects were breaking new ground in relation to the way conservation was to be carried out, that is, in relation to landscape ecological principles and social/institutional co-operation, and in terms of putting across the philosophy behind these approaches. Cameos of each follow which give some background to the development of each of the projects and organise information from the document analysis and participant observation at meetings, and interviews around the four poles of 'Production of Knowledge (scientific/technical)'; Institutional Pole; 'Production of Practices'; and 'The Protected Environment'.

### **8.6 The Four Parishes Project (FPP)**

One local project in Oxfordshire, instigated by the Habitats Working Group and also involving the Parish Plans and Land Managers Working Groups was the Four Parishes Project (FPP). This provides a clear example of how the sociology of translation and principles derived from ANT can be a useful tool for examining the processes that lead to stabilisation of a network of local actors around a voluntary agreement. The Project is analysed in terms of who the key actors were that contributed to each of the four poles and the way that they became enrolled into the idea of producing a voluntary code of practice around hedge management.

#### **8.6.1 Development of the Project**

Whole Farm Plans (WFPs) were an initiative in which farmers engaged with developing a conservation plan for their whole farms. These could involve development of ponds; changes in hedgerow and verge management; planting/management of small woodlands; identification of key species and areas of valuable, or potentially valuable, habitat. From the mid-nineteen nineties the idea of Whole Farm Planning was gaining momentum and FWAG was working with English

Nature and the Vale of White Horse District Council to this end. In fact Whole Farm Plans were becoming so successful in terms of take-up in Oxfordshire that FWAG Officers were over-stretched.

FWAG organised meetings with farmers and at the end of 1996 it was reported that farmers were still 'on board' with the idea of whole farm planning. New hedgerow-related legislation was being introduced and a meeting was planned with a CPRE representative from ONCF and those actors concerned from the farming community to allay fears over what this would entail. Methodology for hedgerow surveys and a code of good management practice was drawn up from the series of meetings (Minutes of Habitat Working Group, 29/11/96). WFPs were being linked in with the Natural Areas approach and where WFPs had been drawn up within Prime Biodiversity Areas, English Nature was funding 50% of the costs of WFPs, allowing the work to be more targeted.

Concurrently the initiative of Parish Conservation Plans (PCPs) was taking off within the county. The idea of PCPs was outlined earlier under the activities of the Parish Plans Working Group (Part A of Chapter Eight). PCPs was one of the projects stemming from the Nature Conservation Strategy for Oxfordshire (1993). The aim was to encourage local communities to prepare a PCP for their area, with the aim of advancing Local Agenda 21 (again LA 21 here was a *dispositif* for action). At its simplest the PCP was a basic record of all the interesting habitats and landscape features which can be found in an individual parish thus providing a snapshot of the countryside in each locality.

In order to develop some 'joined-up-ness' in landscape and habitat planning on the parish scale, and also to fit in with the larger scale Natural Areas approach, the Four Parishes Project (FPP) was developed which married together aims of WFPs and PCPs and focused on hedgerow management (refer back to Figure 16 which shows the wider network from which the idea stemmed). The parishes involved were located adjacent to each other in South Oxfordshire. This essentially was a joint conservation initiative by local farmers and the community. Farmers of Brightwell cum Sotwell, North Moreton, South Moreton and Little Wittenham parishes joined forces to

produce a *voluntary* code for good hedge management with the aim of encouraging greater numbers of farmland birds, butterflies and small mammals over the whole area, and also improving local landscape: ‘this unique partnership between Parish Conservation Plans (PCP) and Whole Farm Conservation Plans will help to ensure that some of our most important local wildlife and landscape features can be identified and carefully managed for future generations to enjoy’ (FWAG and Farmers, 1999).

The County Ecologist for Oxfordshire County Council played a prominent role in terms of representing the Council’s interests in nature conservation planning, was heavily involved in ONCF activities, and was responsible for drawing together the Nature Conservation Strategy. The Ecologist worked with district councils and local communities (including landowners), and biodiversity interests were a prime concern. In addition, he chaired the Local Authority and the Parish Plans Working Groups. He had already been working quite heavily on PCPs and WFPs (in conjunction with FWAG) and had approached FWAG to see if there was a way in which the two approaches could be combined so that local communities would be involved in survey work and at the same time farmers could be involved by making use of that information through WFPs (i4). He also approached a newly-established but well-organised Environment Group in Brightwell-cum-Sotwell at the start of the initiative. An influential farming couple, one of whom was also a key landowning representative on the ONCF were on the committee of this local group and played a key role in terms of generating enthusiasm for conservation in the local environment at grass roots level. Concurrently, two key FWAG representatives talked to landowners in the parishes. There was general agreement about the principles of the project so work commenced.

#### 8.6.2 Activities related to the production of scientific/technical knowledge and overall vision

The emphasis in preparing a PCP was on local knowledge, rather than outside expertise: ‘As mentioned previously, you don’t have to be an expert. You may not be able to identify all (or any) of the species in the ancient hedgerow, however, you should be able to recognise the fact that it is extremely varied compared with the majority of straight, enclosed hedgerows dominated by just one or two species.

Having located a potentially valuable habitat you may be able to enlist the service of a local expert to help you over the identification hurdle' (Oxford Rural Action for the Environment, undated).

Figure 26 shows the stages presented in the PCP Guidance for preparing a basic PCP.

Figure 26: Stages from PCP Guidance for preparing a PCP.

- (i) Prepare or obtain a 1:25,000 scale base plan of your parish
- (ii) Mark in land use; woodlands; hedgerows using aerial photographs (or field surveys if you prefer)
- (iii) Involve the local community
- (iv) Mark on definitive public rights of way
- (v) Organise local surveys to provide more detail using record sheets
- (vi) Use information to prepare PCP/walks leaflets/management projects
- (vii) Forward copy of the base plan and record sheets to county ecologist to assist in preparation of Parish Conservation Register of the county

*Source: Oxfordshire Rural Action (undated) Parish Conservation Pack*

The suggested survey projects in the PCP pack were for woodland/scrub; hedgerows/stone walls; grasslands; ponds/wetlands; churchyards; disused railways; canals; golf courses; rivers and streams; parks and playing fields; old quarries; and, animal species. The PCP Pack also stressed the importance of enlisting the support of landowners before surveys can be undertaken around any given parish.

The Brightwell cum Sotwell Environment Group was persuaded that the first major activity involving survey work should be a hedgerow survey, and local landowners agreed for this to take place on their land. The local Environment Group then organised themselves methodically and systematically into sub-groups to collect relevant data and here members of the community were enrolled in a voluntary capacity to contribute to the production of scientific/technical knowledge through collection of empirical information.

At this point the expertise of an environmental scientist, who was both involved with the Forum - particularly with the Habitats Working Group, had been responsible for

writing parts of the LBAP, and was a member of CPRE, was brought in. She was able to transfer her knowledge on species and survey design to developing a CPRE hedgerow survey in the county as a need had been identified for hedgerows to be surveyed more professionally. The survey continued to rely completely on the work of volunteers, but energy was put into giving them training, which enabled good empirical results to be obtained aimed at answering the questions under the Hedgerow Regulations as they were stipulated at this time.

Subsequent to this, the Brightwell cum Sotwell Environment Group collected data for a preliminary farmland bird survey, garden ponds, butterfly survey and survey of ditches. The Environment Group had studied recommendations of the *Biodiversity Challenge* (BBONT, 1996) and took these into account in designing species and habitat data collection methods.

#### 8.6.3 Institutional Pole

There were various links between the FPP and institutions. Hedgerow protection was aided by information collected by hedge-daters which was passed to local authorities to ensure that as many hedgerows as possible were saved. The environmental scientist then recommended that the Oxfordshire CPRE survey format should be used in the FPP as it had proved very successful, so a practice that had been accepted within an organisation was drawn on. The Northmoor Trust helped with the training of volunteers from the Brightwell-cum-Sotwell Environment Group.

#### 8.6.4 Production of Practices

The Hedgerow Regulations were fully introduced in 1997 and meant that anyone who wanted to remove a hedge had to obtain permission from the local planning authority; hedgerows deemed to be important were protected and heavy fines were imposed on anyone flouting the law. An article in *The Independent* (23/03/98) stated that, 'the CPRE was critical of the laws, fearing that they would save one in five hedgerows, but was relieved at the Government's proposed increase in protection' (the Regulations have since been revised). This was an example of a 'policy hook' that was prescribed and farmers had to comply with this legislation. The activities of environmental actors were aimed at raising farmers' awareness of the importance of

hedgerows and enabled them to develop their own code of practice in their own negotiative space that was, however, hooked onto policy.

Brightwell cum Sotwell was the first parish to complete the hedgerow survey in the summer of 1996 and acted as a pilot for the Four Parishes. A key actor in the local environment group then spoke to South Moreton parish to enable them to commence their work and continues to motivate the other parishes to complete their surveys.

The key localised practice to emerge from the process was a hedge management leaflet. This was produced by local farmers and the Environment Group, in conjunction with FWAG, and was essentially a voluntary code of practice for hedge management within the Four Parishes. The farmers were seen as having 'ownership of the document'.

Thus, various conservation initiatives led to the production by land owners themselves of the Hedge Management Leaflet: these being the PCP initiative from the Oxfordshire Nature Conservation Strategy; the WFPs advocated by FWAG (on the invitation of landowners); the established lobbying by the CPRE on hedgerows, and, the large volume of data collected by volunteers; the Environment Group of Brightwell cum Sotwell; and, the introduction of the Hedgerow Regulations at national government level. Brightwell cum Sotwell PCP was finalised in March 1998.

#### 8.6.5 Nature Protected

In this case the Nature that was protected was the habitat formed by hedgerows that were managed in a sensitive way that would ideally also aid the conservation of associated species. Drawing on some of the principles of landscape ecology, the fact that hedges within four adjacent parishes were being managed to maintain and/or enhance biodiversity meant that species dispersal could be aided (if certain landscape ecological principles were operating in practice) since this resulted in a higher degree of connectivity between hedges and hedgerow trees across a local landscape.

### 8.6.7 Summary of activities of key actors in the FPP network

The key actors involved in the FPP are shown in Figure 27.

Figure 27: Key actors that were successful in enrolling farmers and local communities into the Four Parishes Project and production of Hedge Management Leaflet

Description of actor	Role of actor	Role of actor's organisation
<p><u>County Ecologist</u> (i4) <i>(Institutional Pole)</i></p>	<p>Land Use Planning, Environmental Services Dept, Oxfordshire County Council. Chair of Local Authorities and Parish Plans Working Groups. Dealt with the Nature Conservation Strategy for Oxfordshire.</p>	<p>Environmental Services is responsible for planning, especially in relation for Structure Plans, minerals and waste planning and County Council property.</p>
<p><u>CPRE voluntary worker and environmental scientist</u> (i12) <i>(scientific pole)</i></p>	<p>Palaeontologist. Described in <i>The Independent</i> as 'hedgerow coordinator' for CPRE's Oxfordshire Branch. Also edited LBAP. Involvement with LBAP is as an individual rather than CPRE representative. Chair of Forum Habitats Group.</p>	<p>Preservation of the English Countryside. Lobbied for hedgerow regulations to be revised.</p>
<p>Influential local landowner (i9) <i>(countryside practice)</i></p>	<p>Chairman of FWAG and Vice-Chairman of CLA in Oxfordshire and Governor and Chair of the Berkshire College of Agriculture. Member of ONCF.</p>	<p>Independent countrywide voluntary organisation, charitable status, established by farmers and naturalists, grant-aided by MAFF, the (then) Department of Environment and Countryside Commission. Actively involved in promoting, facilitating and advising on good conservation practice on farmland and providing a forum for positive debate on agricultural and countryside issues. Emphasis placed on helping landowners identify valuable wildlife and landscape features whilst creating new ones, and adapting farming practices to</p>

		integrate them into overall farm management systems, e.g. through Whole Farm Plans and effective lobbying, see Cox, Lowe and Winter (1990)
Environment Group Committee Member (i10) ( <i>Scientific Pole</i> )	For Brightwell cum Sotwell Environment Group. Responsible for co-ordinating surveys and liaison with county ecologist. Previously worked with UN on Agenda 21.	Group formed 1995 through meeting organised by Rural Action. Has constitution and Committee. Aim to protect and conserve the parish environment through involving local people in a voluntary capacity. Undertaken surveys on hedgerows, garden ponds, water, garden birds, farmland birds. Produced <i>Parish Conservation Plan 1998</i> ) and assisted with the production of <i>Hedge Management Leaflet</i> (1997). Liaison with FPP Group (county ecologist, FWAG, farmers and volunteers) – fed into LA21 process.

8.6.8 Discussion of interview data and analysis of FPP and hedge management leaflet scenario in relation to ANT and sociology of translation

Through interviews with the actors outlined above, various pieces of evidence illustrate the nature of the consensus surrounding the production of the hedge management leaflet. All interviewees spoke positively about the leaflet and the FPP more generally: there was no indication of a challenge to the network, or any dissidence, either from analysis of interview material or documentation. The nature of agreement was described in an interview with (i12) (1998) as,

“a verbal agreement – farmers have just been persuaded that it’s a good thing to do and I think that’s much the best way of doing things rather than getting people to sign pieces of paper – that’s the bureaucrat’s way of doing things”.

The spokesperson for the Environment Group (i10) spoke of the harmonious relationship between the group and landowners:

“it’s very worthwhile having the farmers and conservationists actually meeting and discussing and we’re all very friendly with each other. The



farmers are looking to us to help over support with the community, and similarly it helps us because they're quite happy for us to go and do our surveys and give input so we're working together”.

- (i10) went on to speak about the Group's satisfaction with the document, “yes, very happy with the leaflet and we hope that a similar thing will come out with the ditches and PCP – we feel pleased with what we've done and what we've achieved”.

Thus all key actors here were unified in their satisfaction with the way that the elements within the network had worked in relation to Parish Plan and hedge management leaflet production. The scientific pole had been enhanced by the CPRE and Northmoor Trust training of volunteers which had resulted in rigorous data collection. The county ecologist believed that landowners had been enrolled successfully because of the influence of one key farmer (i9) who had links with all landowners in the parish, and that the grass roots approach encouraged more people to be involved aiding a sustainable dialogue between the local community and landowners. The Environment Group representative, (i10), had previously been involved at United Nations level in Agenda 21 planning so her experience brought the principles for sustainable planning down to a localised level. (i9), speaking on behalf of the farmers, stated that positive relationships between landowners and the community had been developed through fulfilling small objectives and, “not trying to change the whole globe overnight”, also, through the fact that there had been a discovery during the process that farmers' conservation interests and those of the local residents were the same. All actors spoke of the benefits of an informal and open approach to consensus building that edged bureaucracy out of the process and allowed local people to make decisions with advice from professionals as required. They also recognised the benefits of the voluntary code of conduct for hedge management that stabilised a network around a handshake rather than a piece of paper. FWAG advice had also been a crucial driver of the process.

At the Land Managers Working Group meeting in May 1998 it was reported that 50 parishes were working on PCPs and that there were many cases where these were

being combined with WFP. The FPP provided a useful model and was viewed as a building block for other groups of parishes that could develop similar joined up biodiversity-related initiatives across the county.

The stages of problematisation; *interessement*; enrolment and mobilisation can also be identified in this example. During the problematisation stage, the county ecologist put forward the idea that it was important for parishes to develop PCPs in groups so that blocks of land could be covered through linking in with WFPs in order to protect biodiversity at farm level. Selman and Wragg (1999b, p.659) state that 'the county ecologist, through ONCF saw the PCP as a way of achieving a degree of coordination in the 'wider countryside' rather than just with isolated sympathetic farmers'.

Relevant actors to persuade were the committee of the Brightwell cum Sotwell Environment Group and FWAG representatives. These actors then became convinced of the need to undertake a hedgerow survey in the area (the OPP). The common aims of the Whole Farm Plan and PCP might be seen as 'devices of *interessement*' in this example which '*interested*' diverse participants and merged multiple types of knowledge (scientific, amateur naturalist, practical land management etc.). During the enrolment stage, CPRE, the local community and landowners became involved. The production of the PCP and Hedge Management leaflet signifies the mobilisation of the landowners and local parishioners as consensus was established on issues surrounding the importance of hedges to the community in terms of their ecological and landscape value. It also signified the mobilisation of hedgerows as a habitat, and associated hedgerow species. These documents or practices might also be seen as the objects around which the network stabilised. The Forum's role in this situation was to act as a *dispositif* or device that stimulated action through taking forward the Nature Conservation Strategy's aims and objectives through the Parish Plans Working Group.

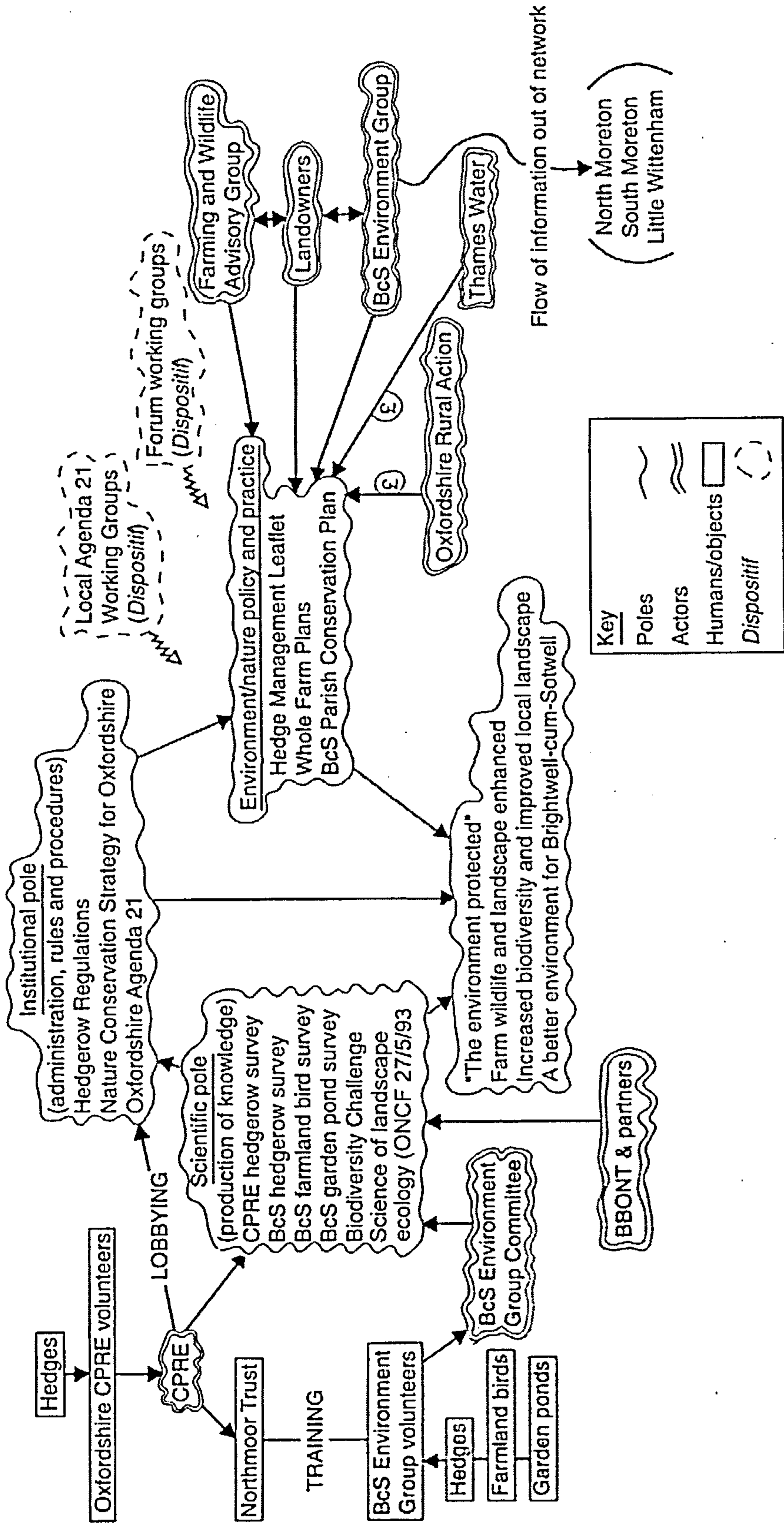
Figure 28 is a map of the actor-network for the FPP and indicates relationships between the key actors involved in contributing to each of the four poles; the interests they are representing and the elements of nature for which human actors are speaking. The Scientific pole comprises suveys by CPRE and Brightwell cumSotwell Environment group and information contained in the Biodiversity Challenge

document. The CPRE was an instrumental macro-actor both in terms of using its own volunteers to collect information on hedges and in training, via support from the Northmoor Trust, the Brightwell cum Sotwell Environment group volunteers which enabled them to translate the interests of hedges, farm birds and garden ponds into empirical data. Through consideration of the Hedgerow Regulations, the aims of the Nature Conservation Strategy (specifically the production of Parish Plans), and through linking into Local Agenda 21 which all form part of the institutional framework in this map, some key practices resulted, namely, the Hedge Management Leaflet; Whole Farm Plans and the Brightwell cum Sotwell PCP. This only happened with the impetus of some key actors around the practice pole which were FWAG; local landowners; the Environment Group and Thames Water and Oxfordshire Rural Action who provided funding. It can be seen in this case that the network stabilised around the intermediary text; provision of financial resources and personnel in the form of volunteer groups. A curled arrow in the bottom right hand corner indicates information flowing out of the network (which was, no doubt, acting as a *dispositif* in adjacent parish-related networks) from the Environment Group as they encouraged other parishes to follow suit.

Whether nature has been successfully mobilised in the longer term, and co-operated in terms of species spreading out along linked hedgerows is another issue. The County Ecologist (i4) remained cautious about the degree to which this model could spread,

“you know, I think it’s a model in ideal terms, and in a utopian world it’s a good model, but it takes a lot of time and effort to make it work like that”.

Figure 28: Actor-network map relating to the Four Parishes Project (Adapted from Selman, P. and A. Wragg (1999) *Networks of Co-operation and Knowledge in Wider Countryside Planning. Journal of Environmental Planning and Management*, 42(5)pp.649-669



## 8.7 The Upper Thames Wetlands Project (UTW)

In ANT terms, this example of a micro-network illustrates how a scientific concept, that of integrated catchment management, was problematised in order to try to *interesse* and enrol actors by encouraging them to accept certain principles in terms of approaches to land and water management. This represented an inter-organisational consensus about the threatened and discontinuous nature of wetlands in the area. Although there were many actors at work in wetland management in the Upper Thames, for example, the pollution control and flood defence work of the Environment Agency; voluntary and official nature conservation bodies (such as RSPB); parish councils; farmers; and, Pond Action, there was not a high degree of co-ordination. This is an example of the early stages in network formation and may be termed a proto-network (Selman and Wragg, 1999b). The network is examined in relation to the four poles of the translation constructivist approach employed in this research.

Interviews related to this project were conducted with actors who were representatives from the following organisations: the Environment Agency (i13); Pond Action (i11); Habitats Working Group (i3); ONCF (i1); English Nature (i7); FRCA (i6)

### 8.7.1 Development of the Project

This section contextualises the project and explains where the drive for it came from, and some of the philosophy behind it. Pond Action, which was a key macro-actor in developing this project, both scientifically, and in relation to examining current working practices in the area, is a small independent conservation consultancy housed within Oxford Brookes University, and tends to focus on small wetland areas.

The designation of the Upper Thames as an Environmentally Sensitive Area (ESA) was seen by actors within ONCF, and Pond Action in particular, as being an ideal opportunity for developing a wide-ranging project aiming to bring land management

and habitat creation into a co-ordinated focus for a landscape scale wetland creation/restoration scheme. The aim of the scheme was to create a wetland of international importance and to offer many opportunities that organisations working within the area had expressed interest in. To this end, the Habitats Working Group of the ONCF supported a Scoping Study to be funded by the Environment Agency (formerly NRA) and FWAG, and this was to be carried out by Pond Action. Pond Action initially had approached ONCF Habitats Working Group about the importance of ‘selling’ the concept of integrated catchment management since the NGO saw this as something that the Forum could actively promote. Integrated catchment management is a concept that has the potential to bring many benefits in wetland conservation and management and, according to Gardiner and Cole (1992), the objectives are, ‘to conserve, enhance and, where appropriate, restore the total river environment through effective land and resource planning across the total catchment area’.

Pond Action’s (1996) Scoping Study sought to establish which existing projects operated within the ESA and which actors would be interested in the future of integrated catchment management in this area. The UTW Project would extend over a larger area than the ESA and would not just be confined to the floodplain, however, it was planned that it would involve the ESA team. Thus the objective was to develop the concept of the Upper Thames Landscape Project (Information (undated) from the ONCS Habitat Management File). The project could be said to have been ‘championed’ by the Habitats Working Group (i11).

According to (i11), Pond Action read documents (e.g. strategies) produced by many actors operating within the area and then selected the most significant ones and interviewed key representatives from the associated organisations. Other actors were approached by Pond Action to find out about their views and activities, in writing:

“areas of agreement were then picked out. This started the process of network formation through starting the discussion process”(i11).

(i11) explained that, “Integrated management is what Pond Action are ‘hanging the project on’”, and “at present we are selling the concept of the project”. Technical

advice on the ground was seen as crucial, as was funds to employ advisers. Pond Action was aiming to put information across to advisers who might not necessarily have time to read policy documents. The amount of funding spent on administration rather than spent on the ground was a matter of frustration to Pond Action and more than one interviewee suggested that ESAs were not working effectively and that more action on the ground, rather than that put into monitoring would be beneficial. (i11) also stated,

“The real history to this in terms of Pond Action’s aims is that the organisation (Pond Action here) believes that to manage the water environment there is a need to manage catchments. Also we feel that technical understanding of freshwater biology does not feed into many bigger schemes - the way the land is managed is often not the most useful”.

When asked about the timescale for the project’s development, (i11) suggested that it would entail up to three years’ planning (at least eighteen months until there would be practical work on the ground), three years for catchment-based land management for wetland creation, and five years for implementation after that. So, this was a longish-term fairly radical project proposal.

### 8.7.2 Characteristics of the Area and Current Water-related Problems

The River Thames catchment above Reading, the ‘Upper Thames’, covers an area of 5400km square. This includes most of the county of Oxfordshire with parts of Berkshire, Buckinghamshire, Northamptonshire, Warwickshire, Gloucestershire and Wiltshire. It was only during the last sixty years that land drainage meant that arable agriculture had replaced the wet grassland that used to be predominant (through annual flooding), ‘for example, only 500ha of ancient riverside grassland remains in a floodplain of 20,000ha, and even though there are many remnants of semi-natural habitat scattered throughout the region, often protected as nature reserves, many of these are still threatened by the intensity of land and water management in the surrounding ‘industrial’ countryside’ (Pond Action, 1996, p.5). Rivers have suffered from pollution and drainage and as pastures have been replaced by arable land much of the remaining buffering capacity of the catchment has been lost. Also, in steep upper catchment areas, the conversion of grass to arable land has led to increased

sediment flows into streams, ditches and rivers. There consequently are problems with river flows. Technical solutions, e.g. dredging, are used to abate many of these problems. A return to less intensive land management was seen as a potential solution to ameliorating some of the problems.

The development of the network is now examined in relation to the four poles.

### 8.7.3 The Production of Knowledge or Scientific/Technical Pole

As explained above, there was increasing interest in more integrated approaches to catchment management as more 'natural' approaches to dealing with flooding and water had been put forward from a scientific management perspective. This represents a move away from traditional 'technological' solutions such as flood defence schemes. In 1996, however, even the EA did not have plans for catchment management that fully integrated land and water management. A key aim of the UTW Project was to develop a large-scale Integrated Catchment Management Demonstration Project of national and European significance. This was seen to require close collaboration between the ONCF, (former)NRA/EA and other organisations in the Upper Thames, working closely with landowners. To this end, in 1997, Pond Action, through the Scoping Study undertaken, produced a draft document identifying three main strands of project that would (ideally) need to be developed simultaneously, which were, according to (i11):

“development of demonstration of integrated catchment management; a diffuse pollution demonstration project with subcatchments being buffered; and, habitat creation with the production of a plan of the best areas for this”.

(i3) explained that the scientific and 'new' water management ideas stemmed from some internationally-based activities related to fairly large scale improvements in water management for nature conservation,

“you could say that the river restoration project was the first one certainly that I was involved with and that had three sites - one in Denmark - two in the UK. One was the River Cole which was just on the edge of our area and one on the River Skerne which is in Darlington, and those projects were funded by the Agency, the (then) Countryside Commission, and, .....oh well, it was EU



money principally, but there were other partners in this country. And that was not quite as large scale as the Upper Thames area that we've covered, but it was looking at rivers as large entities, with their adjacent floodplains and drainage basins, in fact, land use management internationally is considering the basin right up to the top of the watershed as a water management unit. This is also happening in the States, and I'm involved in Mexico for instance - it's happening all over the place"

(she emphasized that Britain had been pushing the approach at a strategic level for years). This statement indicates the large scale and ambitious nature of the proposals for full integrated catchment management within the Upper Thames.

The new approaches to catchment management were developed from the early nineteen-nineties onwards and, according to interviewees, there was forward thinking in the late nineties to the more recently developed EU Water Framework Directive and associated legislation, under which it was anticipated that there would be more of a whole-basin approach to water management. These concepts now (in 2006) are starting to come to fruition through adoption of certain principles by water agencies across Europe through the development of River Basin Development Plans.

In relation to generating new data which would provide scientific evidence, (i3) explained how volunteers were beginning to be used more strategically and effectively by ONCF,

"we're particularly interested in the water side of this - we've got a group. We've got a little bit of support from the local part of the Environment Agency, and Thames Water have helped us get some water level boards, and we're going to just evaluate how volunteers can go and look at specific water levels and read them on a weekly basis so that we start to get involvement in observational work - a bit like the ornithologists - the ornithologists would say 'we know exactly how to do this', well we want to use some of their skills - and they've been very helpful - in terms of beginning to develop things in the non-ornithological area so that's where we're starting - so that's another project".

The first stage of the Project (i.e. the Scoping Study) was not designed to generate primary data but was only aimed at collating secondary data. It was a synthesis and a conclusion developed from examining the activities of different organisations, including those of the organisations that paid for the project (Pond Action's data, the Environment Agency's data and FWAG's data). Stage Two aimed to generate primary scientific data but the practical limitations (such as financial constraints) were acknowledged by interviewees:

“there's never ample funding for anything really - in any context - even if you do it within the statutory bodies there's never enough money for R&D - so there's always a limited resource and there will be with this but this will be designed (because we're always very experienced at managing limited resources) in line with the resources available - and the resources that are available for this phase that we're doing at the moment are coming from one of our constituent bodies and that's the Northmoor Trust - the Northmoor Trust is making available a person to undertake a PhD based at Oxford Brookes to look at the modelling side of integrated catchment management. Pond Action is making available some of its people to work on this.”(i3)

This is interesting in that the drawbacks of insufficient intermediaries in the form of funding and personnel were recognised as a limitation to developing a strong network around the concept of integrated catchment management.

The greatest amount of survey work in the area is undertaken by EA as part of its statutory monitoring programme. This generated a significant part of the wetland database for the area. The EA was also carrying out R&D work on headwaters. Another important major body of biological data in the area was species distribution information collected by amateur naturalists and professional biologists, and collated by the County Records Centres. According to Pond Action (1996, p.10), this data was only available until recently in the form of summary species distribution maps, such as those published by the Oxfordshire County Records Centre for dragonflies, water bugs and freshwater molluscs but more records have become available now with computerization.

In terms of wetland research in the area, EA, EN and universities and research institutes in the area (including Oxford University, Oxford Brookes University, Reading University, Institutes of Hydrology and HR Wallingford) all had (at the time) programmes of research on practical aspects of local wetland management. Examples included research into buffer zones, nutrient pollution, field margin habitats and river hydrology .

Also, Pond Action began its national programme of pond conservation work in Oxfordshire and proved to be a key actor in the development of the wetland conservation site at Pinkhill Meadow and for the River Restoration Project demonstration site at Coleshill. Pond Action (1996, p.23) states, 'there is increasing evidence that ponds not only provide habitats for a very wide range of wetland plants and animals, but that the creation of small pond and wetland complexes can make a significant impact on regional biodiversity. Pinkhill Meadow provides a clear demonstration of the benefits of this approach to habitat creation. On this one site 20% of British wetland flora has been recorded in four years, along with about 20% of all British macroinvertebrate species'. The site has also become valuable as a breeding habitat for Little Ringed Plover and Redshank (Biggs et al, 1995). Pond Action (1996, p.34) also emphasises that 'recent research suggests that temporary ponds, springs, flushes, ditches and gravel pits may be a more important source of biodiversity than was previously recognised. For example, recent comparisons of invertebrate species richness in ponds and rivers suggests that ponds may support as many species as rivers, and significantly more rare species'.

A number of areas of consensus were identified by Pond Action's Scoping Study in relation to the gathering of empirical data. These were the need for greater coordination and integration of data management (recognising concerns from ONCF, EN and BBONT); interest in species distribution data and information about rare (Red Data Book) wetland species within the area; and, the need for GIS use to computerize environmental data for the area, 'Even in hard copy, environmental datasets will be required by all organisations, for example, Alert Maps and rare species distribution data' (Pond Action, 1996, p.21). Opportunities for targeting enhancement, modelling, and predicting effects of habitat creation and identification

of areas where buffer zones could be established to improve water quality were other areas where GIS was seen as being potentially beneficial and ONCF had already initiated a project to develop GIS capability.

A representative of the EA (i13) explained the importance of Pond Action's scientific data in relation to its validity,

“overall we think their reports are excellent - they're very good scientifically - they're very robust in terms of the scientific method”.

Thus the scientific data was accepted as being a good translation of concepts and evidence and was a key lynchpin in terms of the *interessement* of other actors.

At this time, water monitoring was almost entirely the responsibility of the EA and was mainly focused on larger rivers and streams. There was not a statutory requirement for monitoring other wetland areas, and funding was a constraint for other organisations, so smaller wetland habitats were not monitored systematically. Monitoring was deemed to be crucial in terms of target-setting and in helping to identify pollutant sources and, therefore, was seen as a major stimulus for wetland protection and enhancement, ‘it is likely that, as has occurred in other parts of Britain, the quality of some of these habitats (ponds, small streams, wet grasslands, fens, marshes, or temporary waters) has declined even though they have been protected as nature reserves (Pond Action, 1996, p.34).

To summarise the developments occurring within the scientific pole at the time, the idea of integrated catchment management and the principles it involved was very forward thinking and to be fully carried out would involve some very radical changes in water management. There were some useful demonstration projects in existence such as on the River Cole and at Pinkhill Meadow and a wealth of data on water management, water habitats and water quality held by Pond Action, the Environment Agency and research institutions. There was a consensus between actors relating to the need for more scientific data sharing. However the resource constraints of developing the approach fully were well recognised by the actors who sought to promote the concept as holding the research process back, and consequently the

'ideal' of achieving full integrated catchment management for the Upper Thames Wetland.

#### 8.7.4 Institutional pole

This section examines the degree to which wetland conservation and integrated catchment management was being institutionalised as accepted aims. Many organisations and individuals were involved in wetland conservation and management in the Upper Thames, ranging from EA's programme of pollution control, fisheries management and wildlife conservation, through to SSSI management by County Wildlife Trusts and English Nature, and also to parish councils working on individual pond management projects or farmers managing ditches and small streams (Pond Action, 1996, p.9).

The Scoping Study by Pond Action revealed a considerable degree of consensus about the work required to conserve wetland areas amongst the organisations working in the area, thus the idea of wetland conservation had been institutionalised to some degree through acceptance by actors. The importance of targeting habitat improvements and undertaking habitat creation were becoming widely recognised (Pond Action (1995, p.2).

One interviewee commented on the interactions between different institutions and environmental planning networks operating within the area and stated that,

“Pond Action saw itself (then) as representing the Forum in taking a lead’, and that,

“the Environment Agency will also need to play a part in modelling catchments. FWAG is likely to be involved in terms of the Environmentally Sensitive Area and Countryside Stewardship. The planning bits/GIS will be undertaken at Oxford Brookes with BBONT, the RSPB and English Nature” (i11).

(i11) also made the point about catchment management in general that,

“There are many policies operating on a higher level but there is a large space which might be seen as ‘technical implementation’ between policy and the people on the ground. Support is needed for policies to be translated on the

ground that could be aided by closer communication on the ground. Detail tends to go up to policy makers too quickly and comes back down without going through 'technical/practical' people'.

This is an interesting statement as far as linkages between the institutional and practice pole are concerned in that although ideas such as integrated catchment management and wetland conservation may well be adopted in the rhetoric and policy-making machines of the institutional framework, technical support which requires resources was seen as vital if a difference was to be made on the ground.

(i3) explained that the project was being discussed at national level and three key organisations who had expressed an interest were RSPB, the World Wildlife Fund and the Wildlife Trusts' partnership, who were interested in the vision of a big project. In other words these institutions that were potentially important macro-actors in that they operated at a higher spatial scale were being *interested* into the idea through the promotion of the project and what it could offer in terms of demonstration.

(i3) also stated that within the context of the work and policy of ONCF on the Upper Thames Wetlands Project,

“if we're set up to improve and protect the Oxfordshire environment, then understanding what other people are doing to it is obviously very important. ONCF's policy for managing land and water would be the policy that the constituent bodies of the Forum agree on, so perhaps our policy (here referring to ONCF) is to make sure that our members are helped as far as possible to work together and not fall over each other and work in opposite directions which is one of the reasons for doing the Upper Thames (Scoping Study). This is very much a key thing for the Forum - how do you get all these very willing, earnest small and large bodies to work together and co-ordinate their work more so - people who are involved in regulatory change like the Agency and English Nature who are members, people who are interested in CAP reform and influencing CAP like RSPB who are members - they bring the wealth of that involvement and interest to us so we are very influenced by it but it's difficult to say we (ONCF) have a policy for land or water use”.

This is a significant statement in that it illustrates that the ONCF (and considering it as an institution here), although backing the Scoping Study, did not commit itself at this time to an unreserved viewpoint on implementing integrated catchment management. It is interesting that Pond Action took a more openly radical line but saw itself as speaking on behalf of the Forum. The ONCF role here is clearly stated as being the communication mechanism between its various members who were working in the area, in other words, again, a negotiative space for environmental actors to test and respond to new scientific ideas.

On the positive side, for the promotion of these new scientific principles, Pond Action (1996) found that there was a good deal of understanding and enthusiasm for the potential of integrated catchment management within the different organisations working in the Upper Thames Wetlands area. Integration of Catchment Management issues was noted by the EA as an important subject requiring more information and, 'although other organisations do not explicitly follow a catchment management approach, the formation of multi-agency consultation such as ONCF is, in effect, leading to the development of projects along integrated catchment management lines' (p.24). This, again, underlines the weight of ONCF as a network for negotiation.

Pond Action (1996) found there had been few cases where it had been possible to translate the potential for integrated catchment management into policy, perhaps because many aspects of wetland management cross traditional organisational boundaries, and with the exception of the EA, can appear beyond the remit of any one organisation. In other words it appeared to be a concept that was difficult to institutionalise although aspects of it were taken on board by some policy makers. So, because integrated catchment management involves managing many different aspects of the environment, Pond Action concluded that conservation organisations can find it difficult to grasp. A key aim of the UTW Project therefore, and an initial practical step in the 'right' direction, was to generate a multi-agency partnership that would work with landowners.

### 8.7.5 Examination of the key practices associated with wetland management in the Upper Thames Wetland area

In terms of the (then) existing plans of various organisations, Pond Action's Scoping Study identified the fact that many organisations have policies to promote the conservation of major habitats such as wet grasslands, gravel pit lakes and riverside woodland and scrub, and most propose greater coordination of data management. The Study found an absence of targets for improving minor wetland habitats such as smaller streams, ditches, temporary waters and ponds. Also, there appeared to be little active promotion of diffuse pollution control measures, e.g. widespread introduction of buffer zones to intercept agricultural run-off. Although most organisations recognise that a catchment scale approach is valuable, none (including the NRA/EA) at the time were actively promoting catchment management techniques that fully integrate land and water management. The establishment of the Upper Thames Tributaries ESA was of great significance in relation to water management of the area and was a key practice which has since been discontinued and replaced by new Stewardship arrangements. At the time of research some floodplain grassland was entered into the ESA scheme.

Essentially, wetland management could be divided into two categories in the Study Area, that is, the management of the sites of high nature conservation interests, for example, SSSIs, Local Nature Reserves, and, the management of the wider wetland environment. SSSI management is the responsibility of EN via Management Agreements or as part of the Reserves Enhancement Scheme, both of which provide funds for reserve management. The EA mainly manages larger rivers and streams but most of the wider wetland environment (as discussed above) is managed by individual farmers and landowners with advice, from organisations such as FWAG. Landowners were able to fund wetland management work by participating in schemes such as CSS and ESA. Therefore enrolling landowners into environmentally sensitive practices was key in terms of achieving positive wetland management and wetland recreation which represented just one aspect of the greater vision of integrated catchment management.



FWAG was a very important actor in terms of engendering positive actions from landowners and was promoting the need for buffer zones on all water courses, advising farmers to this effect, especially within parts of the Upper Thames Tributaries ESA scheme (Pond Action, 1996, p.21). FWAG provided general wetland conservation advice to farmers and landowners, for example Otter Habitat Projects involved discussions and voluntary agreements with landowners for habitat enhancement and staff of the Great Western Community Forest Project were developing plans in conjunction with landowners and local communities. Pond Action recognised that such approaches could be used to further their cause more widely in other parts of the Upper Thames area.

The Scoping Study found that every part of the Study area was covered by regional plans and initiatives of at least two organisations promoting wetland conservation, examples being, (then) NRA catchment management plans/(later)LEAPs; local authority Structure Plans and Local Plans; specific plans such as the Great Western Community Forests and the two ESAs. Pond Action found that the area was covered by about 20 regional plans or strategies that dealt with the environment and conservation, and to some extent wetland conservation and recreation. Many of these had consultation mechanisms built in. Thus there was a myriad of practices in operation throughout the area. Bringing these into a coordinated focus would be a significant task. In addition, the key actors RSPB, EN and BBONT were interested in the initiation of large-scale wetland schemes (Pond Action, 1996, p.22) and two areas in which catchment management ideals were seen as being potentially valuable and achievable by these were in firstly, integrating flood defence, land drainage and nature conservation and, secondly, integrating habitat creation schemes with pollution control measures.

The need to integrate targets between actors was seen as important in terms of making the best use of scarce resources. EN advocated targeting enhancements towards areas of high biodiversity where habitat improvements could extend key sites and habitat creation schemes could provide greater habitat diversity adjacent to key sites (building block approach). Habitat creation and restoration schemes were seen as being useful in linking two or more key sites to develop high quality habitat

corridors (Pond Action, 1996, p.35). Thus, although the whole vision of integrated catchment management might have been some way off, key actors were sympathetic to the overall aims and useful thinking was generated through the Scoping Study as to how to make efficient use of scarce resources in order to go some way towards more joined-up catchment management that adhered to the principles of landscape ecology.

(i13), in reply to the question as to whether there would be some link between the aims of the ESA and the UTW Project, said,

“yes I think so, I mean they’ll need to knock a few corners off things and a few corners off people who feel that jealously guarding their bit of the environment to the detriment of others they don’t want to collaborate or cooperate....there are always these people around - this is where the politics comes into it”.

He also spoke of the link between LEAPs and UTW Project in a positive way,

“so how does the UTW fit into the LEAPS, well it’s one of those things that we see as ‘developing’ and the LEAP process will support that development”.

Thus linkages between different practices were seen as a potential way forward at the time.

(i13) also spoke of the constraint of financial resources with regard to river restoration: “restoration and rehabilitation of land and water is a very expensive thing to do - we (the EA) participated in the River Coln rehabilitation project - you know the Coln near Swindon - well that cost us maybe £600,000 in the Thames Region and it’s for a relatively small length of river, putting back the riffles and pulling back the bends and that kind of stuff - it’s enormously expensive cos the heavy plant has got to be there for quite a long period of time; it seems a lot of money to do very little - a few hundred yards of bank. Those are the things that we’re trying to do as we go along -as we need to improve our flood defence measures we try to be more sympathetic to the environment, so, instead of having concrete or steel shuttering we try to make it a bit softer, and, in fact, may give some additional land back to the river in doing that”.

This statement more or less sums up the type of compromising attitude of many of the actors at the time, in that they were sympathetic to the aims and broad vision of the Upper Thames Project and integrated catchment management principles but were very aware of the reality of costs and resourcing such a visionary scheme. The sense of reticence found through the interview process was symptomatic of the difficulties being faced in terms of developing a strong network of actors who were prepared to fully embrace the idea within their institutional rhetoric at the time of data-gathering for this research.

#### 8.7.6 The development of the network

The development of ONCF itself was seen as providing an important opportunity for achieving wetland conservation and recreation objectives and for developing more advanced projects than had previously been thought feasible. (i13) explained how a network was developing around biodiversity and wetland conservation aims within the Upper Thames Wetlands and this was being partly secured through the intermediary of funding arrangements and through discursive arrangements:

“we (the EA) do many collaborative projects and this is how they start...

Obviously somebody's interested in developing something - I was appalled in the Thames Region - we hadn't got a lot of natural or semi-natural habitat left and we haven't done a lot about getting it back, so things like Pinkhill Meadow, well that's by Swinford Lock - on the edge of Farmoor - there's a small wetland been created, largely with Thames Water - their funding and some funding from us, and through contractors like Pond Action. I know the people at Pond Action really quite well, and a lot of the discussions we have generate ideas which generate things like the UTW project - there was a need to look at that carefully to see what could be done - see what the potential was'.

(i3) reinforced his view of the network in response to the question 'who would you see as the key people that are collaborating in the UTW?':

“well, it's the Nature Conservation Forum, but it's people like Pond Action - they've got all the data and their collection of data is excellent”.

This reinforces the significance of ONCF and Pond Action as being the key promulgating actors for the UTW network. Clearly negotiations with the NRA/EA

were important. Also there was foresight in terms of attempts to involve the public. (i11) explained that voluntary workers were important in relation to public participation,

“There is a meeting next week about voluntary workers who can provide a useful input into projects etc. An example of public participation might also be the Parish Plans. Ponds do have a lot of community interest. Projects where community involvement is likely are not far enough on yet in terms of being accepted”.

Thus, in the longer term it was hoped that the general public would be enrolled into wetland projects and associated networks.

A next step in the project was research that was to be undertaken by a PhD student based at Oxford Brookes to undertake modelling. (i7) elaborated on some of the research processes contributing to the scientific pole:

“a lot of restoration work will happen anyway irrespective of this (referring to the UTW Project) - all this might be producing is a large demonstration project possibly or whatever this PhD research student’s going to do - most of the initiatives that are going to drive wetland restoration for the Upper Thames are already happening, or the main bodies are in place, and it maybe just needs a few key sites to be identified where we can work together. In reality things are already happening - we’re (EN) working with RSPB at Otmoor to create a hundred hectare wet grassland and reedbed site so we’re already putting resources into major demonstration projects although in a way that’s not ideal because that’s land that’s not being returned to the floodplain - it’s still isolated from the floodplain. We’re also doing a feasibility study on the Upper Ray this year to look at the potential next year to do some major wetland restoration work but that’s actually mostly on a river just outside Oxfordshire - we’ve already been doing small scale wetland restoration for a long time”.

Again this quote indicates that there is a certain amount of ambivalence to the vision of integrated catchment management in the way that some actors believed that their organisations were already capitalising on the opportunities, and were focusing on the

potential for site-based approaches rather than a wider holistic vision for the whole area.

There was no doubt that numerous networks existed around wetland habitat and water planning and management, however, the interviews reflected the piecemeal approach to this with actors 'doing their own thing', although they did look for opportunities to work together. It seemed that the wider vision for a joined-up UTW project was essentially seen as a difficult goal to practically execute on the ground.

#### 8.7.8 Commentary on the type of 'nature' aimed for in the natural pole

The type of nature that the UTW Project was aiming towards protecting was a more 'integrated' one. The aims of this project concur with wider countryside planning approaches. Traditionally, wildlife conservation organisations such as BBONT and EN have concentrated on protection of high quality wetland sites but the large area of lower-grade wetland habitat outside nature reserves, managed by landowners for whom conservation is not necessarily top priority, contains many rivers and streams within the Project area. Together with springs, flushes, ditches, ponds and agriculturally improved floodplain grasslands these areas and features comprise a very sizeable wetland resource and the aim is to protect and improve these lower grade habitats so that they are integrated into the higher quality sites.

Thus the Scoping Study by Pond Action reviewed, 'the ways in which organisations with responsibilities for environmental protection in the Upper Thames believe wetland conservation should be developing in the region. It includes both the *actual* and *proposed targets*, and the *wishes* of organisations which have not yet been translated into policies or projects' (p.18). In relation to habitat and species protection, it was found that practices within the area were mostly focusing on the rarest species, wetland birds and otters. The Biodiversity Challenge for Oxfordshire, however, placed priority on the creation of Species Recovery Plans for wetland and aquatic invertebrate species (mostly dragonflies) and for a number of rare or declining wetland plants such as Marsh Marigold, Loddon Lily, Narrow-leaved Water Dropwort and Frogbit. Key bird species that were prioritised for protection were Lapwing, Redshank, Snipe and Curlew since they were target species for the Upper

Thames ESA. Thus biodiversity objectives linked in with the county Challenge and ESA aims. At the time, in 1996, conservation actors had not clearly identified the ways in which the work would be resourced. The Scoping Study found that few other species were considered specifically in organisational strategies although groups such as the Oxford Ornithological Society, the Botanical Society of the British Isles and the British Dragonfly Society were concerned with specific groups of plants and animals (Pond Action, 1996, p.19).

Almost all organisations identified the need for habitat creation and restoration with the aim of ensuring long-term enhancement of regional biodiversity. EN recognised that habitat enhancements were usually most effective where they built out from existing 'hotspots' and had identified two Prime Biodiversity Areas where enhancement work could be focused - the Oxford PBA and the Cotswold Water Park PBA (Pond Action, 1996, p.20).

Also, many organisations had already proposed creating extensive new areas of wetland in the Study Area, recognizing the conservation potential of larger areas of land where water levels could be more easily managed and mosaics of different wetland habitats integrated. RSPB and BBONT were interested in purchasing and/or managing an extensive new wetland, also the Great Western Community Forest Project (funded by the (then) Countryside Commission was encouraging the creation of floodplain woodland and other wetland habitats by encouraging take-up of existing grants. The Countryside Commission and EN were beginning to advocate area-based land management experiments with the aim of encouraging sustainable countryside management (Pond Action, 1996, p.20).

The EA wanted more habitat creation of riparian scrub and woodland in its normal programme of river corridor enhancement and for otter habitat projects. FWAG (via farm advice) and EN (in policies for Oxford Clay Vale) were encouraging woodland, scrub and hedgerow planting. Also, the EA was aiming to carry out in-stream habitat improvements in some rivers (e.g. Ray and Cole) and was trying to encourage more imaginative restoration of gravel pits by reducing their depth using inert infill in order to restore them to shallow wetlands. FWAG was also keen to find areas where the

integration of wetland habitat creation with 'typical commercial farmland' could be demonstrated, ideally demonstrating the creation of scrapes, ponds, reed beds, ditch management and examples of ESA grassland tiers (Pond Action, 1996, p.20).

Thus there was a good deal of activity concentrated in this area in terms of habitat creation spreading from key sites into the wider countryside around through different mechanisms, and, in many cases putting landscape ecological principles into practice. Some habitat recreation and recreation schemes were proposed for the Upper Thames area, for example, ESA land use changes, the Great Western Community Forest, Braydon Forest and Wychwood Forest scheme which were all seen as potentially beneficial to wetland water quality. The River Cole Restoration Project, although covering a small area of around 50ha was seen to be the initiative that approached integrated catchment management ideals most closely.

#### 8.7.9 Aspects of nature that were excluded from wetland conservation initiatives

Pond Action's Scoping Study (1996, p.23) revealed that a number of aspects of wetland conservation were not covered by the strategies of organisations. Ponds were hardly mentioned by other actors either in terms of their nature conservation importance or the need to protect them from pollution and maintain natural hydrological regimes. Also, temporary water habitats such as seasonal pools and winterbournes were not considered in any of the proposals reviewed despite them being some of the most valuable and vulnerable of freshwater ecosystems. Smaller streams and ditches were another neglected element of nature despite the fact that they made up three-quarters of the total length of water courses in the area. Pond Action was one of the few actors that spoke on behalf of these non-human entities which because of their size were often the wetland habitats that were first to deteriorate. However, although there was a great deal of interest in the potential of river restoration as a way in which wetland biodiversity could be enhanced, no organisation was actively promoting this means at the time. Small stream restoration was, in theory, seen to be potentially very beneficial since they make up such a large area of the drainage network. A truly integrated approach to catchment management would ensure the survival of these smaller water bodies.

#### 8.7.10 Summary of achievements of proto-network in 1999

Actors needed to become enrolled into the UTW project network if its scientific aims were to be progressed, particularly since an ‘integrated catchment management system was desirable but is rarely achieved’ (ONCF, 1998). However, from the outset actors failed to be strongly *interested*, apparently because of a sense that an umbrella project would add little to current activity, as well as having certain misgivings about its underlying science or practical feasibility (Selman and Wragg, 1999b, p.661).

Many actors felt that they were already acting on the ground to their full capacity and perhaps had a sense that the UTW Project was rather idealised, “At the moment it doesn’t seem to be any more than a thought process”(i6). Another forceful comment was that the LBAP itself was a more useful tool, with much more immediate value than a theoretical wetland research project; another felt that the UTWSS was a bit of a ‘wishlist’, some of which could be acted on reasonably swiftly but some of which was a distant prospect (Selman and Wragg, 1999b, p.661). (i7) stated,

“well I’m not sure that we’ve learnt any lessons yet from the Upper Thames Wetlands Project other than the fact that one can be very ambitious about large-scale restoration project through working in partnership with others - we’ll wait and see if they actually achieve anything though....’

Although the UTW Project had a somewhat lukewarm reception, it does adhere to being a proto-network (see Figure 29). Some of its aims are clearly coincident with important elements of the LBAP, particularly the idea of an internationally significant wetland embracing key sites with specific objectives related to various species of flora and fauna. As reported above one EA respondent had been ‘appalled’ at the condition of wetlands when he first began working in the area and consequently welcomed inter-agency discussion. A FWAG employee who had commented on an early draft of the Scoping Study in 1996 felt that the report contained impressive, systematic and logical steps that could be used to justify further projects. It seemed to be useful in ensuring whole catchment management including ditches and surrounding land use as well as larger water bodies. An EA spokesperson also suggested that the project could aid progress towards a more consensual approach since much of the then current situation was conflictual, especially with regard to



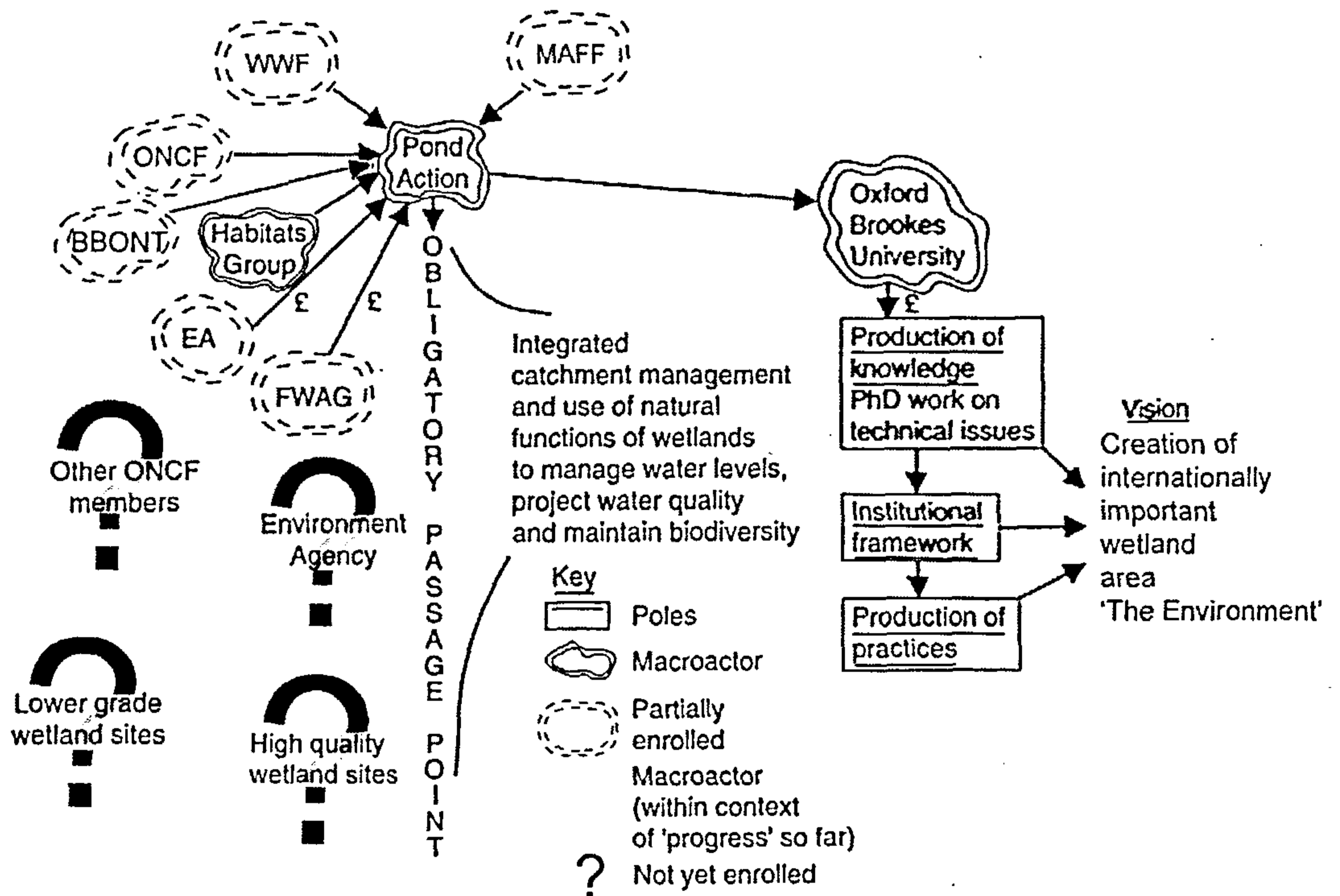
angling interests. An EN interviewee suggested that the UTW Project did appear to be having some influence in respect of water level management plans for Otmoor (a large area of unimproved grazing land East of Oxford), and that the UTWSS had helped integrate and focus the rather fragmented data relevant to the area (Selman and Wragg, 1999b, p.662). There was a view that was put across quite strongly by several interviewees that actors were already heavily involved in wetland management and would be continuing purposefully without the UTW Project.

Figure 29 shows the lack of network stabilisation around the OPP of integrated catchment management for the Upper Thames. The Habitats Working Group of ONCF, Pond Action and Oxford Brookes University appeared to be the only convincingly enrolled actors. Others were partially enrolled as can be deduced by the interview comments cited in this Section. Lower grade and high quality wetland sites are left out of current thinking in terms of integration. In terms of the vision of this project, the institutional pole and practice pole are left blank as, at the time of research, the ideas that Pond Action were trying to put across were not fully backed institutionally.

The author of this thesis reaches the conclusion on this actor-network that it lacked any compelling devices of *interessement* but remained loosely coupled and had been important in initiating some modelling work. At the time of data collection, no actor had formally withdrawn or sought to destabilise the network.

The next Chapter draws conclusions based on this research and the story(ies) presented earlier as to the usefulness of ANT and the sociology of translation in relation to examining the socio-politics of biodiversity planning.

Figure 29: Proto-actor-network relating to the Upper Thames Wetland Project and Principles of Integrated Catchment Management (adapted from Selman, P. and Wragg, A (1999) Networks of Co-operation and Knowledge in Wider Countryside Planning)



## **Chapter Nine: Conclusions**

### **9.1 Introduction**

This final Chapter draws conclusions as to the applicability and usefulness of ANT and the Sociology of Translation for examining consensual planning approaches for land and water management in the wider countryside. First, the ways in which the research objectives were met are briefly re-visited. This is followed by an evaluation of the usefulness of such approaches to this research context.

The overall aim of the research was to investigate the processes involved in consensus-based approaches to planning and managing the wider countryside. This was undertaken through following the activities of actors who were involved in the wider countryside planning network of Oxfordshire Nature Conservation Forum. This partnership was concerned with taking forward the aims of Oxfordshire Nature Conservation Strategy, the principal one being to establish a Nature Conservation Forum into the longer term, and the others being linked to environmental objectives to do with quality and amount of habitats and species; parish planning; and, education and awareness-raising. The ONCF represented an expanding consensual network space and performed very important functions through its Working Groups that took on various practical tasks. This therefore was a suitable situation for researcher immersion in terms of using methods towards the ethnographic end of the qualitative research spectrum and, because the Forum was so large by 1997 and encompassed many different projects and working group activities, it was a favourable research setting for following the actors and 'going with the flow'. There were also detailed records of all meetings and developments over the previous few years which provided rich data for documentary analysis.

Objective One of the research entailed examining ANT in relation to consensus-based approaches to biodiversity planning. The network of the Forum provided ample opportunity to follow the processes associated with biodiversity planning and the development of the LBAP for Oxfordshire. ANT was examined through the use of the translation constructivist approach that comprised the

‘scientific/technical/knowledge pole’; the ‘institutional pole’; the ‘production of practices pole’ and the ‘nature protected pole’. This allowed information to be organised and displayed around these foci. Because of the time element incorporated into the model used, within each pole documents and texts were examined which contained information allowing for identification of previous moments of agreement and the types of negotiations that had occurred between actors through the literature review and documentary analysis. The focus on biodiversity planning was useful in terms of evaluating the ANT approach because exploring the texts relating to this area meant that the relationships between actors from the global to a localised spatial scale could be exposed. In terms of the mapping out of these relations and the intermediaries holding actors in place, the ultimately quite narrow focus on the end goal of production of SAPs and HAPs was set within the wider context of other socio-political agendas such as sustainable development and the emphasis on more participative planning approaches, and also new scientific paradigms such as landscape ecological approaches. These wider developments were, in a sense, backdrops to the networks that were mapped out in Chapter Eight and show how networks are nested within bigger frameworks of thinking.

Objective Two was to explore the more specific processes used in resolving conflict and building consensus between stakeholders in rural land and water planning with reference to texts as intermediaries (which may hold networks in place or act as foci for achieving consensus), and the role of knowledge. Important texts were identified at different scales through the literature review that was organised around the four poles. These related to scientific knowledge, including local knowledge (for example, that which was translated into Parish Plans and the Hedge Management Leaflet), institutional arrangements, relevant practices operating at different scales, and, the type of nature that was aimed at in terms of protection and enhancement. In terms of exploring specific processes, a starting point in relation to the case study was documentary analysis of minutes of meetings and associated working papers which enabled a tracing of actors involved in negotiation agreements and new practices that were aiming to conserve species and habitats through encouraging mobilisation of elements of nature. This then enabled decisions to be made in terms of which Working Group activities and projects to follow in terms of their development. Then,

through attending and observing meetings it was possible to identify which actors would be useful to interview in relation to their role in building consensus and attempts at stabilising network relations.

The third research objective was to apply principles from the Sociology of Translation and ANT in empirically assessing the dynamics (past, present and ongoing), between stakeholders in the selected case study area, through exploring the nature of relationships between actors, the groups they represent, and, sources of data. Relationships were empirically assessed through applying the methodological principles outlined at the end of Chapter Seven to the analysis of qualitative information emerging from documentary analysis, participant observation and informal and semi-structured interviews and then through relating a narrative where various factors were identified in ANT terms and using the vocabulary associated with the sociology of translation.

Through achieving the research objectives, the culmination of which is contained in Chapter Eight it is now possible to make some commentary in relation to answering the overall research questions posed at the outset which were:

1. How applicable is the theory of the sociology of translation to the study of consensus building in the UK, using the idea of network stabilisation, and in what way(s) might the theory be applied in this context?
2. What are the nature and dynamics of stakeholder relationships in building agreements in biodiversity planning pertaining to land and water use, and how do these characteristics conform or depart from theoretical notions offered by translation theory?

This will then enable the usefulness of ANT and the sociology of translation to be evaluated in terms of investigating the dynamics of consensual approaches to biodiversity planning in the wider countryside.

## **9.2 Evaluation of the Applicability of the Theory of the Sociology of Translation to the Study of Consensus Building in Biodiversity Planning in the UK and of the way in which it was Applied in this Research**

Firstly, the usefulness of a social constructionist approach to a consideration of the natural world is contemplated. This was found to be very beneficial in terms of a lens through which to view, in this case, society's preferences for species and habitat conservation and future priorities for maintenance and enhancement. It provided philosophical justification for an examination, based around the four poles, of what society conserves. Even though the agenda for biodiversity planning has been largely set by scientific paradigms and generation of scientific knowledge and data at the global, European and national levels, at the local level this research has shown how elements of nature were also negotiated into the text of plans because of cultural perceptions, for example, into the Biodiversity Challenge document, the LBAP and Parish Plans. Discussions about inclusion of rare species and pest species illustrate that there was room for negotiation as to the elements of nature that were 'allowed' into the practices, or 'allowed' to be made known to the public. A more detailed study that followed the progress of certain species or parts of habitats along a chain of translation would be an interesting cross disciplinary exercise to carry out which would give more weight to the natural actors in a heterogeneous network. It would be valuable to uncover at what point species' interests are dropped, and to assess the energy applied by human actors in terms of fighting the cause of particular species in order to negotiate them into action plans.

The point made by Yearley (2005, p.62) about ANT transcending social constructionism because, as an approach, it extends symmetry to all kinds of actors, and Callon's methodological principles of generalised symmetry (Callon, 1986, p.196)(see Chapters Six and Three), are important to consider in this discussion in terms of how this research took these principles on board. In relation to considering the way that network elements hang together, the actor-network maps include elements of nature depicted as actors but these are always shown as being represented later along the chains of translation by human actors. Thus, this research was more

weighted towards a consideration of the socio-politics that resulted in planning documents in which elements of nature were mobilised through representation by humans. The focus was on the dynamics of consensus building and therefore the researcher was immersed within a human setting rather than a natural setting. Since it is impossible to interview elements of nature it was difficult from this research point of view to evaluate the extent to which they had been mobilised on the ground, perhaps in terms of species recovery, and also this would have been a longer term process following implementation of HAPs and SAPs. However, this does not mean that the study neglected to acknowledge the whole process of the gathering of empirical information through to plan production. In fact it is in revealing these chains of translation that this research has been useful in terms of describing the processes that occur as new empirical and scientific information is born though, for example, monitoring species behaviour.

In considering the applicability of the sociology of translation to the context of consensus building for the wider countryside it was helpful in providing a tool for looking for moments of agreement through the stages of problematisation, *interessement* of actors, enrolment and mobilisation. In relation to the developments that occurred under the umbrella of the Forum these moments were identified although they were not necessarily seen as the four easy stages of Callon's paper. Each time there was a new Obligatory Passage Point, the reasons for it and the way in which it would be achieved had to be problematised clearly in order to *interesse* other actors. So, in order, for example, to take forward the aims of the Nature Conservation Strategy that had been developed by an interest or practice-driven network, it was imperative to recruit more actors and relevant ones. So, letters were written, telephone calls made, meetings were agreed, all of which acted as devices of *interessement* for engaging a myriad of environmental actors. Hence the building of the resultant network of fifty plus organisations did not result from one moment of agreement, but many. This illustrates the fact that there constantly are small interactions between actors in their negotiations, all of which cannot be traced and cannot be seen as one moment of agreement whereby the Forum suddenly sprung to life, but a series of them. So although the actor-network maps may present, for example, the production of planning texts as being key moments of agreement (as

well as intermediary texts) that hold networks in place, such moments of agreement encapsulate many moments in time. Nevertheless they may be seen as ‘over-arching moments of agreement’, in that they were the culmination of what the other smaller moments in negotiation were focused towards. Certainly, the terminology and series of stages of translation put across by Callon provided a useful structure for analysing information and telling the story of events within the biodiversity planning arena, and how networks were constructed by actors.

The translation constructivist model and the incorporation of space-time dimensions was crucial in terms of being able to develop the maps to illustrate network linkages. It was this aspect of ANT that was taken forward through this research, especially through the development of the model (Figure 3) and the way in which this allowed slices through actor-networks to be depicted. Networks are not flat spaces although they have been presented as two-dimensional diagrams here. Being able to depict the linkages and nodes within them potentially provides a very good means for making decisions as to which routes could be followed to explore more specific processes of translation in more detailed research into particular areas of the network. Although the data presentation shows how networks are nested within bigger networks (e.g. the Biodiversity Link Working Group is within the Forum umbrella, which is covered higher up by the UK Biodiversity Steering Group, which answers to a network of European planners, which in turn is nested under global research groups and conventions), in a sense, they are all one network and draw in heterogeneous elements. This notion fits in with Latour’s (1999, p.21) comment about ANT being a method and not really a theory in the way that it allows the researcher to ‘travel from one spot to the next’, not necessarily interpreting what actors do. The slices presented that punctuate the narrative are an extremely useful way of displaying relationships as a framework under which further analysis of the more in-depth processes operating could be made. However it does need to be remembered that the separation of processes, actors and intermediaries into the different poles is, in a sense, artificially divisive, in fact Verran (1999) points out that ANT has been criticised on the grounds that it may be re-inscribing the separation of knowledge-making and ethical-political action, which could be the case where there is no interpretation of actors’ motives. This research has borne in mind, however, that knowledge-making is through ever



circulating processes and in this research this is seen in the way that biodiversity-related documents and HAPs and SAPs have provisions for monitoring. Information from monitoring would then circulate back round to the scientific pole.

Since the network could be seen as stretching into eternity, in a sense, it could have been a difficult task to know how to delineate the boundaries for a useful study. There was a tension between following the actors and going with the flow and making decisions about which routes would be useful to follow. This is an inherent ethical difficulty within qualitative research. The focus on the production of the LBAP in many ways limited the scope of research and the selection of the micro-networks that were examined was driven partly by the fact that they illustrated how ANT could be used to show how consensus could be successfully built or not really be achievable because of a lack of persuasion on the part of macro-actors and devices of *interessement* such as funding and other resources. There was inevitably some researcher bias in the selection of which projects and actors to follow. Leigh-Star (1991) has criticised ANT for its obsession with and identification with, executive action. This research could have gone further in relation to interviewing actors that were not present at Forum meetings but were represented by others, in order to explore whether there was true alignment of views (for example, were farmers really happy to manage their hedgerows in a given way in the Four Parishes Project?). The bias towards interviewing the actors who were prominent within Forum activities and the micro-networks is justified to some extent in terms of the way this research developed and the decision to focus on how networks were built. Different layers of talk, however, were examined through documentary analysis and attendance at Working Group meetings.

### **9.3 Discussion on what the Research has shown about the Nature and Dynamics of Stakeholder Relationships in Building Agreements in Biodiversity Planning pertaining to Land and Water Use, and how these Characteristics Conform or Depart from Theoretical Notions offered by Translation Theory?**

As explained at the beginning of this thesis, consensus has been equated with network stabilisation. The research setting provided an excellent example of a large

partnership that operates through networking and provision of negotiative space for actors to discuss environmental problems and work out ways of solving them. It is a fine example of participative planning processes at work especially when the activities of working groups such as Parish Plans are followed.

In relation to the nature of stakeholder relationships, ideas on network building stemming from ANT and the sociology of translation have proved to be very useful and not at odds with the real dynamics of the biodiversity planning scenario in that it has been possible to identify many different aspects of an expanding network that can have terminology from ANT successfully applied to them. For example, the research has shown how actors co-opt other networks through the linking of ONCF and Agenda 21 Groups around a common purpose. Also, it has been very evident that actors represent other human and non-human actors' interests in meetings, in the production of data and in the writing of key documents. There have been some examples of displacement, for example, the interests of floodplain woodland and the need to re-instate it were almost displaced in terms of habitat inclusion in the LBAP but finally picked up again by the BL Group as an actor's voice became heard and translated into the text.

The concepts of spaces of prescription and negotiation (after Murdoch, 1997) have been very useful in relation to visualising relationships between ONCF and more legislative or rigid policy structures and texts. The theory is very useful in this sense as it allows the researcher to identify such different network spaces and discover how they can exist next to each other and how actors move back and forth between them. The planning arena is increasingly more full of this type of movement in general as loose communities of actors work together through open communication between more formalised structures. It seems likely that the processes by which institutions change will speed up as a result of the not-necessarily-expected weight that stems from open ways of working and more ready communication between organisations from all sectors and policy makers.

What is very clear is that actors have strong agendas even within a space of negotiation although there was no serious conflict identified when assessing the

dynamics between stakeholders: the negotiative arena actually meant that there was room for incorporating all (or most) views which is a very positive outcome in considering this manner of working. The Upper Thames Wetlands Project did not get off the ground during the time of the research and there was apparent difficulty in convincing actors that they should work together towards a finely tuned scientific approach to managing large catchments in a fully integrated way. This illustrates the importance for actors to wield convincing 'problematizations' of issues or tantalising devices of *interessement* (such as personnel, funding, resources, equipment) to fully enrol others. It seems that the principles of this project were too ambitious to be taken on board in the area at that time whereas the somewhat smaller objective of engendering farmer cooperation in managing hedgerows to sound ecological effect resulted in a stable and well-aligned network. Similarly, it was not difficult to engage actors in the activities of the Forum and its working groups and the ONCF is still going strong to this day, although initially it grew out of the production of the Nature Conservation Strategy. It was portrayed as a loose network for purposes of communication and the sharing of resources within the county, and as a means of lobbying where necessary. Not many actors with environmental interests would not want to be involved even if just to keep abreast of developments.

There was some reference made to the same actors taking responsibility and the need for 'new blood' and this could be a difficulty in a situation where certain individuals have more time available than others in such settings and also shows that there were varying levels of commitment in terms of real useful involvement (full enrolment) in terms of contribution to the partnership. However, overall, new blood was constantly being brought into the wider network. The way the county network behaved was concurrent with Murdoch's (2006) point that translation means that the enrolled actor is persuaded to identify with the network which may mean some modification of the actors' identity and/or some modification in the shape of the network to accommodate the new actor. For example, the fact that some actors were working for the Forum in different roles showed how they modified their own identity. The changing shape of the network overall, as depicted in Figure 20, was a result of new enrolments and cross network fertilisation as the territory of the network expanded. Translation theory has certainly provided some very useful concepts in terms of a

manner for organising data and for following processes and the characteristics of the networks that result from actor dynamics have been in-keeping and readily analysable by this useful research tool.

The way that the scientific knowledge and to some extent the urgent rhetoric around biodiversity planning became rapidly institutionalised by actors within their own organisations was apparent from the documentary analysis as organisations sought to develop their own biodiversity action plans to link in with Oxfordshire's LBAP. Taking a relational approach to this research has been useful in terms of showing how agency is decentred and power can emerge from within the network rather than being imposed from outside (after Latour, 1986). This really indicates the success of the way that the biodiversity claim was framed and the manner in which society may react rapidly to strong language to do with environmental issues and sustainability, which was born at the Rio Summit.

### **Final Words**

The Actor-Network approach used in this research has shown how global concerns and government logic can cascade rapidly to ground level and those with environmental concerns can gain some confidence from this study. The process has been less rapid within the arena of climate change (Jordan and O'Riordan, 1995). Much of this has certainly been to do with the open and negotiative relationships between actors and the need to incorporate global to local concerns into biodiversity-related types of planning documents. Because the actors were operating as a network, the concern was able to spread rapidly, and horizontally, so that it quickly penetrated the psyche of all organisations involved. This study has usefully employed ANT and the sociology of translation to illustrate the success of the translations that have mobilised elements of nature into biodiversity plans.

Whether they cooperate into the longer term is another story.

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## APPENDIX ONE – LIST OF AUTHOR’S RELATED PUBLICATIONS

Parker, G. and A. Wragg (1999) Networks, Agency and (De)Stabilisation: The Issue of Navigation on the River Wye *Journal of Environmental Planning and Management* 42 (4) pp.471-487

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## **APPENDIX TWO OBJECTIVES OF OXFORDSHIRE NATURE CONSERVATION STRATEGY**

### **Objectives of the Oxfordshire Nature Conservation Strategy (Oxfordshire County Council, 1992)**

- 1) To establish a Nature Conservation Forum (based on representatives from local authorities, government agencies, voluntary organisations and landowners) and working groups to implement the other key objectives.
- 1) To establish a centralised database (for biological and geological records)
- 2) To prepare Alert Maps at 1:50,000/1:25,000 scales to highlight all important biological and geological sites throughout the county
- 3) To encourage preparation of Parish Plans (each plan could highlight land use, woodlands, hedgerows, as well as important geological/biological sites identified on Alert Maps)
- 4) To encourage preparation and implementation of Whole Farm Plans (WFPs) (to encourage farmers and other landowners to work closely with FWAG and other land management organisations to obtain advice on preparation and implementation of WFPs)
- 5) To encourage adoption of model nature conservation policies
- 6) To encourage preparation of District Wide Nature Conservation Strategies (i.e. each District Council is encouraged to prepare more detailed Nature Conservation Strategies for their own area – initially this might only entail a nature conservation section within the Local Plan)
- 7) To encourage establishment and designation of Local Nature Reserves (to encourage County/District Councils to identify and designate Local Nature Reserves on land in which they have a legal interest (all Local Authorities have powers under the National Parks and Access to the Countryside Act 1949, outlined earlier), to designate land as LNR, especially where they wish to combine opportunities for nature conservation, access and education). The elements of this objective are:

- To encourage each local authority to identify and designate at least one LNR
  - To prepare a management plan for each reserve
  - To establish a management committee for each reserve
  - To provide resources for management of reserve
- 8) To encourage all landowners to sympathetically manage land for the benefit of nature conservation. The elements of this objective are:
- To promote adherence to agreed Codes of Practice
  - To avoid risks of pollution
  - To encourage farmers to prepare and implement Whole Farm Plans
  - To identify, notify and sympathetically manage important road verges
  - To encourage Local Authorities to identify nature conservation resource on land which they manage and, where appropriate, adopt sympathetic management regimes
  - To assist landowners to adopt environmentally sensitive farming systems
- 9) To encourage wider use of management agreements through encouraging organisations such as EN and Local authorities to make wider use of this means of managing land. Either long or short term management agreements of a formal or informal nature can be used. For example, local authorities can enter into Section 39 Management Agreements under the Wildlife and Countryside Act, and EN can enter into management agreements for key wildlife sites.
- 10) To encourage creation, restoration and sympathetic management of wildlife habitats including establishment of new copses, hedges and ponds on farms through to carefully designed wetlands restoration schemes arising out of worked mineral sites, such as sand and gravel quarries. Key elements are as follows:
- To encourage creation/restoration/management of habitats/landscapes arising out of ESA Scheme for Upper Thames Tributaries
  - To encourage creation/restoration/management of habitats/landscapes arising out of Countryside Stewardship Scheme
  - To encourage creation/restoration/management of habitats/landscapes arising out of Woodland Grants Schemes/Projects
  - To encourage creation/restoration/management of wildlife/geological sites on restored minerals workings.
- 11) To encourage all organisations and individuals to adopt an Area Management Approach where appropriate in order to take a strategic view, for example with

Farm or Parish Plans, or consideration of larger areas of a particular character, for example the Cherwell River Corridor. Key elements are as follows:

- To establish an Area Management Project for Lower Windrush Valley
- To identify new priority areas for Area Management Projects
- To encourage preparation of Whole Farm/Parish Conservation Plans

- 12) To improve access to the Nature Conservation Resource (i.e. key wildlife and geological sites) as well as the wider countryside using the existing rights of way network, and voluntary access agreements where appropriate, including promotion of access opportunities through Parish/Area Management Plans.
- 13) To highlight opportunities for greater public participation in nature conservation , e.g. through community involvement in nature conservation projects through such organisations as BBONT and BTCV.
- 14) To increase awareness of nature conservation through environmental education programmes and courses, e.g. through the Education Authority and schools supporting the 'Learning Through Landscapes' project.



## APPENDIX THREE: THE OXFORDSHIRE 100 SPECIES

### The Oxfordshire 100 species

#### Plants

Adder's-tongue; Chiltern gentian; Common meadow-rue; Common rick-rose; Corn Marigold; Cotswold penny-cress; Creeping marshwort; Cuckooflower; Devil's-bit scabious; Downy woundwort; Early gentian; Early-purple orchid; Flowering-rush; Fluellen species; Fragrant orchid; Frogbit; Great burnet; Green-winged orchid; Heathers; Herb-Paris; Juniper; Kidney vetch; Marsh helleborine; Marsh valerian; Meadow barley; Meadow clary; Meadow crane's-bill; Meadow saxifrage; Monkey orchid; Moschatel; Narrow-lipped helleborine; Pasqueflower; Ragged-Robin; Snakeshead fritillary; Sphagnum mosses; Summer snowflake; Venus's-looking-glass; Wild candytuft; Wild service-tree; Yellow loosestrife.

#### Fungi

Wax cap fungi

#### Invertebrates

Atlantic crayfish; Black hairstreak; Black-headed cardinal beetle; Chalkhill blue; Club-tailed dragonfly; Downy emerald; Duke of Burgundy; Emperoro moth; Glow-worm; Hornet; Hoverfly *Criorhina berberina*; Keeled skimmer; Marsh fritillary; Scarlet tiger moth; Silver-spotted skipper; Small red damselfly; Small blue; Small copper; Snail *Helicella itala*; Soldierfly *Stratiomys chamaeleon*; White admiral; Wood white; Yellow meadow ant.

#### Fish

Atlantic salmon; Brown trout

#### Amphibians and reptiles

Adder; Grass snake; Great crested newt

#### Birds

Barn owl; Buzzard; Corn bunting; Curlew; Grey partridge; Kingfisher; Lapwing; Linnet; Little grebe; Nightingale; Nuthatch; Redshank; Reed bunting; Sedge warbler; Skylark; Teal; Tree sparrow; Turtle dove; Yellow wagtail.

#### Mammals

Bat species; Brown hare; Dormouse; Otter; Polecat; Water vole

Source: BBONT (1995) *Biodiversity Challenge Oxfordshire* BBONT Oxfordshire (p. 4)

## APPENDIX FOUR: SUMMARY OF THE OUTLINE PLANS FOR EACH HABITAT TYPE IN OXFORDSHORE (Source ONCF, 1998)

**Woodland** – divided into four areas: The Midvale Ridge; the Beechwoods of the Chilterns; Cotswold woodlands and the Wychwood Forest; Parkland.

Aims are to achieve sustainable management of existing woodlands; to plant new woodland; to link existing woodland features. Target: to increase the area of woodland cover by at least 5% in the next decade and manage woodland to increase key conservation species within it. Wychwood's own target is to plant 2,000 Has of new woodland by 2009. Key priorities are: to create new woodland on the floodplain of major rivers, and restore coppice management.

UKBAP key species to benefit: Dormouse; Spotted flycatcher; stag beetle; Pearl-bordered fritillary; Common fan foot moth; Drab looper moth; White-lined snout moth; Devil's bolete; Orange-fruited elm lichen.

Other Oxfordshire species to benefit: Roe deer; Polecat; Yellow-necked mouse; Blackcap; Buzzard; Chiffchaff; Coal tit; Grasshopper warbler; Lesser spotted woodpecker; Nuthatch; Pied flycatcher; Red kite; Redstart; Tawny owl; Treecreeper; Willow tit; Black-headed cardinal beetle; Black hairstreak butterfly; Duke of Burgundy butterfly; Grizzled skipper butterfly; White admiral butterfly; Wood white butterfly; Hornet; Hoverfly *Criorhina berberina*; Bluebell; Early-purple orchid; Herb-Paris; Moschatel; Mosses; Narrow-lipped helleborine; Spindle; Wild service-tree; Wood anemone.

### **Neutral Meadows and Pastures**

Neutral and calcareous grasslands in Oxfordshire's clay vales are Oxfordshire's most prominent nature conservation feature in the national context. Several flood meadows in the Thames Valley will be designated as Special Areas for Conservation in recognition of their international importance. Aims: Ensure no further loss of species-rich neutral grassland and support traditional management; establish new species-rich grasslands especially where this extends or links existing sites. Target: generate at least 500 more Has of neutral grassland within 10 years (to add to the current amount of 500 hectares in the Upper Thames Tributaries ESA) so that meadows once again become a familiar feature of Oxfordshire's landscape. Priorities:

Priority areas for grassland re-creation are the Upper Thames Tributaries ESA and alongside the River Thame – it is important that rivers are allowed to flood naturally.

UKBAP species to benefit: Brown hare; Four-spotted moth; Marsh fritillary butterfly

Other Oxfordshire species to benefit: Curlew; Lapwing; Redshank; Skylark; Snipe; Yellow wagtail; Grass snake; Grizzled skipper butterfly; Marbled white butterfly; Small copper butterfly; Yellow meadow ant; Wall butterfly; Adder's-tongue fern; Fen violet; Great burnet; Green-winged orchid; Meadow barley; Meadow saxifrage; Snake's-head fritillary.

### **Chalk and limestone grassland**

Oxfordshire's large areas of chalk and limestone grassland make an important contribution to the national resource. There are approximately 550 Has of chalk grassland and about 100 Has of limestone grassland in Oxfordshire, however this represents only about 1% of the area of chalk and limestone outcrop in the county. This habitat is of international importance and is listed in the European Habitats Directive. Chalk grassland is found in the Berkshire and Marlborough Downs and the Chilterns Natural Areas whilst the Cotswolds Natural Area has widely scattered areas of limestone grassland, mainly on the steep sides of river valleys. There are a few remnants of limestone grassland in the vicinity of Oxford. It is one of the most species-rich habitats in Oxfordshire and supports a large number of rare plants and invertebrates. Many of these are dependent on stable management regimes that have maintained short turf over centuries. Particularly important plants are the Chiltern gentian (Oxfordshire has most of the UK population) and the downy woundwort which is only found in a few green lanes in the Cotswolds. Scrub is an important component of chalk and limestone grassland – most of Oxfordshire's juniper bushes are under threat of extinction as they are very old. Much of the grassland has been lost through conversion to intensive agriculture or encroachment of scrub. The Countryside Stewardship Scheme has been especially important in terms of habitat restoration and re-creation. Aims: Ensure no further loss of chalk and limestone grassland; restoration of degraded sites; encourage positive management of existing chalk grassland and scrub; re-creation of chalk and limestone grassland over long term, especially where it will link or extend existing areas. The Cotswolds valleys, Goring Gap and Wessex Downs escarpment are especially important. There is potential to increase the area of species-rich chalk and limestone grassland in the county by taking marginal land out of cultivation. Increase the area by at least 10% over next ten years.

UKBAP species to benefit: Grey partridge; Lapwing; Skylark; Stone curlew; Turtle dove; Adonis blue butterfly; Grizzled skipper butterfly; Silver-spotted skipper butterfly; Hornet robberfly; Ground beetle *Harpalus melleti*; Hazel leaf beetle; Downy woundwort; Early gentian; Juniper; Meadow clary

Other Oxfordshire species to benefit: Linnet; Meadow pipit; Short-eared owl; Chalkhill blue butterfly; Small blue butterfly; Heath snail; Glow-worm; Yellow meadow ant; Adder; Slow-worm; Burnt-tip orchid; Chiltern gentian; Common rock-rose; Cowslip; Fragrant orchid; Kidney vetch; Meadow crane's-bill; Pasqueflower; Wild candytuft.

### **Farmland**

There is arable farming on the light soils of the Cothill and Faringdon area and permanent pasture for intensive sheep and beef and dairy farming in drier parts of the clay vales. Many once-familiar species have been lost from Oxfordshire's farmland, e.g. the hare, tree sparrow, grey partridge, skylark and corn bunting and many arable weeds. There are knock-on effects on bats and wild bees. A major concern is the loss of winter stubble fields – an important food source for farmland birds, and cultivation to the edge of fields has degraded aquatic habitats through increased silting which could have led to the declining water vole population. Retaining unclutivated, unsprayed field margins can mitigate the situation. Hedges continue to be an important part of the county's landscape, providing an 'invaluable network across the landscape

providing a link between habitats' (p.17) but many hedgerow trees (valuable bat roosts) were lost to Dutch Elm Disease. Wildlife friendly farming practices are supported by the Upper Thames Wetlands ESA scheme, FWAG Whole Farm Plans and Countryside Stewardship and such practices need to be promoted on a wider scale. Aims: Priorities are to halt farmland bird, arable weeds and animal decline and also the decline in hedgerows, farm ponds, trees and stone walls. Targets: The aim should be to see a recovery in formerly common birds such as skylark, grey partridge and tree sparrow within 10 years. Establishing buffer zones along water courses will provide valuable habitats for wildlife and mop up farm chemical and silt run-off before it reaches rivers and ditches.

UKBAP species to benefit: Brown hare; Puffin; Bechstein's bat; Bullfinch; Corn bunting; Grey partridge; Linnet; Reed bunting; Song thrush; Skylark; Tree sparrow; Turtle dove; Brown-banded carder bee; Robberfly *Asilus crabroniformis*; Short-haired bumble bee; Shrill carder bee; Broad-fruited cornsalad; Broad-leaved cudweed; Cornflower; Perfoliate penny-cress; Red hemp-nettle; Shepherd's needle; Spreading hedge parsley.

Oxfordshire species to benefit: Harvest mouse; Barn owl; Red kite; Swallow; Yellowhammer; Lapwing; Broad-leaved spurge; Corn marigold; Corn parsley; Round-leaved fluellen; Sharp-leaved fluellen; Grass-poly; Pheasant's-eye; Venus's looking-glass

### **Heathland**

A rare but important habitat in Oxfordshire – the largest remaining areas are in the Frilford area west of Oxford (Midvale Ridge Natural Area) and on the Chilterns plateau. A species-rich habitat supporting many rare plants and insects on warm sandy soils and short turf. Particularly rare plants that occur in these areas include the broad-leaved cudweed, sand catchfly and smooth cat's ear. A large proportion of heathland is in the Chilterns (Nettlebed and Peppard Commons) but much has been encroached on by woodland and bracken. Restoration work is under way, for example on Shotover Hill in Oxford. Much of Oxfordshire's heathland has disappeared. Lowland heath is listed as a key habitat in the UKBAP which sets a target for re-creation of 6000 Has of lowland heath nationally. There are approximately 25 Has in the county. Aims: Ensure that remaining fragments of heathland are protected and managed appropriately and seek opportunities to contribute to the national re-creation and restoration target, especially in the Frilford area and on the Chiltern commons. There is the potential to increase the area by at least 50% in ten years – heathland should be restored as a characteristic feature of the county.

UK BAP species to benefit: Nightjar; Tree pipit; Dingy mocha moth; Grey scalloped bar moth; White-line snout moth; Broad-leaved cudweed

Oxfordshire species to benefit: Adder; Emperor moth; Blue fescue; Heath cudweed; Heather; Bell heather; Cross-leaved heath; Sphagnum mosses

### **Wetlands**

There are a range of different wetland habitats in Oxfordshire. The county has one of the greatest concentrations of *fens and flushes* in Southern England, especially to the west and east of Oxford. There are large fens such as Cothill fen (designated SAC). An important habitat for specialised insects. *Gravel pits* may be left as lakes after excavation and support aquatic communities particularly rich in pondweeds and

stoneworts. The Lower Windrush Valley and Farmoor Reservoir provide habitats for a wide variety of wintering and breeding birds. *Reedbeds* only cover a small area and much is confined to ditch systems. An important habitat for supporting a wide range of scarce birds, mammals and insects. Formerly valued as thatching material, many have been lost to drainage and conversion to agriculture. The UK currently has about 5,000 Has of reedbed and the UKBAP sets a target for the creation of another 12,000 Has – there are opportunities for this in Oxfordshire. *Rivers ditches and ponds* are found particularly within the Thames catchment and many of the county's rare species are supported here, e.g. water vole, Cetti's warbler, summer snowflake (locally known as Loddon Lily) and white-clawed crayfish. River modification to prevent flooding has reduced species diversity and associated habitats on the floodplain. Ponds are important for a wide variety of species including newts, grass snakes and dragonflies. Many have been degraded through neglect or pollution. *Wet grassland* has been associated with the major river valleys in the county, especially the Thames, Ray, Windrush and Cherwell Valleys. However the value of much of this grassland for birds has declined through field drainage and reduction in flooding. One of the objectives of the Upper Thames ESA is to re-create suitable conditions for these scarce birds. Aims: Ensure no further loss of fen habitat; seek opportunities to create new areas of reedbed (at least 40 Has including the 22 Has being created on Otmoor) within ten years. Construct and rehabilitate ponds and identify opportunities for river and riverside habitats quality enhancement. Habitats must be created to increase the numbers of water voles and native crayfish within 10-15 years and further opportunities should be sought to assist the return of the otter.

UK BAP species to benefit: Otter, Water Vole, Bittern, Reed bunting; Reed warbler; Great crested newt; Brighton wainscot moth; Southern damselfly; Snails and freshwater mussels; White-clawed crayfish; Creeping marshwort; Grass-wrack pondweed; True fox-sedge; Norfolk flapwort.

Other Oxfordshire species to benefit: Water shrew; Cetti's warbler; Curlew; Kingfisher; Lapwing; Little grebe; Little ringed plover; Pintail; Redshank; Ringed plover; Sedge warbler; Shoveler; Snipe; Water rail; Barbel; Brook lamprey; Brown trout; Bullhead; Grayling; Banded demoiselle; Clun-tailed dragonfly; Downy emerald dragonfly; Keeled skimmer dragonfly; Small red damselfly; Scarlet tiger moth; Soldierfly *Stratiomys chamaeleon*; Black poplar; Common meadow-rue; Cockoo flower; Devil's bit scabious; Fen violet; Flowering-rush; Frogbit; Great Burnet; Marsh helleborine; Marsh valerian; Ragged-Robin; Snake's head fritillary; Sphagnum mosses; Summer snowflake; Yellow loosestrife

### **Towns and villages**

The largest built-up areas are Oxford, Witney, Banbury, and Bicester, Didcot, Carterton and Thame. Wildlife habitats face pressures since they are often a long way from the next nearest similar site, however they are a valuable resource. Swifts, Pipistrelle bats and brown long-eared bats now prefer to live in the lofts of modern houses, and great crested newts, grass snakes, frogs and toads are often found in garden ponds. Birds may be dependent on parks, gardens and churchyards in winter, including the Song thrush which has declined in recent years. Aims: Ensure that existing important wildlife sites in towns and villages are protected and managed appropriately and raise public awareness. Incorporate wildlife corridors between sites.

UK BAP species to benefit: Barbastrelle bat; Bechstein bat; Pipistrelle bat; Bullfinch; Song thrush; Spotted flycatcher; Great crested newts; Stag beetle; Large garden bumble bee.

Oxfordshire species to benefit: Brown long-eared bat; hedgehog; Blue tit; Dunnock; Goldfinch; Greenfinch; House martin; Swift; Tawny owl; Grass snake; Slow worm.

## APPENDIX FIVE: DESCRIPTION OF NATURAL AREAS WITHIN THE COUNTY OF OXFORDSHIRE

### Summary of conservation value of natural areas:

#### *The Cotswold Natural Area*

- Upland plateau, broken by sheltered valleys, drained by Rivers Cherwell and Upper Thames Tributaries including the Evenlode and Windrush.
- Mainly oolitic limestone with iron stone in the north and west
- Field boundaries are characteristically stone walls on hill tops which support moss and lichen communities
- Small fragments of limestone grassland support nationally important species such as meadow clary and downy woundwort
- The medieval Royal Forest of Wychwood covered much of the Cotswolds 700 years ago, and fragments of ancient woodland remain
- Important wet grasslands alongside rivers are valuable for breeding waders (a key aim for grants to farmers in the ESA zone)
- Very important area for wildlife, especially ancient woodlands, limestone grasslands and river valleys
- Supports an exceptional number of scarce plants.

#### *The Midland Clay Pastures Natural Area*

- The southern area is the richest which extends just into Oxfordshire near Banbury
- Fragments of heath and unimproved grassland on Lias clay occur in Oxfordshire and the Cherwell floodplain is important for waders.

#### *The Thames and Avon Vales Natural Area*

- Includes a large proportion of the River Thames catchment, including parts of the Cherwell, Ray, Thame and Ock. These river corridors form part of the Upper Thames Tributaries ESA.
- Clay underlies the whole area, often capped by sand, silts or gravel deposits
- Hedges dominate the low lying intensively farmed landscape which has been heavily affected in the post-war period by farming intensification, major drainage works, the loss of millions of hedgerow elm trees and major working of the sand and gravel deposits
- Habitats and species of the rivers and floodplains are very important including the black poplar, water vole and breeding wetland birds and rare dragonflies.
- The complex of Thames Valley meadows in and around Oxford which are of international importance and famous for plants such as snakeshead fritillary
- Butterflies such as the black hairstreak are key species in woodlands
- The fen violet has reappeared in Otmoor meadow long after it was thought extinct
- Some flooded gravel pits support numbers of waterfowl in winter and breeding common terns in summer.

#### *Cherwell District*

- Fragments of traditional herb-rich calcareous grassland on steep sides of natural and artificial cuttings through oolitic limestone

- Neutral meadows along River Cherwell floodplain
- Other Cherwell meadows which provide overwintering sites for wildfowl and waders
- The wetland area at Otmoor on the extensive floodplain of the River Ray
- Unimproved meadow, pasture and marsh especially on Ministry of Defence land
- 'Outstanding' neutral hay meadows at Pixey and Yarnton Meads near the River Thames
- Weston Wood is the largest surviving area of broadleaved woodland
- Very little heathland and fenland but the fenland is important in a county and national context.

#### *West Oxfordshire District*

- Remnants of ancient woodland in Wychwood Forest in the centre of the District
- Fragments of unimproved limestone grassland on steep valley sides
- Occasional neutral hay meadows along the Thames
- Extensive gravel deposits in the Windrush floodplain provide scope for both habitat destruction and creation. The complex of flooded gravel pits is one of the county's most important overwintering sites for wildfowl
- A series of nationally important fens are found at Middle Barton, Combe and Taynton.

#### *The Midvale Ridge Natural Area*

- A ridge of Corallian limestones, marls and sand which weather to form a wide variety of soils supporting rare 'Breckland' type heath and more acid grasslands
- Streams near Cothill have cut down into underlying clay resulting in waterlogged conditions and nationally important fens
- The variety of soils, topography and drainage give rise to some of Oxfordshire's most important wildlife sites including ancient woodland at Wytham and Bagley

#### *The Berkshire and Marlborough Downs Natural Area*

- Also known as the Wessex Downs, this area forms a steep north-facing scarp slope with a well-developed spring line where the Chalk meets the underlying clay. Arable agriculture and racehorse gallops are dominant land uses
- Remnants of the once-immense sheep-walk downland still persist, e.gf. White Horse Hill and Ashton Upthorpe, and support the Adonis blue butterfly, pasque flower and early gentian

#### *The Chilterns Natural Area*

- Formed from an outcrop of chalk that is exposed on the smooth slopes of the valleys and the scarp slope above Aylesbury Vale
- The Chalk strata of the plateau are overlain by extensive deposits of Clay-with-Flints and glacial deposits that can give rise to acidic soils and heathland
- Very important area for wildlife as a large number of ancient woodlands and chalk downlands are present and these support rare species such as ghost orchid, monkey orchid, silver-spotted skipper and Duke of Burgundy butterflies, dormouse and the successfully re-introduced red kite.



## APPENDIX SIX: INTERVIEW SCHEDULE

### Interview Schedule

How would you describe the work, interests and aims of the organisation you represent?

Could you describe the nature of your organisation in terms of its:

- size (approx no. of employees, size of budget, geographical range of operation)
- composition of workforce (professionals, technicals, clericals, full-time/part-time, in-house/contract)
- status - i.e. public (central/local government; QUANGO), private or voluntary.

Can you describe the department/division in which you work and its relation to the parent body. What is your own position/range of responsibilities in the organisation?

Could you describe the resources available to you and your organisation, e.g.:

- financial (scale and origin of capital and revenue budgets)
- legislative (statutory powers available to you)
- personnel.

Does your organisation rely significantly on the work of volunteers?

Can you describe how your organisation's policy is determined on land/water use and the environment? Please refer to any specific external policy influences, such as land use plans, national legislation/policy or European legislation/policy.

Can you explain how and why your organisation decided to involve itself in Oxfordshire biodiversity planning? Why was it particularly important for you to do so?

Is your organisation involved in specific current activities related to Oxfordshire biodiversity planning?

Could you describe these? Has this involvement assisted your organisation in reaching its own objectives?

What primary and secondary data has your organisation collected, assembled or helped verify for the Oxfordshire biodiversity planning? Do you see any scientific or practical limitations with these data?

In what ways, and to what extent, do you or your department/organisation liaise with other bodies over Oxfordshire biodiversity planning? Do you have specific points of regular or occasional contact with these bodies (for instance, forums or working groups)?

Has your organisation produced or assisted with the production of any reports or information relating to the projects? Are you broadly happy with the contents of these reports or are there aspects which you feel now or felt at the time were unhelpful to your organisation's or the project's aims?

Please describe any agreements associated with the project that your organisation would perceive as significant, such as codes of conduct, management agreements, access agreements etc.

Are there any issues on which you have found it easy or difficult to agree with other organisations? Have you been involved in any formal measures to reach agreement/consensus on these issues?

Are there any issues on which your organisation comes into contact with the general public? Have you found it necessary to engage in any public relations/consultation/participation exercises, either individually or in liaison with others? Please describe.

Do you have any formal arrangements to delegate powers to individuals to speak on particular issues at meetings?

How are individuals expected to report back to your organisation on external meetings which they have attended? In relation to Oxfordshire biodiversity planning, does this ever create any difficulties? If a situation arose in which your representative was asked to agree a position which was not yet corporate policy, how would this be resolved, assuming that a swift decision was being sought?

Is your organisation representing the views of a particular group of people and, if so, what steps does it take to ensure that their views are represented and that they receive feedback?

Is your organisation involved in specific current activities, including monitoring and evaluation, related to Oxfordshire biodiversity planning? Could you describe these? Has this involvement assisted your organisation in reaching its own objectives?)

What lessons learned from the Oxfordshire biodiversity planning would you like to convey to a European partner?

*Thank you very much for your time and assistance.*

**APPENDIX SEVEN: EXAMPLE OF TRANSCRIBED INTERVIEW**

**Transcript of Interview with Vice Chair of Oxfordshire Nature Conservation Forum**

**April 20<sup>th</sup> 1998**

**ONCF Office, Little Whittenham**

**Upper Thames Wetlands Project and Biodiversity Planning in Oxfordshire**

**How would you describe the work, interests and aims of the organisation you represent?**

Now I'm thinking from the Nature Conservation Forum here yeah?

*unless there's anything else significant which is related to the nature conservation forum...*

no I think that in terms of the ...I think it's most appropriate...I also work part-time for the Environment Agency and you don't want a regulator and the Environment Agency is a member of the forum, not through me, but it is a member of the Forum so it's....my position at the moment is vice chairman of the Oxfordshire Nature Conservation Forum and that's what I'll be talking about....and you've actually called it the Biodiversity Strategy....well the Biodiversity Strategy and the development of that is one of the projects run inside the forum, OK

*yeah, I'm pretty familiar with the forum workings I guess*

so the work interests and aims of the organisation, then - you've already got documentation on that so I won't quote them per se but they're to do with the conservation of the county and enhancing and protecting and looking forward to improved wildlife benefits in the county - that's the kind of ultimate aim and to do that through the facilitating and helping in the co-ordination of all the component bits of work that are going on by the different organisations in the county so the Forum sees itself as working for the improvement in conservation state for the county but its work is to help all the component parts - we are now 50+ organisations in the Forum

*But also what are your....you're also on the board for the Environment Agency?*

yeah

*through Pond Action?*

No no - I'm on the board of the Environment Agency for England and Wales which is an appointment appointed by the Minister for Agriculture Fisheries and Food, but I do a lot of other things as well including - I was a co-founder of this very small independent consultancy, conservation consultancy called Pond Action, which actually lives in Oxford Brookes University but isn't part of the establishment of Oxford Brookes University - a completely independent....

*Yeah, yeah I've been there to see Jeremy before*

so you know all about that

*Yes, I thought you were involved with it in some way*

yes I founded it

**OK so could you describe the nature of your organisation in terms of its:**

- **size (approx no. of employees, size of budget, geographical range of operation)**
- **composition of workforce (professionals, technicals, clericals, full-time/part-time, in-house/contract)**
- **status - i.e. public (central/local government; QUANGO), private or voluntary.**

Sure, right well first of all its size in terms of employees is almost irrelevant - we have one employee - all the other people who work in it work in a voluntary capacity, including me, and there are 50+ organisations that make up the forum - make up the network and most of those organisations give some of their time free - some give a lot of their time free and there's a full time officer - Sian who you've probably met - and there are three elected officers - the chairman the vice chairman and the treasurer - and they all give their time in a voluntary way - and then when you look at the structure - you see that that network does its work through working groups which you also know about, and its status is really - it has no legal status - I mean one of its strengths is that it has no legal status - it's not even a registered association - it's simply a network and it operates through a bank account - a named bank account, and it employs its one officer through one of the organisations that form the network - the Northmoor Trust is a charity and Sian's pay comes via - it's our money but it comes via, the Northmoor Trust's accounting system - it's purely to help us really

*Ok moving onto the third one - I don't know whether this is particularly relevant but*

well not in terms of division, but my role is as vice chairman of the forum and I was previously a chairman of one of the working groups

*was that habitats?*

that was habitats that's right, and I've actually been involved with other working groups like the old policy group which we're now redesigning

*Are you still on the Habitats Working Group*

yes I'm still on it but I'm not chairman any more

*Right, OK, thanks.*

**(Can you describe the department/division in which you work and its relation to the parent body. What is your own position/range of responsibilities in the organisation?)**

**Could you describe the resources available to you and your organisation, e.g.:**

- financial (scale and origin of capital and revenue budgets)
- legislative (statutory powers available to you)
- personnel.

**Does your organisation rely significantly on the work of volunteers?**

Well it's in terms of a few thousands of pounds which has come in as sponsorship funding - it has no earnings or anything like that - it just is sponsorship - it's gifts.

and as you'll see the rest of that question...resources available...legislative resources, well obviously it doesn't have any, in personnel terms - we've just talked about the voluntary nature - and then significant reliance on volunteers - obviously the answer's yes, so the answers to that question and the previous one kind of it together really

***In terms of the Upper Thames Wetlands, what is your role in that project - is it through the Habitats Working Group really, or?***

yes that is one of the projects, that came up somewhere else but it can come up here if you like...a couple of pages on when you're talking about data - I've jotted down here that the Forum has become involved in projects - in other words when one or more of its organisations get together, then sometimes the Forum has actually initiated that so that would then be a forum project, and the Upper Thames Wetland was one such where we got a little bit of funding out of the Environment Agency locally and we got some time from Pond Action, and various inputs from FWAG including a little bit of money - and those three partners within the Forum said well let's look at what is going on in the Upper Thames in terms of projects, government initiatives - obviously it was within the Upper Thames conservation area - what's Otmoor doing, what's the Agency doing, what are the farmers doing and so on, and that gave rise to the document which you've probably seen which is...

***the scoping study***

the scoping study, and that's now going on to the next stage..

***with these three projects to go forward....***

yeah, and the first of the three which is the beginning of the modelling has started and there's now discussions going on with other bodies at a national level about that, and those are RSPB - because RSPB is a member of the Forum but the representation is local, whereas we're talking to people nationally, and also the WWF who, I mean those are very....I don't know if they're going to lead - these are simply other organisations that are interested in large wetlands and we want to make sure they get all our information - so the three organisations that have expressed interest are RSPB, WWF and the Wildlife Trusts' partnership - and it's the three, well it's the policy director of RSPB, the conservation head of whatever he is - Andrew Lee who you may know, and the Director General of the Wildlife Trust partnership - those are the people who are themselves talking about a big project and they have all received the documents, so there'll be a link somewhere - put it that way

*OK, are there similar initiatives going on like this elsewhere and has it been triggered by a particular policy development or a particular view that's developing, or is it entirely independent of other things that are going on*

No, there are lots of things going on which are to do with looking at fairly large scale improvements in water management for nature conservation and you could say that the river restoration project was the first one certainly that I was involved with and that had three sites - one in Denmark - two in the UK, one was in the River Cole which was just on the edge of our area and one on the River Skerne which is in Darlington, and those projects were funded by the Agency as one of the UK partners, Countryside Commission, oh let me think, oh well it was EU money principally, but there were other partners in this country including DANI (?) in Northern Ireland and other people. And that was not quite as large scale as the Upper Thames area that we've covered but it was looking at rivers in, as large entities with their adjacent floodplains and drainage basins, in fact internationally this is - land use - internationally, the basin right up to the top of the watershed is beginning more and more to be looked at as a management unit, for managing water and this is happening in the states, and I'm involved in Mexico for instance - it's happening all over the place

*within the last few years or what sort of*

within very much the last few years - it's very much a new thing. I don't know if you know anything about the water framework directive which is going to be the next directive to hit us but it's going to require new legislation probably or tweaking existing legislation - that is for the whole of Europe and that directive states that water will be managed, or rivers will be managed with the basin as a unit and it doesn't matter whether it cuts national or county boundaries - the entity for management is going to be the basin so this is a big step forward - but that's been going on already in the UK you see and it's been going on already - for a fair bit more recently in parts of the US - different states are different - certainly in parts of Australia, and we've been - when I say 'we', Brits have been very much involved in pushing this - I've been involved with that at a policy strategic level for several years

*and when is the new directive due?*

the last iteration was round about three weeks ago so it won't go through while we've got the presidency but I think it will go through in the next presidency - it's been - you know these things - they say it's going to be through by June - but you whistle for it really, and they've had so many different versions of it so I dunno is the answer but soon, it's been imminent for at least three months so..

*ok thanks, Can you describe how your organisation's policy is determined on land/water use and the environment? Please refer to any specific external policy influences, such as land use plans, national legislation/policy or European legislation/policy.*

It's influenced by an enormous number of external policies and so on - our policy - what we do is influenced by other people's regulatory policy activities - there's no

doubt about it - if we're set up to improve and protect the Oxfordshire environment then understanding what other people are doing to it is obviously very important - but we don't have a specific policy - the policy for managing land and water would be the policy that the constituent bodies of the forum - so what we do is try to understand the new ones that are different and perhaps our policy is to make sure that our members are helped as far as possible to work together and not fall over each other - I mean one of the reasons for doing the Upper Thames was to understand how people were actually working in the Upper Thames so that they wouldn't fall over each other and work in opposite directions and this is very much a key thing for the Forum - how do you get all these very willing, earnest small and large bodies to work together and co-ordinate their work more so yes people who are involved in regulatory change like the Agency and English Nature who are members, people who are interested in CAP reform and influencing CAP like RSPB who are members - they bring the wealth of that involvement and interest to us so we are very influenced by it but it's difficult to say we have a policy for land or water use

*ok, just staying with this kind of idea within the Upper Thames Wetlands what would you see as being the key external policy influences which are influencing all these different people doing their different activities, for example the ESA may be one thing - where there is a need for co-ordination between different activities*

well if you look at the report you will see that in fact the ESA is only one (this is mainly one of the problems) the ESA is only one of the interests - it's actually quite complicated so looking at one geographical area and seeing how, although it's all ESA, what else is going on - is the ESA itself actually bringing about very much in the way of good improvements and the answer is well it's not really - I mean I don't want to judge ESAs because there are reviews of ESAs going on but you don't have to be brilliant or anything but intuitive to see that a lot of the agr-environment and ESA activities aren't actually bringing about much benefit really

*ok and what other sort of more smaller scale initiatives are there - like Otmoor and ...I'm just looking for an idea of what's going on - what activities...*

you've got the document haven't you

*yeah, all in there? because if it is then....*

yes I would just have a glance through there and then you'll see I mean although it is, I am as up to date as it is because I wasn't desperately with that - I wasn't really involved with the writing - I mean Jeremy wrote it but of course I was sort of consulted at the time

*OK I'll move onto the next question now, Can you explain how and why your organisation decided to involve itself the Wye Valley/Oxon Biodiversity projects? Why was it particularly important for you to do so? that's fairly self-explanatory really...*

yes it is but it brings in another aspect which I've noted down here that I think you ought to kind of get your head around as well and that is that in Oxfordshire Agenda



21 started - Agenda 21 follows a very similar model to the Forum - in other words the Forum started by trying to get consensus amongst the people who were the players and sitting down and saying how can we best work together and is there a role for something like the Forum, well Agenda 21 did the same thing - Agenda 21 got people together who were interested in various environmental things - saying well what do you want to do - and our Agenda 21 Action Plan was 16 chapters written more or less by sixteen different groups of people who said what they thought the action should be under different headings and again maybe you ought to look at that - one of those headings was of course 'biodiversity' so the biodiversity part of LA21 and the biodiversity interest which is very self evident in the Forum have come together so this is a joint working group between Agenda 21 and the Forum and it's the working group that have looked at the methodology, looked at how to develop the process, how to write up the actions, it's taken over the whole thing

*Right, ok, are you a member of that group as well?*

well I don't go - well that's not true - I went to some of the earlier meetings, but I'm a member by correspondence - they just send me the stuff and I can't get to everything and I comment on various stages of the development of the Action Plan - the selection of the habitats, the selection of species, the way we got the 'Oxfordshire 100', which you probably know about, which was our own, before there was even a firm ruling that counties or areas were going to produce action plans we really started even before that, so Oxfordshire's a bit like that - it kind of - there's a lot of interest in the - it's a bit like Gloucestershire you know - there's plenty of people who are interested, so the Biodiversity Action Plan is moving on and the other very important thing, I think, is that because we have a full time officer in the Forum, we were able to move that study group, that special group forward ever so more quickly than we would have done without.....and the other big, big players which you have to acknowledge right from the beginning were BBONT. BBONT took the real lead - they worked with RSPB - but I think put in much more work than RSPB - and those organisations I think really drove the technical side of this, and now Sian's trying to get her head around a lot of the support work, writing, putting things together, the typing, the editing and all the rest of it, and we've got a launch day which she is very much the organiser of which you probably know about..

*yeah she asked me if I could give her a hand with it*

right oh good

*are you going to that?*

oh I hope so yes

**Is your organisation involved in specific current activities related to the Wye Valley/Oxon Biodiversity Project? *well obviously! - I don't even know if that's worth - perhaps maybe....I mean your main involvement, presumably, is the ONCF, habitats Working Group, Policy Group, and some involvement in the Upper Thames Wetlands.....***

Yes but that's not all there is, I mean I'm still speaking as the vice chairman of the ONCF so I'm saying that is my organisation - that's the terms I'm...and the specific activities are all the current projects of all the working groups now you had some examples there - as you say there's the Upper Thames, Biodiversity Action Plan development, there are also things that the county council are leading on but there are many other members of the Forum involved so that again, for instance we've got a good link with Agenda 21 on the development of how we work with volunteers so we've, you came to that first meeting, well there's been several meetings since - you came to that first meeting on volunteers didn't you? no maybe you didn't

*err possibly - I've been to a lot really so...*

well we started one - people were saying how could we use volunteers more effectively, and how we could get more people involved - we're moving forward now - it's almost a project now - we're particularly interested in the water side of this - we've got a group. we've got a little bit of support from the local part of the Agency or maybe it's Thames Water, no Thames Water have helped us get some water level boards and we're going to just evaluate how volunteers can go and look at specific water levels and read them on a weekly basis so that we start to get involvement in observational work - a bit like the ornithologists - the ornithologists would say we know exactly how to do this, well we want to use some of their skills - and they've been very helpful - into beginning to develop things in the non-ornithological area so that's where we're starting - so that's another project. And you could say Parish Plans is another project you see, and you know all about that

*Yes I've looked at the Four Parishes project - I've interviewed some people*

Yes that's the four parishes but what about the Parish Plan stuff that Emma Broad's been looking after - that's another manifestation of the Parish Plans thing, so all of those things we would say are specific current activities which are under the umbrella of the Forum - now Sian has compiled a list of all the projects and she could give you that. Now describing these things would take all day and you've probably heard enough about them anyway - and 'has this involvement assisted your organisation in reaching its own objectives - well that's a nice question because in the Forum sense one key question is going to be, 'has the Forum gone forward?' well the first key question is 'has Oxfordshire gone forward?', 'does Oxfordshire know itself better and is it able to influence/improve conservation a little better than it did without the Forum?' - I think the answer is yes but it's got a long way to go. The second question is, 'has the Forum benefited?' and I think, yes, the Forum has benefited, and the third very important question is, 'have any of the member organisations of the Forum individually benefited?', and I think, again, it's beginning to show now, even the organisations which feel a bit threatened by the Forum are benefiting - RSPB will now say - 'yes we appreciate the networking that the Forum gives us'; BBONT will now say 'yes, we feel that the Forum has helped to open doors for us to new areas of funding and co-operation', Pond Action - a little tiny organisation - will say 'yes, we now think that because of the networking we've worked with groups that we didn't work with before the Forum', so, you know it's beginning to actually have a pay-off but I think you've got to ask the question 'who benefits?' at least three levels.

**(Could you describe these? Has this involvement assisted your organisation in reaching its own objectives?)**

*Shall I move onto the next one?*

sure

**What primary and secondary data has your organisation collected, assembled or helped verify for the Wye Valley/Oxon Biodiversity project? Do you see any scientific or practical limitations with these data?**

for the Biodiversity project or do you mean for the Oxfordshire Nature Conservation Forum generally?

*could we look at the biodiversity project and the Upper Thames Wetlands?*

Right well the Upper Thames Wetlands has now moved on from the Scoping Study which of course doesn't really generate primary information, it uses other people's primary information and draws conclusions - I mean that's what a scoping study is. It's now moved into the beginnings of its second phase which is the beginning of modelling, and that is beginning to generate primary data so you know, I'm sure that people if you ask them about the Parish Plans Project will say 'yes that generates primary information'

*Yes I guess it's probably a simpler thing to look at than the Upper Thames Wetlands...and all that's involved in that*

no, I wouldn't say so - it might be even more complicated because it's all people orientated and how do you define primary data when it comes to people's behaviour and attitudes and so on so I think you'd have to talk to someone who knew what they were talking about about Parish Plans. As far as the Thames project's concerned - the first stage was not designed to generate primary data - it was only secondary data - it was a synthesis and a conclusion which came from other people's activities including of course the activities of the people who owned - the organisations that paid for the project - Pond Action's data, the Environment Agency's data and FWAG's data. But stage two - its aim is to generate primary data and scientific and practical limitations of these data well that's almost like a ....?.....if it's well designed then you design the way you get your data to reduce those limitations but there's always a practical limitation because you always want more data than you can afford to generate - than you can afford to collect

*and would you see that as a problem for the Upper Thames Wetlands or is there ample funding for data collection?*

oh no, I mean there's never ample funding for anything really - in any context - even if you do it within the statutory bodies there's never enough money for R&D - so there's always a limited resource and there will be with this but this will be designed (because we're always very experienced at managing limited resources) so it will be designed in line with the resources available - and the resources that are available for

this phase that we're doing at the moment are coming from one of our constituent bodies and that's the Northmoor Trust - the Northmoor Trust is making available a person - it's not money - it's just a human resource

*Is this the person who's doing the PhD?*

This is the person who's doing the PhD and you've talked about that so Northmoor Trust is making available part of its resource, Pond Action is making available part of its resource which are its people and at the moment there's no actual input of cash - oh an the university is actually helping I suppose to some extent because it is prepared to have this person and has made some provision for him

*Right, OK*

Now there will be other stages but in no case will there not be an enormous struggle to raise financial resources and probably the financial resources will be raised frankly on volunteer effort - because Robin and I put our time in free and it will probably actually need quite a lot of work from Robin and me....END OF SIDE OF TAPE (there is the primary data flow; modelling outputs and also primary data in Pond Action and the Environment Agency (which is re-used))

*Exactly what kind of data is being collected for the Upper Thames Wetlands - is that in the more recent document?*

There isn't a more recent document - you mean in the scoping study - that's what I'm talking about - oh no, that's not true there is some outline now of Mark Stevenson's project - the primary data will be flow data and there will be modelling outputs which of course is primary data. In fact there probably already is some modelling output - I don't really know if he is actually running the models yet

*and nothing else of significance under there - I mean there will be but....*

well the other primary data is the data that we have already within the Environment Agency and Pond Action but that won't be new data with regards to this project - that will be actually re-used so no I don't think so - there's nobody going through particular....

*surveying?*

well that's not true there will be - I think you'll have to ask that question is a couple of months' time when it's clearer

***Yeah sure, In what ways, and to what extent, do you or your department/organisation liaise with other bodies over the Wye Valley/Oxon Biodiversity project? Do you have specific points of regular or occasional contact with these bodies (for instance, forums or working groups)?***

Well again if you're talking about - you're going to have to differentiate when you're analysing whether you're talking about the Biodiversity Action Plan because you've

now got - you've moved off the - you've called it the Oxfordshire Biodiversity Project whereas before you started calling it the Oxfordshire Biodiversity Strategy (?) I think if you're going to talk about that you ought to call it the Oxfordshire Biodiversity Action Plan because that's what it is, but I'm not talking about that - I'm talking about the Oxfordshire Nature Conservation Forum - so if you're asking to what extent does the Nature Conservation forum liaise with other bodies over its activities in Oxfordshire again it's a difficult question to answer because it is made up of those bodies that influence ...so yes there is an enormous amount of liaison between the Forum itself and its constituent entities - there's a lot of dialogue with the Agency down in Wallingford - there's a lot of dialogue with RSPB, a lot of dialogue with Banbury Ornithological Society; FWAG; and the Countryside Commission and so on so yes an awful lot of liaison, and of course why am I forgetting English Nature I mean obviously they're a very important part of our group

*and there would be regular contact with working groups?*

*(this part is stil to be included – link back to ONCF activities generally)*

yes working groups meet to suit themselves - they meet every couple of months - some of them meet more often - Biodiversity Action Plan Working Group seems to be meeting every five minutes. The Forum comes together twice a year as a whole forum and everybody is invited - and there are special events as well, so launches of this and launches of that - so we launched the Upper Thames Wetlands Report, Oxfordshire Biodiversity Action Plan we launched - sometimes this kind of links with the Agenda 21 activities as well so there's quite a lot of opportunities for people to meet and talk and....

over the page you ask about information, reporting and so on, and you know about the report which I've mentioned, but there have also been a number of reports from the Forum that are part of the information spreading - and I've listed those as, obviously there was the original Strategy document which I'm sure you've seen which goes back about five years - then there've been newsletters at varying intervals depending on our resources and time and stuff, but now we've got Sian they come out regularly - then we've got annual reporting as well - and then there have been specific - and then the working groups report at each of the forum meetings so twice a year reports in writing saying what they've done, and then of course there are things like the Upper Thames Scoping Study; and the Biodiversity Action Plan and everything else and of course the Chapter in the Agenda 21 which was written by Robin as the Chairman of the Forum, so he wrote the Biodiversity Chapter demonstrating the close link between the two.

*But those last three you've mentioned are the only ones where the forum is having any significant ownership of the documents?*

the last three are the only ones sorry - or are not ones where the forum has ownership?

*well the only major documents where the forum has made a major contribution under the label of being a forum*

yeah, of all of those the Forum owns the original strategy document, the Forum owns the newsletters, the Forum owns the annual report, and the Forum owns the Upper Thames Wetlands Scoping Study - it's a Forum document and it says 'written or supported by or...the actual components of the forum that were intimately involved are written large in there, and the Biodiversity Action Plan, which of course I haven't seen yet I guess will be - that might be interesting - the headliner there might be BBONT and then in slightly smaller print 'a member of the Nature Conservation Forum' - I don't know because the forum has to be extremely flexible and respond to its membership so if its members say, 'Oh God what do you mean...blah blah blah', then the Forum will just go along with whatever its members want.....and there've been other publications too - there's been guidelines and things on the parish plans, and leaflets have gone out, and the forum again will have a level of ownership in that too....my mind's a blank I keep seeing things and I can't remember what they are now

**(Has your organisation produced or assisted with the production of any reports or information relating to the projects? Are you broadly happy with the contents of these reports or are there aspects which you feel now or felt at the time were unhelpful to your organisation's or the project's aims?)**

***OK I'll move onto the next one, Please describe any agreements associated with the project which your organisation would perceive as significant, such as codes of conduct, management agreements, access agreements etc.***

none - because of the fact that it isn't a legal entity it can't enter into any agreements so it has in its minutes - that's the other thing that are available as documentation - it has minutes of all its meetings, and in those minutes the undertaking or as the organisation is saying, 'we undertake - we have agreed that blah blah blah', so there are aspects of codes of conduct hidden - not hidden - there for everybody to see, as a result of the debate that goes on - if it's recorded then that's what we've agreed - so it's not that we haven't got a kind of code of conduct - it's just that we haven't got a published, 'this is what we will do and this is what we will not do'.

***Right but I guess something like Biodiversity Action Plan - a lot of organisations are signed up to that in theory aren't they?***

yes absolutely - in practice.....and don't forget the individual components of the forum - the individual membership organisations will have in some cases understanding between each other for some things - they will definitely have codes of conduct and they will have strategic plans which say things like 'we as an organisation are going to work more with local bodies', 'we are going to work more with communities' so they will have intentions which frankly we help, by having the forum, we help that because ....I'm particularly familiar with the Agency, but English Nature also have endorsed their intention in their codes of conduct to work more with local people, so again we don't have written things in that kind of form but our members have.

***right OK, just still on this - in the Upper Thames Wetlands area - are there any projects which might come under that heading - where there are some agreements***

*that people have signed up to in terms of managing the land in a more localised area?*

well of course the landowners themselves they will have - won't they, the landowners will have and they may belong to organisations like NFU and NFU is a member of the forum so they may have

*so, for example, the landowners in the ESA...*

exactly - there are all kinds of memoranda and understanding and management agreements and access agreement's and things, kicking around affecting the work of the Forum but not actually signed by the forum

*with the river restoration project for example, what did that involve in terms of agreements made or was it simply a question of people...*

that was very complicated, that was very complicated and we have boxes and boxes of letters of authorisation so that was very complicated - that involved physical work on the ground and it involved people's land and it wasn't a question of going ahead and generating data but shifting huge quantities of earth so you can imagine that the liability covers and way in which the insurance cover was generated was very complicated so if you want a good example to study in the future - go to that, and good luck!

*OK right, moving on then,*

**Are there any issues on which you have found it easy or difficult to agree with other organisations? Have you been involved in any formal measures to reach agreement/consensus on these issues?**

nothing that was formal - I've actually written this in straight away - the role of the forum as a facilitator and the fact that it isn't a legal entity, meant that everything - there has been a lot of efforts to gain consensus and it's all been informal. One of the difficulties - an area of difficulty was the question of generating a new real legal entity - people didn't want a legal entity so the difficulty was moving forward without forming a legal entity - that was one big area of potential conflict as was - and linked with it - the whole question of raising money and was this in competition locally with other bodies which needed to raise money and again there were no formal measures - there was no formal agreement to kind of partition the fund raising activity - there was just informal agreement that the way in which the forum would get sponsorship would be through new contacts - contacts that were not the standard contacts and the standard supporters of other people in the county - a very difficult road to tread that - and we have had problems and I think we will from time to time no doubt have other problems - I think we've got it at the board and we have to look to the future to really be quite innovative and get new monies - not old money - new money. And one area there of course which you might want to talk to Robin about is the way in which having a forum actually for some organisations for them to work with everyone makes it easier for them - the fact that everyone is represented means that they're not being selective - they're not showing favouritism so for the Agency locally in

Wallingford finds it easier to work with the forum rather than just support one or other of the organisations. The NFU finds it easier to support the forum - not with money, but support the forum - because the forum gives a spectrum of opinion back to it rather than it working with one organisation which might have very limited spectrum of opinion. There was another point I was going to make - what was that? it's completely gone - if it comes back....it was something to do with informal methodologies rather than formal ones -0 I think what we're all nervous about is that the whole conservation movement is evolving quite quickly at the moment and staying flexible and sticking to the ideas that the main function we're there for is to help those bodies that are already working on conservation in the county to actually be more effective rather than to create something new which one could then.....and sticking to that is quite hard

***yes it's a difficult balance ok, about public involvement.... Are there any issues on which your organisation comes into contact with the general public? Have you found it necessary to engage in any public relations/consultation/ participation exercises, either individually or in liaison with others? Please describe.***

well I think the forum - if you talk to anybody in the forum - they'd like to make it more open - they'd like to have more contact with the public - they'd like to influence some new blood - we tend to be - although it's quite a large group - we tend to be the same people so I think we want to have more to do with public and we do have open days and we have had - the other thing that I mentioned just now - we have had our own fund-raising events and they've taken the form of invited individuals to come to a dinner usually at the manor at Little Whittenham - there's been three - it's no big deal - there's only been three - and they trend to be new sponsors they're not well known sponsors of organisations already but they are members of the public - they are rather financially well off members of the public but nevertheless they are new people and we're not only asking them for money - we're actually saying, 'would you lend your name to this?', 'would you like to be more involved with this?' to try and spread the influence to get new people in and we've had some success with that but these are very small efforts to spread this partly because this is very resource heavy - we haven't got the resources to do very much of this kind of 'opening up' but I think there is a general will that people want to, and then when organisations or individuals in fact ...?????.... Robin on the ...???....- I can't tell you how they welcome with open arms - 'could you please bring all your relatives - we'd love to see you', because you get an in-group and it may be 50,60,70 people but if it doesn't grow to include more people, you're not doing your job so we are a bit concerned about this

***Do you think in a general situation there are more and more people who would be active in that kind of way or do you think that there's a limit and those that are already active is kind of 'it' - or do you think there is much more potential to be tapped?***

well, logic tells me that as people's circumstances change new people become available - you know kids grow up mums have a bit more time, so my logic tells me that there should be an increasing - or at least a change in the people who are available - but yes I know what you're saying - it's only a percentage of the population who are going to be involved in anything like this and if we see any



growth we're going to have to work extremely hard to see the growth but I'm fairly optimistic - I think conservation's got a better grip on people's imaginations than it had ten years ago and there are more people involved..

*no - I mean I'm inclined to agree with you - I think the environment as an issue is such a major thing now - I think - having been a teacher before - you can see children are much more interested and enthusiastic than when I was at school*

yes that's right and I feel quite hopeful and one of the interesting things that I heard Jack Cunningham say just the other day - he opened a meeting and he said it was really quite interesting - somebody's going to write a book one day on this interesting British habit of relying more and more to get more and more things done by people we don't pay and he was opening a new committee all made up of people who are volunteers and they're going to meet 2/3 time a month - they may meet twice a month - well one of the meetings will probably be a two day meeting - they'll have expenses paid but they give all their time free and this will run for eighteen months or something - hell of a lot of time - and we're doing this all the time - I mean I'm one of them so I've got very mixed views I think that if we expect important things to be done by volunteers we may be kidding ourselves you know - so I think there are going to be an expanding number of people who will be brought in but I don't know whether the next generation of aspiring 30 year olds now who when they're 40 or 50 are going to actually say necessarily "Oh yes I don't mind doing all this for nothing - yes of course I don't mind..."

*Yes because they've also probably got quite a different mentality*

Maybe they have yes - so it's going to be quite interesting - I was quite fascinated that he noticed it though because you know the government is doing this more and more and all these committee organisations, it's got the RDA starting up and they all rely on volunteers so there you go

**Do you have any formal arrangements to delegate powers to individuals to speak on particular issues at meetings?**

No we're back with this thing again- it's all informal - I mean the chairman - Robin Buxton who you know well - he does take actions and he gets support from those actions and making decisions from the vice chair and the treasurer and obviously from Sian and because it's so informal and nobody wants to have formal arrangements - that's why we've been beavering away from the last six months trying to strengthen something which is quasi formal which will support him in making decisions which is this new co-ordinators group. He does feel exposed because - ok the resources aren't enormous - but if he did decide to do something and then there was a backlash from the rest of the forum he said, 'I just don't know what I'd do - I don't know what I'd say' so the fact that we have to have something that's just a bit more formal without being formal is a real challenge

*and are people generally happy with that because I was at the last meeting when that was being discussed but had to leave before the end*

the one that we had in Wallingford

*yes it was in Wallingford yes*

yes we had - everybody seemed to be happy in the end with that - again the tension was that it looked as if it was getting too formal - an organisation with legal status and people just don't want that - it would in some ways be much easier if it did have that but I can see why people don't want it and everybody is happy that it should be informal - if you can manage it informally - and I'm sure that we can now because we've been through this with question and answer and it's more helpful

*yes just on reporting back - how do organisations report back to your organisation on external meetings they've attended?*

well they don't - they report back through the newsletter - they report through the network but that's not reporting as I understand it my interpretation of reporting is that of someone pays my expenses to go to a meeting I write a report well nobody pays anybody anything so there's no resourcing in that sense but the information flows quite well but completely informally

*Are there any difficulties created by this or not that's been noticed?*

created by the fact that we don't always hear what we want to hear - yes that's interesting - the difficulties would be that if the expectations of member organisations have of the forum is that they would get to know everything reliably - then they might feel that it was failing them but I think the expectation is that this just help them to hear more but there isn't an expectation that they will hear everything so I don't know of any specific difficulty over that - I mean the difficulty is that much more that by trying to be more organised we've started to say to the people at the forum that it would be easy to be more organised and they've said no hold it we don't want it more formal - so the difficulty has been trying to be more organised but they don't want it to be more organised - that's the main difficulty - the two difficulties were - too much formality; too much status and too much structure - people are very guarded about, and the other was setting up something that will compete financially. those are the two areas of difficulty

*ok and the last part of that question... If a situation arose in which your representative (and I don't know how you want to think of that) was asked to agree a position which was not yet corporate policy, how would this be resolved, assuming that a swift decision was being sought? Maybe just taking representatives on the forum...*

Robin actually has an answer to this - he says in contentious issues the forum will avoid having an opinion - so Robin will give an opinion that is Robin Buxton's and I will give an opinion which was mine and if people wanted to go further they would have to go to BBONT and the Agency and English Nature and so on but we wouldn't on a contentious issue - and we have already done that once or twice and actually dodged it - we've said 'no the Forum actually hasn't got the status to give you an

overall opinion', we are a network of organisations that will have their own views on this - go to them

**How are individuals expected to report back to your organisation on external meetings which they have attended? In relation to the Wye Valley/Oxon Biodiversity project, does this ever create any difficulties? If a situation arose in which your representative was asked to agree a position which was not yet corporate policy, how would this be resolved, assuming that a swift decision was being sought?**

*ok I think the next question - we've probably covered really - Is your organisation representing the views of a particular group of people and, if so, what steps does it take to ensure that their views are represented and that they receive feedback?*

my answer to that is yes it is a particular group of people - it's the people that are interested in conservation very broadly in this county so we are careful not to represent the views of individual organisations if they come from the Forum and we are careful to avoid giving an overall view from the forum and refer people to individual organisations so I think that answers the question really - that links back to the previous question

*what about in a national context - does the forum ever speak out and sort of represent the view of people of Oxfordshire as a whole?*

never so far never - what it's done nationally through individuals - it's said look here in Oxfordshire we're working hard on how we can get this very loose partnership where we all pull in the same direction - come and talk to us - come and look at what we do so we've said much more 'we think we've got something here which actually helps conservation which we'd like you to adopt in Kent and Essex and Scotland and so on

*Is there much interest from other counties?*

well there's been a lot of interest from influential individuals from other counties - I've talked to many of my colleagues on the Agency Board about this - they're fascinated - they want to know more about how you can pull together effectively - because it's very important to the Agency - in the county and what can you achieve and my answer is 'you can - it's extremely difficult to do you have to overcome your difficulties of jealousies and prejudices and competition and I think we are now beginning to see that you can achieve things but it's slow and I think they'd have to ask me what we've achieved several years down the line

*OK - it's the last two questions.*

yes, well my answer to the one at the top of the page 'is your organisation involved in current activities is through projects, and we've been through that - one of which would be the Biodiversity Action Plan

*Actually - just picking up on one thing that you just mentioned - you said you know that the forum.... and that other influential individuals are asking how can you achieve this working together, but you said that we're just starting to see the impacts on organisations of being members of the forum - is there any plan to ever monitor how members have benefited from the forum activities?*

I would like to initiate that in the very near future - I've had one try - I had a student from Brookes who was interested in a study of Agenda 21 and the Forum and looking at who the individuals were, who organisers were - how many we had in common and how many were different - and part of that was how had those people got involved in the first place, stayed involved, and what had they got out of it? Now I still want to do that project sometime - I think it evaporated into a transport project which she was personally more interested in which is great. So we've been looking at how we could do that exercise without it costing us any money because we've got no money to put into it and I don't think it's appropriate for Sian to do it because she's so busy and we've got to go forward and I'd like to get someone who was not in a job with us, that could look at this - do you see what I mean - somebody more distant I still see that as a very very important thing to do but so far I've been courted - I didn't manage to do it - I do think we do need to do it - we're always talking about monitoring and evaluating in the working groups and saying how important it is to do it but it is very time consuming and resource heavy to do it properly and I really would like somebody from the outside to do it

*what about the Oxfordshire Nature Conservation Strategy - was that ever evaluated?*

never from the outside but that really was the - how can that be evaluated - that was a document and it gave rise to 12 objectives which were split up into working groups and that strategy was the original document that led to the creation of the forum and has underpinned everything we've done- so you would be evaluating the work of the forum - you would be doing what I just said so if a student or an exercise was done along the lines of what I just explained to you you would be doing a study of who are the people who are in it, what have they done and how do they feel about it, and how does the outcome now compare with what they thought they were going to five years ago so it would take that on board.

*I don't know about the last part of the question.....(END OF TAPE)*

members of the forum would answer 'yes'

**(Is your organisation involved in specific current activities, including monitoring and evaluation, related to the Wye Valley/Oxon Biodiversity project? Could you describe these? Has this involvement assisted your organisation in reaching its own objectives?)**

**What lessons learned from the Wye Valley/Oxon Biodiversity project would you like to convey to a European partner?**

would like to set up comparison - Chris Wordsworth has prepared one application which failed, to look at how Oxfordshire formed the forum because it is worth spilling out this experience now - the idea that in nature conservation only one organisation can make a difference is disappearing. Size and integratedness of problems in creating networks; partnerships; pulling together. People are now more experienced in partnerships - people in the forum have their own objectives but are now finding out how to pull together - I think it works. Something like this is going to have to make a difference to the environment and should be spilled out into Europe.

Additional comments after tape and interview questions ended

General problems with EU applications.

Agenda 21 wildlife interests are at core of forum - environmental interest is at heart of Agenda 21 interest - work out there is very integrated. Overlap beautifully in BAP and Education so joint working groups between these:

Diagram of two circles - ONCF and Agenda 21 - nodes representing working group - overlap is BAP and Education.

Thank you very much for your time and assistance.

## APPENDIX EIGHT: ACTORS INITIALLY INVITED TO BE INVOLVED WITH ONCF

List of actors invited onto ONCF at its start in 1993 and the interests they represent

Name of actor	Role or function as a stakeholder within nature conservation activities within Oxfordshire	Other humans/elements of nature represented by this actor
English Nature (EN)		Rare flora/fauna and sites of wildlife importance such as SSSIs and NNRs. Farmers and landowners with important biodiversity sites on their land. Mobilising the interests of wildlife through the Wildlife Enhancement Scheme. Protection of biodiversity within Natural Areas, the first plan developed in 1996 being the English Nature Oxford Clay Vale Natural Areas Strategy. Also responsible for identifying Prime Biodiversity Areas within Natural Areas.
Countryside Commission (CC)	Government agency concerned with countryside management and the management of grants to farmers and landowners.	Natural features in Areas of Outstanding Natural Beauty, e.g. Cotswold AONB; elements of nature also represented through administration of the Countryside Stewardship Scheme. Elements of Nature also enrolled through creation of the Thames Path National Trail.
National Rivers Authority (NRA) Later replaced by Environment Agency (EA)	Government Agency concerned with river management and protection of water	Riverine interests within the county. Wildlife in rivers and along river corridors. Pinkhill

	<p>quality. Production of Catchment Management Plans (CMPs) and later with Local Environment Agency Plans (LEAPs) for Upper Thames; Cherwell; Windrush; Ock and Thame. Farm pollution control; industrial pollution control; flood warning systems; routine dredging of rivers and watercourses.</p>	<p>Meadow Experimental Wetlands Project considered the benefits of creating small-scale wetlands; River Restoration project demonstration where natural features of rivers are enrolled. Fish habitat improvement scheme, e.g. on Windrush.</p>
<p>Forestry Authority</p>	<p>Government body concerned with forest management for commercial production, leisure purposes and nature conservation.</p>	<p>Forests, trees and woodland habitat.</p>
<p>Ministry of Agriculture Fisheries and Food</p>	<p>Government Department concerned with dissemination of grants and financial incentives to farmers and landowners as well as management of food production within England through applying measures from the EU CAP.</p>	<p>Overlapping interests between the productive use of land and wildlife enhancement. Wildlife within Environmentally Sensitive Areas such as Cotswold Hills and Upper Thames Tributaries.</p>
<p>Oxfordshire County Council Department of Leisure/Arts; Department of Planning/Property; Chief Executive Department</p>	<p>Local authority responsible for making planning decisions that take sites of biodiversity interest into consideration through minimising development within protected areas and recognising Alert Sites. Responsible for encouraging access to nature for leisure and educational purposes. Production of County Structure Plan and Minerals and Waste Plan.</p>	<p>Humans and elements of nature existing within the county as a whole. Natural elements within Local Nature Reserves and SSSIs and other protected sites.</p>

Cherwell District Council	Local Plan production and Local Nature Conservation Strategy. Allocation of LNRs and SSSI management.	Humans and elements of nature existing within Cherwell District. Nature within LNRs and SSSIs. Nature within Cherwell Valley Country Park.
West Oxfordshire District Council	Local Plan production and Local Nature Conservation Strategy. Allocation of LNRs and SSSIs management.	Humans and elements of nature existing within West Oxfordshire District. Nature within LNRs and SSSIs
Vale of White Horse District Council	Local Plan production and Local Nature Conservation Strategy. Allocation of LNRs and SSSI management.	Humans and elements of nature existing in Vale of White Horse District. Nature within LNRs and SSSIs.
South Oxfordshire District Council	Local Plan production and Local Nature Conservation Strategy. Allocation of LNRs and SSSI management.	Humans and elements of nature existing in South Oxfordshire District. Nature within LNRs and SSSIs.
Oxford City Council	Local Plan production and Local Nature Conservation Strategy. Allocation of LNRs and management of SSSIs in the city.	Humans and elements of nature existing within Oxford. Nature within LNRs and SSSIs.
Oxfordshire County Recorder	Collation of species distribution information collected by amateur naturalists and professional biologists; computerising the database.	Many different species of plants and animals, e.g. for water habitats: dragonflies, water invertebrates, fresh water molluscs.
BBONT (Berkshire, Buckinghamshire and Oxfordshire Naturalists Trust)	One of 47 Wildlife Trusts in the UK, covering three counties. In Oxfordshire responsible for developing the Oxfordshire 100 project and Local Biodiversity Challenge initiative. Work with local communities towards protecting wildlife in all habitats.	Protection of 100 key species within the county, and more. Represent the interests of over 90 Nature Reserves within the three counties, many of which are SSSIs.



<p>Royal Society for the Protection of Birds (RSPB)</p>	<p>The Largest wildlife conservation charity within the UK. Promotion of the interests of wild birds and their habitats. Advice to farmers and landowners. Implementation of particular bird recovery projects. Oxford RSPB provides volunteers and wardens for RSPB Reserve on Otmoor.</p>	<p>The interests of birds and members of RSPB. Bird habitats.</p>
<p>Oxfordshire Ornithological Society</p>	<p>Charity that promotes bird watching and observations. Holds a database for reports of recent sightings for an abundance of different species.</p>	<p>Interests of Oxfordshire birds, their habitats, and members of the Society.</p>
<p>Banbury Ornithological Society</p>	<p>Established in 1952 and responsible for the study of bird life in 12 10km squares around Banbury which includes parts of Oxfordshire. The main activity is fieldwork; also responsible for managing 5 bird reserves and proactive in local conservation matters.</p>	<p>Interests of Oxfordshire birds and members of the Society. Particularly represents birds and their habitats in the Banbury area.</p>
<p>British Trust for Nature Conservation Volunteers (BTCV)</p>	<p>The UK's largest practical conservation charity. Undertakes training in, e.g. woodland management; pond creation management and hedgerow management and creation of wildflower grasslands. Also involved with heathland work.</p>	<p>May be represented by volunteers who undertake work for local authorities, English Nature, Woodland Trust and so on. On the ONCF BTCV represents many conservation interests and also the interests of volunteers.</p>

Woodland Trust	NGO that looks after over 1,000 woods across the UK. Each Woodland Trust wood has its own management plan compiled by a woodland officer responsible for its care.	Represents the interests of native woodland, for example, within Oxfordshire, Eynsham Wood; Uffington Gorse. Advocate that there should be no further loss of ancient woodland; an improvement in woodland biodiversity; an increase in new native woodland and an increase in people enjoying native woodland.
Council for Protection of Rural England	NGO focused on campaigning on rural issues. For example their hedgerow policy position statement contributed to the introduction of Hedgerow Regulations in 1997. This applied to important hedgerows on farmland but was regulations were not seen as going far enough at the time. Divided into 9 districts within Oxfordshire.	Represents the need to preserve the beauty, tranquillity and diversity of rural Oxfordshire. Active in campaigning on issues to do with hedgerows and stone walls which are seen as contributing to landscape character and are valuable habitats.
Oxon Rural Community Council	County-based administratively. Gives grants to promote sustainable rural communities particularly to meet social goals.	Incorporate aspects of the environment which can include biodiversity through participative local planning. Represents the interest of Oxfordshire's rural communities.
Ramblers Association	Britain's largest walking charity. Within Oxfordshire, organises walks and takes note of access issues. Provides volunteers on various countryside protection initiatives. Often involved with consultation on rural issues, for example, the review of agri-environment schemes in the early 2000s.	Protection of natural beauty taking the form of landscape or wildlife interests. Interests of walkers.

Oxfordshire Woodland Group Advisory Group	This group was established in 1987 and organises informative events. Link to Oxfordshire Woodland Project, established in 1991 to give assistance to small wood owners.	Promotion of the interests of sympathetic management of small woodlands in Oxfordshire, thereby representing woodland habitats and species.
Country Landowners Association (CLA)	Charitable Trust that is almost 100 years old. Safeguards the interests of those responsible for land, property and business in the rural economy. Influences decision makers on rural economy issues.	Represents the interests of landowners within Oxfordshire, and elements of nature represented on their land.
National Farmers Union Farming and Wildlife	Promotes socially responsible agriculture and horticulture. Organised regionally, Oxfordshire being in the South-East region. Negotiates on policy issues at all levels.	Represents farmers and growers and the interests of nature on their land, or land they manage.
Oxford Brookes University	A research body with some projects linked to biodiversity in Oxfordshire. Houses the charity, Pond Action.	Has been involved with some locally-relevant research on wetlands and integrated catchment management.
Friends of the Earth	An environmental campaign charity that seeks to influence policy and practice from local to global levels. 90% of income is from individual members of the public or its own members.	Represents elements of nature that are under threat from development or changes in land management.
Pond Action	Part of the Ponds Conservation Trust. National Centre for advice, information on pond management and design. Holds a database of ponds and small wetlands in Oxfordshire. Situated in Oxford Brookes University.	Represents the interests of ponds and small wetlands and watercourses.

Oxford Urban Wildlife Group	Organises wildlife talks and walks within the city. Has created a wildlife pack that promotes many different habitats and wildlife gardening.	Protection of wildlife within the city and the interests of people living in Oxford.
National Trust	Established in 1895; aims to preserve places of historic interest.	Promotes environmentally- sensitive land management practices, e.g. representing elements of nature through Sherbourne Watermeadow Restoration Scheme which aimed to re-instate working flood meadow alongside the River Windrush.
Forest Enterprise	Agency established in 1996 to manage the nation's forest estate. It ceased to exist as a single agency in 2003. Local officers carry out work on the ground.	Represents the interests of trees and forests and their uses. Represents the interests of multiple benefit forestry, and maintaining habitats to this end.
Community Forest	Aims to improve urban fringe landscapes, for example, through development of the Great Western Community Forest; the Wychwood Project and Forest of Oxford.	Represents interests of forests and woodland habitats and species and the people that enjoy leisure pursuits within these areas.
ADAS Oxford	Provision of environmental and rural advice. The Agency is 35 years old. Advice to farmers and landowners within ESAs.	Represents the needs of wildlife, humans and landscape, for example, natural elements contained in ESAs. Advises on land appraisal for biodiversity.
British Waterways Board	Responsible for maintaining the inland waterways network for leisure purposes whilst maximising social, environmental, economic and heritage benefits.	Represents the interests of users of the waterways and wildlife along them.

<p>Farming and Wildlife Advisory Group (FWAG)</p>	<p>Provision of site-specific advice to landowners on practical conservation projects and preparing detailed Whole Farm Conservation Plans.</p>	<p>Elements of nature enrolled through conservation initiatives and farm wildlife in Whole Farm Plans. Also represents interests of landowners and farmers. Example, encouragement of installation of buffer strips and zones on all watercourses and good hedgerow management through group farm initiatives such as the Four Parishes Project..</p>
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## **APPENDIX NINE: ACTIVITIES OF THE LAND MANAGERS WORKING GROUP OF ONCF**

### *Local Authorities Working Group Activities:*

#### *Contributes to fulfilling all aims of The Strategy*

The four district councils of West Oxfordshire, Vale of White Horse, South Oxfordshire and Oxford City were responsible for formulating local plans, preparing district-wide conservation strategies and establishing and designating Local Nature Reserves (LNRs). In October 1994 it was reported that each local authority was working at making progress regarding nature conservation strategies, for example, Oxford City was planning to publish their strategy in Spring 1995 (Minutes of ONCF 26/10/94). Thus these green plans were also being developed at a more localised level as well as at county level. The County Ecologist had drafted a format for the districts to adopt (Minutes of ONCF meeting, 01/11/95).

The local authorities acted to designate many LNRs in which different elements of nature were protected, for example, Oxford City Council (in the detailed Strategy for the City) highlighted the extraordinary wealth of meadows, wetland and open water habitats, fen and woodland which make Oxford City one of the richest cities in Europe for wildlife. Magdalen Quarry and Rock Edge were designated as LNRs for their geological interest. LNRs were established by Vale of White Horse District Council at Tuckmill Meadow and by West Oxfordshire District Council at Vicarage Pit, extending protection given to these sites as BBONT Nature Reserves. South Oxfordshire District Council designated the Cuttle Brook LNR in Thame with strong support from the community (as stated in ONCF (1994) Oxfordshire Conservation Strategy News).

## APPENDIX TEN: AIMS OF THE HABITATS WORKING GROUP

The Habitats Working Group aims were as follows:

*Prime Biodiversity Areas:* Complete 9 Whole Farm Plans in 3 Prime Biodiversity Areas

Develop future projects expansion proposals

Organise visit to farms with EN National Staff

*Parish Plans and Whole*

*Farm Plan Project:*

Produce local farmers leaflet

Expand hedge survey to remaining 3 parishes

Complete 4 Countryside Stewardship Applications

Complete 3 new Whole Farm Plans in area

*CIS:*

Draft detailed project proposals

Secure agreement with ITE

Secure agreement with DoE

Submit funding applications

*Upper Thames Wetland*

*Scoping Study:*

Organise consultation meetings

Report on meetings

Draft Phase II proposal

*Paper in ONCS/Habitats Management Group File (1996)*

## APPENDIX ELEVEN: THE ACTIVITIES OF THE ACCESS WORKING GROUP

### Access Working Group Activities:

*Aim 3 of The Strategy: To improve access to appropriate wildlife and geological sites as well as the wider countryside and to facilitate enjoyment and educational value of the nature conservation resource*

Initial plans included undertaking an audit on what was currently available for public access, including within the ESA and Stewardship schemes so that action could be taken to improve access in certain areas. The Group also planned to promote guided walks, tackle disability issues and collect information on the current level of public participation and on the work of voluntary organisations and other groups available to offer time and resources.



## **APPENDIX TWELVE: THE POLICY AND RESOURCES GROUP OF ONCF**

### A New, More Formalised Working Group

There was discussion from the outset of the establishment of ONCF as to whether a more formalised 'Policy and Resources Group' should be set up which might be responsible for developing a Public Relations Strategy. It was decided to proceed, with the Group's remit being to provide management for the activities being generated by the Forum, and to manage communication between Forum partners and publicity for ONCF in tandem with the public profile of the partners. It also had responsibility for setting up administrative arrangements such as banking. The Group comprised seven members, including the county ecologist and the ONCF Chair. Each member had been instrumental in developing the Nature Conservation Strategy and they were also key representatives in other Working Groups. It was agreed that much of the work was likely to be reactive and that the Group could help other Groups or when appropriate, partner organisations. The Group would also be responsible for facilitating a general review of the Strategy from time to time.

The Group intended to assemble a record of all the Forum's achievements and activities on an annual basis which would be a means of monitoring progress and a basis for producing an annual report. All Working Group co-ordinators were invited to attend Policy and PR group meetings. It was through the development of the Policy and PR Group that ONCF became more formalised in relation to budgeting and administration - 'it had moved from being a Group that was supported by volunteers to a more professional Group with administrative support' (Minutes of Habitat Group, 06/09/96).

**APPENDIX THIRTEEN: TASK FORCES ANDN WORKING GROUPS INVOLVED WITH PRODUCTION OF HABITAT ACTION PLANS**

Habitats were grouped and planned for as follows:

HABITATS	HABITAT TASK FORCES	WORKING GROUPS
Wet woodland Lowland Broadleaved woodland Lowland Wood Pasture Parkland and Veteran trees Lowland Beech and Yew Woodland	<i>Woodland Task Force</i> Group currently deals with all woodland habitats  Proposed: individual representatives for remaining habitats	<i>Woodland Task Force</i> (a committee of the Oxfordshire Woodland Group). Coordinated and wrote all woodland HAPs – some concern about widening membership to include industries.
Canals Fens and flushes Gravel pits and other lakes Ponds Reedbeds Reservoirs Rivers and ditches	<i>Wetland task force</i> <i>Canals task force</i> <i>Ponds task force</i>  Proposed: individual representatives for remaining habitats	<i>No sector group</i> , may not be necessary in this case as role may effectively be carried out by EA
Chalk and limestone grassland Grazing marsh and neutral grassland Grassland Farmland Heathland Hedgerows	<i>Hedgerows Task Force</i> <i>Farmland Task Force</i> <i>Heathland Task Force</i> <i>Chalk and Limestone Grassland Task Force</i> <i>Grazing Marsh and Neutral Grassland Task Force</i> Proposed: open Habitat Task Force	<i>Land Managers Working Group</i> A good liaison group between biodiversity interests and farmers/land managers and owners. Worked on how to increase interest and involvement amongst landowners.
Settlements	<i>Settlements Task Force</i>	<i>Settlements Task Force</i> (Wrote the Settlements

		HAP. Was decided to keep the focus on settlements rather than communities; could be scope to widen the range of organisations involved, thought that ONCF could contribute to this because of their experience with communities)
<p>Geodiversity</p> <p>This was proposed in 2000 as another HAP area since several SSSIs and Alert Map sites had been designated for their geological interest and many had still not been surveyed. Geological data on the SSSI sites was kept by EN. Thus work began on an Action Plan for geology.</p>	<i>Earth Heritage Task Force</i>	<i>Earth Heritage Task Force</i>
All Habitats		<p><i>Local Authorities Working Group</i></p> <p>By 2001 had started meeting every 6 months to liaise and report on work in their districts and in the county.</p>

## APPENDIX FOURTEEN: DISTRIBUTION CLASSES FOR BAP SPECIES

A paper circulated by the BL Group suggested that BAP species were put into three distribution classes:

1. *Widespread* (agri-baps such as hare, skylark, grey partridge, pipistrelle)  
Benefit mainly through agri-policy changes, agri-environment schemes and general improvements in wider countryside quality. Site based conservation will have little impact on these.
2. *Clustered* (dormouse, pearl bordered fritillary, greater horseshoe bat)  
Conservation action can be targeted at particular areas of occurrence. Need to produce distribution maps for each species and targeting actions and grants to these core areas. The core areas are likely to alter over time as populations are secured allowing other landscape blocks to be targeted.
3. *Site specific* (Marsh Fritillary, *Dromius quadrisignatus*)  
Species restricted to one or two sites so conservation effort will be very site-specific using traditional site management approach with opportunities to expand out. Ideally site-specific species should, over time, become clustered populations.

[From Minutes of Biodiversity Link Group, 10/07/01].