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The Roles of Aesthetic Value in Ecological  
Restoration: Cases from the United Kingdom

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Ph.D.

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## Declaration of originality

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Jonathan David Prior

Date

## Abstract

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Ecological restoration has been identified as an increasingly important tool in environmental policy circles, from reversing species loss to mitigating climate change. While there has been a steady rise in the number of research projects that have investigated social and ecological values that underpin ecological restoration, scholarship has predominantly been carried out at the theoretical level, to the detriment of engaging with real-world ecological restoration projects. This has resulted in generalised and speculative accounts of ecological restoration values.

This thesis seeks to address this research gap through a critical analysis of the roles of aesthetic values in the creation and implementation of restoration policy, using three different case studies of ecological restoration at the landscape level in the United Kingdom. I employ interdisciplinary research methods, including semi-structured interviews, interpretive policy analyses, still photography, and sound recording techniques, to better understand the multi-sensorial qualities of ecological restoration.

I trace the role of aesthetic value from the initial development of restoration policy through to the management of the post-restoration landscape, considering along the way how aesthetic values are negotiated amongst other types of social and ecological values, how aesthetic values are measured, articulated, and projected onto the landscape by restoration policy makers, and the ways in which aesthetic values are applied through design and management strategies across each site.

Throughout the thesis, I engage with a number of current research themes within the ecological restoration literature that intersect with aesthetic value, such as the use of ‘native’ and ‘non-native’ species in landscape restoration, and the procedure through which landscape reference models are selected. I also address hitherto unasked spatial questions of ecological restoration, including an examination of the aesthetic relationships between a restoration site and adjacent landscapes, and the application of spatial practices to regulate certain forms of post-restoration landscape utility. I demonstrate that aesthetic values play a

multitude of different roles throughout the restoration process, and ultimately show that as aesthetic values are captured and put to use to different ends through policy, they are inherently bound up with competing ethical visions of society-nature relationships.

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## Acronyms

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BCC: British Coal Corporation  
BFT: Borders Forest Trust  
CCBC: Caerphilly County Borough Council  
CPTED: Crime Prevention Through Environmental Design  
DBC: Darlington Borough Council  
DWT: Durham Wildlife Trust  
EA: Environment Agency  
ES: Environmental Statement  
ESC: Ecological Site Classification system  
FC: Forestry Commission  
GC: Groundwork Caerphilly  
GI: Groundwork Islwyn  
GPS: Global Positioning Systems  
MFST: Millennium Forest for Scotland Trust  
MGCC: Mid Glamorgan County Council  
NCB: National Coal Board  
NRA: National Rivers Authority  
NVC: National Vegetation Classification system  
PDO: Potentially Damaging Operations  
PEC: Peeblesshire Environment Concern  
RRC: River Restoration Centre  
RRP: River Restoration Project  
RVDC: Rhymney Valley District Council  
SAC: Special Areas of Conservation  
SEPA: Scottish Environmental Protection Agency  
SER: Society for Ecological Restoration International  
SINC: Site of Importance for Nature Conservation  
SNH: Scottish Natural Heritage  
SSSI: Site of Special Scientific Interest  
WGS: Woodland Grant Scheme  
YBP: Years Before Present

## Chapter 1. Introduction

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### *1.1. The meanings of ecological restoration*

The most widely used definition of ecological restoration is formulated by the Society for Ecological Restoration International as follows: ‘ecological restoration is the process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed’ (SER, 2004: 3). Such assistance toward recovery aims to restore the historical conditions that existed before an ecosystem was degraded, damaged or destroyed (*ibid.*, 12). According to the Society, this definition is ‘...sufficiently general to allow a wide variety of approaches to restoration’ (*ibid.*, 2).

Other definitions help us to understand what ecological restoration might mean. For example, Throop (2000) considers ecological restoration to ‘involve minimizing some prior human impact by restoring a system to a healthier state, typically a state involving the species and processes that characterized the predisturbance system’ (Throop, 2000: 11). While the SER talks about the ‘recovery’ of an ecosystem, Throop is less assertive, demanding only ‘minimization’ of human impacts, and not necessarily at the ecosystem level. Additionally, while Throop proposes that the ‘healthier’ state to which ecological restoration points toward ‘typically’ involves species and processes before human perturbation, clearly this is not necessarily so. Thus, in Throop’s definition of ecological restoration, we see that the meaning of ecological restoration has different scales of organization in mind, and may be directed toward different end-points.

Indeed, ecological restoration in practice is focused at many levels of spatial organization and biological complexity. A restoration might target, for instance, one particular species. The high-profile feasibility study concerning the re-introduction of the Eurasian beaver (*Castor fiber*) into Scotland, and potentially their subsequent full restoration, does not require the restoration of other landscape components – much less a whole ecosystem – though undoubtedly such a restoration would lead to potentially quite drastic modifications of the wider landscape because of the engineering activities of beavers (see Jones *et al.*,

2009). We may also see ‘substitution’ restorations: here, an extant species genetically related to another now extinct both in the wild and in captivity, is introduced to the former habitat of the extinct species (Seddon and Soorae, 1999).

Habitat restorations entail working across multiple-levels, as the spatial organization of a habitat is ‘organism specific’, being ‘the sum of specific resources needed by a species’ (Morrison, 2002: 44). So, for example, on Portugal’s Azores archipelago, native plants have been reintroduced and rabbits eradicated to restore seabird (terns and storm-petrels) habitats (Bried *et al.*, 2009). Another habitat restoration involved the reintroduction of wildlife corridors in Jasper National Park in Alberta, Canada, which has increased the habitat range for wolves (*Canis lupus*), and in turn their hunting grounds (Shepherd and Whittington, 2006).

Still other restorations look to restore a gamut of landscape components (species, ecosystem processes, landscape management practices and so on), and are thus not directed only at one target species. This can occur within discrete landscapes or ecosystems, such as forested valley systems (Haynes, 2004), semiarid zones (Moreno-Calles and Casas, 2010), and prairies (Ramírez-Yáñez *et al.*, 2011). Also, we may see restoration projects focused on multiple interconnected landscapes. For example, the Long Island Sound watershed, which covers a diverse variety of ecosystems in and around Long Island, Connecticut, and New York in the US, has seen 250 ha of coastal habitat and 225 km of rivers restored (between 1998 and 2008), through the reintroduction of native plant communities, fish, birds, invertebrates, and the removal of waste materials from wetland areas (Young *et al.*, 2008).

A picture is thus emerging of some of the types of practices that fall under the rubric of ‘ecological restoration’, and the different targets – from individual species to complex land units – that ecological restoration projects pursue. However, these definitions and examples only give a very brief impression of the actual *meaning* of ecological restoration. Indeed, as Light (2012) states, the definition produced by SER ‘does not necessarily tell us what restoration really *is*’ (Light, 2012: 108; emphasis added). So, to take an example from above, while we can understand that the restoration of wildlife corridors in Alberta can increase the habitat range for wolves, to know the *meaning* of such an

undertaking we must know why this is an objective, what might emerge from such a project, what might be gained, and what might be lost. In short, an understanding of the types of *values* that such a project is built upon and reproduces (see Allison, 2004), is essential to a full understanding of what restoration really is. This is, according to Diamond, because ecological restoration: ‘...is not itself a self-evident mandate. It is a choice based on values, and it is only one of many possible choices’ (Diamond, 1987: 331).

What becomes apparent, then, is that the two definitions of ecological restoration provided above fail to make explicit that ecological restoration is a choice: one in which we see the ‘intentional manipulation of ecosystems in accordance with *our* values’ (Higgs, 2003: 13; emphasis added). What are these values that provide the basis for ecological restoration, and what roles do these values play within an ecological restoration project? These questions go to the very heart of what I explore through this thesis. Before I fully flesh out these research questions, I now want to turn to provide a brief overview of what it is I mean when I talk about value – specifically aesthetic value – as well as aesthetic qualities and characters.

### *1.2. Aesthetic values, qualities, and characters*

According to O’Neill *et al.* (2008), environmental values are ‘the various ways in which individuals, processes and places matter, our various modes of relating to them, and the various considerations that enter into our deliberations about action.’ (O’Neill *et al.*, 2008: 1). On this latter point, Kempton *et al.* (1995) similarly understand environmental values to be ‘moral guidelines’ that serve as the basis for ‘environmental concern and action’ (Kempton *et al.*, 1995: 87). Thus, environmental values are normative positions that ascribe relative or absolute goodness or badness to certain things – individuals, processes and places, but also species and other components of environments.

When we consider environmental values, we may ascribe positive or negative value to certain things from a variety of viewpoints. So, for example a valuer may positively value an agricultural landscape for the nutritional value of the resulting crop, but might negatively value a pesticide applied to that crop because of its deleterious effects on non-target organisms. Here, positive *instrumental* value is ascribed to the crop, because the crop is valued as a means to an end. If

the valuer is valuing the non-target organisms because they are a source of food (for example fish in a nearby stream), then again we are seeing instrumental valuation. If, however, the valuer is valuing the organisms because they are living, and not because they are to be put to a human end, then we see *non-instrumental* value, which is a form of intrinsic value (O'Neill, 2003). This question of instrumental 'versus' non-instrumental value is one that has remained central to environmental ethics scholarship (Palmer, 2003: 16). Once value has been ascribed, this may move the valuer to action (though it may not): the valuer may pressurise legislators to ban a pesticide or directly protest the manufacturer to stop producing it. At the same time, the farmer of the crop may positively value the pesticide because of its ability to reduce the amount that is non-harvestable, which would in turn increase that crop's economic value.

We see then that there are not only positive and negative values, but also different types of value. In discussions of the environment, this includes – but is not limited to – ecological value, historical value, cultural value, political value, economic value, ethical value, and aesthetic value. With different valuers attributing different types of value in environmental decision-making activities, there is the very real prospect of irreconcilable values emerging in any given situation:

Distinct dimensions of environmental good and bad can clearly coexist....The drainage of marshland from the economic perspective of agricultural productivity and the possibility of increasing sustainable agricultural yields over time might count as improvement; but from the perspective of biodiversity or the cultural significance of ancient marshes it may be damaging...The policy maker is often faced, not with a clear-cut decision between protection and damage, but with the distribution of different kinds of damage and benefit across different dimensions of value.

(O'Neill *et al.*, 2008: 4)

Amongst these different values – which may be incompatible, but also compatible at different times and in different contexts – I will specifically attend to aesthetic value in this thesis.

Aesthetic value is used within the environmental literature to 'describe the qualities ascribed to landscape, seascapes and other environments' (Brady, 2003: 20). Aesthetic values are non-instrumental, as value is 'attributed to objects in

virtue of their aesthetic qualities, rather than for some purpose, such as the production of pleasure or knowledge (*ibid.*, 25). Glenn Parsons also considers aesthetic qualities to be non-instrumental, defining them as ‘a visual or auditory appearance that is pleasing or displeasing *for its own sake*’ (Parsons, 2008: 17; emphasis in original). Emily Brady provides different categories of aesthetic qualities, including: sensory qualities (such as ‘fragrant’ or ‘velvety soft’); affective qualities (such as a ‘cheerful brook’); imaginative qualities (‘magical’ and ‘animated’); and historically-related qualities (‘original’ and ‘ancient’) (Brady, 2003: 16-17). Additionally, Brady (2008), using the work of Frank Sibley, outlines how aesthetic qualities emerge from non-aesthetic qualities, such as ‘the curve of a line or a colour’ (Brady, 2008: 399): ‘the somber quality of a mountainscape might emerge from the significant presence of rock, lack of vegetation, or just from the grey colour of the rock’ (*ibid.*). In turn, we may see the emergence of aesthetic character, which is ‘a kind of second-order aesthetic quality or property...the overall quality that gives a landscape, artwork, or person a distinctive look or feel’ (*ibid.*, 400). Aesthetic character may not be reducible to one quality, but may instead be a list of different types of aesthetic qualities (*ibid.*).

There tends to be an assumption that only positive value is of concern to discussions of aesthetics, however in its proper use ‘aesthetic value’ covers ‘both positive and negative aesthetic judgments’ (Brady, 2003: 21). Thus, we can speak of not only a beautiful sunset or a tranquil lake, but also various ‘modes of negativity’ (Berleant, 1997: 64). Arnold Berleant provides examples of different forms of negative aesthetic judgments: the offensive, where we see ‘aesthetic affronts insensitive to place’ (*ibid.*, 67); the dull, providing the example of ‘plantations of evenly spaced spruce’ (*ibid.*, 68-69); and also the unfulfilled, the inappropriate; the deceptive; and the destructive (*ibid.*, 70-73). Interestingly, Berleant does not categorise the ugly as necessarily a form of negative aesthetic value, concluding that: ‘in nature as in art, the ugly has its beauty’ (Berleant, 1997: 65).<sup>1</sup>

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<sup>1</sup> Compare this to Brady (2010) who argues that ugliness in nature *is* a form of negative aesthetic value.

### *1.3. Research questions*

Having provided a brief overview of the meanings of ecological restoration and aesthetic values, I now want to outline the central research questions that this thesis seeks to answer. The primary research question is: what role(s) do aesthetic values play in the creation and implementation of ecological restoration policy at the landscape level? Here, I critically interrogate what – if any – roles aesthetic values play throughout ecological restoration projects: do aesthetic values provide a basis for undertaking ecological restoration? What role do they occupy in setting ecological restoration objectives? Does the realisation of particular aesthetic values act as an objective of ecological restoration? How are these aesthetic values realised within ecological restoration?

This primary research question can be broken into two. Firstly, I assess how aesthetic values are spoken about, expressed, measured, judged, and ultimately operationalised within ecological restoration landscapes. Thus, I look to understand the ways in which aesthetic values are both conceptualised and expressed by ecological restoration policy makers, planners, designers, enactors, and managers (herein referred to as ‘restorationists’), and the ways in which aesthetic values are subsequently co-produced within ecological restoration landscapes – both materially and symbolically – to co-produce particular aesthetic qualities and aesthetic characters. It should be noted at this juncture that I shall use the term ‘co-produced’ throughout the thesis. While ecological restoration value objectives are anthropogenic (though not necessarily anthropocentric) because ecological restoration objectives derive from human valuations, I want to consciously avoid implying that humans ‘produce’ non-human nature: to do so would deny agency to non-human species, as well as ecological processes (weather systems, nutrient cycles), and other abiotic components of landscapes. Instead, the ‘co-production’ of ecological restoration landscapes, while perhaps still imperfect, acknowledges the agency of non-human nature in the process of restoration, and thus in the production of aesthetic values, qualities, and characters. In this component of the research question, then, I seek to trace the role(s) of aesthetic values through the various stages of ecological restoration: from the very inception of ecological restoration policies, to the implementation of these policies, through to the ‘post’ restoration phase of

a project – a phase in which the majority of the restoration works have been undertaken – and subsequent management of the restoration landscape.

The second component of the primary research question attends to the relationship between aesthetic values and other types of environmental values, to understand how these intersect and shape one another in the conceptualisation and implementation of restoration policy. It should be understood that aesthetic values do not exist in some sort of vacuum, and I do not want to artificially create the sense that aesthetic values can be singled out in such a way that neglects other categories of value; as Arnold Berleant states, aesthetic values ‘are intermixed with values of other kinds’ (Berleant, 1997: 62). What I am *not* attempting to do here is quantify the relative role of aesthetic value compared to other types, but rather I want to elucidate how aesthetic value works with, or against, other types of value. We have already seen that different types of value may conflict in environmental decision-making, but this is only one way in which aesthetic values may intersect with other types of value in ecological restoration policy. Emily Brady (2003) has shown that in the context of environmental conservation, aesthetic values may be expressed through other types of value – for instance recreational or amenity value – and so I am open to the possibility that aesthetic values may find expression through other types of value, or indeed that other types of value may be expressed through aesthetic values. Additionally, I want to investigate whether the expression of aesthetic values is curtailed, modified, or enhanced through intersecting with other types of value.

Having outlined my central research questions, the question may remain: why am I looking at aesthetic values, and what relevance does this have to human geography? This thesis is unabashedly a mixture of environmental philosophy and human geography, in a way that – hopefully – mutually enriches both disciplines. It is primarily my intention to contribute geographical perspectives – particularly with regard to issues of space and spatiality – to ecological restoration research that has predominantly been theorised by environmental philosophers. As such, I see this thesis as contributing to the work of environmental aestheticians working in geography departments (for example J. Douglas Porteous and Emily Brady), and also to the renewed interest between environmental philosophy and geography that can be seen in the initiation of

journals such as *Ethics, Policy and Environment*, which intentionally attempt to bridge the gap between the two disciplines.

One of the key components of human geography research – indeed all types of geographically orientated research – is the study of landscapes. However, the type of landscape research that has dominated human geography attends to how landscapes are *consumed*, rather than the ways in which landscapes come into being (see Wylie, 2007: 102). This thesis is thus, in part, an attempt to answer this blind spot within the geography literature. As I have shown, I am not looking at how landscapes are consumed; instead I focus in on their co-production through exploring projects that *intentionally reconfigure* the material and symbolic components of landscapes. Indeed, one of the ways that this thesis is novel is the way in which I investigate the transfers (which are potentially dialectical) between policy discourses and the material effects of these. I thus engage with the materiality of each restoration landscape as much as verbal-textual accounts of them.

It is also worth mentioning that, as I shall amply demonstrate in the next chapter, while other kinds of value have been considered within the ecological restoration literature, aesthetic value has received very little in the way of attention, and – to my knowledge at least – this is the first study that attends to the relationships between aesthetics and concrete examples of ecological restoration in a systematic manner. There is clearly, then, a (multidisciplinary) research gap that this thesis seeks to respond to; in doing so, I believe that this thesis significantly adds to and builds upon contemporary landscape research.

I now want to turn to outline the three cases of ecological restoration that I examine throughout this thesis, before I finally sketch out the structure of the remainder of the thesis. It is not my intention here to detail every facet of the three projects that serve as my case studies to explore the roles of aesthetic values in ecological restoration; rather I aim to provide a limited introduction to them, as further details will emerge through my analysis of them in subsequent chapters. It should also be noted that, in Chapter 3, I fully substantiate why I have chosen this approach to answer my research questions.

#### *1.4. Introducing the case studies*

##### *1. River Skerne, Darlington, County Durham, England<sup>2</sup>*

This project was carried out between 1995 and 1998 by the River Restoration Project (RRP, subsequently the River Restoration Centre (RRC)), a not-for-profit river management advisory group, in conjunction with Northumbrian Water, the Environment Agency, Darlington Council, the Countryside Commission and English Nature. Additional funding came from the European Union LIFE programme. A section of 2km of the stretch of the River Skerne flowing through Darlington was restored: four new meanders were introduced in to the channel; riverbanks were strengthened by willow and reed; banks and the riverbed were re-shaped; and new footpaths and planting arrangements were introduced. While the stated objectives were to focus on flood management, habitat diversity, water quality, and community access, the project was set up to act as a demonstration project to show ‘...how state of the art restoration techniques could be used to re-create natural ecosystems’ along other rivers that are ‘constrained’ by urban characteristics.

##### *2. Carrifran Wildwood restoration, Moffat Hills, Dumfries and Galloway, Scotland<sup>3</sup>*

This site is a 640-hectare valley, in the Moffat Hills, Dumfries and Galloway. A former sheep grazing valley, since 2000 it has been owned by Borders Forest Trust, an environmental charity involved in woodland restoration projects in the Scottish Borders and Dumfries and Galloway. So far, over half a million trees and shrubs have been planted as part of a ‘re-wilding’ project; restoration work is still ongoing, mainly through management activities. The project has been initiated and carried out through a grassroots voluntary grouping within the Borders Forest Trust called the Wildwood Group. The stated objective is to ‘re-create an extensive tract of wild and largely wooded land, evoking the pristine countryside of 6,000 years ago’. The woodland is not going to be used for commercial reasons; rather it is going to remain publicly accessible, though

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<sup>2</sup> See <http://www.therrc.co.uk/>

<sup>3</sup> See <http://www.carrifran.org.uk/>

carefully managed, to act ‘as an inspiration and an educational resource’ for future generations.

### *3. Parc Penallta Country Park, Caerphilly, Wales<sup>4</sup>*

This site was previously a deep coalmine for over 85 years, closing in 1992. It was the last mine to close in the Rhymney Valley district, South Wales. Caerphilly County Borough Council and Groundwork initiated an ecological restoration in 1996. Groundwork is a public-private initiative, working under the rubric of sustainable development, through funding from the UK Government, the European Union, the National Lottery, and the private sector. This project formed part of Groundwork’s Millennium ‘Changing Places’ programme, which saw 21 post-industrial sites across the UK restored to parks, woodlands and wetlands. The site is now a 180-hectare Country Park, with different ecosystems (marshland, grassland, fishing lakes); new walking and bridle paths and cycle tracks; and public land art, including ‘Sultan’ the pit pony, the UK’s largest figurative earth sculpture. Caerphilly County Borough Council now actively manages the site for public utility.

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<sup>4</sup> See <http://your.caerphilly.gov.uk/countryside/country-parks/parc-penallta>



Map showing the location of the three case studies. 1 is The River Skerne, 2 is Carrifran Wildwood, and 3 is Parc Penallta.

### *1.5. Thesis structure*

In the next chapter, I provide the context for my research. Here, I highlight the theoretical strands that this thesis is nested within across various disciplines, and also the research gaps that I intend to address. I summarize how different types of value have been explored within the ecological restoration literature, and how aesthetic values have been theorised broadly in relation to conservation strategies and ecological restoration. I then contextualise the thesis within a landscape framework, enlarging my meaning of ‘landscape’ to include audio as well as visual components. In Chapter 3 I move on to outline my methodological standpoint and the various methods that I use to answer my central research questions. I firstly demonstrate why I have chosen to examine the roles of aesthetic values through a case study approach, including a rationale for the number of cases. I then fully describe my three methods, namely interpretive policy analysis, semi-structured interviewing, and audio-visual documenting, providing detail of how data is generated, analysed, and presented in the thesis.

In Chapter 4 – my first empirical chapter – I examine the different value claims that are made by restorationists at each of the case study sites. Here, I show how different value claims are used as justifications for ecological restoration (as opposed to other forms of landscape transformations), how aesthetic values are entangled with restoration objectives, how aesthetic values are measured, and the ways in which they converge with other types of value. In Chapter 5, I critically analyse the ways in which aesthetic values are used to produce a vision (so-called reference models) of the post-restoration landscape. I show that while the issue of ‘authenticity’ has generally preoccupied the literature, in practice spatiality is of equal importance to such visions. I then attend to the different ways that restorationists use narrative devices to communicate desired temporal and spatial aesthetic qualities and characters, and also as a means to contextualise environmental ethical values.

Chapter 6 interrogates how aesthetic values presented in the previous two chapters transition from oral and written policy, to material landscape components. Through focusing on the realization – or not – of landscape design strategies, I show how during this transition, various values are at times either abandoned or reworked, so as to be compatible with pre-existing material vitalities of landscapes. Further, I look at different restoration activities that not

only design *in* certain aesthetic qualities, but also those activities that design *out* unwanted qualities. In Chapter 7, I identify two broad types of post-restoration management practices. Firstly, I outline maintenance of introduced restoration features, and secondly I outline the management of assumedly ‘transgressive’ elements and acts (both human and non-human) that are seen to be ‘out of place’ within the restored landscapes. Importantly, I show that native species are deemed aesthetically transgressive as well as non-native species through what I describe as an ‘aesthetics of excess’. I also look at the ways that management is differentially employed across time and space, and end with an exploration of how management strategies are themselves aesthetically negotiated through attending to the visibility of such strategies. In the final chapter, I distil the numerous research findings, concluding upon each research question in turn. Lastly, I demonstrate the implications of these findings for ecological restoration research, and landscape research more broadly.

## Chapter 2. Setting aesthetics and ecological restoration in context

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### *2.1. Introduction*

In Chapter 1, I showed that ecological restoration is a contested area in terms of the types of values upon which it is premised, the types of values that are used as goal-oriented objectives, and the types of values that it reproduces across multiple levels of organization. This led to a series of research questions that seek to understand the roles of aesthetic values in ecological restoration at three locations in the United Kingdom. In this second chapter, my aim is to contextualize these research questions through outlining, and engaging with, the existing literature that has broadly addressed the various intersections between different types of value and environmental policy strategies. In doing so, I want to highlight the theoretical and multidisciplinary strands that this thesis is nested within, and the gaps in the literature that it at least partially tries to answer.

In the first section I summarize the ways in which different types of value have been considered within the ecological restoration literature, so as to better clarify what meanings are attached to – and reproduced through – ecological restoration. I show its relationship to other environmental management practices, particularly conservation biology, and point to other types of ecological and social values that act as objectives for ecological restoration practices. In the second section I focus in on how aesthetic values have been theorised, firstly in relation to conservation strategies, and secondly in relation to ecological restoration. I show that aesthetic-restoration intersections have especially been theorised through artistic and creative frameworks.

In the final section I aim to do two things concurrently. Firstly, I outline the reasons why I have chosen to conceptualise the practices of ecological restoration by situating them within a ‘landscape’ framework, and why I have largely eschewed ‘place’ – particularly ‘sense of place’. Secondly, through taking onboard existing criticisms of ‘landscape’ in regard to its apparent capacity to reproduce a visual bias within research, I look to enlarge what I mean when I talk about ‘landscape’ throughout the study.

## 2.2. Ecological restoration values

Within the literature, there have been attempts at demarcating ecological restoration as separate from restoration ecology, for instance: ‘the former is an action, whereas the latter is a science with underlying theories and a research agenda’ (Cairns Jr and Heckman, 1996). Some theorists take issue with this, such as Andrew Light who finds ‘these distinctions artificial and unhelpful’ (Light, 2012: 120). However, I find it useful in that, while the science of restoration ecology necessarily informs ecological restoration practices, ecological restoration projects do not *only* use the science of restoration ecology as a basis for actions. Such projects are instead derived from a *variety* of types of knowledge (see also Higgs, 2005). In other words, the practice of ecological restoration is a broader strategy of environmental management that cannot be rationalized as only enacting scientific knowledge, which of course has its own set of values. Indeed, as I shall demonstrate throughout this thesis, ecological restoration projects vary considerably in their utility of ecological theory.

This brings us to Diamond’s conception that ecological restoration is a ‘choice based on values’ that we saw in Chapter 1. I interpret this to mean that ecological restoration is not only a choice with regard to the potential future trajectory of the landscape, habitat, or species population in question – say, a choice between restoring what was *previously* present or conserving what is *now* present – but also a choice amongst different types of values that may be reproduced through a restoration project – be they economic, ecological, social, political, aesthetic, and so on.

Ecological restoration can be seen as a semi-independent subsidiary of conservation biology. Conservation biology’s goal is understood to be ‘to provide principles and tools for preserving biological diversity’, and is a ‘crisis discipline’, as to preserve biological diversity ‘one must act before knowing all the facts’ (Soulé, 1985: 727). Amongst the various tools employed to conserve biological diversity – or biodiversity – ecological restoration is seen as an *active* tool in the management of ecosystems (Hobbs, 2007: 354). Others see ecological restoration and conservation biology as overlapping but distinct practices. For instance, Young (2000) argues that while both are infused with an overriding concern for the protection of biodiversity, ecological restoration is more practice-orientated and is concerned with the long-term *recovery* of biodiversity, while

conservation biology is more theoretical and is concerned with the short-term *loss* of biodiversity (p.73-74).

Thus, it would appear that the values of ecological restoration all point toward biological preservation, yet when we search for ecological restoration meanings in the literature, we find restoration projects underpinned by a broad range of value-orientated objectives. Ecological value objectives include the reintroduction of native species and the restoration of ecological health, where ecological health is an expression of the degree to which a natural system ‘exhibits certain fundamental properties of self-organizing complex systems’ (Rapport, 1992: 145; see also Ehrenfeld, 2000). Such properties include biological diversity and complexity, and resilience to environmental stresses (Haskell *et al.*, 1992: 9). The restoration of particular species may not even feature that prominently in an ecological restoration project, for example in attempts at the detoxification of contaminated soils (Whiting *et al.*, 2004). Additionally, as with most contemporary environmental practices, ecological restoration is coming to be seen as an important instrument in the bid to prevent runaway climate change through carbon offsetting schemes and the creation of new carbon sinks through reforestation efforts (Harris *et al.*, 2006).

Ecological restoration projects are also categorised by their social value objectives. For example, the potential for landscape restorations to attract capital inflows through an increase in resources (such as timber), or by attracting ecotourism dollars (Clewel and Aronson, 2006: 425), have been suggested. We also see the restoration of culturally valued foodstuffs (Higgs, 2005); the restoration of inner city areas as part of urban regeneration projects (Cho, 2010); the reclamation of brownfield sites to provide green space and preserve natural heritage (De Sousa, 2003); and the reduction of pollutants that have human health implications (Effroymsen, *et al.*, 2004). Additionally, human psychological objectives are set, such as the fostering of positive human engagement with the non-human natural world through volunteer restoration work (Grese *et al.*, 2000).

While some researchers singularly identify values, others try to advocate for multiple values by drawing up a ‘wish list’ of those they desire to see reproduced through ecological restoration practices. For example, Eric Higgs’ litany of what constitutes a ‘good’ ecological restoration (1997) includes a plea for

restorationists to consider the social, cultural and political aspects of ecological restoration as much as those that are ecological and technical, while Joan Ehrenfeld (2000) argues that a diversity of potential goals can be reproduced through ecological restoration, so long as those goals are realistic for a particular site.

Questions concerning ecological restoration values echo many of the predominant themes within current environmental philosophy research, particularly environmental ethics. *The* question that has attracted most scholarly work in ecological restoration theory surrounds the issue of what values are gained and lost through the practice of ecological restoration guided by human intentionality (see Brook, 2006). This dates back to the work of Robert Elliot (Elliot, 1982; 1997), who proposed that attempts at ecological restoration would lead to a significant loss of value – namely intrinsic value. In environmental ethics, there are a variety of different meanings attributed to intrinsic value (see O’Neill, 2003), but Elliot, as I understand his thesis, holds that while non-human nature may be instrumentally or extrinsically valued – essentially the pleasures and uses that humans derive from non-human nature (Elliot, 1997: 116) – *wild* nature has intrinsic value, that is value in and of itself (*ibid.*, 6) due to its natural (read non-human) qualities. This leads Elliot to consider that ecological restoration leads to a loss of value because of the *human origins* of a restored object or landscape: ‘My claim is that, other things being equal, value increases as naturalness increases....An apparently natural ecosystem is faked, to some degree at least, if it does not accord with a natural design, is not constituted out of natural items and, crucially, *is not the product of natural forces*’ (Elliot, 1997: 132; emphasis added).

Eric Katz takes Elliot’s thesis further. Not only does he see ecological restoration as a form of ‘management and control [that] creates artefactual systems, which, at best, *resemble* nature’ (Katz, 1993: 227; emphasis in original), he also asserts that ‘...on the most fundamental level, it is an unrecognized manifestation of the insidious dream of the human domination of nature’ (Katz, 2000: 84). For Katz, then, ecological restoration merely represents a technological ‘fix’ to environmental degradation through which humans micromanage – and ultimately hold power over – non-human nature, and should thus be wholly rejected by the environmental community. Both Katz and Elliot’s

polemics (insidious dreams; ‘fake’ nature), rest upon a rejection of what they see as the imposition of anthropocentric values (including the alleviation of human guilt (Katz, 2000: 84)) in ‘wild’ nature, but also in part due to concerns of what ecological restoration means for environmental policy more generally. Elliot in particular expresses concern that when the case for environmental restoration is made within a framework of environmental policy decision-making, this could actually put environmental restorationists on the wrong side of environmental protection; it is assumed to follow that if ecological restoration can fully replace values that are lost through environmental degradation, the case for conservation is severely undermined. This is what Elliot calls the ‘restoration thesis’ (Elliot, 1982: 81-82) or the ‘replacement thesis’ (Elliot, 1997: 74-76).

Andrew Light, an environmental thinker who is broadly supportive of ecological restoration practices, has sought to differentiate between these forms of ecological restoration, which he terms ‘malicious’ restorations, and other forms that only seek to repair *prior* harms, which he terms ‘benevolent’ (Light, 2000: 98). Malicious restorations are a form of environmental mitigation, and have increasingly been accepted as a means of offsetting environmental harms in environmental policy-making (Prior, 2007); something that Sally Eden has noted as an increase in ‘restoration rhetoric’ (Eden, 2002). This moves us from theoretical arguments deployed against the very practice of ecological restoration, toward political ecology territory that attempts to understand the differential power relations of human/non-human interactions expressed through ecological restoration. Rather than questioning whether restoration ecology can ever respect or replicate nature’s intrinsic values, political ecologists are interested in assessing the extent to which power is wielded in the manipulation of nature – often under the guise of resource management strategies – toward the production of capital (Escobar, 1996; Peet and Watts, 1993; Robbins and Luginbuhl, 2005). This pre-emptive application of ‘environmental compensation’ logic is an attempt (that has been remarkably successful) to gain planning permission for environmentally damaging practices, such as resource extraction in ecologically valued sites (Prior, 2007). This apparent ‘win-win’ for ecology and economic development allows for the offsetting of environmental degradation while sustaining the same stock of ‘natural capital’, and has

consequently found political support under the rubric of sustainable development policy directives (Cowell, 2003).

The role of ‘natural capital’ as an identifiable value that can be (re)produced and maintained through ecological restoration practices, has come under a significant amount of sustained focus within the literature. Proponents of this ‘sustainable’ enmeshing of ecological and economic value outline it thus:

The restoration of natural capital is any activity that integrates investment in and replenishment of natural capital stocks to improve the flows of ecosystem goods and services, while enhancing all aspects of human well-being....natural capital restoration focuses on defining and maximizing the value and effort of ecological restoration for the benefit of humans, thereby mainstreaming it into daily thought and action.

(Aronson *et al.*, 2007: 5)

Herein, value is maintained through the restoration of the ‘stock of physical and biological resources’ that underpin sustainable development (*ibid.*, 4).

For others, the valuation of ecological restoration practices through the rubric of ‘natural capital’ is highly problematic. For example, Cowell argues that ‘commensurability between adverse impacts and potential compensatory measures is central’ to the concept of maintaining ‘environmental capital’ (Cowell, 1997: 294). When this happens we see that ‘problems arise from conceptualizing how created or recreated environments may be seen as ‘equivalent’ in value to what is lost when existing environments are the source of a wide array of values’ (Cowell, 1997: 301). Thus, the concern here is that plural sets of values can never be reduced to ‘capital’, yet such conceptual work is necessary for valuing ecological restoration as the restoration of natural capital. Using the example of the United States’ environmental policy of ‘No Net Loss’, where the loss of wetlands is permissible so long as the same total area is replaced through restoration elsewhere, Robertson (2000) extends this argument, outlining how natural capital transforms nature into a tradable commodity in the marketplace where only its saleable price signifies its value.

Perhaps the worst identifiable excesses of such ‘capitalist nature’ (O’Connor, 1994) in the context of ecological restoration are corporate restorations: ‘when corporations appropriate restorations to serve only their own interests in increasing their positive image with respect to their relationship with nature,

restoration is turned into a means to satisfy a capital end and little else' (Light and Higgs, 1996: 240). For Light and Higgs, corporate restorations should be criticized not only for the subjugation of nature under capitalist relations, but also because they are both undemocratic and anti-egalitarian in the social relations they reproduce, because of 'both the method of restoration (hired workers, hierarchically organized) and the purpose (publicity to increase commodity consumption)' (*ibid.*, 241).

The potential to do the exact opposite – reproduce democratic and egalitarian principles through ecological restoration – is identified by a number of theorists as a source of positive value, including Andrew Light who states that, while it is not inherently democratic: '...the practice of ecological restoration contains an inherent democratic *potential*...at its best the activity of ecological restoration preserves the democratic ideal that public participation in a public activity increases the value of that activity' (Light, 2000:163-164; emphasis added). Such a potential is expanded upon by Higgs (2003):

Participation is a vital evaluative component of restoration, and most restoration projects involve not just individuals but communities. If restoration is public participation in ecological processes, and presuming that more rather than less participation is good, the more participatory restoration is, the better.

(Higgs, 2003: 211)

When ecological restoration is undertaken through democratic participation, positive value is also seen to be fostered through the types of relationships that are built between human and non-human nature. By working directly on the landscape through ecological restoration, it is thought that humans will learn that non-human nature can be positively expanded by humans, rather than always necessarily being protected and defended from humans (Jordan III, 2003: 197-198). As Cindi Katz explains: 'taken seriously, restoration ecology would undermine preservationists' and other environmentalists' exclusion of people from the environment, and make impossible the narrow gauge, anti-social politics of biosphere preserves and strict nature reserves' (Katz, 1998: 55). At the heart of William Jordan's conception of positive value stemming from democratic participation is the idea that we see the 'exchange of goods and services between ourselves and the natural community' in a mutually beneficial

manner (Jordan III, 1994: 18). This sentiment is echoed by Geist and Galatowitsch (1999), Light and Higgs (1996: 235-236), Miles *et al.* (1998) Naveh (1998), and Merchant (1991), who sees the ‘creative reciprocity between humans and non-human nature’ that emerges from ecological restoration as separate to those projects that analyze nature for the sake of ‘dominating and controlling it’ (Merchant, 1991: 207-208). Interestingly, then, for Merchant and others ecological restoration carries with it the potential to liberate non-human nature from human domination, a stance fundamentally opposed to Eric Katz’s ‘insidious dream’ of human domination and control.

We see then that the existing literature exploring the intersections between values and ecological restoration has tended to focus on describing, projecting and measuring desired and undesired social and ecological values that pertain to each corresponding author, and has given rise to lively and rigorous debate as to the meanings of ecological restoration with regard to the different types of value that they reproduce. For example, should restoration projects seek to be democratic? What status should malicious restorations be given? Is ecological restoration compatible with the preservation of wildlands, or does such human intentionality obliterate the intrinsic value of non-human nature? Such debates are both necessary and pressing, as we need to be clear about the types of values that are replicated when we champion, or do not champion, ecological restoration as an answer to a whole host of ecological and social problems.

Nonetheless, this overwhelming focus on predominantly ‘top-down’ theory production has meant that grounded investigations into the values that restorationists *themselves* seek to reproduce through concrete ecological restoration projects – the people who design ecological restoration policy, implement policy, and manage the post-restoration landscape – are conspicuous by their relative absence. This is a real oversight within the research field. There are a few notable exceptions. O’Brien (2006) neatly traces the ongoing debate surrounding ‘exotic’ and ‘native’ species within ecological restoration discourses, though he does not directly engage with restorationists’ discourses. Fischer and Marshall (2010) undertook some interesting research in which they used semi-structured interviews to examine the various ways that land managers and local residents in Strathspey, Scotland, framed their views on landscape management including ecological restoration. Fischer and Marshall found that a

variety of different frames were used, including ‘nature management as a struggle between conservation and other types of land uses, as an issue of animal welfare, or as an issue of global environmental change’ (Fischer and Marshall, 2010: 192). However, these were spoken of in fairly abstract, platitudinal ways, perhaps reflecting the limits of environmental values research that only looks at categories of discourse, rather than the work to which discourses are put (see Prior, 2007).

In their study of conflicting value-based discourses of ecological restoration, Woolley and McGinnis (2000) acknowledge that very little empirical research has been carried out in this area. I wholly concur, and seek to partially rectify this through this thesis. However, Woolley and McGinnis’ own answer to this was not to reveal the values restorationists seek to reproduce through restoration practices by looking at the discourses they *actually* employed. Instead, they collated 48 statements, including ‘restoration is good economics as well as good science’, ‘naturalness cannot be restored’, and ‘environmentalists have overstated the need to restore the environment’, and got 26 US-based subjects with an interest in river and watershed restoration<sup>5</sup> to sort these statements into an order that reflects the degree to which they agree or disagree with each one (Woolley and McGinnis, 2000: 343, 345-346). The results show that there are ideological conflicts between restoration discourses, yet these discourses (and the values that they are meant to represent) have been pre-selected, and so it remains unclear as to the true values held by different subjects.

Adams *et al.* (2004) undertook a series of qualitative interviews with 14 river and floodplain restoration project managers from England and Scotland, including water company, NGO, Environment Agency, and local authority employees. These interviews revealed that river management discourses have shifted from ones that are purely associated with flood defence, to a ‘more open-ended discourse incorporating ideas of ecological restoration’ (Adams *et al.*, 2004: 1939), through which managers contested predominantly ecological values. In his assessment of an urban park restoration project at Montrose Point in Lincoln Park, Chicago, Gobster (2001) carried out a series of focus group

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<sup>5</sup> The authors state that the research subjects ‘was a participant in river and watershed restoration’, (Woolley and McGinnis, 2000: 343), but the list of subjects reveals environmental philosophers, property owners, and local government representatives, so it is unclear to what degree they have actively participated in ecological restoration.

discussions with groups of ‘identified stakeholders’, including environmentalists, preservationists, landscape architects, and land users, such as anglers and yacht club members to try to identify different ‘visions of nature’ (Gobster, 2001: 38). Gobster characterised his responses as four different visions: nature as ‘designed landscape’; ‘critical habitat’; ‘recreation’; and ‘pre-European settlement’, and concluded that as a result a ‘successful’ restoration of Montrose Point would need to integrate a diverse set of values that are articulated through these visions (*ibid.*, 50).

These examples, while slight in number, are illuminating in the sense that they attend to how different restoration stakeholder values intersect conceptually with ecological restoration; this is done through examinations of environmental discourses, a fruitful undertaking that has received a great deal of attention in environmental studies more generally, particularly since the notable work of John Dryzek in this area (see Dryzek, 1997). Nonetheless, their potential to explain such intersections is, I believe, somewhat diminished for a couple of reasons. Firstly, they only look at ‘end point’ values – that is expressions of value once a restoration has been concluded – rather than actually how values are *applied throughout* a particular restoration project. Thus, they remain as assessments of personal values, rather than an interrogation of what work different types of value are put to, and their subsequent outcomes.

Secondly, these investigations tend to be projects of category building, rather than an exploration of what different categorizations might actually *mean* to different restoration actors and the work that they are put to in the context of different projects. In this regard, seemingly hegemonic discourses are reproduced through this work, yet my own research (Prior, 2007) has shown that there are often conflicts because characterizations of value (‘wild’; ‘natural’; ‘recreation’) mean different things to different people at different times. Thus, a significant gap remains in the ecological restoration literature, and it is this to which the present study speaks. Having very broadly outlined the intellectual terrain of existing studies that pertain to the meanings of ecological restoration through expressions of different types of value, I now want to turn my attention to the type of value that is the focus of this thesis – aesthetic value – and how this has been addressed within the literature up until the present.

### 2.3. *Aesthetic values, conservation, and ecological restoration*

Similar to the relationship between ecological restoration and conservation biology, environmental aesthetics is still a relatively new and emerging sub-discipline of environmental philosophy (Carlson and Berleant, 2004). Within this area, very little research is empirically based; instead, it has chiefly focused upon theoretical concerns. In particular, such research has attempted to resolve a longstanding question within the discipline: what is the appropriate basis for the aesthetic appreciation of nature? This question has tended to be met with scientific, artistic, storytelling, and imaginative approaches (see Berleant, 2005; Brady, 1998; Carlson, 2000; Heyd, 2001). Geographers have offered very little to the investigation of landscape ecology and aesthetics, as Karl Benediktsson asserts:

Aesthetic appreciation is an important part of the everyday experiences of most people. Yet, enthusiastic as they have been in deconstructing conventional narratives of nature, geographers have been rather timid when it comes to analysing aesthetic values of landscape and their significance, let alone in suggesting progressive landscape politics.

(Benediktsson, 2007: 203)

This means that I predominantly turn to environmental philosophy to outline how aesthetics and landscape environmental policy have thus far been conceptualised.

Within this literature, there have been various explorations of the connections between aesthetic values and environmental conservation strategies; a theme that has a long history dating back to at least the nineteenth century conservation movements (see Evans, 1997; Hargrove, 2008). The act of positively valuing landscapes aesthetically has been linked to the development of a robust conservation ethic (Benediktsson, 2007; Berleant, 1997: 36-39; Carlson, 2000; Rolston III, 2008; Sober, 1986), or land ethic (Callicott, 1994; Callicott, 2008; Leopold, 1966), and has found significant purchase in landscape policy, especially those landscapes constructed as 'rural'. This has occurred at the transnational policy level, for instance via the European Landscape Convention (Jones *et al.*, 2007; Scott, 2011), but mainly at the national level. For example, Brady (2003) has sketched out the role of visual aesthetic values ('scenic', 'beautiful', and 'character') in the construction of landscape designations in

Britain: National Parks and ‘Areas of Outstanding Natural Beauty’ in England and Wales, National Scenic Areas in Scotland, and landscape character assessments across Scotland and England (Brady, 2003: 226-233).

Porteous (1996) has produced a sweeping history of legislation designed to protect aesthetically valued landscapes in Britain and the United States (Porteous, 1996: 191-200). Similarly, Selman and Swanwick (2010) outlined a potted history of the role of ‘natural beauty’ in landscape legislation policy in the UK, starting from the 1949 England and Wales National Parks and Access to the Countryside Act, and its relation to other natural aesthetic categories such as the sublime, and the picturesque. They maintain that a more precise meaning of ‘natural beauty’ is needed for landscape conservation purposes, yet they also believe that its meaning should be enlarged to also include senses other than the visual (Selman and Swanwick, 2010: 22). Godlovitch goes further than this, (1998) arguing that some sort of systematic ‘aesthetic ranking’ system needs to be used in order to measure aesthetic values to make nature conservation decisions, otherwise aesthetic values ‘will be swept aside as just another vague externality’ (Godlovitch, 1998: 122).

Amongst those authors who wish to see environmental aesthetics playing a central, robust role in nature conservation decision making, there is a note of caution that positive valuation of the former does not inherently lead to positive outcomes in the latter sphere; indeed, those things judged to have high aesthetic value might be environmentally damaging, and those things that are judged to be low in aesthetic value might be environmentally beneficial. As Brady states: ‘aesthetic value and ethical value frequently overlap, intertwine, harmonise and conflict in human experience’, providing the case of *Rhododendron ponticum* in the UK, which is both ‘bright’ and ‘attractive’ but also ‘known for creating a toxic environment around it which kills plant and insect life’ (Brady, 2006b: 282). Parsons (1995) outlines that there are potential conflicts between land management practices for habitat conservation and aesthetics, providing evidence to demonstrate that while densely vegetated woodlands are critical to conserve a diversity of wildlife, the environmental psychology literature points toward a human aesthetic preference for open, grassy areas with occasional groupings of trees and shrubs. Such a potential trade-off between aesthetic preferences and ecologically informed land management to support conservation

values is noted by numerous other researchers (for example Ingram, 1991; Nassauer, 1992; Steinitz, 1990). This potential for ‘disjuncture between aesthetic experiences and ecological functions’ is central to the ‘aesthetics-ecology debate’ (Gobster *et al.*, 2007: 962).

Saito (2008), Lintott (2008) and Brady (2010) are concerned with the inverse, namely that ecologically valuable species and landscapes may be ascribed with negative aesthetic value. Drawing on Carlson’s (2000) concept of positive aesthetics, wherein *everything* natural (read ‘non-human’) is ascribed positive aesthetic value (Carlson, 2000: 72-101), Lintott outlines that with the correct scientific knowledge about non-human nature (she provides the examples of spiders, rodents, snakes and rats), aesthetic tastes can be altered to be more ‘eco-friendly’ (Lintott, 2008). Similarly, Saito calls to question the ‘scenically challenged’ or ‘unscenic’ parts of nature, and goes on to explain that scientific stories of unscenic nature can have the effect of bringing about positive aesthetic valuations (Saito, 2008: 244). Nonetheless, she concludes by saying:

I take exception to the claim that everything in nature is aesthetically appreciable. Some phenomena in nature overwhelm us with their endangering aspects, making it very difficult, if not impossible, for us to have enough distance, physical and/or conceptual, to listen and aesthetically appreciate their story.

(Saito, 2008: 249)

Brady (2010), however, argues that ugliness in nature does occur and is a form of negative aesthetic value that ‘cannot be explained away or replaced by some other property’ (Brady, 2010: 29), but that judgments of ugliness still produce some form of relationship with nature that can ‘underpin an ethical attitude’ and care ‘for the bizarre aye-aye or huge earthworms’ (*ibid.*, 39-40).

As I shall demonstrate, there has been relatively little research that has considered the relationship between aesthetic values and ecological restoration – much less the role of the former in and on the latter – yet aesthetic value has been understood to be a central component of ecological restoration, both conceptually and in practice. Consider another often quoted definition of ecological restoration:

[Ecological restoration is the act of] returning a site to some previous state, with the species richness and diversity and physical, biological and aesthetic characteristics of that site before human settlement and the accompanying disturbances.

(Morrison, 1987: 160)

What is interesting is that, while there is a vast amount of natural and social science literature that interrogates what species richness and diversity, and physical and biological characteristics of a site might mean in different restoration contexts, the meanings of ‘aesthetic characteristics’ have barely been scratched. This may be for a number of reasons, but I suspect that this may stem at least partially from a sense that, when compared to ‘objective’ values such as biodiversity, aesthetic values are too subjective, being based on individual landscape tastes. This stance is commonly repeated within the landscape and environmental studies literature (see Lothian, 1999). For what it is worth, I concur with Brady’s understanding of the intersubjective grounding of aesthetic values (see also Berleant, 1997: 13):

Rather than being private expressions of individual taste, aesthetic judgements are based upon a set of critical activities that are practised and developed in a public context. Through aesthetic communication, we share our aesthetic responses, the reasons underlying them, and pin down reasons for disagreement. It is certainly possible to arrive at agreement in aesthetic matters, even if some disputes inevitably remain.

(Brady, 2006b: 279)

Such intersubjectivity seems to be supported by a consideration of the historical changes in landscape appreciation,<sup>6</sup> and indeed throughout this thesis there is ample evidence to show that aesthetic judgments are indeed critically interrogated and developed between and amongst different groupings of individual valuers to reach a working consensus on aesthetic matters.

To return to my original point, I find that the relative neglect of research into the roles of aesthetic values within the ecological restoration literature – regardless of whether such values are strongly subjective, intersubjective, or

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<sup>6</sup> For a classic example, see Nicolson’s study of the shift in English aesthetic appreciation of mountains between the seventeenth and nineteenth centuries from disgust to beauty (Nicolson, 1997).

even strongly objective (see Carlson, 2000) – problematic. Such neglect is particularly problematic, when we consider the level of significance attributed to aesthetic values in environmental decision-making generally (see amongst many others Brady, 2003; Callicott, 1994; Gobster *et al.*, 2007; Hargrove, 2008; Lintott, 2006; Porteous, 1996). This is not to say that aesthetic value is not at all considered, but that it is commonly invoked in an *un-reflexive* manner. Such a common yet unthinking invocation of the importance of aesthetic values in ecological restoration moved Davis and Slobodkin (2004) to state the following:

Architecture uses mathematics, physics, and engineering in its efforts to achieve a particular result of aesthetic and social value. In an analogous fashion, restorationists must use ecology, and often geology, soil science, and more to achieve results of social value. Often, their results are also of great beauty as well. Perhaps, “ecological architecture” might be a more apt characterization of the work of ecological restoration, because the term acknowledges the central roles played by both values and science.

(Davis and Slobodkin, 2004: 1)

While the term ‘ecological architecture’ is perhaps too strongly anthropocentric in the sense that it appears to only attribute human intentionality – rather than the human *and* the non-human in the co-production of restoration landscapes – this statement draws attention to just how intertwined aesthetic values and ecological restoration are self-evidently assumed to be.

So, to those studies that have considered the aesthetic values of ecological restoration. The degree to which a restoration *looks and feels indistinguishable* to what has gone before is held up as a means of testing a project’s success (Eden, 2002: 317); indeed, paying attention to aesthetic components is a constituent of Higg’s conception of a ‘good’ restoration that I have mentioned previously: ‘aesthetic principles are important in restoration to the extent that they enhance public acceptance of restoration’ (Higgs, 1997: 346; see also Higgs, 2003).

The role of aesthetics in the ‘public acceptance of restoration’, and the potential for conflict over aesthetic values, has received some attention. One controversial and often cited example of an aborted restoration project from 1996 is perhaps the best example of this. In DuPage County in west Chicago, a ten-year land management plan was developed by district restoration ecologists to restore 7,000 acres of densely wooded land to an oak savanna and open prairie

ecosystem. This necessitated the felling of approximately half a million trees through cutting and burning regimes, and the removal of deer populations. Local community groups responded with accusations that this amounted to environmental vandalism, leading to a large media-focused campaign and an eventual moratorium on the plans (Gobster, 2000: 2-3). However, Gobster (1997) found that there was ‘little wholesale opposition to the restoration’; rather, there were concerns over specific types of restoration practices (Gobster, 1997: 33-34). When concerns were expressed, aesthetic values were constantly invoked: the removal of the trees and brush would leave an open, ‘barren’ landscape that was ascribed with negative value; the trees had formerly screened ‘urban sights and sounds’ and buildings and roads; the loss of ‘forest character’ was assumed to be deleterious on adjacent property values; recreation and wildlife values, including the opportunity to see deer, would decrease; unmanaged natural beauty would be replaced with lower value ‘manipulated and manicured’ beauty; and the symbolic value of ‘uncontrolled nature’ would be diminished (*ibid.*, 34-35).

My own previous research (Prior, 2007) similarly highlighted vehement opposition to ecological restoration due in part to public aesthetic valuations of non-human nature, though in the very different context of a proposed malicious corporate restoration at Radley Lakes near Abingdon in Oxfordshire, a complex of 12 lakes created through the naturalisation of gravel pits. Since 1982, 10 lakes have been filled in with waste ash produced as a by-product from Didcot coal power station located five miles from the lakes. In 2006, the owner and operator Npower put in an application to Oxfordshire County Council to fill in the two remaining lakes, which were the most ecologically diverse and the most aesthetically valued of the 12 by the residents of Radley. Such attitudes led to the inception of a preservationist group called ‘Save Radley Lakes’. Oxfordshire County Council gave the go-ahead for the scheme, largely due to Npower’s restoration plans for the site post-infilling. These plans for restoration included various excavations of the ash to create shallow lagoons, and vegetation planting to stabilise the ash. Both the preservationist and restorationist arguments hinged on aesthetic values. The preservationists produced a story of both spatial and temporal aesthetic continuity; to them, the gravel pits had become an integrated (and integral) part of the landscape through their gradual naturalisation to lakes, while Npower outlined how infilling and subsequent restoration would bring

about aesthetic improvement as the gravel pits were ‘a scar on the landscape’ that ecological restoration would heal (Prior, 2007: 23).<sup>7</sup>

Junker and Buchecker (2008) investigated the potential for conflict between ecological objectives and aesthetic preferences in river restorations in Switzerland. Using computer-generated images of different post-restoration scenarios of an undefined Swiss river, the authors conducted a postal survey of just over 1000 Swiss residents (Junker and Buchecker, 2008: 145). The results of the survey led the authors to conclude that ‘as hypothesised, there was a very strong relationship between perceived naturalness and aesthetic preference in our data’ (*ibid.*, 150). This appears to support previous studies that demonstrate an aesthetic preference of visual naturalness rather than clearly designed landscaping (see Özgüner and Kendle, 2006). However, Hands and Brown (2002) partially contradict these findings, showing that in the restoration of abandoned industrial landscapes (again using computer-generated images), there is an aesthetic preference for visual clues that a landscape is being actively managed by human activities, such as the addition of bird boxes (see also Nassauer, 1992).

Cheryl Foster (2000) investigated the intersections between history and aesthetics in ecological restoration, using case study examples from the US. One such case study is the Old Man of the Mountain, a 40 x 35 foot granite ledge that resembles the profile of an old man in the White Mountains in New Hampshire (Foster, 2000: 78). As the ledge attracts 5 to 6 million visitors every year and is an official New Hampshire state symbol (*ibid.*), Foster shows that annual restoration efforts, including filling cracks with wire and fibreglass, are intended to perpetually preserve the rock face for symbolic and cultural aesthetic values, which has the effect of retarding natural processes of landscape change (*ibid.*, 79). Foster argues that this does not lead to a ‘trivial’ aesthetic appreciation of a denatured nature, but a ‘thick aesthetic appreciation...has emerged due to the cultural, symbolic, and ritual practices and products that have arisen in response to it over the last 150 or so years’, which includes works of literature and the

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<sup>7</sup> In 2008, due to changes in the cost of ash disposal, Npower suspended their application and the remaining two lakes are now in the process of being transformed in to nature reserves.

ritualisation of the practice of restoration (*ibid.*, 84-88).<sup>8</sup> Keekok Lee (1995) is of a different opinion in the case of Yew Tree Tarn lake in the Lake District in North West England. Here, the natural beauty of the lake –made famous by Romantic-era art – was threatened, due to a geological fault that drained the lake. In response, a dam was constructed to restore (and perpetually preserve) the lake’s beauty. For Lee, ‘to arrest or deflect geological change where it could lead to unaesthetic or less aesthetic structures amounts to treating geological formations, the products of such processes of change, as mere artifacts in the name of what is beautiful’ (Lee, 1995: 221-222). Lee’s assessment is thus similar in principle, though not in fervour, to Katz’s idea of restoration as a form of human domination over non-human nature.

Jennifer Foster (2005) critically highlighted the social justice dimensions of ecological restoration and aesthetic values, using the example of the 1995 Don Valley Brickworks restoration project carried out in downtown Toronto, Canada. Upon the brick-making development’s closure in 1989, various proposals were put forward as to how the 40-acre site should be used; eventually proposals were accepted to undertake an ecological restoration of the site through a mixed public-private venture. Foster argues that the consequential design of the park reflects the aesthetic consumption practices of wealthy local residents (the Don Valley is located adjacent to the elite neighbourhoods of Rosedale and Moore Park) through the creation of a neat orderly appearance that is linked to protecting high property values (Foster, 2005: 345-347). These inhabitants gained exclusive access to the planning and design process (by way of membership to the Friends of the Valley group), while the labour to implement the plans came from unpaid student groups and a volunteer stewardship committee (*ibid.*, 344). In addition, the park has seen socially differentiated visits, as it is difficult to access for non-locals, especially those without a car (*ibid.*, 345). This serves as a good example of what Duncan and Duncan (2001) term the ‘aestheticization’ of landscape politics, wherein the political dimensions of landscape management, planning, access and use are effectively nullified and replaced with questions concerning landscape consumption and taste. In short,

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<sup>8</sup> It should be noted that in 2003, 3 years after Foster’s exploration of the Old Man of the Mountain, the rock formation collapsed and has not been reconstructed.

the aestheticization of landscape politics masks social inequality and can act as a mechanism of social exclusion (see also Darby, 2000; Soper, 2003).

Finally, perhaps the most pronounced way that the aesthetic values of ecological restoration have been theorised is through an artistic and creative framework. Sayre (2010) undertook an analysis of the influence that artistic aesthetic ideals continue to exert on ecological restoration theory and practice in the arid and semiarid deserts of the southwestern USA. Sayre looks to the work of art critic John Van Dyke to demonstrate that through his ‘aesthetic-mystical’ writing of the southwestern desert environment, he misread the landscape, elevating the regional nature to a sublime ‘pristine’ wilderness (Sayre, 2010: 24). This aesthetic ideal still influences how contemporary restorationists determine the correct goals of their practices in the region, which results in aesthetic ‘satisfaction’ but an ahistorical landscape state (*ibid.*, 30).

Upon a consideration of the relationship between ecological restoration and values, Diggelen *et al.* (2001) conclude that ecological restoration – as it stood at the time of writing their article – is ‘clearly more art than science’ because the problem of how to go about restoration is often not carried out ‘in a proper scientific way’; they then advocate ways in which a scientific framework for restoration can be developed (Diggelen *et al.*, 2001: 115). While the authors are quite obviously disparaging of artistic (more precisely, non-scientific) approaches to ecological restoration, the majority of theorists appear to embrace the potential for recognizing the artistic qualities within the discipline. For example, Frederick Turner (1990) explains that ‘the activity it [ecological restoration] resembles most closely is art’ (Turner, 1990: 48), as it ‘must harmonize into a higher unity large masses of mutually dependent information’ to produce something beautiful (*ibid.*, 49). In turn, this ‘...sense of beauty tells us what is relevant, what is likely, what is proper, what is fruitful’ to understand how successful such attempts to ‘reconstruct our living environment’ are (*ibid.*).

Jordan III identifies ecological restoration as a specific type of art practice, namely performing art (Jordan III, 2003), drawing on another paper by Frederick Turner in which he considers gardening as a performing art (see Turner, 1991). While Jordan’s argument is too nuanced to be accurately abridged, its central component surrounds the identification of various performative genres to illuminate the types of values that are produced in the act of restoration. For

example, he identifies restoration as an ‘occasion for comedy and festival simply because it brings people together in work – or play – that has positive value and seems to call for celebration’ (Jordan III, 2003: 165). He also considers ecological restoration as an avenue through which rituals of ‘world renewal through sacrifice’ can be developed (*ibid.*) to draw attention to the act of restoration in a public manner (*ibid.* 173).

The aesthetic-restoration interplay has also been explored head-on by artists themselves, using land art as a means of restoring degraded land. In 1980 Betty Beaumont constructed an artificial coral reef system in the Atlantic Ocean off the coast of New York, entitled *Ocean Landmark Project*. In 1982 Joseph Beuys reforested an area of Kassel in Germany with oak trees and entitled the ‘action’ *7000 Oaks Action* (Blandy *et al.*, 1998: 233-238). In 1983-4 Harriet Feigenbaum carried out land reclamation of strip mines in Lackawanna Valley, Pennsylvania (Murray, 1991: 29), while in Boston a group of artists and landscape architects joined together in 1989 to form Reclamation Artists, who have carried out land restorations in and around the city (Brigham, 1993: 379).

Perhaps artistic approaches to ecological restoration should come as no surprise, as the practice is clearly charged with creative and aesthetic potential, as Blandy *et al.* note:

The interconnectedness of art, art education, and cultural and ecological restoration is a form of stewardship; it is about working together to direct people’s creative energies to heal fragile places by cleaning up rivers, planting trees, detoxifying water and soil.

(Blandy *et al.*, 1998: 238)

What these studies point to, I think, is that aesthetic values are not only produced through acts of ecological restoration that propose natural beauty as an end goal; we also see that there is inherent creativity within such practices in ways that are different in their levels of artistic expression, and in ways that do not necessarily replicate human technological domination of non-human nature, but rather the whole range of different human/ non-human relations that Jordan III (2003) is keen to highlight (see also Glazebrook, 2003).

In this section, I have demonstrated that there have been various conceptualisations of aesthetic value within ecological restoration theory, from the dangers of aesthetically naturalising social inequality, to the ways in which

aesthetic values can influence the acceptance or rejection of restoration practices by non-restorationists. Nonetheless, aesthetic value has largely been overlooked in relation to other types of value within the ecological restoration literature, and to my knowledge there have been no studies that have systematically identified the potential roles that aesthetic values play within ecological restoration projects, except my own previous study (Prior, 2007). To finish setting this thesis in the context of current research, I now turn to consider sense of place, landscapes, and soundscapes within the relevant literature, and how these have shaped the ways in which I have approached my central research questions.

#### 2.4. *Place, landscapes and soundscapes*

‘Space is transferred into place as it acquires definition and meaning’ enthuses Tuan (1977: 136). Arnold Berleant expands and refocuses this from a phenomenological perspective: ‘in its most basic sense, place is the setting of the events of human living. It is the locus of action and intention, and present in all consciousness and perceptual experience’ (Berleant, 2005: 76). Through active engagement in an landscape, on an everyday, non-abstracted level, which is often ‘fleeting and undramatic, repeated day after day and over the span of years’ (Tuan, 1977: 183-184), experience of place can give rise to affective ties that have variously been described as ‘sense of place’, ‘spirit of place’, ‘place attachment’ (Bott *et al.*, 2003: 105; Tuan, 1974), or *genius loci* (Antrop, 2005). This has become a focal point in humanistic geography, especially in the works of geographers interested in the phenomenology of place (see for example Basso and Feld 1996; Cresswell, 1996, and Casey, 1997).

While sense of place as a phenomenon is notoriously hard to define (see Arefi, 1999: 180), it has been argued that aesthetic character lies at its heart (Berleant, 2005: 76). Berleant identifies three traits that contribute to sense of place: identity, coherence and meaning (*ibid.*). *Identity* is formed by ‘certain qualities that set [a place] apart’; these can be ‘reference points’ such as monuments, places of worship, or topographical features, like hills and bodies of water. *Coherence* describes a place’s relative unified aesthetic composition, and *meaning* is acquired through the interaction between ‘...the simple presence of a conscious, sensing person’ and an ‘appropriate physical location’ (*ibid.*, 77).

Identity, coherence and meaning – and thus the emotional attachment to places – ‘frequently only emerges when they are threatened by change’ (Burgess and Gold, 1982: 2). This has received attention within the ecological restoration literature and ecosystem management more broadly (on the latter see Williams and Stewart, 1998). For instance, through the act of completely reshaping a landscape, or by the addition and/or removal of certain species, a person’s sense of place and thus their attachment to place can be dramatically affected, including inculcating a sense of loss or grief (Ryan, 2000: 215; see also Buijs, 2009; Prior, 2007).

In a study of the implications of wetland restoration in the Netherlands, Drenthen (2009) describes how from a traditional preservationist perspective, the removal of legible and culturally significant remnants of river landscapes is deleterious to a person’s sense of place (Drenthen, 2009: 292-293). At the same time, some ecologists have argued that these restorations may have the opposite effect if restorationists are sensitive to changes that their work brings about: ‘in that sense, developing wetlands along the rivers could be understood as a broadening and deepening of the ethics of place, rather than a destruction of it’ (*ibid.*, 294).

Clearly then, sense of place is a useful conduit through which processes of landscape change brought about by ecological restoration, and people’s responses to such change, can be examined. However, there are two reasons why sense of place does not feature in the chapters that follow. Firstly, despite the argument set out by Berleant (2005), having myself previously used sense of place to study environmental aesthetics (Prior, 2007), I remain unconvinced that sense of place precisely equates to aesthetics: in short, aesthetics is a core constituent, but not the *only* constituent of a sense of place. An individual or group sense of place may emerge out of other types of affinity in addition to aesthetic sensory qualities; it is multidimensional, based on many forms of meaning ‘involving the interplay between cognition and emotion’ (Stedman, 2003: 823).

In their assessment of how best to meet both ecological and human goals through ecological restoration, Geist and Galatowitsch (1999) touch upon the development of a sense of place. In the context of attachment to the non-human world, they argue that sense of place may be fostered and expressed through

‘spiritual bonds between people and place’ (Geist and Galatowitsch, 1999: 974). Additionally, Ryan (2000) in his exploration of the role of sense of place in ecological restoration in Ann Arbor, Michigan, makes it clear that while a sense of place may be based on visual components of a landscape, this is not so in all cases:

For those who passively view natural areas from nearby streets and homes, the visual characteristics of these places are very important. These people appear to appreciate a more refined, parklike landscape, and may not be particularly concerned about whether the plants there are natives or exotics. In contrast, volunteers and staff members see these natural areas as the last bastions of native ecosystems within the heavily developed urban fabric. Their attachment may be fueled more by such concepts as ecosystem integrity, wildlife habitat, and species diversity than by the actual place itself.

(Ryan, 2000: 215)

Secondly, and perhaps more importantly, while sense of place does include aesthetic qualities, the concept is better suited to investigate aesthetic repercussions for *consumers* of place, rather than *place makers*. As we have seen, a sense of place is developed through repeated engagement with place over a duration of time, leading to an affective attachment – or not, as the case may be – in circumstances of place boredom (see Gustafson, 2001). The dichotomy between consumers and makers is, of course, a false one in many instances. For example, Isis Brook has demonstrated that when people are displaced from familiar environs, there may be an urge to garden in a way that re-establishes a sense of place through planting exotic plant species (Brook, 2003). Clearly, in this case the consumer and maker can be one and the same person or group of people. Yet, as I found when undertaking research for the current study, makers and enactors of ecological restoration policy are not necessarily the consumers of the resulting landscape, and in many instances are definitely not (see also Carter *et al.*, 2007). Thus, in this thesis I consciously avoid sense of place, and instead consider acts that restorationists undertake to co-produce place. This is especially the case in Chapters 6 and 7, where I attend to different strategies that seek to render certain things (species, elements of the built environment, human activities) either ‘in’ or ‘out’ of place, and the subsequent activities that are employed to manage them.

In order to examine such strategies of human intentionality through acts of restoration, I locate much of the thesis within the context of landscape studies, variously drawing upon landscape planning, landscape architecture, landscape design, and landscape management literatures. This is, of course, partially a function of the types of ecological restoration policy under consideration: each of the three projects have been conceived as landscape-level restorations, and thus they conform to certain ways of policy thinking and acting in terms of design, implementation, and management. Additionally, the *scale* of landscape and its relation to human perception is also important: ‘while human and environmental phenomena occur at widely varying scales, humans engage with environmental phenomena at a particular scale: that of human experience of our landscape surroundings. That is the human “perceptible realm”’ (Gobster *et al.*, 2007: 959).

However, particularly for an exploration of environmental aesthetics, the concept of landscape is not without its own set of problems. Of particular relevance to this study is the charge that landscape is a primarily visual construct. This has led to a sustained discussion within both human geography and environmental philosophy over the ambiguous nature of human/non-human relationships that emerge. Indeed, the discussion has become so sustained that it is posed at the very beginning of John Wylie’s introduction to his overview of cultural geographers’ landscape research over the last 25 years or so:

Is landscape the world we are living *in*, or a scene we are looking *at*, from afar? Alternatively, we could put this question in the following way: does the word landscape describe the mutual embeddedness and interconnectivity of self, body, knowledge and land – landscape as the world we live in, a constantly emergent perceptual milieu? Or is landscape better conceived in artistic and painterly terms as a specific cultural and historical genre, a set of visual strategies and devices for distancing and observing?

(Wylie, 2007: 1-2)

This ambiguity is seen to have partially derived from the contested etymological roots of ‘landscape’. Olwig (1996) argues that the problem of landscape being interpreted as visual, painterly scenes, rather than the ‘substantive nature’ of ‘a place of human habitation and environmental interaction’ (Olwig, 1996: 630), has stemmed from the English translation of the German word ‘landschaft’. While the original word meant ‘a restricted piece of land’, and was used

variously to denote community, law, and culture, the English interpretation has reduced its meaning to the ‘appearance of a land as we perceive it’ (Olwig, 1996: 360, 645). Evernden (1981) believes that ‘landscape as scenery’ is a relatively recent shift, as ‘in the past people did not separate themselves sufficiently from the land to view it as an aesthetic object’ (Evernden, 1981: 150). Bourassa (1991) adds that such a separation has been ushered in with the progression from feudalism to capitalism, which has severed intimate ties between humans and landscapes.

Throughout the environmental aesthetics literature, there is a continued emphasis on the detrimental influence of narrowly interpreting the aesthetic experience of the natural world to that of the visual, scenic landscape. This was hinted at in 1963, when Ronald Hepburn spoke of how an appreciator may ‘confront natural objects as a static, disengaged observer’, though he adds that ‘far more typically, the objects envelop...on all sides’ (Hepburn, 1963: 196-197). Allen Carlson developed this idea with his proclamation that the so-called ‘landscape cult’ reduces the natural environment to ‘a static, essentially two-dimensional representation. This requires the reduction of the environment to a scene or view’ (Carlson, 1979: 106), wherein only formal qualities of landscapes – colours, lines, shapes, patterns – are aesthetically evaluated (*ibid.*; see also Parsons, 2008: 34-39). Such a ‘shallow’, pictorial view of nature (see Carlson, 2000: 33-37; Berleant, 1992), takes no account of other important sensory data that contributes to a well-rounded experience of natural phenomena. Likewise, Berleant (1992) critiques ‘panoramic’ landscape perception. Instead, he calls for ‘participatory’ landscapes, and champions a phenomenological approach to landscape perception where landscape objects are not independent of the perceiver (Berleant, 1992: 85).

The sentiment that scenic appreciation can have negative repercussions is expressed by other including Porteous, who believes that such distancing makes it ‘all too easy to regard nature and environment as a series of objects worthy only of disregard or exploitation’ (Porteous, 1996: 31); Holmes Rolston III, who states that forests are ‘entered, not viewed’ (Rolston III, 1998: 162); and Emily Brady with respect to conservation policy’s inclination to conflate ‘aesthetic’ with ‘scenic’ value (Brady, 2003: 225). Indeed, landscape policy in the UK since at least the late 1960s has emphasised the visual appearance of public lands for

scenic enjoyment – which has led to the inculcation of a ‘scenic aesthetic’ throughout policymaking (Gobster *et al.*, 2007: 961).

Such criticisms have had an adverse effect on the study of scenic natural beauty, which according to Lowenthal is now ‘...derided as superficial, frivolous, even soulless; to dwell on decor is to scant integral landscape values, notably ecological fitness, residential sustainability, community health and historical authenticity’ (Lowenthal, 2007: 635-636). Karl Benediktsson believes that such derision is not good for landscape studies or landscape politics; on this point he is worth quoting at length:

Rather than shy away from the visual substance of landscapes on grounds of a timid and ill-founded “scenophobia”, a geography of landscape is needed which takes visual values seriously, while simultaneously acknowledging the experiential complexity of landscape appreciation. The “scenic” is an indispensable part of a more comprehensive aesthetic of nature which...does involve all senses and indeed the body as a whole. Attendance to the visual does not necessarily have to lead down the well-trodden path of objectification and detachment. On the contrary, it is a necessary part of democratic and inclusive politics of landscape where there is room for various interpretive takes.

(Benediktsson, 2007: 214)

What is perhaps surprising, considering the amount of writing that has denounced the scenic appreciation of landscapes – both in terms of its effect on aesthetic appreciation and policy making – is that there have been very few studies that have investigated non-visual components of landscapes; research continues to reproduce landscapes as an object of study predominantly through its visual qualities. I address this oversight in this thesis by attending to other forms of sensory perception and thus non-visual aesthetic qualities of landscapes within policymaking – in particular *sonic* qualities, though also haptic and kinaesthetic qualities (see Paterson, 2009).

As a final context, then, this thesis partially builds upon soundscape studies. According to R Murray Schafer’s original definition of the term, the soundscape ‘is any acoustic field of study. We may speak of a musical composition as a soundscape, or a radio programme as a soundscape or an acoustic environment as a soundscape’ (Schafer, 1994: 7). In his paper concerning the aesthetic appreciation of natural sounds, Fisher makes the crucial distinction between

individual sounds found within nature (wind, birds, waterfalls) and the ‘...overall ensemble of sounds’ that form a soundscape (Fisher, 1998: 168). Schafer himself employed the term normatively, through his privileging of ‘hi-fi’ (‘natural’) over ‘lo-fi’ (modern human) soundscapes, and the term has been subject to various critiques because it may objectify sound (Ingold, 2007), and because of the imprecise manner in which the term has been used (Kelman, 2010). Nonetheless, I find it a useful shorthand term to think through and investigate the relationships between aesthetic values and ecological restoration, and the emergence of particular aesthetic qualities, in the sonic sphere.

While there has been a growing amount of scholarship that has looked at the geographies of music (Anderson, 2004; Hudson, 2006; Lehr, 1983; Morton, 2005; Revill, 2004; Smith, 1997; Yarwood and Charlton, 2009), the issue of non-musical sonic geography has barely been broached. One notable exception is Matless (2005), who outlines the contested nature of sonic qualities in the Norfolk Broads, demonstrating how certain sounds – both human and non-human – are tied to localised landscape identities and so are a constituent of place.

Other soundscape studies literature relevant to a geographical investigation of sonic values and qualities, include Carles *et al.* (1999) who undertook an environmental perception survey to understand people’s responses to the combination of sounds and photographs (such as ‘village’, ‘stream’, and ‘busy park’), concluding that natural sounds are highly valued, where ‘valued’ is on a scale from ‘pleasant’ to ‘highly pleasant’. To understand the sonic environmental quality in Clerkenwell, London, Adams *et al.* (2006) enlisted 34 participants to record a 10-minute walking route near to the participant’s house, and then undertook semi-structured interviews. This revealed certain positively valued sounds (such as market criers), and certain negatively valued ‘noise’ (vehicular traffic and shop front roller shutters) within the urban soundscape. Also, Hedfors and Berg (2003) sought to extend the vocabulary available for discussing the sonic qualities of landscape design practices, through interviews with people in two different landscape settings in Uppsala, Sweden, perhaps rather obviously concluding that a pasture landscape at the edge of the city was deemed more sonically ‘peaceful’ than a public garden in the city, which was more ‘stressful’.

It appears, then, that sonic aesthetic values are generally only investigated from a quantitative or a quasi-quantitative perspective and, once again, tend to only investigate participant stimulus responses from a potential landscape consumer perspective; clearly very different lines of inquiry to those in this study. I am very conscious of the fact that throughout this chapter I have constantly reaffirmed that what I am doing has scarcely been considered within the existing literature, and that such pronouncements can be overstated. However, my hope is that I have demonstrated that this thesis is nested across various theoretical strands and multidisciplinary concerns that broadly engage with the relationship between values, aesthetics and environment, and that at the same time it is addressing a set of questions that are currently highly under-theorised. In the next chapter, I turn to explain the methodological framework and methods of data collection, analysis, and dissemination that I employed to answer these questions.

## Chapter 3. Methodology and methods: Towards a richer understanding of restoration policy and aesthetic values

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### *3.1. Introduction*

In the previous two chapters, I have sought to draw out the theoretical concepts that are to be explored in the thesis through a consideration of my central research questions, and also to nest the thesis within the context of existing scholarship on the intersections between values and ecological restoration. In this chapter, I will move on to outline the methodological stance that I have used to frame these research questions, and also the various methods that I deployed to answer them.

I will start by looking at the case study approach, which serves as the basis for the thesis, including a justification of this framework and the number of case study sites chosen. I will then outline the three discrete methods I use throughout the thesis: interpretive policy documentation analysis; semi-structured interviews; and audio-visual documentation. For each method I will describe how data is generated, how this will be analysed, and subsequently how outputs will be presented in the thesis. I will also consider ethical and procedural difficulties with these methods, and how I attempted to overcome these.

### *3.2. Developing a framework: the case study approach*

The central demand of this thesis – to understand the roles of aesthetic values in ecological restoration policy – meant that I first considered undertaking a policy analysis of UK-wide restoration policy, which would have involved dissecting policy across various strata of a range of types of institutions (central, regional and local government; NGOs; businesses and corporations). I had naïvely thought that having undertaken an analysis of a single case study during my MScR thesis (Prior, 2007), I should be ‘bolder’ in what I set out to achieve. Thus, I fleetingly considered an investigation of *all* (across time and space) UK restoration policies. It soon became obvious, however, that such an approach would be a mistake. Putting aside the feasibility of such a project, I quickly

realised that the overwhelming scale of this would necessarily mean that only the surface of restoration policies could ever be grazed.

More importantly, even if I had limited myself to say one region of the UK or one institution involved in the production of policy, the remaining superficiality of a broad sweep of restoration policies would have stunted the study at the point where verbal-textual aesthetic values are rendered (or not) material. Rather than only looking at policy discourses, either at the stage of policy formulation or post-restoration consumption, the (potentially dialectical) transfers between policy statements and policy effects was of interest to me, as it was a novel approach to understanding the practices of restorationists. Here, I wanted to engage with the stuff of restoration landscapes – biological species, soil, buildings, weather patterns and so on – rather than only aesthetic utterances about them.

It thus made sense to re-consider the central research question through *particular* examples, leading me ‘back’ to a case study approach. This was compounded by a sense that empirical case studies were largely lacking in the restoration ecology values literature, though this situation is starting to change (Hourdequin and Havlick, 2011). Predominantly, studies addressing the ‘big’ restoration value questions, as outlined in the previous chapter, seemed to me to be producing certain types of restoration knowledge that – at best – used case studies as *illustrative* to a theoretical argument. Much of this work, I believe, has seen authors selecting case studies that all too easily ‘over-confirm their favourite hypotheses’ (George and Bennett, 2005: 51) – so-called ‘theory-confirming’ case studies (Moses and Knutsen, 2007: 133). Instead, I wanted to use the specificity of case studies to explore environmental value epistemologies; thus, rather than using cases to illustrate theory, I aimed to use cases as a basis for ‘inductive analysis focusing on processes in their social context’ (Hartley, 2004: 323). Such an approach meant that I could significantly shift the normative centre of ecological restoration scholarship away from value claims made by researchers (what restorationists ‘ought’ to do, how people ‘ought’ to aesthetically consume restoration landscapes), to understanding the claims made by restorationists *themselves*, and to what end these claims are put. As I demonstrated in the previous chapter, very little research has attended to the

latter issue, and those studies that do tend to only consider verbally or textually articulated restoration discourses, not subsequent outcomes.

Rather than undertaking an analysis of a single case study, I decided to choose a number of sites. While I'm not framing my research as a comparative analysis, I believed that selecting more than one site would allow for a cross-section of different types of landscape restorations to be represented, which at various times during analysis may display similar or dissimilar characteristics, whether during policy formulation or implementation. I started with a shortlist of five restoration projects that could potentially act as my case studies, based on a number of determining factors. Firstly, all five cases are *landscape-level* restorations, meaning that each restoration project is concerned with the landscape in its entirety, including organisms, organic and inorganic materials, ecological processes, and patterns of human engagement (both between humans and humans and non-human nature). This may seem facile, but it marks a distinction from numerous ecological restoration projects that operate at the landscape level but are only concerned with single species (re)introductions.

Secondly, the five sites were all in what I refer to as the 'post' restoration stage of a project. While each landscape has not reached some sort of 'end-point' state after having been restored – an erroneous inference when considered in the light of non-equilibrial ecological theory (see Fairhead and Leach, 1996 and Rohde, 2005) – I nonetheless wanted to consider restoration projects that were now being actively and intentionally managed by human actors, after the majority of material restoration practices had been undertaken. This enabled me to experientially document post-restoration landscape qualities in relation to aesthetic values contained within pre-restoration policy statements. With this in mind, I chose case studies that were initiated between 1990 and 2000, so that I could capture a snapshot of the contemporary restoration scene,<sup>9</sup> and to increase the likelihood that policy documents relating to each case were still in existence and that restorationists involved in each project could be still be contacted.

Thirdly, the selected sites represented a broad range of landscape restorations, in accordance with existing categorisations. Thus, different institutions were involved across the five projects (local government, charities, community

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<sup>9</sup> Relative to the fact that ecological restoration projects tend to see 'results' in decades, if not centuries.

organisations); ‘rural’ and ‘urban’ restorations were both included; and most importantly restorations with different orientations (for example ‘wilderness’) were chosen. I must make clear that these categorisations were not taken-for-granted as *necessarily explanatory* to any differences in the role(s) of aesthetic values; indeed, as will become apparent a critical analysis of these very categorisations is central to the thesis. Rather, the intention was to explore the research questions starting with *assumed* difference amongst cases.

An apparent tension between the specificity and generalizability of case study approaches has been discussed in the methodology literature (see for example Crang, 2002; Peck, 2003), however I make no claim that the findings of this thesis can be scaled-up to account for the regional or national level. Rather, the project is an attempt to understand the ways in which concrete examples of ecological restoration unfold at specific points in time and space *across* the United Kingdom. My concern with regard to specificity was that I needed to ensure that I was undertaking a coherent and detailed analysis to address my research questions, including time to make repeated site visits and meet with restorationists, while simultaneously giving space within such an analysis to engage with wider questions of ecological restoration theory: in essence, grounded theory that seeks ‘both to represent concrete situations in their complexity and to produce...theory’ (Hammersly, 1992: 21). As Bennett and Shurmer-Smith (2002) identify: ‘central to the analysis of case studies is thoroughly knowing all the research material and moving between its detail and the objectives of the research, using the two to impact upon each other. It is not an easy task...’ (Bennett and Shurmer-Smith, 2002: 206). It is this not easy task that I think would do much to enrich current ecological restoration theory, through a grounded understanding of ecological restoration policy making and implementation.

From this list of five sites, I decided that I needed to have a final selection of three. This decision was made as I felt that five sites would be too cumbersome to fully explore at a necessary level of detail; three would ensure that I could undertake a close policy analysis of each site and fully document each through onsite visits, while maintaining assumed difference between restoration types (see also Sandelowski, 1995). I attempted to contact a range of people involved in each of the five cases to enquire about the feasibility of undertaking a study. I

received a positive response from those involved in three of the cases, no response from restorationists involved in one of the other cases, and restorationists from the other study site not involved in this thesis showed cautious enthusiasm but were not able to commit to my project within the timeframe I needed to work to.<sup>10</sup>

All of the methods that I used within this thesis are qualitative in nature, and so the empirical material does not rest upon a truly ‘mixed methods’ approach that seeks to combine qualitative and quantitative methods (see Bryman, 2006). Nonetheless, of equal importance to choosing the case study approach (for it is an approach, not a method (Hartley, 2004)), was that it allowed me to use a variety of methods to explore ecological restoration policy making and implementation. I shall now move on to outline these methods.

### *3.3. Approaching policy materials: Interpretive policy analysis*

As this project is first and foremost interested in the process through which policy values are enacted (or not) within the restoration landscape, I looked to the literature to understand the most suitable methods of gathering and analysing policy material. There is an almost bewildering collection of methodological frameworks now available for qualitative geography researchers that deal with textual and oral discourses, from qualitative description to ethnography (see Sandelowski, 2000). However, the approach that I felt resonated with my own thoughts on how best to follow aesthetic values through policy – namely interpretive policy analysis – has rarely been put to work within geography, bar certain urban policy and planning studies (see for example Matthews, 2012; Murtagh and Sterrett, 2006; Peck and Theodore, 2012). Interpretive policy analysis seemed to immediately chime with the central concerns of this study, as it seeks to focus ‘on the meanings of policies, on the values, feelings, and/or beliefs that they express, and on the processes by which those meanings are communicated...’ (Yanow, 1996: 8-9). This neatly characterises the various stages of value production, value measurement, and value implementation that I wish to look at in the co-production of restoration landscapes – crucially the translation of aesthetic values within policy to aesthetic components of the

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<sup>10</sup> The two sites that are not involved in the project shall remain anonymous, as I don’t want to inadvertently cast them in a bad light.

material landscape. Yet at the same time, interpretive policy analysis does not assume that this is a simple translation:

Informing all this work is a recognition...that the translation of 'policy' into 'action' is neither straightforward nor linear....all kinds of ways of defining agendas and framing actions are competing, colliding and coalescing....the result is a recognition of the multiple rationalities embodied in the frames of reference called into play, each one infused with particular power relations and potential capacities to mobilize others.

(Healey, 2000: 919)

While I trace the role of aesthetic values in ecological restoration policy in a temporally linear way – that is from initial conception to implementation – I think that this commentary offered by Healey demonstrates an awareness that the practice of producing and enacting policy is a messy process, and that policy makers are not the rational actors that other forms of policy analysis procedures can assume (Yanow, 1996: 8). I want to take this one step further, and, following Matthews (2012) who used an interpretive policy analysis framework to understand how policy meanings can significantly change through a policy pathway, be open to the potential for a dialectical relationship to unfold between policy utterances and material and immaterial policy outcomes.

Additionally, using an interpretive approach will allow me to understand not just how policy is transferred to and played out at a restoration site; it will also allow me to unravel the complex tangle of makers and interpreters of meaning and significance in the construction, communication and execution of policy, as is inherent to competing claims between and within different actors in a policy network (see Hay, 1998). To follow aesthetic values across a whole policy pathway, invites the constant reassessment of policy values once they have (or have not) been implemented through restoration practices, rather than assuming that their meanings are in any way stable or non-negotiable throughout the course of a restoration (see Prior, 2007).

Of equal importance to the present study, is that interpretive policy analysis does not start and stop at only textual policy documents, but instead considers these and other policy materials to understand the material outcomes of policy (identified as 'artifacts' by Yanow, 1996), and the relations between the two:

‘artifactual expressions (language, objects, acts) and their related meanings exist in a symbolic relationship: artifacts are the more visible embodiments and expressions of tacitly known meanings. Their use creates or changes the underlying meanings’ (Yanow, 1996: 10). Analysing artifactual outcomes is thus vital, as they are intrinsic to the way that policies bring about different meanings. Again, this also highlights that aesthetic values may potentially be re-worked or reconceptualised through policy-making practices, and that I need to be sensitive to any resulting shifts in ‘underlying meanings’.

In this project, ‘policy documentation’ is interpreted in its widest sense: policy papers, policy statements, stakeholder reports, and planning applications, found in internal and publicly accessible reports, newsletters, newspapers, books, and websites, are all included. Such a wide range of policy materials allowed me to trace the ways in which aesthetic values were measured and communicated to different target audiences, whether this is internally to other policy makers, different groupings of the ‘public’, potential project funders, or others. At the same time, including such a broad range of policy documentation proved to be a challenge, as this required a lot of time to not only track-down certain documents, but even to be aware of their existence. In effect, I had to undertake a method of snowballing so as to comprehend the full policy terrain of a restoration project. While policy documents central to each project had been archived by each corresponding institution, were cross-referenced between documents, and were relatively easy to gain access to (policy papers and planning applications especially), this was not necessarily the case for other more ephemeral documents, such as fundraising leaflets and newsletters. Often, these types of documents could only be accessed because an individual had kept a personal copy.

To make sense of and analyse documentation, I conducted a form of qualitative coding: this allowed me to synthesise what was at times an overwhelming amount of material, and to keep track of aesthetic values as they moved in and amongst the various textual accounts. As Knigge and Cope (2006) assert:

Coding is a process of both data reduction (for example, making hundreds of pages of notes easier to grasp) and data analysis (that is, by evaluating data, looking for internal consistencies or inconsistencies, and

identifying patterns, the researcher is analyzing her or his findings).  
(Knigge and Cope, 2006: 2025)

Such coding techniques are vital to grounded theory approaches, as it helps to ‘understand meanings... and helps the researcher to identify categories and patterns, which can in turn be investigated through additional data collection and/or analysis’ (Knigge and Cope, 2006: 2025), and is thus well suited to a strategy of inductive theory building. I created a colour-coding scheme, wherein different colours were used to highlight policy statements expressing different types of value (ecological, aesthetic, economic and so on). In turn, these were then further coded by categorizing the stage of the restoration project (prior to, during, and post-restoration management). While these categorizations do not reflect how values were actually expressed in documents – as I will go on to show through this thesis, different types of values intersect with each other in a number of ways – they were nonetheless important to achieve Knigge and Cope’s simultaneous process of data reduction and analysis. Further, they helped me to identify the types of questions that I should pose to restorationists during semi-structured interviews, to which I know turn.

#### *3.4. Semi-structured and walk-along interviewing methods*

As a means to fully interrogate the ways in which restorationists went about producing and implementing restoration policies, I undertook a series of *ex situ* semi-structured and *in situ* walk-along interviews. This followed an initial analysis of written policy documentation that was made available to me through the postal system and email correspondence, though eventually my awareness of, and access to, much of the policy documentation only followed from face-to-face meetings. It is because of this messiness and overlap between methods that I want to emphasise that there was no clear hierarchy of methods. For example, it was only through interviewing policy makers that I gained a full understanding of what was meant by certain textual statements of value. At times, textual statements of value were not embellished upon, giving the sense that they were intended to be self-evident in what they meant, what they measured, or what they demanded through a policy. This may sound all rather obvious; after all, the very act of being able to question a policy maker about specific meanings of a policy

statement will inevitably expand upon what is meant in its abridged textual form. However, The ability to move between policy meanings on paper and policy meanings as verbal articulations directed both my line of questioning with restorationists, and also how I approached reading policy documentation.

I initially contacted the named project co-ordinator or manager of each restoration project through email correspondence, to seek their cooperation in my research. I spoke with Martin Janes, Project co-ordinator of the River Skerne restoration at the River Restoration Project; Dr Philip Ashmole, who initiated the restoration of Carrifran Wildwood; and Phil Jayne, Manager of the Caerphilly Countryside Service, who was instrumental in setting up the Parc Penallta restoration. Through a series of follow-up emails and telephone calls with each person, I was given the names and contact details of others who worked on each respective project (predominantly, these people were still close associates or colleagues). I then contacted each person in turn to arrange convenient times to travel to meet and talk with her or him. Table 3.1. details the people I met, their institutional affiliation and role in the restoration project, and when and where the interview took place.

<i>Interviewee</i>	<i>Institutional affiliation</i>	<i>Project role</i>	<i>Date of interview</i>	<i>Location of interview</i>
The River Skerne				
Liz Chalk	National Rivers Authority (NRA) (later the Environment Agency)	Project Manager	29/01/10	Environment Agency Yorkshire regional office, York
Clare Jones	River Restoration Project (later the River Restoration Centre)	Community Liaison Officer	11/09/09	The River Skerne, Darlington

Martin Janes	River Restoration Project (later the River Restoration Centre)	Project Coordinator	04/06/09	RRC offices, Cranfield University, Bedfordshire
Carrifran Wildwood				
Myrtle Ashmole	Wildwood Group	Founding member of Wildwood Group	05/10/09	Private residency, Biggar, South Lanarkshire
Dr Philip Ashmole	Wildwood Group	Founding member of Wildwood Group	05/10/09	Private residency, Biggar, South Lanarkshire
Hugh Chalmers	Wildwood Group/ Borders Forest Trust	Project Manager (until 2008)	11/02/10	Tweed Forum offices, Melrose, Scottish Borders
Fi Martynoga	Wildwood Group	Founding member of Wildwood Group and Head of Fundraising	08/10/09	Engine Shed Café, Edinburgh
William McGhee	Borders Forest Trust	Director of Borders Forest Trust	12/05/09	Plan Vivo Foundation offices, Edinburgh
George Moffat	Wildwood Group/ Borders Forest Trust	Volunteer co-ordinator (until 2008); Project Manager (2008–)	29/03/10	Borders Forest Trust offices, Ancrum,

				Scottish Borders
Parc Penallta				
Paul Cooke	Groundwork Islwyn (later Groundwork Caerphilly)	Development Officer	11/06/09	Groundwork Caerphilly offices, Groundwork Caerphilly
Neil Daniels	Caerphilly County Borough Council	Principle Landscape Architect	12/06/09	Caerphilly County Borough Council offices, Blackwood, Caerphilly
Phil Jayne	Caerphilly County Borough Council	Manager of the Caerphilly Countryside Service (later the Countryside and Landscape Service)	12/06/09	Caerphilly County Borough Council offices, Blackwood, Caerphilly
Peter Lewis	Caerphilly County Borough Council	Project Manager Caerphilly Countryside Service, (later the Countryside and Landscape Service)	11/06/09	Parc Penallta, Ystrad Mynach, Caerphilly

Table 3.1. Details of interviews for the three restoration projects

Each interview took place wherever the interviewee requested, with the exception of the walk-along interviews (detailed below). I wanted each interviewee to feel comfortable in their surroundings, and also to inconvenience

them as little as possible; thus, the majority of the interviews took place, by request, at an interviewee's current place of work. Each interview was pre-arranged to take between an hour to an hour and a half (again, excepting the walk-along interviews); however, in practice they sometimes ran to about two hours, but always with the interviewee's complete agreement.

When undertaking interviews, there is an assumption that a researcher is in a position of relative power, but that this situation is reversed when interviewing 'elites' such as policy makers; yet power relations are far more complex than this in practice (see Smith, 2006). I found that power dynamics continuously shifted throughout the course of an interview, particularly in response to the different types of knowledge that were under discussion. For example, while talking about technical details of a restoration, or their scientific ecological content, I found myself on more than one occasion (sometimes prompted, other times not) stating that I had a natural science background in biology and ecology, rather than the social sciences. This was not necessarily as a means to defend my own knowledge, but to pre-emptively prevent any simplifications of ecological concepts by an interviewee, and to assert that I could also 'talk' ecology where necessary. This is not to say that I would not seek clarification for any concepts that I didn't understand – fortunately I understood everything that was brought up – but rather I thought it would be useful to highlight that I was interested in all forms of knowledge that were used within the context of producing and implementing policy – not just from the perspective of say landscape design and aesthetics.

The interviews were semi-structured in nature, so that they were close to being 'active interviews' (Holstein and Gubrium, 2004). This allowed for the flow of a two-way conversation within the interview, leading to questions based upon the respondent's prior answers, rather than eliciting yes/no answers (see Longhurst, 2003: 119). I had a script with me that had a bullet-pointed list of about 10-15 questions; these were useful to guide the interview and make sure that certain important areas were covered, while allowing space to follow through with any lines of questioning that I could not have foreseen within policy documentation. Thus, not only was I able to read 'between the lines', as it were, of particular policy statements, but unveil whole pages that were completely left out of policy documentation. It also allowed me to gain a better understanding of

an individual's interpretation of particular policy statements, revealing a diversity of opinion on different policy values that can appear to be hegemonic in their meaning when in a textual documentation format. I also used the pre-written questions as signposts to show when I wanted to change from one topic to another. I made sure that I clearly indicated when the interview was coming to an end, using time indicating phrases (Legard *et al.*, 2003: 146).

I also undertook an adapted version of what have come to be known as 'the go-along' in ethnographic research. Kusenbach (2003) outlines the go-along in the following way:

When conducting go-alongs, fieldworkers accompany individual informants on their 'natural' outings, and – through asking questions, listening and observing – actively explore their subjects' stream of experiences and practices as they move through, and interact with, their physical and social environment.

(Kusenbach, 2003: 463)

Go-alongs are intended to access the *in situ* spatial practices during such 'natural' outings, as well as to access informants' 'experiences and interpretations', and can be undertaken on foot (the 'walk-along'), or on wheels (the 'ride-along') (*ibid.*, 463-465). Carpiano (2009) is not so specific in his employment of the term, seeing them as a method through which qualitative interviews are conducted with an informant 'on outings in their familiar environments' (Carpiano, 2009: 264). In this way, the spatial practices of informants aren't necessarily invoked, nor are these necessarily undertaken during 'natural' outings.

Walking has recently been increasingly used as a research method within human geography and aligned disciplines, and has received a high degree of theoretical interrogation (see for example, Butler, 2006; Lee and Ingold, 2006; Edensor, 2008; Lund, 2006; Wylie, 2005). Among these, the walk-along seems to be particularly well suited to multi-sensory investigations of landscapes, especially as a means to access place-specific knowledge or practices of landscape designers, policy makers, or indeed environmental activists (on the latter see Anderson, 2004). However, previous walk-along methods have been 'curiously silent undertakings' where 'the sounds that matter...are [only] the voices of the informants' (Hall *et al.*, 2008: 1029-1030). This has been

challenged by Hall *et al.* (2008) through their use of the walk-along, in which they specifically attend to the sonic qualities of the experience of walking and talking with informants. Here, they consider the role of how sounds can distract and divert conversations while walking through Cardiff city centre, shifting ‘the dialogic course’ (*ibid.*, 1036).

I sought to undertake a walk-along interview at each of the restoration sites, with a person who was intimately involved in the design and implementation of restoration practices within each landscape. This was not, in the end, possible at Carrifran Wildwood, due to a number of extenuating circumstances. Because of the location of the site in relation to where the Carrifran Wildwood restorationists live and work, and because of their various work commitments, there were a number of attempts to meet somebody onsite, which were unfortunately all aborted. This speaks to the variation in habitual practices and work responsibilities of the restorationists across the three sites. The Carrifran Wildwood restorationists were just as keen to help me in my project as those from the other two, but the majority of the labour undertaken was on a voluntary, unpaid basis, in addition to their own work commitments, while restorationists at the other two sites maintained walking tours as part of their paid work remits.

At the River Skerne, I accompanied Clare Jones, the RRP’s Community Liaison Officer, on a walk-along, while at Parc Penallta I walked and talked with Peter Lewis, who was at the time the CCBC’s Project Manager. Both walk-along participants were chosen for their *in situ* knowledge, having been on-site for the duration of the implementation of restoration policy. I met each informant at a predetermined time and location at each site, equipped with a sound recorder and video camera (fully detailed in the next section) to capture the audio-visual components of restoration design. Both participants guided me through each landscape, detailing what we were experiencing along the way. When I deemed it necessary, I would interject with questions that either the restorationist or the landscape *itself* begged. This, I believe, is markedly different to how go-alongs have previously been employed. While Hall *et al.* (2008) were conscious of the role of sound in their go-along practices, this was only insofar as how sound diverted and distracted the unfurling of interviews. Instead, I wanted to be conscious of multi-sensory components but in a way that took account of their biographies and aesthetic qualities. This is to say that I was interested in

properties of things themselves – their history, visual appearance, smell, sound, texture, and so on – rather than simply acknowledging that undifferentiated sonic landscape components can change the course of conversations.

Both walks lasted about 2.5 hours each, as I wanted to walk at a leisurely pace so that as many landscape components could be considered. Each route was chosen by the participant in a conscious effort to shift the interviewer/interviewee power relations toward something collaborative (Anderson, 2004: 258), but also because as I am interested in interpreting restoration meanings, I was keen to understand the particular components of each restoration landscape where the restorationists themselves locate value, and to understand how they move through the landscape. As with the *ex situ* interviews, I had some prepared questions to give structure to our conversations, but I generally allowed the interviewee and the landscape itself to guide these. At many points along both routes, the participant and myself stopped, listened and looked, and then attempted to verbally dissect what we had experienced; this allowed me to trace the particularity of restoration design intentions and outcomes, rather than in the abstract, and it also gave space for the landscape to be fully active in this method of knowing through direct experience; indeed, walking through a landscape unavoidably made myself and the research participant multi-sensorially involved in that landscape (see Adams, 2001).

With both types of interview methods – *ex situ* and *in situ* – before I carried out the interview ‘proper’, I informed the interviewee exactly how I intended to use any information gathered from them (both this thesis and any conference papers and journal articles that may result from the research),<sup>11</sup> and at the end of the interview I got each person to sign and date a consent form. Here, I offered each interviewer anonymity if they so desired; in the end, one of the restorationists asked to have their name removed, which I have done so by creating a pseudonym for them (one of the restorationists involved in the River Skerne restoration). I also left them with my contact details, and encouraged them to get in contact with me if they had any concerns with regard to what they had said, or any clarifications that they wanted to make, though in all instances this did not occur. During the course of both types of interviews, no other ethical

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<sup>11</sup> Strictly speaking, I was reminding them, as I had already detailed this in email and telephone conversations prior to each interview.

issues arose, though I remained sensitive to their potential occurrence. There were no problems with accessing each site, and I was particularly cautious when walking through the landscapes so that I did not unnecessarily disturb any flora or fauna, that I shut all gates behind me, and that I generally walked with consideration.

### *3.5.1. Site documenting: videography, photography, and phonography*

A key constituent of this thesis is to understand how aesthetic values within restoration policy prescriptions are transferred – or not, as the case may be – to the landscape. Thus, I considered it essential to give space within the research to document both designed and non-designed landscape components that move beyond verbal and textual articulations – articulations that continue to dominate qualitative methods in human geography (Crang, 2003). In addition to the go-along interviews already outlined, I made a series of site visits to each location, both by myself and with others.<sup>12</sup> Rather than only visiting the sites at their most fecund, I visited each site at different points of the year to make sure that I accounted for seasonality in my documenting practices (see Palang *et al.*, 2005).

When I visited each site, I sought to document them in such a way that overcame at least some of the complaints voiced toward landscape studies methods in general, and environmental aesthetics in particular, which I outlined in the previous chapter. In essence, I wanted to produce some sort of landscape documentation that destabilised the visual bias normally found in this type of work; I felt that while there were many critiques of aesthetics being conflated with visual perception – most conspicuously based on the scenic landscape model – few investigations have put new methods to work in a concerted attempt to correct this. Around the time that I was thinking through methods that could potentially address such a significant gap in landscape research, I started to develop an interest in audio field recording (herein referred to as

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<sup>12</sup> Due to the fact that I cannot drive a car, and that no public transport is available to reach Carrifran Wildwood (even within walking distance), my primary PhD supervisor Dr Emily Brady, kindly drove me to and from Carrifran and accompanied me on my walks and documentation practices within the valley.

‘phonography’<sup>13</sup>), leading me to explore the possibility of producing sonic representations of each post-restoration landscape.<sup>14</sup>

Working from a multi-sensory perspective, I was keen to deploy methods that encompassed sound so that I was in a position to ‘better cope with our self-evidently more-than-human, more-than-textual, multisensual worlds’ (Lorimer, 2005: 83; see also Thrift, 2008). While I am not making the claim that I am fully ‘capturing’ the true multi-sensory nature of the post-restoration landscapes as I encountered them, my hope is that through documenting sonic registers I will give a richer sense of the aesthetic qualities that result from landscape restoration strategies, qualities that are ‘represented with different intensity in different media’ (Pink, 2008: 190).

### 3.5.2. Videography and photography

As noted earlier in this chapter, I brought a video recorder with me on the walk-alongs, but I also videoed at least one complete solo walk through each landscape. Videographic methods have been used in various sophisticated investigations, particularly in ethnographic studies (see Garrett, 2011; Laurier *et al.*, 2008), yet I used video recording as a means to ‘merely’ document both types of walks, in an attempt to capture something of the richness of the experience of walking, talking, listening, and viewing. In short, I used video recording as an alternative to written field notes; I found this to be an incredibly useful tool for capturing the audio-visual experience as I moved through each landscape, rather than frenetically trying to capture what was said and experienced through textual accounts. This meant that I could review video footage away from each site, which I found to be indispensable when it came to analysing policy documentation that was concerned with landscape design. A review of the video footage shaped my interpretive approach immeasurably: it allowed me to assess the links between what was desired through policy and what was actually realised.

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<sup>13</sup> ‘Phonography’ is the inscription of sound, just as photography is the inscription of light (see Gitelman, 1999).

<sup>14</sup> See <http://12gatestothecity.com/> for a selection of my sound recording work and techniques, which have undoubtedly seeped into this thesis.

In the end, I decided to not present the video footage within the thesis itself, instead opting to present a selection of screen-grabs alongside photographic landscape documentation. This came about because, while I found the material useful from an analytical perspective, I found it less so as a device for research dissemination in video format. As I had already decided that I would use photography and phonography methods (discussed below), I was concerned that I would overwhelm a reader of this thesis with such a ‘data dump’. I am well aware that this is a thesis of many words (necessarily so, I hope readers will agree); when factoring in the inclusion of photographs and sound recordings, I decided that the inclusion of hours of video footage would not be welcome, and would not serve any purpose that has not already been met by these two alternative methods of site documentation.

In fact, I believe that if I were to have included video, this would have actually highlighted the sorts of human/non-human landscape relations that I was keen to *consciously avoid*. I did not want to draw attention, for example, to the embodied relations between the person conducting the guided tour and the post-restoration landscape. Though the aesthetic and performative qualities of people walking through landscapes is interesting from the perspective of how nature is ‘done’ (see Waitt *et al.*, 2009), this was not in any sense the focus of my thesis. The same goes for my presence in the videos, including my voice and the rhythm of my breathing and walking (of which the jerkiness made me feel nauseous after reviewing long sections of handheld camera work). *My* embodied aesthetic experience of walking through the landscape was not what interested me; as I have already made clear, I am not undertaking an investigation about landscape *consumption* practices, but rather one about how restoration landscapes are *co-produced*.

I did, however, decide to use photographs as both a means to illustrate and demonstrate particular visual components of each project from the pre- to the post-restoration stages. Restorationists at all three sites supplied me with both digital and film photographs taken before and during restoration work was carried out, while I took my own photographs when visiting each landscape at the post-restoration stage, using a Canon EOS 30D digital SLR camera. The photographs were not manipulated in any way – contrast, saturation and so on were left unchanged in post-production – except for the removal of a few

noticeable dust spots on the lens. These photographs taken at different times across each project, enabled me to gain an understanding of how visual components of each landscape have, or have not, changed as a result of restoration implementation and management practices. The use of photographic material to better conceptualise historical landscape change is a common technique, both in the natural sciences (see Lucas *et al.*, 2002, for example) and the social sciences, especially in environmental aesthetic literature (see Porteous, 1996). In addition, it has also been used as a means to characterise potential *future* change, through computerized photographic manipulations, as can be seen in Nassauer's work on agricultural landscape aesthetics (Nassauer, 1992), and Simpson *et al.*'s (1997) work on envisioning the future of Scotland's landscapes.

Through my use of photographic material, I do not want this to be seen in any sense that I am striving for some sort of 'authentic' account of each site (see Pink 2007 on the 'objectivity' of visual documentation); however I concur with Alan Latham (2004) when he states that:

...the use of photographs is particularly productive as they can convey a sense of the feel and texture of a place or moment with a succinctness that words can rarely achieve. For all of photography's much discussed representational limitations...photographic imagery points the reader to the materiality of the world with a concreteness that is difficult to match.

(Latham, 2004: 129)

### 3.5.3. *Phonography*

Sonic methods – in particular phonographic methods – have received very little attention in either the geographic or environmental philosophy literature, echoing the relative lack of theoretical and empirical attention that sound has drawn across these and aligned disciplines. Those studies that do involve audio recording methods, tend to do so in a way that converts audio data into written transcriptions, (see Baker, 2003; Duffy and Waitt, 2011; Morton, 2005; Smith, 2000; Wood *et al.*, 2007), though there are some notable exceptions (Attoh, 2011; Kanngieser, 2011), and tend to focus on human vocalisations.

Instead, what I was interested in doing was developing a phonographic method that could capture a range of site-specific sonic frequencies, both human and non-human, and biotic and abiotic in progeny, and then find a way to present

these recordings as empirical evidence for some of the sonic-based claims that I make through the thesis. At each restoration site, then, I sought to produce a series of single point (stationary) sound recordings that represented the types of sonic frequencies that are apparent at different times of the day and year.

I used a RØDE NT4 microphone housed in a Rycote WS4 windshield, to prevent noise interference from wind while recording in the field.<sup>15</sup> Data was recorded onto a Zoom H4 sound recorder at 48kHz/24 bit in .WAV (Waveform) audio format, and subsequently imported into Audacity (audio software that is cross-platform supported freeware). In Audacity, I cut the recordings down to 2 minutes and added a 3 second fade to the beginning and end. Thus, the caveat of photographic ‘authenticity’ and objectivity are similarly applied to phonography, however I feel that this should be stressed further. What is important to keep in mind is that the resulting recordings are highly mediated sonic representations of ‘landscape formations and lived environments’ (McCartney, 2002: 1):

Recordings do not reproduce sound, they represent sound. According to the choice of recording location, microphone type, recording system, postproduction manipulation, storage medium, playback arrangement, and playback locations, each recording proposes an interpretation of the original sound. To be sure, one of the common strategies involved in this process is an attempt to convince the audience that they are listening not to a representation but to a reproduction.

(Altman, 1992: 40)

I thus want to insist that what can be heard in the sound recordings I present, is a partial representation of the sonic qualities of each landscape, but a useful representation nonetheless.

### *3.6. Presenting the audio-visual documentation*

I spent a good deal of time considering how best to present both the photographic images, videographic screen grabs, and sound recordings within the structure of a predominantly textual thesis. I decided that the best means to do so was to spatially display the location of each image and sound recording on maps of each of the three restoration sites. This was made relatively simple as, when

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<sup>15</sup> Put simply, if I had not used a windshield the resulting recordings would have only been pure distortion.

undertaking both the photographic and phonographic documenting practices, I used a walking GPS unit to geolocate the exact points at which they were taken. Sound recordings are presented on Compact Discs, which are housed at the back of the hardcopy of this thesis. However, I also decided that I could not assume that the Compact Discs would be properly archived once the thesis was filed in The University of Edinburgh's library. Thus, the sound recordings are accessible on three interactive maps on my personal website at the following web address: <http://12gatestothecity.com/jonathan-prior-phd-thesis-sound-maps/>

I also decided that *all* images should be placed with appendices, rather than spread through the text of the thesis. Due to the number of images, I would have had to have chosen a certain number to display within the text, and I did not want to edit this number. While I could have placed some of the images contained within the appendices within the text, as sound recordings cannot be materially embedded within the thesis, I wanted to ensure that sound and image were treated as equally as possible. I was concerned that if I did embed some images within the body of the text, this would unnecessarily foreground the images over the sound recordings.

The maps that show the exact location of where these photographs were taken are also on my personal website at the same address (<http://12gatestothecity.com/jonathan-prior-phd-thesis-sound-maps/>). After much experimentation that ended in unsatisfactory results, I decided not to provide a hard copy of these maps, or of the sound maps. The interactive maps offered, where scale can easily be changed manually, offers a far more dynamic method of displaying this information than could be achieved through producing hard copies.

Within the text, I will refer to a photograph as 'Figure x.y' where 'x' refers to the number of the appendix and '.y' to the number of the photograph within that appendix. Each photograph's number is also logged on the photographic maps. The sound recordings will be cited as 'Track x.y', where the x digit refers to the CD number and '.y' the track number. The track numbers also correlate to the numbers that appear on the sound maps.

It must be stressed that both of these forms of documentation were not only useful from the perspective of landscape representation. Undertaking photography, which involves attentive looking, and phonography, which

involves durational listening, made me keenly aware of the sonic and visual registers of the post-restoration landscapes. The imposed act of stopping and sensing each landscape for long periods of time, rather than only walking and talking, created my own multi sensorial understanding of each landscape's aesthetic qualities, and also (hopefully) a richer understanding of the relationship between specific design intents and their outcomes. This echoes Cheryl Foster's conception of how landscapes are best read through sensorial encounters that stretch '*...beyond* textbook propositions into a full knowledge by acquaintance' (Foster, 1998: 132, emphasis in original). While I cannot make a claim for 'full' knowledge, the partial knowledge I gained is without a doubt both fuller and more vivid than if I had relied purely on textual and oral accounts of the consequences of policy positions. In the next chapter – the first of four empirical chapters – I investigate these policy positions to try to elucidate the role of aesthetic values in ecological restoration policy, before I can then turn to understand the subsequent 'outputs' of policy formulations.

### *4.1. Introduction: why restore?*

In this first empirical chapter, I turn to look at the different value claims made by restorationists involved in the three projects. Firstly, for each case in turn, I will look at the procedures through which each site has been selected for restoration. This requires outlining and analysing the motivations of each project. Put simply, I want to answer the questions: why restoration? Why now? Why this site? As I have already discussed, ecological restoration is one choice of landscape trajectory amongst many different forms. Thus, when ecological restoration is under consideration, it is necessary for landscape restorationists, as with any other group involved in the process of landscape transformation, to make justifications regarding why restoration is the ‘best’ or most ‘appropriate’ (however measured) landscape trajectory. Such justifications may need to be made to any number of actors that have a stake in how a landscape is put to use both materially and symbolically: politicians, potential project funders, community groups, and that nebulous agglomeration ‘the general public.’

During this formative stage of a restoration, there needs to be a process of identifying both environmental degradation in the landscape and restoration as at least part of the remedy to reversing this degradation. Such a process necessitates the statement of value claims, which can involve both attempts to measure value already ‘out there’, and also the discursive construction of potential value, particularly in relation to anticipated *future* value. Secondly, then, I will address the general aims of each restoration, and their particular objectives, to understand where it is that the restorationists locate degraded value and project future value within the landscape. As I shall demonstrate, there is not always a clear one-to-one relationship between motivations for restoration, and a project’s stated objectives; once restorationists have justified their motivations to restore, they can often ‘build in’ other value claims. I shall show, then, motivations to restore can be supported by a different suite of value claims to those made by and

through specific project objectives.<sup>16</sup>

Thirdly in this chapter, I will assess how identified values of restoration objectives are measured, and also for what purpose such measurements are made. This is not only to understand how the restorationists comprehend a restoration to be ‘done’, and whether objectives have been met, but more significantly to consider how different types of value gain legitimacy through the policy process and delivery of ecological restoration projects. As the chapter progresses, it will become apparent that my intention is to tease out aesthetic value, as it is spoken of and measured at the three case study sites. As I have made clear, aesthetic value is one way in which natural and cultural landscapes are accorded value, nestled amongst, *within* and *across*, ecological value, economic value, cultural value, and so on. That is to say, while it is possible to identify aesthetic value as distinct from other values, these different types of value often intersect with one another. This is especially true when it comes to measuring value: while aesthetic value can be measured non-instrumentally – so too are aesthetic values indirectly measured instrumentally, particularly by way of recreational value.

This is not only due to contingency amongst values, but also because aesthetic values are not always directly articulated (Swart *et al.*, 2001: 233). Thus, I will pay attention to the full range of values expressed in the three sets of policy, so as not to miss indirectly measured aesthetic value. Additionally, I must put in the caveat that when analysing policy, while I will generally be speaking about aesthetic values, I will also attend to how these values overlap with aesthetic *qualities*. This is because descriptive qualities of the environment are often used to both describe and ascribe value (sometimes simultaneously) to whole landscapes or components within landscapes.

#### *4.2.1. The River Skerne: restoration as a site of aesthetic-technical demonstration*

The River Restoration Centre (RRC), who undertook the River Skerne restoration, was previously known as the River Restoration Project (RRP). The RRP ‘was established by an independent group of individuals with a professional interest and expertise in river environments’ (Tunstall, 1994: 5). These

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<sup>16</sup> I use ‘by’ and ‘through’ purposefully, as restoration objectives are statements of value in of themselves, which can also rely on other associated value claims.

individuals came together to initiate the RRP, following on from a river restoration conference held in York in 1990<sup>17</sup> (Martin Janes, 2009), with the aim of:

...setting up a series of demonstration projects within the UK that apply state-of-the-art techniques to river restoration. Knowledge gained from the experience of the demonstration projects will be disseminated to educate, increase the understanding and promote further restoration attempts. Thus, the Project aims to further the understanding of, and stimulate interest in, river restoration.

(Tunstall, 1994: 5)

Indeed, it was the ability to attract funding and to commence these demonstration projects that allowed for the coalescing of the RRP into a river restoration organization, with a paid staff based at Cranfield University (Martin Janes, 2009). In 1993, once the RRP had identified other institutions that were both currently and potentially involved in the funding and delivery of river restorations in the UK (see Tunstall, 1994), the RRP looked to make a funding bid at the European level. Some of the members of the RRP had made links with river restorationists in Denmark who had received some funding from the European Union's LIFE Programme funding stream,<sup>18</sup> to restore a section of the River Brede in South Jutland, Denmark (Martin Janes, 2009). It was decided that the UK river restorationists would partner with the Denmark restorationists, and put in a second application to the EU LIFE Programme under the title '*River Restoration: Benefits for Integrated Catchment Management.*' This application sought to increase the extent of the River Brede restoration, and restore stretches of two as-yet unidentified rivers in the United Kingdom – one urban and one rural – culminating in a bid for approximately £1 million pounds (Nielsen, 1997). The UK partners looked for part-matched funding from UK-based agencies and institutions, including the National Rivers Authority (NRA), English Nature, the Countryside Commission, and the Northern Ireland Rivers Agency (Martin Janes, 2009).

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<sup>17</sup> The conference, bringing together a loose affiliation of people representing various organisations with an interest in river management, has been repeated yearly at various locations across the UK since 2000 (see: [http://www.therrc.co.uk/rrc\\_conferences.php](http://www.therrc.co.uk/rrc_conferences.php) last accessed 10/1/11)

<sup>18</sup> The LIFE programme is the European Union's funding stream for environmental and nature conservation projects (see: <http://ec.europa.eu/environment/life/> last accessed 10/1/11)

The EU LIFE application was successful, but to receive the part-matched funding from the various UK organizations, the RRP needed to carry out a detailed site selection process to identify the two rivers in the UK that would be restored. In total, the RRP considered five rural and twelve urban locations (Vivash and Biggs, 1994: 3); each site was visited by individuals or small groups from the RRP, with assistance from the NRA, and given numeric scores (a maximum score being 100), based on six broad parameters. The first two of these are most illuminating:

1. Aims: the site must offer the potential to achieve the broad aims of river restoration, involving both the river and its floodplain, with benefits to wildlife, landscape, recreation and amenity, and to any local heritage features.
2. Technical: the site-specific project must illustrate a wide range of technical degradations that can be reversed, measured and developed with confidence in the future. Reversibility must be technically achievable and the results capable of interpretation.

(Vivash and Biggs, 1994: 4)

The chosen rivers must, then, display sufficient ‘technical degradations’ that can be feasibly and confidently reversed through the deployment of technical interventions (or ‘state-of-the-art techniques,’ as per the RRP’s remit). These degradations need to ‘typify the problems associated with many lowland European stream and river systems’ (RRP, 1995a: 3). Indeed, some rivers did not make the shortlist as they showed ‘insufficient degradation’ (Vivash and Biggs, 1994: Appendix 5.b). What are these ‘technical degradations’ exactly? Technical degradations relate to the historic (mis)management of riverscape systems: ‘Man’s [sic] intervention has changed over 89% of Britain’s rivers, regulated for flood defence or water supply purposes, leaving monotonous and poor quality river systems’ (RPA, 1997: 1.1). This has arisen through so-called ‘hard engineering’ technical interventions that have degraded river systems, as they are ‘straightened, deepened and sometimes embanked,’ while their ‘valleys and floodplains’ are ‘intensively farmed or developed,’ which means ‘much of their natural beauty and value to people and wildlife has been lost’ (RRC, 1998, unpaginated). This cannot, however, be read as an expression of humans *necessarily* or *unavoidably* degrading river systems wherever intervention

occurs; indeed *state-of-the-art* interventions are prescribed as the means to reverse historically accumulated patterns of degradation.

In their search for appropriate sites for restoration, the RRP also ascribed value to riverscapes<sup>19</sup> where it was deemed that restoration would bring about a multitude of ‘benefits’ that meet the ‘broad aims of river restoration’. These six aims (see Appendix 1) assign (visual) aesthetic value to the as yet unknown riverscape, post-restoration. This includes the restoration of a river from one that is ‘severely modified’ to one that is ‘appropriate to its historic environment,’ together with the restoration of the flood plain to ensure that ‘it is fully integrated with the river,’ and that both the river and floodplain’s ‘character is enhanced and blends naturally with the surrounding landscape’ to allow for ‘public enjoyment’. While ‘character,’ generally, demarcates qualities that make a landscape ‘special’ (Selman and Swanwick, 2010: 14; see also Brady, 2008), clearly in this instance value is placed on visual qualities of the river environment, as visual blending is to produce a seamless integration between river, floodplain, and the wider landscape. As an outcome of this site selection process, the River Cole near Swindon was unanimously selected as the rural site; the urban site, however, was a close-run decision between the River Alt in Merseyside, and the River Skerne in Darlington. While it was concluded that ‘neither the Alt nor the Skerne offered the RRP all the features it sought’ (Vivash and Biggs, 1994, Appendix 5.b), the Skerne prevailed, as it better met the preference for ‘an urban fringe location’ (Vivash and Biggs, 1994, Appendix 5.b).

When we consider the aims and objectives of both the RRP and the EU LIFE project, we see that the motivation to restore the River Skerne is not in itself *the restoration of the Skerne*; rather the motivation was threefold. Firstly, we see the positioning of river restoration as both a new form of discourse and practice in river management strategies (Adams *et al.*, 2004). This is part of a shift amongst river managers in the UK, especially within the Environment Agency (EA) and the Scottish Environmental Protection Agency (SEPA), away from earlier forms of hard engineering management (canalization, straightening and damming), that are solely aimed at flood defence, toward so-called ‘design with nature’

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<sup>19</sup> I use the term ‘riverscape’ to denote both the river channel, as well as its catchment (see Heathwaite and Harris, 2005).

approaches to river management that emerged in the 1980s (Adams *et al.*, 2004: 1931-1933). Further, this shift encompassed river restoration as a management tool, so as to address more than river flooding. In so doing it reframes the ‘problem’ of rivers, and attempts to accrue multiple benefits for people and wildlife (Liz Chalk, 2010).

The EU LIFE project sought to capitalize on and reinforce this trend with a river management system called Integrated Catchment Management (ICM). ICM has been defined as a management strategy where ‘a region’s land and water resources [are managed] in a coordinated manner that involves cooperation or partnerships among landholders, other community groups, and government agencies’ (Seymour and Ridley, 2005: 319). Further, such coordinated management occurs at the scale of whole river catchments:

So Integrated Catchment Management is that one step further, you look at the whole catchment, where your river is, you work out what are the issues affecting it, and you try to plan your solutions around how the river should operate.

(Martin Janes, 2009)

This move toward particular forms of management strategies is highly institutionally-bound. In England and Wales, ICM has been promoted through the EA, and the NRA prior to the EA’s inception, under various guises (Dr Liz Chalk, 2010):

It goes under River Basin Management Plans now! It’s still there, the last ones that we had were called LEAPS, Local Environment Agency Plans, we now tend to have catchment plans for flood risk management, we have something called CAMS which is catchment abstraction management strategies, and we have the Water Framework Directive, the River Basin Management Plans, and I suppose they are going to be the main driver in to the future.

(Dr Liz Chalk, 2010)

Secondly, the restorations were set up to act as experimental demonstration sites. Collectively, the restorationists acted as field technicians, measuring outputs pre- and post-restoration (water quality, sediment monitoring, channel hydraulics, geomorphological change, biological diversity, (see Biggs, 1996: 2));

applying new techniques; and disseminating results both *in* and *ex situ*. There was a particular focus on *in situ* dissemination, so that:

...individuals didn't have to traipse around the county, trying to find different examples of people who have tried restoration, you could go on one site, take all the best current knowledge, show that to people, and then drag them round and say look, it works, this is how we did it.

(Martin Janes, 2009)

In this way, the restoration sites were intended to make materially manifest schemes for river restoration and management, using state-of-the-art post-‘hard engineering’ techniques, which can then be adapted, reconstructed, and replicated in future river restoration projects (Holmes and Nielsen, 1998).

Thirdly, the restorations were used as a means to legitimize the RRP as an organization at the forefront of new forms of technical environmental management of river systems. As previously mentioned, in 1993 the RRP identified other institutions involved in the funding and delivery of river restorations, and found that no one organization focused on these actions (Tunstall, 1994). Thus, once the restorations had taken place, the RRP could use this ‘expert knowledge’ to place themselves at the centre of UK river restoration policy through subsequent dissemination. Such policy knowledge, then, not only has an instrumental function, as it can be used to initiate other restoration practices, but it also has a *symbolic* function in that this knowledge can then be used to ‘bolster its claim to resources or jurisdiction over particular policy areas’ (Boswell, 2008: 472).

#### 4.2.2. *Valuing the river*

Now that we have some broad context behind the motivations to restore the River Skerne, I want to closely consider and identify where value is attributed in the scheme, and also the mechanisms by which these values are measured. The aim of the restoration has been outlined in the following way:

Modifications have been made to the channel of the River Skerne, as it runs through Darlington, over the last century for flood defence purposes. A straightened and canalized channel resulted from these modifications, with uniform width and depth, and concrete flood banks. The aim of the

River Restoration Project was to bring about a “riverside revival” focussing [sic] on amenity, recreation, and water quality improvements.  
(RPA, 1997: 3-1)

While historical river modifications are identified as *the* form of degradation that needs to be addressed through restoration, the objectives of the restoration differ between different policy documents, reflecting institutional dispositions. For example, elsewhere the RRP identifies conservation, recreation and amenity values (RRP, 1996: 7), while the Environment Agency focuses on reducing flood risk, improving water quality, and enhancing physical habitats (Liz Chalk, 2010). It seems, then, that there are a multitude of restoration objectives. However, these all emanate from the central aim of the restoration that is to physically restructure components of the river system:

at that point [the mid-1990s] within river restoration, the concept was more about structural physical restoration, it was easy to visually see where rivers had been straightened or deepened, or they had been disconnected from their flood plain by a large embankment, the point of being able to restore the ecology was, at that point I think, was a given, if you can improve the habitat the ecology will come back on it's own..., so there was much less in terms of setting ecological objectives so saying we want to increase spawning or the number of fish species that can live within this area or we want to create a much richer bank-side habitat.  
(Martin Janes, 2009)

It was, then, assumed that when morphological changes to the river system relating to sinuousness, bank profile, in-channel features, and channel depth (RRP, 1996: 3-8), were put in place, further socio-ecological benefits would arise.

To assess the effect of making structural changes, a range of environmental parameters (socio-ecological values) were regularly measured, from which these restoration benefits could be ascertained. Thus, value gains and losses were calculated as incremental statistical outputs. This monitoring programme was carried out across time (pre- and post-restoration), and space (upstream and downstream from the restoration), covering the following parameters: water quality; geomorphological change; hydrological regime change; aquatic invertebrate ecology; aquatic and floodplain plant communities; birds; fish; and

public perception assessments. Additionally, pre-restoration landscape assessments and cost-benefit analyses were undertaken.

The Landscape Assessment, subcontracted out to SGS Environment,<sup>20</sup> was produced to understand the Skerne's landscape 'character and quality' pre-restoration, to both feed in to riverscape design plans, and to help to monitor aesthetic change through the restoration process (SGS Environment, 1994: 1). This proceeded through *describing* landscape 'elements' and overall 'character'; *classifying* areas of the same character 'types'; and *evaluating* 'the relative value' of different areas of the landscape, through text and supporting photographs and line drawings (*ibid.*, 3-4). The 'general' landscape within which the river is set is described as: '...urban public space. This has been split between amenity grass, including ornamental planting, and semi-natural vegetation. In addition there is also a small area of degraded industrial space' (*ibid.*, 15). In the assessment, the river was divided into six sections, based on 'important landmarks or a change in character' (*ibid.*, 4). The following are selected descriptions and classifications of these sections (from SGS Environment, 1994: 15-19; see Appendix 2 for map and photographs), which are illustrated with photographs:

#### Section 1 (Figures 2.1-2.3)

'has a particularly distinctive character largely dominated by its industrial past'  
'the left bank is edged by a large concrete railing wall that includes untidy pipes, metal railing and fencing'  
'the noise from the road, railway and adjacent industrial retail premises is a major feature'  
'the river in this area has lost its original character and has become canalized and downgraded'

#### Section 2 (Figures 2.4-2.6)

'the river has a soft edge on both sides with a fairly uniform profile'  
'industrial premises edge the right bank, these are located on an elevated plateau and are screened behind a densely vegetated embankment'

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<sup>20</sup> SGS are a 'inspection, verification, testing and certification company', of which environmental landscape assessments are but one of a range of services offered (see [http://www.sgs.com/about\\_sgs/in\\_brief.htm](http://www.sgs.com/about_sgs/in_brief.htm) last accessed 10/1/11)

‘apart from the traffic noise on Albert Bridge the area is peaceful’

#### Section 3 (Figures 2.7-2.12)

‘the character of the area is...fragmented and varied, but generally of an enclosed semi-natural or part derelict appearance’

‘semi-natural vegetation provides a valuable green edge screening out unsightly buildings’

‘the right bank includes a confined corridor with mature trees adjacent to allotments’

#### Section 4 (Figures 2.13-2.19)

‘the corridor consists of a complex series of spaces which appear as fragment units containing both semi-natural and tamed areas’

‘...offers a superb vantage point from which to view the conservation area’<sup>21</sup>

‘the character adjacent to the housing area changes to managed parkland with mown grass and groups of trees’

#### Section 5 (Figures 2.20-2.24)

‘it has a medium scale open space which has a unified feel’

‘the character is one of managed parkland on both sides of the river with few features’

‘industrial buildings dominate the skyline on the left bank’

#### Section 6 (Figures 2.25-2.32)

‘the area is managed parkland with a fairly unified appearance’

‘traffic noise on Haughton Road has a major impact on the area’

‘the dominant elements are the adjacent housing, the road and Hutton Avenue footbridge, all negative factors’

‘the river channel has been subject to various works including an unattractive terrace built in the 1970s as part of flood defence measures’

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<sup>21</sup> This is Rockwell Conservation Area, a small nature reserve to the north of the site.

When we consider that landscape assessments typically eschew aesthetic judgments, and focus on visual characteristics of place (Brady, 2003: 233), the above descriptions and classifications appear to be particularly rich. Aesthetic-spatial landscape qualities are considered (confined, dense, enclosed, unified, open), as are visual and acoustic aesthetic judgments (untidy, noise, peaceful, unsightly, unattractive), and value judgments related to the relative influence of nature and culture on landscape (semi-natural, tame, managed). Not one cultural element of the landscape along the whole stretch is positively valued, except for the Skerne Bridge<sup>22</sup> (in section 1), which is described as being of ‘historic importance,’ though it is in a ‘setting [that is] visually poor.’ From these assessments, evaluations were made as to whether ‘conservation,’ ‘restoration,’ or ‘enhancement’<sup>23</sup> should occur within each section (SGS Environment, 1994: 5). It was concluded that the prevailing management strategy should be one of restoration, with some conservation of mature tree stands and enhancement through vegetative planting to ‘screen low quality and skyline development’ (37). As a result, proposals were put forward that identify particular aesthetic interventions across the riverscape. These include the restoration of river channel features that reverse the ‘process of industrialisation’ toward ‘its original state’;<sup>24</sup> to increase ‘informal recreation’ through ‘increased provision of footpaths and a new bridge across the river’; and to change the wider landscape away from ‘sterile, closely mown amenity grassland to encompass a wider range of habitats’ (*ibid.*, 37-39).

The findings of the pre-restoration public perception assessments show a certain degree of disparity between public and professional assessments of landscape value. 252 local residents, defined as living within 400 metres of the river stretch that is to be restored, were quantitatively and qualitatively surveyed (RRP, 1995b: 3). Overall, the river was described as ‘fairly attractive,’ with respondents valuing the existing “‘peace and quiet”, the open space, the wildlife, and the more natural habitat’ (RRP, 1995b: 9). Furthermore, the ‘sterile’ amenity

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<sup>22</sup> The Skerne Bridge is a Scheduled Ancient Monument, due to its importance in railway history (SGS Environment, 1994: 11).

<sup>23</sup> Where ‘enhancement’ means activities such as planting and improving access, but not physically restoring, and ‘conservation’ is the preservation of landscape elements (SGS Environment, 1994: 15-16).

<sup>24</sup> This ‘original state’ is addressed in Chapter 5.

grassland was positively valued, as it ‘looked good’ and was ‘neat and tidy’ (*ibid.*, 10). Valuations of the existing vegetation, rated on both amount and type, were almost equally split between positive and negative ratings (*ibid.*, 10-11); however there was agreement that more trees would be favourable (*ibid.*, 11). Hard engineering was deemed aesthetically ‘unnatural’ but was considered as somewhat necessary for flood protection (*ibid.*, 14), while the shape of the river channel was something that the majority of the respondents had not even considered an issue, while access to the river was currently viewed as good (*ibid.*, 15-16).

These descriptive valuations of the river pre-restoration were taken ‘in to account’ during the design process, alongside verbally articulated values ‘on the ground’ during the restoration works via the community liaison officer (Clare Jones, 2009; Martin Janes, 2009). However, environmental economic measurements of value were the primary modes by which aesthetic value claims were captured to inform the restoration policy decision-making process. ‘Enjoyment value’ of the river was equated with recreational value, and estimates of this value were made through interview respondents putting a monetary price on a single visit to the river pre-restoration (a mean of £6.00), and post-restoration<sup>25</sup> (a mean of £7.65). Willingness to pay calculations were made, based on respondents’ preparedness to pay tax increases for a national river restoration scheme, and solely for the Skerne restoration (RRP, 1995b: 27-28). It was found that future use enjoyment of the riverscape was the most important factor in motivating willingness to pay responses for both of these schemes (*ibid.*, 29). These values were part of a broader effort to ascertain the likely monetary benefits of the river restoration, through an economic appraisal carried out by the environmental consultancy firm, Risk & Policy Analysts Limited, who were contracted by the RRP (RPA, 1997). Aside from recreational value, amenity value was measured through an assessment of the assumed effects of the restoration on properties adjacent to the river: ‘the characteristics and quality of the local environment can affect property values; furthermore,

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<sup>25</sup> Respondents were given a general idea of what changes would occur along the river through the scheme, including ‘creating bends’ in the river, and new landscaping ‘with trees, plants and flowers’ (RRP, 1995b: 21).

properties in close proximity to a pristine and attractive river can attract high price premiums' (RPA, 1997: section 3.2).

While differing in their objectives, these attempts at valuing the pre- and post-restoration River Skerne coalesce around measuring aesthetic value instrumentally in the production of a recreational riverscape, wherein experiential richness is reduced to lower and upper estimates of economic value. While the benefit analysis explicitly attempts to measure non-instrumental benefits of the restoration, under the heading 'conservation and non-use', this was done through estimations of willingness to pay monetary values of '...those people who live locally to a river but who never visit' (RPA, 1997: section 7.3). Thus, the values of future use by current non-use 'locals' are not discounted, but perhaps more importantly it is unclear as to what such willingness to pay values are actually revealing. This could, for instance, be an expression of value based on *other* people's utility of the river: a parent who doesn't visit the river may instrumentally value the river because their children recreationally use the river. As a result, this cannot be seen as an accurate method of capturing non-instrumental valuations.

The ways in which the river has been problematized as a river in need of restoration, the remedies offered, and the instruments used to measure the benefits of restoration, all rest on pre-conceived calculations, which make the river restoration both measurable and accountable in the delivery of an assumedly foreseeable dividend. Thus, the aims, objectives and values take the form of environmental policy making that has been described as 'managerial ecology.' Managerial ecology is a response to environmental issues that assumes 'an unlimited capacity to eliminate indeterminism and achieve certainty through science and technology' (Bavington, 2002: 4), maintaining an 'unquestioned faith in management as the solution to deep seated ecological and social problems' which 'is founded on the belief in, and desirability of, control' (Bavington, 2002: 5). Such a desire for the control of ecological systems through management, and the tools employed to measure this management, fits squarely within a form of environmental policy discourse termed 'ecological modernization', which has been mobilized with increasing prominence since the 1980s as a means of framing policy responses to ecological degradation by governments and industry (Christoff, 2000: 210):

... ecological modernization, first and foremost, introduces concepts that make issues of environmental degradation calculable. Most notably, ecological modernization frames environmental problems combining monetary units with discursive elements derived from the natural sciences. This provides a common denominator through which costs and benefits of pollution can be taken into account.

(Hajer, 1995: 25-26)

From the perspective of managerial ecology and the discourse of ecological modernization, we see that the procedure of environmental accountancy of values used by the River Skerne restorationists (RRP) via contingency valuation mechanisms, are not merely beneficial, but are demanded of a management practice that seeks stability, accountability, and a quantitative form of measuring and comparing values.

#### *4.3.1. Wild wood: Experiential and embodied values of wilderness*

As with the River Skerne restoration, the *idea* of restoration arose prior to the identification of Carrifran as a landscape to restore. This idea of restoration had a long gestation period, and emerged from the collective entwining of personal motivations. Myrtle Ashmole, Fi Martynoga, Ann Goodburn and others initiated a local environment group in Peebles called Peeblesshire Environment Concern (PEC) in 1986, which ran a series of evening courses around various environmental issues (Ashmole and Ashmole, 2009: 18; Fi Martynoga, 2009). Concurrently, Philip Ashmole's academic work as an ecologist made him 'aware of what an extraordinarily devastated ecosystem we were living in' (Philip Ashmole, 2009). Writing in 1996, Philip states:

When Myrtle and I came to Scotland... after a decade in the Americas, we had acquired a taste for wilderness. But as biologists, it was the ecology of wilderness that fascinated us, and in the wild places of Scotland we were dismayed to realise that we were often looking at the bare bones of ecosystems that had flourished thousands of years earlier. The landscapes were beautiful, but – in today's jargon – the biodiversity was largely lost.

(Ashmole and Ashmole, 2009: 15)

This conflict between aesthetic and ecological value is echoed in other accounts by Wildwood Group members, for example Ann Goodburn writes: ‘When I was growing up in the Borders I loved the bareness of the hills and indeed they are superb. It was only later when I was a geography student at Edinburgh that I realised my hills were barren ‘sheep gangs’, laid bare and cropped by much munching’ (quoted in Ashmole and Ashmole, 2009: 15). Further, this sentiment is consolidated by the Wildwood Group, when they collectively state that: ‘...many residents in the Southern Uplands of Scotland have become increasingly uneasy at the fact that their familiar, beautiful, but mainly naked countryside is ecologically devastated’ (Wildwood Group, 2000a: 6). Such conflicts are well understood to take place (see Gobster, 1999; Lintott, 2002; Parsons, 1995), but appear to not change an individuals’ aesthetic values of the landscape in question (Matthews, 2002: 37-38): the hills may only represent the ‘bare bones’ of former ecosystems, but they remain ‘superb’ and ‘beautiful’.

This is not to say that emerging concerns over the perceived loss of value were restricted to a scientific understanding of the ecological. While the ‘naked’ landscapes are aesthetically valued for their scenic qualities, there is also a sense of loss of *experiential* qualities of former ecosystems, as these three quotes testify:

my children were quite old then but I had that sense that there were very few places where you could actually go for a walk in the woods and it seems like an essential part of life to me to be able to go for a walk in the woods, and so let’s try and do something about it for the future.

(Fi Martynoga, 2009)

I think it was a feeling it was, a feeling that it just wasn’t on, wasn’t fair that nobody in the South of Scotland had anywhere to go where they could see an extensive bit of moderately natural habitat.

(Philip Ashmole, 2009)

‘At present there is nowhere in the Southern Uplands – and few places in Britain south of the Highlands – where one can get a feel for the natural vegetation of the countryside on a reasonably large scale.

(Wildwood Group, 2000a: 6-7)

In doing so, the Group privilege the capacity to have proximate experiences of trees and forests, and not just scenic landscapes to be experienced as distant compositions. To get a ‘feel’ for these landscapes, an attitude of being *within* rather than removed *from* that landscape is necessary, which at least hints at embodied or immersive sensing of the landscape (see Berleant, 1992: 170). The Group also reveal a particular reading of countryside aesthetics that is deemed ‘appropriate’ to the region, rejecting the pastoralism and economically productive patterns of land management, particularly sheep farming, which have predominated in the Borders since at least the 13<sup>th</sup> Century (Goodburn, 2009a: 58).

In Autumn of 1992, Philip and Myrtle attended the first Reforesting Scotland<sup>26</sup> annual gathering, held at the Kindrogan Field Studies Centre in Perthshire, where they learned about other groups who were initiating forest restoration schemes, including Trees for Life, which aims to restore the Caledonian Forest in the Highlands (Ashmole and Ashmole, 2009: 18-19). This attendance ‘...was to galvanise us in to action....we decided that while the restoration of the Caledonian pinewoods was in good hands, the broadleaf woodlands of the Southern Uplands needed more help’ (Ashmole and Ashmole, 2009: 20). This led to PEC and Philip organising a one-day conference entitled ‘Restoring Borders Woodland’, held in St. Boswells in the Borders, on 12 November 1993 (PEC, 1994). Papers were presented that looked at the historical context of forests in the Scottish Borders, the future potential for restoration through reforestation, and subsequent management practices, presented by speakers from a range of environmental charities and private landholders, including Scottish Natural Heritage, WWF Scotland, The Tweed Foundation, and Buccleuch Estates (PEC, 1994).

Post-conference, the concept of a native woodland restoration by PEC members and affiliated friends ‘did not seem feasible’ (Ashmole and Ashmole, 2009: 25) due to the lack of available funding; however, this soon changed. Following the formation of the National Lottery and the Millennium Commission, who were to oversee the distribution of funds to projects to mark

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<sup>26</sup> Reforesting Scotland are an Edinburgh registered charity, that promote the sustainable use of forests in Scotland, as well as ecological restoration practice (see: <http://www.reforestingscotland.org/aboutus/index.php> last accessed 18/1/11)

the new millennium, prominent environmental NGOs initiated a funding bid to the Commission under the title ‘Millennium Forest for Scotland’, with the aim of supporting a range of native forestry initiatives across Scotland, and to do so formed the Millennium Forest for Scotland Trust (MFST) (see <http://www.millenniumforest.co.uk/>). This spurred on the members of PEC to make a bid for restoration funding from MFST, alongside a range of other Borders projects, which required the establishment of a legally established charitable organisation, and thus the beginning of what would become Borders Forest Trust (BFT) by autumn of 1995 (Ashmole and Ashmole, 2009:27-29). Those associated with PEC decided to form a devolved, ‘semi-autonomous’ group within BFT, calling this organisation Borders Wildwood, later to be renamed the Wildwood Group (Willie McGhee, 2009).

Expectations were high that about £400,000 of funding from the MFS initiative would be forthcoming to purchase a site, however the Group eventually only received £2,500 toward finding a site to purchase. This needed to be spent within three months and was seen as an overly ‘bureaucratic’ process; this led to the Group being ‘suitably wary of any sources of funding that came with strings attached’ (Ashmole and Ashmole, 2009: 31). Indeed, emphasis is placed on the ‘grassroots’ aspect of the Group, especially on the decision that they should remain a local ‘community’ group ‘doing it themselves’ (Fi Martynoga, 2009; Willie McGhee, 2009), rather than an institutionalised or overly formalised organisation. However, this was countered both by the Group’s need to appear ‘credible to the establishment’ for funding purposes (Philip Ashmole, 2009), and also the need to follow the ‘norms’ of eventual funding bodies. Nonetheless, being a semi-autonomous group away from BFT, allowed them to form their own ‘vision’ for restoration, to which I shall now turn.

The objectives of the Wildwood restoration are best encapsulated within the Wildwood Group’s mission statement, which was primarily drawn up by Myrtle Ashmole (Philip Ashmole, 2009), but agreed upon by the Group:

The Wildwood project aims to re-create, in the Southern Uplands of Scotland, an extensive tract of mainly forested wilderness with most of the rich diversity of native species present in the area before human activities became dominant. The woodland will not be exploited commercially and the impact of humans will be carefully managed.

Access will be open to all, and it is hoped that the Wildwood will be used throughout the next millennium as an inspiration and an educational resource.

(Wildwood Group, 2000a: 6)

Here, the values of wilderness are heterogeneously expressed. We see that wilderness is both material presence (a diverse array of native species), and material absence (the ‘impact’ of humans and exploitation of commodity chains), as well as acting as a psycho-social resource for both inspirational and educational purposes. Such heterogeneity allows the Group to project their own set of landscape value coordinates – collectively and individually – on to an as-yet conjectural site. In this way, amorphous, unbounded wilderness can be discursively built from the theoretical ground up.

The distinction between wilderness and wildness (see for example Chapman, 2006) is important to understand the range of values that the Group are seeking to inscribe through ecological restoration. Wilderness is a notoriously complex and contested concept (see Callicott and Nelson, 1998; Cronon, 1996; Merchant, 2007; Nash, 1982), which has been deployed as a policy directive predominantly within a North American context, most notably through the United States Wilderness Act of 1964, which states:

A wilderness, in contrast with those areas where man [*sic*] and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.

(Wilderness Act, 1964)

Echoing this definition, Philip and Myrtle Ashmole associate wilderness with a lack of human domination, but do so through emphasising the negative visual and sonic qualities of *other* (non-working) human bodies when moving through the landscape:

I think for us [*Philip and Myrtle*] that it is very important to go in to a place where there aren't a lot of people or at least one isn't continuously tripping over a lot of people, one isn't disturbed by other people shouting at their dogs...trying to create a wilderness atmosphere, a way of getting away into a wild place, you just can't do that if you have too many people.

(Philip Ashmole, 2009)

Thus, wilderness is a sensorial experience that is entered in to, wherein a certain kind of ‘atmosphere’ is predicated on other people’s non-presence. For others, it is not so much human presence *per se*, but the absence of visible traces of human interaction with landscapes that is central to the production of wilderness. In particular, a ‘lack of management’ (Fi Martynoga, 2009) or ‘the hand of man [*sic*]’ (Willie McGhee, 2009), is identified as what constitutes wilderness.

Still others place value on the *presence* of certain material components. Interestingly, this is the presence of certain types of animals, where the forest acts as a habitat backdrop. George Moffat talks of his hope to ‘see a woodland teeming with bird life and deer and badger and everything else’ (George Moffat, 2010), while Hugh Chalmers envisions charismatic mammalian species currently not found in Scotland:

It would be great to, I have walked through European wildwood and so having things in there that are scary is quite an interesting thing to think of. ...it would be wonderful to have wild cat rushing around and...I’d be quite happy to walk there with wolves, I’d be happy to walk there with bears as long as I had a rifle.

(Hugh Chalmers, 2010)

Rather than wilderness, that is to say the absence of human bodies and their material traces, here *wildness* is experientially valued, where wildness is equated with the presence of animal species that are non-domesticated, self-sustaining animal species (Gamborg *et al.*, 2010).

Whether the trees that make up the forest are valued as end in themselves or as a ecological setting within which to value wild bird and mammalian species, it is the trees that must first be restored: as Fi Martynoga told me ‘you can’t do fauna until you’ve got a habitat can you?’ (Fi Martynoga, 2009). While the Group identify the loss of trees as a form of degradation, the posited remedy was not simply ‘reforestation’ as has been practiced in the Scottish Borders by the Forestry Commission since post-World War II; plantations of ‘alien conifers’ have resulted in ‘great tracts...being covered by regimented blocks of uniform green monoculture...landowners were busy ‘coniferising’ even the tiny pockets

where native trees survived' (Ashmole and Ashmole, 2009: 16). Instead, the Group aim to restore the site to an 'original-natural' woodland, based upon Peterken's (1996) concept: 'the state that existed before people became a significant ecological factor' (Peterken, 1996: 13; Wildwood Group, 2000a: 26). This is defined in relation to 'present-natural', the 'state which would prevail now if people had not become a significant ecological factor', and 'future-natural', the 'state which would eventually develop if people's influence were completely and permanently removed' (Peterken, 1996: 13). Clearly, all three potential forest states can only be achieved if human 'influences' are separated from the non-human components of the forested landscape; indeed, Peterken regards 'people as being separate from nature' (*ibid.*, 11).

The Group obviously understand their role in the production of the Wildwood through restoration, and that their actions inextricably entwine them with the process of ecosystem development. However, such a relationship is only presumed to be made manifest in the short-term during the instigation of the Wildwood. Projected in to the future, humans are presumed to take a diminishing role, as 'natural processes will be allowed to predominate as far as possible' (Wildwood Group, 2000a: 26), and that humans will be a 'part of the landscape', but only a 'minor part' (Fiona Martynoga, 2009). The Group see their vision for the Wildwood as a landscape for non-human nature to predominate, and so there is an expression of values that lie outside anthropocentric utility. However, the cleavage between humans and nature necessary for the development of an original-natural forest, where human impacts need to be managed, means that the restoration is also not ecocentric, if we take 'ecocentric' to mean an ethical stance directed toward a form of holistic *unity* of human and non-human nature (Merchant, 1992: 77). Put another way, what we see is the promotion of environmental values that seek to express non-human nature as autonomous from humans, allowing for the spontaneous, self-expression of non-human nature (Woods, 2005: 176-177) to come in to being.

#### 4.3.2. Carrifran Wildwood: locating the site and measuring value

As the restoration vision was being drawn up, the Group were concurrently looking for a suitable location within the Scottish Borders where they could undertake a restoration. Such suitability was predicated on a particular set of

landscape criteria: that it was large enough in size (around 800 ha) and ‘felt’ remote enough to create a wildwood; that it was surrounded by hills that rose to at least 600m from the valley floor, so that a range of trees at different altitudes on a range of soil types could be planted; that it constituted one visually discrete entity; and that large conifer plantations, ‘intrusive’ man-made (*sic*) structures and roads were absent (Hugh Chalmers, 2010; Philip Ashmole, 2009; Wildwood Group, 2000a; Willie McGhee, 2009). These requirements would make it possible to undertake a restoration aimed at reproducing forest wilderness at a site largely ‘as found’, meaning that the landscape would need minimal interventionist activities. Additionally, a pre-existing sense of remoteness identifies the spatial – and the resulting sensorial – qualities of wilderness as oppositional to humanly populated areas and vehicular access points (Hall and Page, 2006: 271), and when we factor in ‘visual discreteness’ and enclosure through perimeter hills, this points toward the desire for a site that is physically bordered and detached from adjoining landscapes: ‘The fact that the site is visually self-contained is one of the key attributes of this site...as the experience of visiting the site will hardly be impaired by views of external areas which would interfere with the sense of a ‘wilderness’’ (Wildwood Group, 2000b: 43). Indeed, of the ten sites that were investigated in detail (Wildwood Group, 2000a: 8), one site that came close to becoming the Wildwood site – a farm in the Moorfoot Hills in the Scottish Borders – which eventually fell through due to legal complications, was seen as a compromise to the wilderness ideal as a minor road bisects it (Philip Ashmole, 2009). A ‘visually discrete entity’ speaks of not only what cannot be seen beyond hills, but also of a particular sense of internal spatiality. Specifically, this is a spatiality that can be comprehended as a complete unit – a visually *coherent* site (Bell, 1999: 96) – at dimensions large enough within which to maintain a wilderness experience for a day (Philip Ashmole, 2009).

The Carrifran site, a U-shaped valley, was known to the Group in 1993, when Philip looked down on the valley while out hill walking, but was initially overlooked in the site search as it was located in Dumfries and Galloway, which lies to the west of the Scottish Borders, the original target area. Additionally it had changed ownership hands in November 1994 as part of Capplehill Farm, so the Group assumed it would not be for sale during the site search in late 1995

(Ashmole and Ashmole, 2009: 34). In the summer of 1996, Fi Martynoga was walking with her neighbour, Professor Ed Southern; it transpired that Ed was the cousin of John Barker, the owner of Capplegill Farm. This eventually led to an offer being made for the Carrifran valley, whose sale was agreed in November 1997. A two-year period of fundraising followed, through private individual contributions, fundraising drives, and organisational donations, such as from the Society of Friends (Quakers) in Edinburgh (Ashmole and Ashmole, 2009: 44-49).

Carrifran meets most of the site criteria. At 665 ha in size, it is smaller than hoped for, but rises to a higher altitude, reaching a maximum of 821 metres above the valley floor at White Coomb hill, located at the northeast of the valley. This hill forms part of a ridge that runs to the east, north and west of the valley, forming a complete watershed that drains the Carrifran Burn and its various tributaries into Moffat Water (Wildwood Group, 2000a: 12; Figure 3.1). The site is bounded by the Moffat to Selkirk A708 road (Figure 3.2), but is visually obscured from most of the valley floor, and at higher elevations, by glacial deposits at the mouth of the valley (Figure 3.3). This has the combined effect of producing a visually discontinuous site, when viewed both internally and externally. The site also displays an appropriate form of landscape degradation; it is suitably devoid of tree stands, with only a few relics in areas inaccessible to grazing animals on cliff sides and along the Carrifran Burn (Adair and Ashmole, 2009: 80; Figure 3.4). At the same time, Carrifran as a landform is valued as being 'scenically magnificent' (Wildwood Group, 2000a: 8). Not only do the hills obscure views of the surrounding landscape and elicit a sense of enclosure, they display rugged aesthetic qualities – steep sides, jagged scree slopes and hill tops that are among the highest in the south of Scotland – due to the heavy glaciation effects of the last ice age (Wildwood Group, 2000a: 16). Such qualities generate a character that is dislocated from the surrounding landscape:

In form, [Carrifran] is not typical of the Southern Uplands. Carrifran Burn and its tributaries, descending into the valley in a series of long ribbon-like cascades, and its surrounding steep hills and crags, are more Highland in character than the more usual gently rounded hills of the area....on a wild wet wintry day, when the clouds are low over the crags, it has an austere forbidding aspect....When the skies are blue, the sun

twinkles on the burn and the wild bedstraw and tormentil bloom, it has a serene, peaceful and timeless quality.

(Goodburn, 2009b: 71)

The pre-restoration landscape contains physical attributes that, in conjunction with micro-climatic conditions, produce particular aesthetic qualities that are assumedly ‘Highland’, rather than the ‘gentle’ hills of most of southern Scotland. With the changing of the seasons visual and aural beauty (serenity, peacefulness, timelessness) gives way to hostility (austerity, forebodingness) that stops short of a sublime account of landscape.

We have seen that the aim of the restoration is premised upon future non-utility of the woodland. Such an approach clearly precludes future value of the restored woodland from being measured with appeals to its economic potential as an extractible resource (timber harvesting and other woodland products). No form of contingent valuation has been undertaken, that is to say no cost-benefit analyses, willingness to pay estimates, or interviews of any kind have been conducted to quantify external (that is, to the Group) projections of future value, post-restoration. Rather, it was necessary to demonstrate that *existing* externally measured values would not be *diminished* through the act of restoration.<sup>27</sup> As the site forms part of the Moffat Hills SSSI, and the restoration would change the nature of the SSSI (a so-called Potentially Damaging Operation (PDO) (Nature Conservation (Scotland) Act, 2004)), Scottish Natural Heritage (SNH) required an Environmental Statement (ES) to be produced. This took the form of a management document (Wildwood Group 2000a and 2000b) that sought in part to demonstrate that ‘...populations of rare or scarce plant species or vegetation types which are present on the site are not negatively affected by the woodland establishment proposals’ through avoiding tree planting near such flora (Wildwood Group, 2000b: 51-52). Guarantees of avoiding tree planting on or near 11 archaeological structures were made (Wildwood Group, 2000a: 81; see Appendix 4), ranging from the unroofed remains of shieling huts, to a cairn located close to Carrifran Burn. Additionally, landscape assessments were used to demonstrate that planting activities would not adversely affect the visual

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<sup>27</sup> I am not saying here that the Group disagreed with external forms of site valuation, rather that the Group were not involved in their construction.

properties of the Moffat Hills, particularly when viewed from outside of the Carrifran valley (Wildwood Group, 2000b: 43).<sup>28</sup>

While future value of the restoration has been projected through advocating certain hoped-for types of landscape characters and experiences, measurements taken by the Group take the form of monitoring activities to understand changes as they unfold. The Group initiated landscape monitoring to firstly ‘ensure that the objectives of the project are achieved’ (Wildwood Group, 2000b: 25). To do so, the Group are taking 50mm fixed-point photographs at 30 different sites across the valley, located by Global Positioning Systems (GPS), to allow the Group to qualitatively monitor the ‘progress of woodland development’ (Ashmole and Ashmole 2009: 196). Secondly, the Group are undertaking monitoring ‘to provide information to the wider conservation/restoration community’ (Wildwood Group, 2000b: 25). Baseline assessments were carried out to ascertain pre-existing vegetation, fungi, birds, mammals, and invertebrates, including moths, butterflies and beetles; some of these were carried out by members of the Group, others by ‘outside’ professionals or volunteers (Ashmole and Ashmole, 2009:198-200). Follow-up surveys have not been carried out for most of these groups, with the notable exception of bird surveys that have been undertaken almost every year since the baseline assessments (198); however follow-up surveys will become central to the Group’s activities now that the majority of the trees have been planted (George Moffat, 2010). We can see then that value measurements undertaken at Carrifran are confined to documenting shifts in the landscape’s ecology, rather than as a means to make projections of pre-determined ‘outputs’. As such, these measurements are not prescriptive in the delivery of certain values – aesthetic or otherwise.

#### *4.4.1. Multifunctional values at Parc Penallta*

The restoration works at Parc Penallta came about through a legal requirement that was imposed on the former site operator’s coal mining activities. Coal-related operations at the Penallta site ceased in the early 1990s: the colliery closed in 1991; tipping of spoil stopped in 1993; and coal stocking in 1994.

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<sup>28</sup> Landscape assessments of visual qualities pre- and post-restoration, will be covered in detail in the next chapter.

These operations were carried out under the auspices of the privatised British Coal Corporation (BCC), previously the nationalised National Coal Board (NCB). In 1983, the NCB were given Conditional Planning Permission by the Mid Glamorgan County Council (MGCC, which was abolished on 1<sup>st</sup> April 1996 and replaced by the Caerphilly County Borough Council (CCBC)), to continue coal mining and on-site tipping of spoil. This permission was made on the condition that once coal activities at the site stopped, the NCB would undertake restoration of the site and carry out an undisclosed period of aftercare (CCBC, 1996: 1-2). Rather than carry out the restoration works themselves, BCC sought to transfer the site to another authority by means of a dowry that would cover the cost of such works, and so in August 1994 negotiations were entered in to with Rhymney Valley District Council (RVDC)<sup>29</sup> to own the site and thus undertake the restoration works. This period of negotiating was protracted over a period up to mid-1996, due to the fact that while RVDC estimated that the cost to undertake the agreed restoration works would be £959,774, BCC were not prepared to offer a dowry at this amount, instead offering £584,000 (CCBC, 1996: 3). With no further monies forthcoming, such an amount would have only allowed RVDC to undertake the legal minimum which was ‘turning it green essentially... they would have sprinkled grass seed on it and left it’ (Paul Cooke, 2009).

Around this time, Groundwork UK were putting in their bid to the Millennium Commission lottery grant stream for the Changing Places programme, which resulted in £22.1 million in funding across the programme’s 21 sites. Groundwork Islwyn and Rhymney (which became part of Groundwork Caerphilly in 1996) approached CCBC, proposing that they could access some of this funding so that ‘Groundwork could help the Local Authority to do something more than turn this tip green’ and turn the site in to a community park (Paul Cooke, 2009). This raised £472,000, while an additional £1 million was subsequently forthcoming through the European Union’s RECHAR (Objective 2) Programme, which is aimed at regenerating ex-coal mining areas.<sup>30</sup> With a

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<sup>29</sup> RVDC was one of six district councils that made up MGCC, which were also abolished and replaced by CCBC in 1996.

<sup>30</sup> See: [http://ec.europa.eu/regional\\_policy/funds/prord/prordc/prordc9.htm](http://ec.europa.eu/regional_policy/funds/prord/prordc/prordc9.htm) (last accessed 4/2/11)

total amount of just over £2 million ‘we’re starting to talk about a pot of money then that we could do something with’ (Peter Lewis, 2009).

What exactly this ‘doing’ amounted to emerged through two different sets of objectives that CCBC, as legal owners of the site, and Groundwork Caerphilly (GC), as part-funders, wanted to implement through the creation of a community park. At the time, Groundwork were attempting to expand their role as providers of environmental and community projects in partnership with Local Authorities across the UK, and so the Parc Penallta restoration was a chance for GC to do this by demonstrating to CCBC the ‘community benefits’ that they could provide (Paul Cooke, 2009). While GC’s remit was to ‘primarily improve access into the park for the [surrounding] communities and to engage those communities in the project’, CCBC’s aim was to ‘do the landscaping of the tip [and] bring it back in to productivity’ (Peter Lewis, 2009). These different remits came together ‘like a jigsaw’ (Phil Jayne, 2009) to produce the following mission statement:

To develop a Community Park on 180 hectares of derelict and underused land at Penallta. To improve the quality of life and the community pride of people around the former colliery at Penallta by developing community participation in environmental improvements and management.

(Groundwork Caerphilly, 1996: 5)

We see then that the central aim of the restoration has widened in scope: the original legal conditionality of reclaiming the coal tip now encapsulates a strategy of post-industrial *cultural* regeneration, with human ‘communities’ being the benefactors of such restoration. It should be noted that ‘community’ is used in such a way as to represent eight human population settlements adjacent to the Penallta colliery site (Cefn Hengoed; Gelligaer; Hengoed; Maesycwmmer; Nelson; Penpedairheol; Penybryn; Ystrad Mynach). These populations are envisioned throughout the policy process as the principal benefactors of the restoration works (Groundwork Caerphilly, 1996: 9; Groundwork Caerphilly, 1999; Peter Lewis, 2009).

Indeed, these communities are the common thread pervading the ‘7 strand programme’ of objectives drawn up to implement this mission statement. Details of how these objectives are to be carried out and ultimately met are limited, and

are simply reaffirmed through various policy documents (Groundwork Islwyn and Rhymney, 1995a; Groundwork Islwyn and Rhymney, 1995b; Groundwork Islwyn and Rhymney, 1996; Groundwork Caerphilly, 1996). However, from the little that is embellished upon we can start to gain an idea of the sorts of values the policy makers within GC and CCBC are seeking to implement through the process of restoration (selected from Groundwork Islwyn and Rhymney 1995a: 4-5):

#### 1. Community involvement

‘A comprehensive programme of consultation’ will be carried out, including ‘an exhibition visiting local libraries with questionnaires for people to respond to the proposals’. Additionally, meetings will be set up with ‘local council members, community council members and community groups’ alongside ‘workshops and consultation events with all local schools’. Ideas from this consultation process will be ‘incorporated into the overall design’ and ‘local groups, schools and communities will be actively involved in implementation of improvements as appropriate’

#### 2. Land reclamation and landscape restoration

The aim here is to ‘reclaim derelict land and restore it to productive use’ through ‘earthworks, drainage and reclamation of Penallta Tip’, ‘clearance...of flytipping’ and ‘re-establishing landscape structure by restoration of field boundaries, tree planting and hedge laying’

#### 3. Recreation

The community park will provide ‘recreational facilities and opportunities for all members of the community’; ‘an attraction for younger members of the population to remain in the area and to help rebuild the community’; and ‘attractive settings for formal and informal recreation’

#### 4. Access and community links

The objective here is to link the park to ‘communities and the wider landscape’ by: ‘developing a network of footpaths and routes throughout’; ‘providing cycle links including...the proposed Swansea to Newport cycleway’

## 5. Nature conservation

‘The project aims to enhance and manage existing habitats, create and develop new habitats’; ‘producing large woodland and meadow habitats on the existing Penallta Tip site’; and ‘provide educational and interpretive information about the various habitats and their environmental value’

## 6. Heritage

‘The project aims to preserve and enhance the features of cultural and heritage importance by: assessing the heritage value of the various elements within the proposed community park’ and by ‘producing a strategy for their future use and management’

## 7. Community art

‘The project aims to create local community art features and to celebrate the Millennium through a series of local events culminating in a major Millennium celebration’

We see, then, that the restorationists are taking what has been described as a ‘multifunctional’ approach to the potential values of the post-industrial landscape, where multifunctionality is “an integration of different functions within the same or overlapping unit, at the same or overlapping time” (Ling *et al.*, 2007: 286). The majority of these seven objectives are defined in such a way so as to intersect with the primary focus on community involvement that is set out in the mission statement, and expanded upon by Paul Cooke of GC:

Penallta colliery employed 3,000 people at its peak, and all of the villages around it would have grown up to just service that mine, where people lived, and as a result there’s huge sort of unemployment, that if you have a regeneration project right in the middle which is generating 2 or 3 million pounds, how can we make sure that the communities get the benefit not only of it turning green and becoming a nice site, but actually...getting involved in the decision-making processes, so they’re having a say so its not something we’re imposing, they can actually decide.

(Paul Cooke, 2009)

However, while the mission statement talks of community *participation* so that, as Paul explains, the project is not something that is imposed on communities, from the set of objectives we see that this is not an entirely accurate way of describing the policy-making process. Avenues have been set up to encourage consultation processes with the local public to negotiate certain value-derived aspects of the restoration, which will be ‘incorporated into the overall design’. In spite of this, the project remains top-down through the implementation of a set of predetermined cultural and environmental landscape values (Millennium celebrations; art features; the protection and enhancement of certain habitats). Fundamentally, the process of landscape reclamation from tip to park is ‘non-negotiable’ (Paul Cooke, 2009); alternative future visions for the landscape were not sought. This is not to say that alternative visions *have* been put forward, and indeed to my knowledge they have not, but deliberation through the policy-making process is only in regard to the design details within the park, not over the *very nature* of whether the landscape should be transformed in to a park or not. Additionally, nor did the public have any jurisdiction over the accompanying seven objectives.

With regard to the site pre-restoration, there are few expressions of existing value. Positive value is mentioned only in passing: the tip is biologically ‘quite interesting’ (Paul Cooke, 2009), but this is not embellished upon nor qualified. Rather, there is a consistent attribution of negative value, predominantly articulated through aesthetic judgments. For instance, in policy documentation the site is described in the following way: ‘an active railway line runs northwards up the valley into the storage areas, with disused sidings, embankments and a quarry to the west of Penallta road completing the picture of industrial dereliction’ (Groundwork Islwyn and Rhymney, 1995a: 9). Further visual judgements of degradation were articulated in conversation with policy makers, who variously characterised the site as ‘just an old tip’, ‘an eyesore’ and a ‘huge black scar’ (Phil Jayne, 2009; Neil Daniels, 2009; Paul Cooke, 2009). Olfactory perception of degradation is also noted. The waste coal spoil was observed to give off ‘strong odours of hydrogen sulphide’ (CCBC, 1996: 4), though this is a

reflection of concerns over site safety rather than purely a statement of aesthetic quality.<sup>31</sup>

Despite the assigning of negative value to the *material* conditions of the post-mining, pre-restoration landscape, this does not mean that coal-mining activities that brought about degradation are themselves negatively valued. To be sure, judgements of ongoing post-mining human engagements with the land are suffused with negative value, both because of their material effect on the landscape and for their socially transgressive nature that is seen to be ‘detrimental to the urban fringe’; most notably ‘trespass’ and ‘illegal fly tipping’ (Groundwork Islwyn and Rhymney, 1995a: 11; Groundwork Islwyn and Rhymney, 1995b: 5). However, the restorationists have sought to draw positive *symbolic* cultural value of mining activities, which is addressed in Chapter 5. I now want to turn to how future values of the site, as set out in the project objectives, are to be located and measured.

#### 4.4.2. *Locating the value of a Country Park*

Alongside the conceptual refocus from the BCC’s legal obligation to restore to the wider remit of ‘community regeneration’, there was a concurrent extension of the boundary line of the site. The original restoration works were applicable to the Penallta Tip and part of Nelson Bog SSSI (CCBC, 1996: 1).<sup>32</sup> The proposed park, however, also incorporates ‘the restoration of other derelict and underused land adjacent to the Tip’ (CCBC, 1996: 3), as well as the sandstone Penallta Rocks outcrop, a Site of Importance for Nature Conservation (SINC),<sup>33</sup> the adjoining small woodland Coed Penallta,<sup>34</sup> and Penallta Marsh (see Figure 5.1) – all three of which are already under CCBC ownership: ‘we sort of expanded the size of the park, so the park wasn’t then just a tip site with trees on it, it was actually some sort of really stunning natural scenery and important natural

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<sup>31</sup> At the time of site investigations, gas analysis did not detect hydrogen sulphide but low levels of methane. Nonetheless, these levels ‘can vary over time, with potential to be highly toxic or explosive at certain concentrations, and that in future gas generation may possibly develop into a significant risk to public health’ (CCBC, 1996: 4-5).

<sup>32</sup> The local Authority owns about 60% of Nelson Bog; the remaining 40% lies outside of the park as privately owned land (Peter Lewis, 2009).

<sup>33</sup> Unlike SSSIs, SINCs are not legally protected from ‘acceptable development’; that is to say where a development’s ‘socio-economic’ benefit ‘is considered to outweigh the nature conservation value’ (see WBP, 2008: 12).

<sup>34</sup> ‘Coed’ means ‘trees’ in Welsh.

habitats as well, so we can...pull it all together [and] look after it as a whole' (Paul Cooke, 2009). The Penallta Rocks are additionally valued as an elevated point within the park to the surrounding area, and as a 'a dramatic focal point' within the landscape (Paul Cooke, 2009). Thus, the inclusion of these areas brought about benefits, both in terms of strategically consolidating landscape management practices, and because it was seen to increase the landscape's ecological and (visual) aesthetic value when recast as a park.

Formally, the Penallta site is to be designated as a Country Park, post-restoration. There are a variety of different landscape conservation designations across the UK, including statutory designations for parks and other recreational lands. The most notable of these is the network of 15 National Parks, including three in Wales (Snowdonia; Brecon Beacons; and Pembrokeshire Coast National Park), but also includes Common Lands, Town and Village Greens, as well as Country Parks (Countryside Commission, 1968; DEFRA, 2002). These designations were brought in to UK law with the passing of the Countryside Act of 1968,<sup>35</sup> following on from the National Parks and Access to the Countryside Act of 1949. Broadly speaking, Country Parks 'are areas designated [by local authorities] for people to visit and enjoy recreation in a countryside environment' (DEFRA, 2009). Country Parks, then, are primarily landscapes that are styled as 'pleasure grounds' (Countryside Commission, 1968: 7).

What rubric is to be used as a means to measure the ultimate aim of creating a Country Park and the associated seven objectives? According to Phil Jayne:

We're going back ten or a dozen years, and in those days, outputs, measurements, performance indicators, they weren't talked about as much as they are now....Your output was – you started with no Country Parks, you ended up with one Country Park. There's your output.  
(Phil Jayne, 2009)

This holds true for the park as the eventual 'output' of restoration policy, yet a series of 'performance target indicators' were put in place. These took the form of 26 tabulated parameters, ranging from 'area of land improved' and 'area of recreational site created' (both measured in m<sup>2</sup>), to 'trees/shrubs planted';

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<sup>35</sup> Though National Parks and especially Common Lands have a far longer and richer history (see for example Evans, 1997).

‘employees involved’; ‘people consulted’; and ‘publicity events’ (all measured numerically) (Groundwork Islwyn and Rhymney, 1995a: 34-35). For every financial year from 1995/96 through to 1999/2000, an ‘indicative target’ was set against each parameter. For instance, the ‘area of recreational site created’ is set at a target of 251,000m<sup>2</sup> in 1995/96; 120,000m<sup>2</sup> in 1996/97; 102,000m<sup>2</sup> in 1997/1998; 10,000m<sup>2</sup> in 1998/99; and no additional area for 1999/2000. The number of ‘trees/shrubs planted’ is targeted at: 500 in 1995/96; 62,500 in 1996/97; 50,000 in 1997/1998; 10,000 in 1998/99; and 1,000 in 1999/2000 (Groundwork Islwyn and Rhymney, 1995a: 34). In addition to these parameters, a target of 100,000 visits per year to the park has been set (Groundwork Islwyn and Rhymney, 1995b: 5). There are, however, no details as to the means by which these targets are to be monitored, and these parameters are not mentioned in any other existing policy statements; additionally, none of the policy makers I spoke with had knowledge of any monitoring of these targets, beyond Phil Jayne’s response above.

Regardless of whether there was any follow-up to these initial statements of intent, there is a clear discrepancy between this quantitative data set and the 7 stated objectives, which are qualitatively defined. So, for instance, it is unclear what is meant by ‘area of land improved’ as measured spatially, or what the species of trees and shrubs to be planted yearly are. More crucially, it is unclear as to how an incremental increase in both will help to meet objectives 2 and 5 respectively. As a means of responding to relative successes or failures of implementing the restoration objectives, rather than taking measurements – whether these be tree and shrub counts, or spatial measurements of recreational land cover – the restorationists have instead utilised an ad-hoc, adaptive management approach, wherein employees on the ground are to respond to both human and non-human management demands.<sup>36</sup>

#### *4.5. Chapter conclusions*

In this first empirical chapter, I have critically investigated the disparate ways in which aesthetic values intersect with, and are channelled through, ecological

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<sup>36</sup> This form of management will be fully detailed in Chapter 7.

restoration policy pathways. Here, I have separated out the various stages of establishing a site for restoration: how ecological restoration is legitimised; the aims and objectives of each restoration project; how aesthetic values are captured through different valuation processes, and the purposes of such an undertaking.

While we have seen that all three projects can be defined as benign forms of restoration, the motivations to actually undertake these restorations are not founded upon a simple claim to amend prior landscape harm. Indeed, the initial motivations to restore must be understood within the context of a much broader institutional policy perspective. For instance, I have demonstrated that the motivation to restore the River Skerne is bound up with the RRP's self-legitimization process to place themselves as an institution at the forefront of 'new' river management practices, while the Parc Penallta restoration expanded from a pre-existing legal requirement to undertake restoration. Only at Carrifran Wildwood did the motivation to restore purely emerge from judgements of landscape degradation, yet such judgments were informed by generalisations from across southern Scotland. Later these judgements coalesced into one 'institution' (the Wildwood Group), and around one site (Carrifran) where restoration principles could be applied.

Secondly, I have shown how – regardless of this initial motivation – each project had to necessarily qualify why ecological restoration was the correct landscape trajectory for the chosen site within a context of potentially competing landscape trajectories, as a means to bring about support and financing for the project. At all three sites it was vital to garner support from certain publics – at the River Skerne and Parc Penallta, this was predominantly residents located adjacently to each site, while at Carrifran Wildwood this was directed at people who may be sympathetic to the restoration and would thus be willing to volunteer their labour or financially contribute to the project. Additionally, the Wildwood Group needed to demonstrate to a variety of institutions that existing ecological and aesthetic value would not be lost, and that such a trajectory of restoration through reforestation was compatible with the Forestry Commission's funding remit.

To make such qualifications, policy makers at each site assembled into 'discourse coalitions', where a discourse coalition is '...basically a group of actors who share a social construct' Hajer (1996: 45). I am cautious in my use of

the term: I do not wish to in any way imply that environmental degradation is a mere ‘social construct’; such strong social constructivism of non-human nature should be resisted (see Plumwood, 2005: 40-44). These policy coalitions are formed out of a shared understanding of the type of landscape degradation present based on shared value judgements, and subsequently how these values should be articulated. In some circumstances, these articulations arise from an ethical consideration of desired human/non-human relations, at other times they arise from the necessity of speaking a particular institutional language.

In each case, these discourse coalitions operationalised aesthetic value to produce what Thompson (2000) identifies as an ‘discourse of improvement’ (Thompson, 2000: 272), wherein the restorationists assert that ecological restoration is a process that will aesthetically improve the landscape from one that is aesthetically degraded, even if positive aesthetic value is currently present in some form. Restorationists could then discursively produce a linear strategy of landscape betterment through restoration policy.<sup>37</sup>

The River Skerne was judged to be a ‘monotonous’ straight river channel within ‘degraded industrial space’ low in ‘character’, leading to the aesthetic objective of ‘enhancing’ the river’s character and ‘naturally blending’ the river with the surrounding landscape. Carrifran Wildwood was ‘denuded’ and ‘barren’, visibly revealing signs of economic productivity and apparent human domination over non-human nature. In turn, plans for ecological restoration generated the aesthetic aim of non-human wilderness wherein human ‘impacts’ are ‘carefully managed’. Parc Penallta was ‘just an old tip’ that was a ‘black scar’ and an ‘eyesore’, but the restorationists were cautious to balance any attributions of negative aesthetic value stemming from coal mining practices with the site’s existing positive cultural value, through emphasising community and heritage values. Indeed, future positive value is located at the point where the landscape is brought back into ‘productive’ human utility, though which we see the enmeshing of human culture and non-human nature.

Thirdly, I demonstrated how across these different (though similar in principal) aesthetic discourses of improvement, restoration aims and objectives – projections of desired future landscape values – are formulated. Here,

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<sup>37</sup> A vision of the post-restoration landscape necessary to articulate a strategy of betterment will be the subject of Chapter 5.

restorationists can ‘build in’ other types of value claims into future landscape projections, meaning that there is an expansion of value claims from the original motivation to restore. Through these aims and objectives, we see the articulation of ecological, economic, cultural, heritage and ethical values, though never singularly, but with significant overlap between two or more types of value: this has been articulated by Anthony Weston as an ‘ecology’ of values (Weston, 2010: 307). Thus, aesthetic values play a role in both generating restoration objectives, while also acting as objectives in and of themselves.

Fourthly and finally, I have shown that we can only understand how values are to be measured – if they are at all – in the context of institutional norms and expectations that govern the process by which aims and objectives were generated. While contingency valuation mechanisms may be an inappropriate means to capture certain types of value (Spash, 2008) – particularly, as I demonstrated, ‘non-utility’ and ‘conservation’ values – from the perspective of managerial ecology and the discourse of ecological modernization, we see that an environmental accountancy of values used by the River Skerne restorationists through contingency valuation mechanisms are not merely beneficial, but are demanded of a river management practice that seeks stability, accountability, and a quantitative form of measuring and comparing values. This form of landscape evaluation is part of a lineage that seeks to construct objective aesthetic judgments (see Jacques, 1980; Scott, 2011), and is consistent with the RRC’s aim of transferring knowledge from its demonstration sites to other riverscapes across the country.

The situation at Carrifran Wildwood and Parc Penallta, by contrast, is very different. At Carrifran, the documentation of ecological landscape changes through survey data is intended for the wider conservation and restoration community, rather than to measure internal objectives. The fixed-point photography, which generally and qualitatively indicates woodland development, reflects a lack of interest in articulating detailed restoration objectives beyond amorphous wilderness upon which individuals project their own desired aesthetic values, including charismatic mammalian wildness. At Parc Penallta, we also see that the measuring of all types of value is incredibly thin on the ground, with no clear measurement of aesthetic value – even indirectly. This speaks to the particular institutional culture of the early-to-mid 1990s in south Wales, when

the measurement of ‘outputs’ – even for a multimillion pound project such as this – was not essential (Phil Jayne, 2009).

In the next chapter, I undertake an analysis of the mechanisms by which aesthetic values are used to produce a vision of the post-restoration landscape, through the formulation of what are termed ecological restoration reference models, and in turn how these visions are communicated to different restoration stakeholders.

## Chapter 5. Aesthetic values and the making of landscape reference models

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### 5.1. *Introduction: the re-construction of landscape*

In Chapters 1 and 2, we saw that in principle ecological restoration involves returning a site to a state before a certain type of anthropogenic ecological degradation took place. To achieve the material restoration of a historical landscape state, restorationists need to first identify the principle socio-ecological properties of past environments to act as a guide for restoration. This guide is termed the reference model, reference ecosystem, reference site, or simply the reference (Clewell and Aronson, 2007: 75; Egan and Howell, 2001; Choi, 2004). These guides are (re)assembled through a range of cultural (ethnobiology, written records, land surveys, oral histories, maps, photographs) and ecological (dendrochronology, palynology, observed field evidence) techniques (Egan and Howell, 2001). Such techniques are not necessarily historically based *in-situ*; extant landscapes that are seen as analogs are often used to create reference models too (White and Walker, 1997). As we shall see in this chapter, reference models vary greatly in their compositional detail; this is related to restoration objectives and scale (at what level of organisation the restoration is orientated), the availability of data, and restorationists' differential sense of actually wanting to create a clearly defined reference model.

The feasibility – or even the desirability – of reconstructing historical landscapes has been questioned in the age of what has become to be known as 'new' or 'non-equilibrium' ecology, which simultaneously rejects the notion that ecosystems or landscapes develop in linear, stable and predictable ways through time and space, and embraces non-equilibrium ecosystem dynamics and ecosystemic uncertainty (see Scoones, 1999). Additionally, the idea that ecological restoration can wholly replicate a reference model has been termed the 'myth of the Carbon Copy': 'the myth... maintains that we can restore or create an ecosystem that is a copy of a previous or ideal state' (Hilderbrand *et al.*, 2005: 20). Indeed, restorationists are starting to acknowledge these two challenges to restoration theory and practice, which has begun to change the temporal

orientation of ecological restoration from one that is rigidly historically aligned, to one that is in part future-orientated (Choi, 2004; Halle, 2007). As an alternative goal to the complete restoration of historical systems, Hobbs and Harris (2001) believe that, while still restoring ecological function and ecosystem services to degraded ecosystems, restorationists should be ‘setting goals for restoration which focus on the desired characteristics for the system *in the future*’ (Hobbs and Harris, 2001: 241; emphasis in original). Thus, for example, a restoration could involve the detoxification of soils polluted by industrial processes, and thereby restore a degree of ecosystem functioning that existed before the pollution occurred. Equally, the restoration of ecosystem functioning can involve the introduction of species that have not previously existed at a particular location (see for example Palmer *et al.*, 1997). Neither of these two examples necessarily involves any attempt to re-create an historic landscape state. Aronson *et al.* (1993) differentiate between strict historical fidelity as a goal for ecological restoration projects, which they term *sensu stricto* (‘narrow sense’) restoration, and restoration goals geared toward generally moving ‘a disturbed ecosystem in a trajectory that [is] presumed to have prevailed prior to the onset of disturbance’ (Aronson *et al.*, 1993: 9), which they term *sensu lato* (‘broad sense’) restoration. *Sensu lato* restorations are clearly most compatible with Hobbs and Harris’ emphasis on future desired characteristics of restored ecosystems.

Regardless of whether the goal of a restoration is *sensu stricto* or *sensu lato*, creating a vision of the post-restoration landscape remains a necessary step for both the design and evaluation of a project (Aronson *et al.*, 1993: 10), not only to measure whether a restoration has been technically successful, but also to adjudicate on what Higgs (1997) terms the ‘moral’ components of a restoration. In this chapter, I will critically interrogate the role of aesthetics in this process of producing a vision of the post-restoration landscape. I shall demonstrate that reference models are not arbitrary landscape states, as some authors have argued (see: Allen *et al.*, 2002: 1422; Helford, 1999; White and Walker, 1997: 342). Rather, I contend that reference models are strategically chosen to best reflect the restorationist’s particular landscape visions, and thus set of values.

Firstly, I will look at how the reference model for each of the three projects is constructed. Here, I am interested in the role of spatiality – as well as temporality

– in the composition of reference models. While current debates over the role of historical time – and concurrent appeals to temporal ‘authenticity’ or fidelity – which we have already seen abound in the ecological restoration literature, are important considerations for the construction of reference models, this has overshadowed the importance of spatial landscape characteristics in such endeavours. Very little of the ecological restoration literature pays attention to landscape spatiality – either that which is internal to a restoration site or the relation between a restoration site and adjacent landscapes – in the production of reference models.

Secondly, I will attend to the different ways that restorationists use *narrative* as a means to communicate desired temporal and spatial aesthetic qualities and characters as encapsulated in the vision of the post-restoration landscape. These narratives are composed and deployed as attempts to coherently identify and convey desired aesthetic values of restoration, as well as a useful means of contextualising ethical values to make them intelligible to a general audience (see King, 1999: 25). These narratives are not only important from the view of trying to ‘sell’ a particular post-restoration vision, they have repercussions for the very ways in which people conceptualise and interact with the restoration landscape, as Soliva argues: ‘People tell different ‘stories’ about changes in land use, landscape and biodiversity and about how these changes interdepend. Their perception and assessment of past changes influence the way they think about present changes and future developments’ (Soliva, 2007: 63).

### *5.2.1. The River Skerne: referencing visual qualities of a ‘natural’ river*

From the range of possible river interventions that could be implemented at the River Skerne, I have shown that the reconstitution of the river’s morphology – particularly its degree of sinuosity – to its ‘original’ state, is pivotal to the restoration. Once the aesthetic-spatial dynamics of the river have been attended to, it is assumed that this will precipitate a ‘riverside revival’ that is focused on amenity, recreation and water quality improvements. This reconstitution is premised upon the affirmation of specific aesthetic values of the river channel’s morphology, namely, attendance to shaping it so that it is ‘appropriate to its historic environment’, and its relation the adjacent floodplain’s ‘character’ so that the river ‘blends naturally with the surrounding landscape’. Thus, the post-

restoration river channel is to be aesthetically adjudicated with one eye on temporal historicity and the other on contemporary spatiality.

The goal of remodelling the river channel so that it is both historically-aligned yet naturalistically integrated within its contemporary floodplain, means that the reference model must synergise a set of conflicting landscape values. Sometimes these values are incompatible, and certain models of potential material expressions of these values have to be abandoned. For example, the reintroduction of historical aesthetic qualities from the distant past was judged to be undesirable because: ‘from a hydraulics point of view, and flood management, if you went back 5,000 years and put the channel in a tiny little one, the fact that you’ve got all these houses around and the water floods more often, no one would thank you for doing that’ (Martin Janes, 2009). The decision to not restore as far back as 5,000 YBP (Years Before Present) also stemmed directly from the principal focus on restoring an historically accountable channel morphology. The restorationists needed to choose a moment in time when the spatial parameters of the river could be determined for the reference model, and 5,000 YBP could not be properly accounted for (Martin Janes, 2009).

As part of the Landscape Assessment (SGS Environment, 1994) a geomorphological audit was carried out to give a ‘baseline to see what *should the river look like*, is there anything that we can go back to that says yes, this was natural’ (Martin Janes, 2009; emphasis added). This audit relied on historical Ordnance Survey maps, starting with the 1<sup>st</sup> Edition of the 1:10560 map, produced in 1857 (Figure 6.1), which ‘shows the river running in a natural channel on a meandering course, traversing flat agricultural land’ with adjacent ‘marsh and pools’ (SGS Environment, 1994: 9, 7). The restorationists were confined to drawing on historical maps rather than using extant parts of the river system as a design guide as it was determined that ‘the severe modification of the channel meant that there were no sites where the modern planform and sectional geometry of the Skerne could be used to aid the design of the restored reach’ (RRP, 1995a: 136).

The Assessment goes on to state that:

The 1923 map [Figure 6.2] shows a dramatic change in the area to the west of the main line railway with the expansion of Darlington Forge

Ironworks and development of the housing area at Rise Carr. The river has been canalised and its corridor dramatically narrowed by the creation of the industrial plateau and formation of steep embankments. The effect of the housing appears to be less significant. The railway appliance works and Stephenson Locomotive Works to the northeast of the main line also required flat land and a considerable amount of tipped material was also necessary to achieve this. However, the course of the river in this section was only canalised into its present line when the corridor became very much the heart of the town's industrial base between 1923 and 1940.

(SGS Environment, 1994: 9)

Changing land use associated with urbanization led to this increasing canalisation for reasons of flood prevention (RPA, 1997: 3-1), which 'ignor(es) the natural tendency of the river to spread beyond its channel' (SGS Environment, 1994: 7). Widening and deepening of the river channel occurred alongside the straightening of the river's planform (RRP, 1995a: 130). Figure 6.3 shows the extent of this straightening that had taken place by 1957. From this point on there was little change to the planform until the restoration works (see Figures 6.3 and 6.4), but there was continued widening and deepening (RRP, 1995a: 130).

Post 1857 land working of the riverscape not only led to straightening of the channel, but also the ecological and visual disconnect of the channel and its floodplain. The reference model also, then, includes plans to recuperate the river 'in a way which integrates (the channel) positively with the surrounding landscape' (SGS Environment, 1994: 36). This is to be achieved by way of a combination of channel morphology and aesthetic naturalness through the introduction of 'gently sloping banksides' and habitats commonly associated with meandering river systems, including patches of woodland, scrub and wetland (SGS Environment, 1994: 36-38). It is acknowledged that the influence of humans on the morphology of the river predates 1850, especially in the form of water mills that used to abstract water along this reach (Martin Janes, 2009; RRP, 1995a: 130). Yet the degree of river sinuousness described in the 1857 Ordnance Survey map displays an acceptable balance between the recuperation of a historic state based on visual form, and a hydraulic regime that reduces flooding events that pose a risk to housing, and allows for the production of a recreational riverscape.

While it may act as a poor guide for landscape design in terms of specific detail, the reference model still competently functions as an aesthetic vision of desired qualities of the river channel. The pre-restoration riverscape can be characterised aesthetically as a product of functional modernist engineering (Merriman, 2006). This form of engineering was undertaken during a period of river management when the design of a linear channel with minimal floodplain vegetation was accepted as the appropriate response to the risk of urban flooding. Such a design has led to what has been aesthetically characterised as a ‘sterile corridor’ (SGS Environment, 1994:14). The aesthetic vision of a future riverscape where the riverbanks and floodplain landscaping, as well as the very flow of the river, are considered aesthetically, is a relinquishment of the aesthetics of functional modernist engineering, without the need to relinquish river engineering practices. The future river is one that is still to be controlled and managed, yet any sense of managerialism is to be aesthetically diffused through the appearance of a naturalistic course, in this case predominantly through the reintegration of the ‘universally’ understood ‘serpentine line’ (Cosgrove *et al.*, 1996: 549; see also Lowenthal, 2007: 636). Such a form of naturalisation is a way of reintroducing certain physical processes such as erosion and deposition of sediment material along the river channel, but it is also a means to aesthetically *emulate* the historical accumulation of such processes:

(We would) try to do maybe 70, 80 per cent of the work the river would try and do, having experts on our working group who could say this is the type of river you have got, this is how it would look naturally...if we can't restore the processes can we emulate the form that they would have cut over hundreds of thousands of years?

(Martin Janes, 2009)

The approach of emulating ecosystem processes, rather than necessarily restoring the processes themselves, is a way of aesthetically conveying a degree of ecological functioning that may or may not actually persist at the site: a common but potentially duplicitous form of landscape design (see Nassauer, 1992). At the same time, certain processes intrinsic to a functioning, self-organising river system are to be arrested through management practices (see Chapter 7). This approach to the desired aesthetic features of the post-restoration riverscape, then,

is an attempt to create aesthetic naturalness as an outward *representation* of healthy ecological functioning that lies in an acceptable range in accordance with the particular modes of post-industrial human utility – especially ‘enjoyment’ value – we saw in Chapter 4. I now look to how aesthetic qualities of the post-restoration river were communicated by the RRC.

### 5.2.2. *River motifs and metaphors*

Beginning at the end of 1994, attention was paid to publicizing the aesthetic vision of the post-restoration riverscape based on the reference model. This was undertaken to receive design feedback from riverside residents, and to foster a sense of community acceptance of the project (RRP, 1995b; Clare Jones, 2009). We saw in Chapter 4 that the decision to select the River Skerne as a site for restoration was built on a discourse of the river displaying technically reversible degradations, but how was the future river narrated in the dissemination process? No one singular narrative – aesthetic or otherwise – was woven through the various strands of social and ecological river valuation. Instead the restorationists attended to these as distinct yet relational values, often in an *ad hoc* manner.

The majority of this publicizing was down to the work of Clare Jones. Leaflets and newsletters with an outline of the restoration were produced and hand delivered to residents living along the river corridor; people were spoken to in person by going door-to-door; notice boards with a plan view diagrammatic display of the restoration were erected in various local primary schools and libraries in Darlington; and considerable time was spent on the riverbanks speaking to people about the project (Clare Jones, 2009). This was carried out in an informal manner: ‘people used to just know me as the Skerne woman, and I’d go up to people...and say ‘are you having a nice day?’ and away we’d go, and just chat to them’ (Clare Jones, 2009).

While some press releases were produced and sent on to news organizations – principally the regional Northern Echo newspaper – communication was essentially focused on informing people living in close vicinity to the river. This was partly a result of a lack of a co-ordinated PR effort from the National Rivers Authority (later the Environment Agency), as it was assumed that wider communication was not necessary: ‘I would think even people across town wouldn’t have known about [the restoration], ‘cos I mean I don’t take the local

newspaper, so if I hadn't have been working on it I might not have known about it. Do you need everyone to know about it? Just the people around' (Clare Jones, 2009).

It was vital for the project that future values were discussed with those living in the vicinity. As we saw in the public perception assessments in Chapter 4, while few people were actively against the restoration – Clare Jones can recall only meeting one person who wanted the project to not go ahead – most believed that the existing hard engineering was necessary for flood prevention, while the majority of respondents had not even considered the sinuosity of the river to be an issue that needed addressing. As a result, the vision of the restored river needed to be advanced in ways that better represented their values or allayed doubts of the scheme. For example, some elderly residents living in local authority housing adjacent to the north bank of the river, were worried that an overly naturalistic riverbank would be dangerous from a personal safety perspective, while those people living in properties with a view of the river had concerns over a potential increase in flooding events (RRPb, 1995: 39; Clare Jones 2009). It appears then, that while this receiving public were broadly in agreement with the transformation of the river channel, there was a sense that an encroaching unchecked naturalism posed a threat to people and property.

As I have already stated, no one overarching narrative was used to relate the target reference model. The nature of small group or one-on-one communication meant that restoration values were outlined through active discussion, rather than through passively received instruction. This discursive mode of communicating value meant that the whole project did not need to be readily reduced to any one coherent vision of the riverscape. Yet, at the same time particular forms of discourse are discernible in the way that restorationists' conveyed the rivers future aesthetic parameters premised on a tamed form of aesthetic naturalism. One metaphor deployed was "bringing the countryside into town" (Martin Janes, 2009). Originating from Dr Chris Spray who was the RRP Skerne Project Board Chairman at the time (Martin Janes, 2009), the metaphor became a motif for the project, by which I mean a recurrent component of discourse:

It was this idea of having an urban area, which didn't have to be urban park, with concreted channels, mown grass, and football pitches, but

having a section of the river environment where people could wander along- they didn't have to drive miles upstream or downstream, they could come out of their door wander down to the park and walk along and see a nice river with the sorts of things you would find in a river, and the sort of landscape you would find around a natural river.

(Martin Janes, 2009)

In this metaphor, 'countryside' represents a particular form of cultural landscape; to be sure this is not a productivist landscape. That is to say, this metaphor does *not* act as a signifier of 'English' rurality that has been 'shaped by predominantly non-aesthetic purposes' (Benson, 2008: 222). Rather, it sets out a desire for a riverscape that is designed with natural beauty as its guiding principle. This type of beauty, while celebrating the aesthetically naturalistic, is not to the detriment of a vision of humans in the landscape. In fact "bringing the countryside into town" is an attempt to make the naturalistic river *accessible* to people, as they intentionally don't have to travel far to experience it.

Undoubtedly too, the metaphor plays on a particular subcategory of the beautiful, namely the picturesque. This is not only implicit in the promotion of notable picturesque qualities such as balance, asymmetry, and irregular and curved lines (Hargrove, 2008: 34). It is also made explicit in the ways that desired aesthetic values are transcribed from particular 19<sup>th</sup> Century picturesque landscape painting traditions: 'We were trying to get this idea of - you ask (people) what they think of as a river and people come up with a kind of Constable, lady in the water with *Ranunculus* floating around her hair, and babbling brook type images. I think that was quite key' (Martin Janes, 2009). While I'm uncertain whether the drowning of Ophelia as depicted by Sir John Everett Millais is a precise aesthetic invocation, this is a revealing description of desired qualities from both an imaginative and spatial perspective. John Constable countryside paintings of naturalistic yet domesticated rural scenes of Suffolk, Ophelia, painted in Surrey and representing a river in Denmark, and the non place-specific babbling brooks, are cultural tropes not directly drawn from the north of England, much less the River Skerne's own history. However, the watery audio-visual aesthetic qualities they bring to mind are construed as more generally evocative. As with the 'state-of-the-art' restoration techniques, "bringing the countryside into town" and the pictorial motifs seized upon to give

aesthetic substance to the metaphor, are potentially generalisable and replicable at other river restoration projects.

### *5.3.1. The Carrifran Wildwood reference model: approaching historical fidelity*

In the last chapter I established that to meet the Wildwood Group's heterogeneous expressions of wildness and wilderness values, the collective vision produced seeks to restore the valley landscape to a 'state that existed before people became a significant ecological factor', that is 'original-natural' woodland (Peterken, 1996: 13). To elucidate the species present at this particular historical moment in time, the Group turned to the work of Richard Tipping, an environmental historian and archaeologist based at the University of Stirling. Tipping was commissioned in 1994 by the National Trust for Scotland to undertake peat sampling within a peat bog in the valley called Rotten Bottom.<sup>38</sup> Peat samples were radiocarbon dated, and pollen grains and spores of lower plants were identified and counted to create a 'series of 'snapshots' of changing plant communities' on Rotten Bottom from the end of the last Ice Age (10,300 YBP) to the present day (Ashmole and Tipping, 2009: 77). Through the millennia, there has been a fluctuation in both the number and density of species present at the site. For example, hazel and birch are recorded in the earliest records, with pine following 'soon afterwards', elm and oak at about 9,000 YBP, and alder about 6,800 YBP (Ashmole and Tipping, 2009: 78). Out of this fluctuation, Tipping identifies 6,500-6,000 YBP, during a warm period known as the Holocene Climate Optimum, as a time that 'probably represents the fullest development and richest species assemblages of these woodlands' (Tipping, 1998: 12). Additionally, 6,000 YBP marks the turning point in social history when human populations transitioned from Mesolithic hunter-gatherers to Neolithic settled agriculture (Ashmole and Ashmole, 2009: 108). From about 5,800 YBP, animal grazing led to a decline in woodland at Rotten Bottom (Tipping, 1998: 14).

Thus, it was decided that 6,000 YBP – a time that represented the maximal historical forest biodiversity 'before people became a significant ecological factor' – was to be the project's historical reference point. From this: 'the

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<sup>38</sup> For information on the sampling technique used at Rotten Bottom, see Ashmole and Tipping, 2009: 76-77.

implication was that we would aim to establish all – and only – the species of trees and shrubs that had been in the area at that time’ (Ashmole and Ashmole, 2009: 108). Far from being arbitrary, this chosen moment in time encapsulates the aesthetic vision of high floristic species diversity and minimal human intervention in the landscape that is so clearly expressed in the Group’s mission statement, which, let us not forget, was drawn up before Carrifran was selected as the site that best fit the Group’s requirements. George Peterken (whose conception of ‘original-natural’ is used by the Group) noted to the Group that, due to changing ecological factors through time, particularly climate and soil, the Group could not ‘turn the clock back’. However, the Group still ‘reckoned that the altitudinal range and variety of conditions at Carrifran would allow us to find appropriate places for nearly all the kinds of trees and shrubs that had been present 6000 years ago’ (Ashmole and Ashmole, 2009: 109). It was thus settled on that ‘native species are defined as those present in the pollen record for the site prior to the onset of human impact’ (Wildwood Group, 2000a: 26).

In addition to the pollen and spore analyses, tree, shrub and other woody plant species considered native to Carrifran 6,000 YBP and thus suitable for the restoration project, were inferred by a few small tree stands extant in areas inaccessible to grazing sheep and goats along Carrifran Burn: ‘the relict stands of trees were frozen in time. The first edition of the Ordnance Survey map, published in 1859, shows groups of trees in the same places – and only the same places – where we found them in summer 1996’ (Ashmole and Ashmole, 2009: 81-82; 83; see Figure 3.4). Further, Chris Badenoch – at the time employed by Scottish Natural Heritage – provided a list of likely ancient woodland Borders species (Ashmole and Ashmole, 2009: 114).

These different techniques of ecosystem inference, guided by the rubric of ‘original-natural’ forest, make clear the degree to which emphasis is placed on historical fidelity (*sensu stricto*) to the Carrifran site of 6,000 YBP. With this emphasis we see a claim of authenticity in the reanimation of a historical landscape state. Clearly, nativeness is a core constituent of this claim of authenticity. *Only* floral species deemed native to the site 6,000 YBP will be established. This practice of ‘re-nativisation’ (Trigger *et al.*, 2008: 1275), raises a whole set of questions regarding the meaning of indigeneity and belonging in the

landscape.<sup>39</sup> Even though a species may not have grown in southern Scotland for thousands of years, the Group still may label it as native, and so categorise it as permissible to plant (as is the case with yew (*Taxus baccata*)). This led to debate within the Group over the *degree* of authenticity that is necessary in the pursuit of original-natural woodland. Small-leaved lime (*Tilia cordata*) serves as an example. Several pollen grains of the species were found at Rotten Bottom, but George Peterken believed that the species had probably never been native as far north as Carrifran (Ashmole and Ashmole, 2009: 116). Even still, Peterken stated that it may be worth planting some individuals, and Philip Ashmole agreed with this: when future predictions of the region's climate were taken in to account (summer temperatures need to be higher than at present in Scotland for the species to set seed), it was thought that small-leaved lime could actually survive at Carrifran. However, when Adrian Newton, who led the Wildwood Group's Ecological Planning Group, heard about this he said the following:

For me the goals were set in stone from the beginning; there was almost a romantic notion of restoring an original wildwood (or as near to it as we could get). Personally I wouldn't want to see that compromised....Very few other restoration projects either share that goal or have pursued it so rigorously. There are many other restorations that have had a much laxer view of what they should establish; this is what sets Carrifran apart.

(Newton quoted in Ashmole and Ashmole, 2009: 116)

Here, the claim of restoring an 'original' wildwood is defended on the grounds that to do otherwise would be a 'compromise'. Such a 'lax view' of what should be planted would make the project more akin to a form of trial and error 'gardening', which would undermine the 'ecological credentials' of the restoration (Newton quoted in Ashmole and Ashmole, 2009: 116), and thus weaken a purist 'romantic notion'. As a result, there are now no plans to plant the species (Ashmole and Ashmole, 2009: 116).

This claim of authenticity is not a head-on rebuttal of the central anti-restoration proposition that we saw in Chapter 2: that ecological restoration produces an artifactual, 'fake' nature, where intrinsic value has been lost. There is an assumption across the Group that it is feasible to carry out a wild restoration

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<sup>39</sup> This will also be addressed in Chapter 7.

without losing ontological value, even if human intentionality is the driving force. In the absence of this assumption, the goal of ‘re-creating’ forested wilderness, as per the mission statement, would be untenable. Rather, this claim assumes that *with the correct knowledge*, a historically accurate reference model can be produced, out of which a historically authentic restoration may emerge. Indeed, this assumption underpins much ecological restoration practice and theory, not only for those projects that have a variant of ‘wilderness’ as a goal. Egan and Howell’s (2001) introduction to their edited volume on reference ecosystems makes this clear: ‘restorationists must search out the missing, forgotten, and overlooked aspects of the ecosystem they wish to restore and, once they find them, begin to reassemble them into a viable system...the answers are there – concealed, as David Abram (1996) puts it, in “the very depths of this living place”’ (Egan and Howell, 2001: 1).

Chris Badenoch who was instrumental to the production of the Group’s reference model, argues that more information is necessary to uncover such a ‘concealed’ historical truth in this part of southern Scotland:

The bits of documentary evidence are so few and circumstantial that there is an urgent need for more careful historical and ecological research through all the records that are available...*we have little information about the detailed structure of the natural woodland, or of its local composition.*

(Badenoch, 2003: 9; emphasis added)

To be authentic, the categorisation of historically native floral species is not enough: the aesthetic values of the reference model must also include information on woodland structure. This includes not only what species historically grew where, but also the relative proportions of different species, community densities, and the percentage of open ground in relation to wooded land. Yet at Carrifran, the resolution necessary to reconstruct these spatial determinants is largely missing; the list of historically native species was created by sampling at particular locations within the site, particularly at Rotten Bottom and along Carrifran Burn. This information must then be spatially generalised to account for the historical vegetation of the *whole* Carrifran site.

Due to this lack of spatial information, the Group attempted to ascertain where within the site each historically native species would most likely become successfully established. This was achieved through the application of two different types of classification systems: the Forestry Commission's Ecological Site Classification system (ESC) and the Joint Nature Conservation Committee's (JNCC) National Vegetation Classification system (NVC). The ESC system: '...classifies a site in terms of its climate and soil quality [moisture and nutrient regime]. It assesses the suitability of alternate tree species and woodland community choices, based on the match between key site factors and the ecological requirements of different species and woodland communities' (Forestry Commission, 2001: 1.1). Dr Graham Pyatt from the Forestry Commission, who first conceived the ESC system, undertook analyses of the climatic factors of Moffatdale. Additionally, University of Edinburgh students gathered soil quality information (Ashmole and Ashmole, 2009: 117). The NVC system, by contrast, systematically describes and classifies Britain's plant communities based on plant characteristics (Rodwell, 2006: 11). An NVC survey of the Moffat Hills SSSI had previously been undertaken by SNH in 1997, which identified eight woodland and scrub categories relating to Carrifran (Ashmole and Ashmole, 2009: 118).

Through combining the information derived from the ESC and the NVC, with the desired historically native species list, the Group produced a map identifying the proposed location of woodland community types and thus a reference model to serve as a design guideline for planting activities. Importantly, this process has led to some species considered historically native to Carrifran to be rejected as a target species for restoration. For example, pedunculate or English oak (*Quercus robur*) pollen was found present in the pollen record from 6,000 YBP and was thus considered native. However, *Quercus robur* requires soil relatively rich in nutrients, yet the site has been determined as almost uniformly nutrient poor. As a result the species will not be planted (Ashmole and Ashmole, 2009: 214; Wildwood Group, 2000a: 42). Consequently, the reference model that has emerged is an attempt to synergise the ideal of an 'original-natural' woodland from 6,000 YBP, with the contemporary ecological configurations of vegetation, soil, and climate: 'The resulting woodland types would be adapted to the parts of the valley where they were established, and might be similar to the communities

at Carrifran 6000 years ago, though not likely to match those in extent or precise location within the valley’ (Ashmole and Ashmole, 2009: 119). It should be recognised that reference models are ‘more commonly...not a template but rather a target to be approximated’ (Clewell and Aronson, 2007: 76). However, this attempt at synergizing historical and contemporary landscape states demonstrates the inherent difficulty of following a normatively purist, ‘authentic’ course in ecological restoration. I shall return to this dilemma in Chapter 6, but for now I look at the Group’s methods of narrating the reference model.

### *5.3.2. The Carrifran Wildwood reference model: producing diagrammatic and bio-cultural narratives*

At Carrifran Wildwood, two different narratives can be identified that have been operationalised in the pursuit of defining and projecting desired aesthetic values of the post-restoration landscape. One narrative sets out to outline future value that starts with the contemporary – rather than historical landscape state – as its basis. This narrative is aimed at external institutional assessors of the viability and the visual landscape impact of the project. In contrast, the second narrative centres on the historical landscape state. This narrative is directed both internally and externally to the Group, acting as a coherent and inspiring vision of the future landscape character, and to aesthetically conceptualise what may otherwise be perceived as a set of abstract values.

A requirement of the project set by the Forestry Commission, was the production of an Environmental Statement (ES).<sup>40</sup> This included a series of visual diagrammatic landscape appraisals (see Appendix 7), created by a landscape architect within the Group (Ashmole and Ashmole, 2009: 112). These consist of landscape photographs and drawings prior to the commencement of tree planting, alongside annotated diagrams outlining likely future landscape changes to different scenes, post-planting. This diagrammatic storying of expected scenic changes post-restoration needs no social or ecological contextualisation. The Forestry Commission were interested in the production of a visual landscape assessment where the effects of tree planting activities on the existing scenic attributes of the contemporary landscape are qualified. The Group

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<sup>40</sup> The reasons for such a requirement and the full content of the ES are discussed in Chapter 6.

thus followed the Forestry Authority's (1994)<sup>41</sup> design guidelines so as 'to ensure that planting avoids adverse and unnatural visual impacts' (Wildwood Group, 2000b: 45).

The narrative seeks to demonstrate that woodland restoration will both protect and enhance aesthetically 'sensitive' components of the valley. Interestingly, the scene judged to be most sensitive is the valley viewed from the A708 road that runs parallel to the valley's entrance. Here, 'major views of crags and skylines within the site' will be protected (Wildwood Group, 2000b: 45). Elsewhere, planting on Peat Hill, Raven Craig, and Priest Craig is expected to accentuate screes, outcrops, crags and hilltops, through the production of a visual contrast between the exposed rock formations and the trees. This planting will also have the effect of emphasising 'changes in elevation' and enhance a 'sense of perspective' (Figures 7.1-7.4), and thus pronounce the differential sense of scale between humans in the landscape and the valley sides and peaks. In addition, planting at the site's extremities will 'soften' the boundary with adjacent land, including evergreens to 'visually interlock' with the Forestry Commission's pre-existing conifer plantation (Figures 7.1 and 7.2), 'substantially improving the appearance' of the plantation (Wildwood Group, 2000b: 45). While the valley system will need constant spatial management post-restoration to exclude external social and ecological 'threats' to the idealised wildness,<sup>42</sup> such boundary 'softening' is intended to produce a visually harmonious transition between the valley system and adjacent landscapes.

This form of landscape narrative sits uncomfortably with the Group's set of aesthetic values, which is based on the restoration proceeding through a succession of natural recovery, making any future landscape change largely unknowable and undesirable:

...it was specified [by the Forestry Commission] that we should try to point out what [Carrifran] was going to look like in the future...but it was not in the least central to our thinking, what the landscape would look like, what we were concerned about was that it should be as close as possible to what it would have been originally, so there is a distinction.  
(Philip Ashmole, 2009)

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<sup>41</sup> The Forestry Authority Scotland is a part of the Forestry Commission who enforces forestry regulations in Scotland.

<sup>42</sup> This is the subject of Chapter 7.

Such a preference for temporally ‘authentic’ qualities is central to the second form of aesthetically narrating the reference model. This narrative does project a vision of the valley’s future, but in a way that focuses on aesthetic character rather than diagrammatically representing the likely visual composition of the valley post-restoration. The narrative is predicated on a discovery made in 1990 by the late Dr Dan Jones. While he was out hillwalking through the valley, he found two-thirds of the remains of a yew longbow buried in the peat at Rotten Bottom.<sup>43</sup> The Crown subsequently claimed the bow under the Scottish Treasure Trove law, which was then sent to Oxford University for carbon dating where it was dated at approximately 6,000 YBP (Martynoga, 2009: 101).

The discovery of the longbow, while interesting from an archaeological perspective (Sheridan, quoted in Martynoga, 2009: 101), directly intersects with the targeted reference model. Not only do they both share a historical point in time, they are easily intertwined with one another through narrative as they mutually support a similar conception of social engagement with the landscape. The reference model envisions wild, humanly depopulated woodland, and the bow as an artefact, thought to have been discarded by a hunter-gatherer during a hunt or in death (Martynoga, 2009: 101), is deployed to narrate human engagement that is temporal, mobile, and small-scale, while foregrounding the maximal floral diversity of 6,000 YBP. For instance, the following text is taken from the Group’s fundraising brochure produced in 1998, which ‘became the mainstay of our fundraising for the next two years’ (Ashmole and Ashmole, 2009: 47):

6,000 years ago, in the peat bogs of Rotten Bottom a yew hunting bow broke and was discarded....Nothing is known of its owner. However, it is certain that the panoramic view from that site was very different from the one seen today. The now naked valley was clothed in rich diversity of tree and shrubs, and home to a wide variety of wildlife. This is the view of the past...it is also our vision for the future.

(Carrifran Wildwood fundraising brochure, 1998)

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<sup>43</sup> The bow is now on display at the National Museums of Scotland, Edinburgh.

Another public example can be found on one of the three *in situ* signs now present in the valley, under the heading ‘A broken bow – a changing landscape’:

The first people to explore the valley would have lived in small nomadic groups, hunting for their food and moving from place to place with the seasons. These hunter-gatherers probably had little impact on the landscape – but later farmers certainly did.

The fragment of a broken longbow is augmented to narrate desired human ethical behaviour within the woodland – movement *through* the landscape rather than settlement *within* – and advocates the wild ‘untrammelled’ aesthetic vision as such human engagement is ultimately non-threatening to the construction of a wild woodland character. The hoped-for aesthetic dimension of a forested, wild tract of land is ethically charged through the recuperation of a particular historical cultural narrative (and thus the recuperation of a particular place) that is highly symbolic (Cosgrove and Daniels, 1988). The story of the bow was seized on by the Group for its ‘charismatic’ qualities (Fi Martynoga, 2009); it thus produces an engaging narrative containing affective (Strohmaier, 2003) and imaginative (Brady, 2003; King, 1999) aesthetic value, that eliminates the need to concretely prescribe the future aesthetic components of the landscape. The narrative also succinctly links directly to the idealised historical landscape state, and gives weight to the Group’s claim of authenticity. It speaks to what Holland and O’Neill (1996) term ‘diachronic integrity’; that is, the selection of the most appropriate trajectory of a landscape’s narrative based on that landscape’s history, in a way that transfers the maximum possible ‘significance’ or value in to the future. Of course, the period of significance chosen to be transferred into the future is not the period of time immediately preceding the restoration. This has the effect of devaluing human utility of the valley that has had a considerable ‘impact’ on forested wildlands – specifically from the start of domesticated farming up until the initiation of the restoration. This deliberate erasure of human utility is a prominent and consistent characteristic of wilderness restorations (see Cronon, 1996; Watt, 2002).

#### *5.4.1 Parc Penallta: spatial referencing and the making of a new landscape*

The pre-existing legal requirement to restore the coal spoil tip once mining operations had ceased, meant that the NCB had already drawn up restoration plans before the site was transferred to RVDC. These plans, approved by MGCC in October 1994, included plans to: ‘restore [the] tip as agricultural grassland, sub-divided fields by fenced hedgerows, with copses planted to compliment areas of natural and previously restored woodland’ (CCBC, 1996: 2). No further detail is provided to ascertain whether the restoration of sub-divided fields would retrace the exact historic spatial configurations of the agricultural landscape before coal mining, what methods would be used to assemble this model, and whether the grasslands would be turned to productivist agriculture. While this agricultural reference model is not making a restorative claim premised on pre-human utility, as is the case at Carrifran Wildwood, the general premise reflects a desire to recast the landscape in such a way that the mining history is effectively diminished, at least materially, from the landscape.

This reference model was rejected by the CCBC and Groundwork restorationists in part because of the practicalities of such a restoration: ‘we didn’t pour over nineteenth century plans of the area which showed the original field patterns, because the bulk of the material tipped on that site would have made [their relaying] impractical... being on a slope’ (Neil Daniels, 2009). However, even if this challenge of topography could have been overcome, this restoration strategy of erasure would still not have been implemented. An infusion of a certain set of cultural values into the project necessitated the production of a second model. Rather than approaching the restoration as wholly a project of naturalisation that can reduce ‘legible meaning’ from culturally valued landscapes (Drenthen, 2009), this second model attempts to synergise social and ecological values both across time and space, and, importantly, make these relations aesthetically legible.

This model involved the melding of two different future aesthetic visions of the site. Firstly, there was a movement – primarily driven by Groundwork’s remit – to preserve visible cultural signs of coal mining: ‘...we didn’t want to wipe away the fact that it’s a tip because it’s part of the heritage round here, it’s acknowledged that it’s created by the mine’ (Paul Cooke, 2009). Such a desire to retain the tip’s landform precludes any claim of restoring geomorphological

‘authenticity’ to the site; instead favouring some form of structural conservation. We also see that diachronic integrity, when placed in the context of the restoration of post-industrial sites, does not only consider culturally valued non-human nature to have ‘significance’.

Secondly – and seemingly at odds with this conservation of landform appearance – from the perspective of the CCBC landscape architects, the tip was viewed as in need of aesthetic *integration* into the landscape: ‘if you’ve got a bulk of material tipped on the valley side ... you’re going to be left with a landform that sticks out, unsightly, you’re screening it in some way to then blend it back in with what’s adjacent’ (Neil Daniels, 2009). This second vision, then, does not speak to a concern for diachronic integrity; rather it speaks of the potential for *spatial* integrity. We must keep in mind that some form of ecological restoration – however tenuously restorative – is a legal obligation, and so some form of ‘greening’ the black tip must take place. Arguably, then, this legal obligation will inherently reduce the visible progeny of the site’s landform, and increase the chances that the tip will ‘blend back in’.

Nonetheless, what is proposed goes beyond passively ‘greening’ the site: the assessment of the tip’s aesthetic qualities led to a perceived imperative to aesthetically restore the site, using the visual aesthetics of the present day agricultural landscapes located adjacent to the site as a reference guide, which is ‘valley side woodland, open field, [and] wetland corridor’ (Neil Daniels, 2009). Such ‘difference place, same time’ restoration guides (White and Walker, 1995: 345) are often used when historical information of a site is incomplete or non-existent. Yet there are no attempts to draw on the pre-coal mining farmed landscape of the late 18<sup>th</sup> Century as a reference guide, either from a spatial perspective – for example, to look at where specific landscape formations should be located with regard to one another – or from a species perspective. In fact, there is an acknowledgement that non-native species which are ‘totally at odds with the national vegetation characteristics for that area’ will be planted, such as Italian Alder (*Alnus cordata*), due in part because of the difficulty of floral establishment on bare shale substrate, and the subsequent ‘visual diversity’ that this non-native planting will bring to the site (Neil Daniels, 2009). Additionally, only the *aesthetic* components – as opposed to the forms of landscape utility – of

the adjacent reference sites, are to act as a guide: the nutrient quality of the grasses on the tip will be too low to support animal grazing, and artificial fertilization is to be avoided (Neil Daniels, 2009).

This potential conflict over aesthetic time and aesthetic space to serve as a reference model, is different to that which the Skerne restorationists faced. At the Skerne, there was concern over the degree to which historical-spatial naturalness should be restored to the site, in relation to anthropocentric utility and safety. At Parc Penallta, the preservation of material traces of social history, and the restoration of ecological health driven by a contemporary sense of spatially aligned aesthetic naturalness, seem at odds. Apart from the pit itself, no material coal-mining remnants remain within the proposed park's boundary. Consequently, the restorationists needed another strategy of what we may term the 'heritagization' of the mining landscape (see Conesa *et al.*, 2008; Ruiz-Ballesteros *et al.*, 2009), to achieve the symbolic representation of the site's former use. To do so, the restorationists developed a public art programme to be led by a series of artist residencies to run through the duration of the project. The intention here is for the artists to work with ex-Penallta coal miners to gain an understanding of their values and what they wish to see represented (Peter Lewis, 2009). There are dangers with such heritagization strategies, as Walsh (1992) suggests:

It is of course arguable that the heritagization of space can help maintain an identity of place, through the emphasis on historical characteristics which stand as a metaphor for that place. The preservation of such images may be all the more important as local industries and communities are destroyed. The danger is, however, that only safe and selected images will be preserved, and the history of place will be neglected, while the heritage, over subsequent generations, helps construct an image of place which is based on superficialities.

(Walsh, 1992: 139)

Yet, while we cannot know how subsequent generations will interpret these pieces, to write off the act of *in-situ* landscape representation as a mere consumable spectacle (Walsh, 1992: 139) would be at the least an inaccurate

reflection of the restorationists' intentions. Additionally, this is less about an act of grandiose territorialization through monument building, than is the case with many governmental and private-sponsored heritage projects (see for example Breglia, 2006; McNeill and Tewdwr-Jones, 2003). The intention is for the art works to act as a mnemonic device (Boyer, 1994: 343) that speaks to and for a 'vernacular heritage' that is 'particular and lived rather than general and abstract' (Healy, 2001: 280). Rather than 'safe' and 'superficial', as Walsh posits, this form of heritagization affords the opportunity for the aesthetic representation of lived experience, inculcating affective qualities of remembrance and celebration of workers and the worked landscape.

With its mix of cultural heritagization, nature preservation,<sup>44</sup> and the restoration of ecosystem health and landscape form, we see a rejection of *sensu stricto* historical authenticity – measured either ecologically or aesthetically – and instead an embrace (consciously or not) of non-equilibrium theory, and Choi's conception of future-orientated restoration. Indeed, the restorationists characterise the project vision as 'creating something almost from new' (Phil Jayne, 2009). I will now turn to the way that this vision of a new landscape is narrated.

#### 5.4.2. *A culture-nature narrative of liminal space: the Country Park*

The production of a 'new' landscape presents a challenge that is unique to narrating the future vision of the Penallta site. The restorationists at both the River Skerne and Carrifran Wildwood narrate a story of restoration that is predicated on the recuperation of non-human nature previously degraded by human culture, which has led to an aesthetic vision of 'countryside' and 'wilderness' naturalisation respectively. For the restorationists at Penallta, however, the restoration narrative needed to meld cultural values of landscape heritage and aesthetics with ecological values of ecosystem health and species preservation. This inhibited any attempt to create a narrative of 'returning to origins' (Potteiger and Purinton, 1998: 226) through a vision of transforming the site to what Carter Park and Coppack (1994) refer to as a 'contrived' form of

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<sup>44</sup> We saw in Chapter 4 that the site was expanded by CCBC to incorporate Nelson Bog SSSI, Penallta Rocks SINC, and other adjacent sites of pre-existing ecological interest and value.

rurality that is ‘unspoiled, unsullied and pasteurized’ (p.166). Likewise, a narrative solely focused on the heritagization of the cultural production of the mining landscape, for example through the creation of an industrial ruins park narrative (see Chan, 2009), at the expense of expressions of non-human agency, would reduce the ability of the restorationists to script the whole gamut of objectives outlined in the previous chapter. In short, a narrative that asserts either a purely naturalistic or cultural narrative arc would deny both the project’s multiplicity of values and their aesthetic expression.

Instead of these essentialist narratives, which have the effect of extricating complex human/non-human relations from one another, we see one emerge that instead centres on the dialectical relationship between human and non-human nature (Brady, 2006) that coalesces around the making of a Country Park. ‘Country Park’, then, becomes a deliberate vehicle – both symbolically and materially – to narrate the complexity of human/non-human hybridities (Whatmore, 2002) collectifs (Callon and Law, 1995) or ‘situated entanglements’ (Instone, 2004) that lay behind the site’s projected materialisation. This hybridity interweaves biotic and abiotic non-human nature at various levels of organisation (grasslands, woodlands, wetlands, particular animal and plant species, rock formations, coal substrate, nutrient and hydrological cycles), with human systems and practices of political economy, aesthetics, cultural heritage, and resource extraction, as well as other forms of human utility. This, of course, is not particular to the Parc Penallta policy pathway; indeed, all three of the restoration sites contain the navigation and melding of the human and non-human, the material and immaterial. However, only at Parc Penallta is this complexity consciously rendered visible through the reference model.

The narrative of a Country Park also serves to accommodate and agglomerate multiple landscape values that are centred on the *multifunctionality* of the site. As we have seen, the bureaucratic meaning of ‘Country Park’ is one that foregrounds anthropocentric ‘enjoyment’ within a ‘countryside environment’. Country Parks were originally intended to serve as ‘urban fringe’ recreational spaces that diverted assumed human population pressure away from both National Parks and the general countryside (Hall and Page, 2006: 106). Starting in the 1980s, however, the Country Park was reconceptualised as a ‘gateway’ to the wider countryside (Lambert, 2006: 51). This is in part the function and

narrative of Parc Penallta; as Neil Daniels (2009) explains: ‘we wanted to encourage people if you like their first step in to the countryside on ground that they were comfortable with, i.e. a park setting, and then encourage them to go further and explore the remaining countryside’ (Neil Daniels, 2009).

The aesthetic value of visually integrating the tip into the surrounding landscape plays a significant role in the functioning of the park-as-gateway. Using adjacent farmed landscapes as an aesthetic guide for restoration allows for the inscription of visible ‘countryside’ tropes – valley side woodland and open fields – that reflect the types of qualities that will be experienced when visitors explore the ‘remaining countryside’. This view of a seamless aesthetic-spatial transition from park to countryside, however, is only part of the story, as the complexity through human/non-human entanglement that is to be aesthetically represented within the park makes the characterisation of the site as a ‘countryside environment’ untenable. Rather, I posit that the site of Penallta reconstructed as a Country Park (though this does not speak for *all* Country Parks) can be thought of as a liminal space, where nature-culture dualisms are transgressed (see Head and Muir, 2006). ‘Liminal’ is from the Latin for ‘threshold’ (OED, 2<sup>nd</sup> Ed., 1989); when used in the context of the production of space, liminal is understood to mean space where boundaries are blurred, binary oppositions are bridged, and there is the ‘exploration of new [spatial] possibilities’ (Stevens, 2007: 74; see also Raitz, 1998).<sup>45</sup> We can consider Parc Penallta as a liminal space as it stands at the nexus between the urban fringe and the wider ‘countryside’, while never fully inhabiting either category, but also because of the conceptual threshold of the park between the aesthetic qualities of nature and culture that it so readily – and comfortably – seeks to exhibit. This goes against much spatial planning that is enacted at the ‘urban fringe’, which generally ‘...aims at regulation and the creation of places with an unquestionable character of city or country, nature or culture, public or private’ (Qviström, 2007: 270; see also Edensor, 2005: 54). This binary production of space is also pervasive in environmental policy, where it serves to delineate spaces of preservation as oppositional to spaces of degradation (see Zimmerer, 2000: 362-363), and reinforces and distances the conceptual boundary between ‘nature’ and

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<sup>45</sup> The ‘exploration of new possibilities’ chides particularly well with the future-orientated nature of the project.

the ‘urban’ (see Gabriel, 2011 for boundary practices in urban park creation). Such boundary making is resisted in the narrative of ‘Country Park’ at Parc Penallta.

Both the Carrifran Wildwood and River Skerne reference model visions are narrated as the near-total naturalisation and thus aesthetic dissolution of cultural artefacts, whereas the proposed output of a Country Park at Penallta is less prescriptive, more open-ended. Indeed, this output is elusive – an ever-receding endpoint – as the park is purposefully in a continuous ‘state of becoming’ (Brady, 2006: 5). The park has been envisaged as adaptable to a variety of uses, some known, others as-yet unknown (Paul Cooke, 2009; Peter Lewis, 2009); this is a result of the uncertainty of future funding streams, and also a conscious means to accommodate the multiple values we saw outlined in policy documentation in Chapter 4, as well as genuinely unknown future values. Because of this embrace of open-endedness, the resultant landscape is charged with the potential for multiple and simultaneous readings – sometimes synergising, sometimes conflicting with one another – in addition to the common reading of a Country Park as a site of recreation in a countryside environment. These include the site acting as a ‘landscape of memory’ (Birksted, 2000) affectively infused with a sense of cultural celebration (see Jordan III, 2003) and/or loss (Jones, 2005); an outdoor classroom for the teaching of social and natural history; a post-industrial regeneration strategy to attract inward investment; a site of nature preservation; and the staging of a landscape and environmental art exhibition. In refuting a unitary endpoint such as ‘wilderness’ or ‘naturalistic riverscape’, Penallta Parc is also less deterministic with regard to its potential post-restoration aesthetic qualities. This may present a challenge in terms of producing an overarching vision for landscape design, but this brings about the opportunity for a flexible, *ad hoc*, even experimental approach to the design and utility of the park. This will be the subject of my discussion with regard to Parc Penallta in the next chapter.

### 5.5. Chapter conclusions

In this chapter, I have examined the role of aesthetic value in the process of creating landscape reference models. The intention of each reference model is to act as a guide for the respective restoration project; in so doing, each reference

model outlines the restorationists' aesthetic *vision* of the post-restoration landscape. These visions vary in the amount of detail represented: this is in response to the quantitative and qualitative nature of the available reference data, but also the assumed necessity of producing a clearly defined vision in pre-restoration policy objectives.

For example, at Carrifran Wildwood it was deemed that a comprehensive reconstruction of the composition of original-natural woodland species was fundamental to a historically accurate reference model, and subsequently a historically authentic (*sensu stricto*) restoration. A data rich – though spatially restricted – soil profile, allowed for such comprehensiveness. At Parc Penallta, there was the expression of *historical-cultural* (heritage) values, *extant* landscape values, predominantly focused on the site's geology and ecology, and an assortment of projected *future* values of the landscape. In the framework of a *sensu lato* restoration aimed at the recuperation of ecological function rather than historical species fidelity, coupled with the restorationists' desire to allow for a certain degree of open-endedness in the ongoing formation of the park, an exhaustive reference model was neither necessary nor desirable.

The aesthetic vision of the post-restoration landscape (what it *should* look and feel like), evidently, and directly, influences the moment in time that is chosen by restorationists to act as the restoration model. This connection between desired aesthetic qualities and character (both spatial and temporal characteristics), and the reference model, is most apparent at Carrifran Wildwood. The restorationists, as demonstrated in the last chapter, aesthetically value a wild or wilderness landscape that exhibits high floristic diversity, foliage density, and visual and aural evidence of minimal direct human engagement. Thus, 6,000 YBP was decided as the point from which to elucidate a reference model, as it was reasoned that those qualities that coalesce to form a wilderness character were most apparent at this period of time. At the River Skerne, restorationists aesthetically valued a naturalistically sinuous river system, but this had to be reconciled with controlling the river's regime within 'acceptable' boundaries that did not conflict with human interests. The Ordnance Survey planform of the River Skerne in 1857 displayed a degree of sinuosity that was acceptably naturalistic, while allowing for the (relative) control of flooding events, and bank side landscaping for recreational activities. At Parc Penallta,

where we have seen that no claim of authenticity was made, positive aesthetic values represented by contemporary adjacent landscapes meant that the reference model emphasised visual blending of the site. In this ‘different place, same time’ form of restoration, only a generalised landscape form is to be replicated, rather than species-level detail, while the inclusion of other values within the park’s design – especially heritage components – will not necessarily blend with the visual aesthetics of adjacent landscapes at proximal distance. Such blending is thus to be comprehended from a distal perspective.

This finding is important to an understanding of the role of aesthetics in the production of reference models, but also to a better understanding of the relationship between landscape values and reference models. Far from being arbitrary, the decision to use a particular spatiotemporal landscape unit as a restoration reference is driven in part by aesthetic valuations of the potential future landscape. These valuations are not only bound to an aesthetic sense of what is desirable from the viewpoint of, say, the beautiful, but also how certain aesthetic qualities are compatible with the multitude of landscape values that the restorationists want to achieve. That is to say, these aesthetic valuations place normative weight on what the landscape *ought* to look and feel like into the future. Further, we see that the reference model and the post-restoration aesthetic vision both emerge through their constant negotiation. An aesthetic vision is sketched out in policy objectives before the reference model is designed; the reference model then becomes a representation of that vision, which may have been transformed during the reference design.

In this chapter I have also examined the role of narratives in projecting the post-restoration vision. We have seen that different landscape narratives are composed with different functions, and different restoration actors, in mind. For example, at Carrifran, two different narratives emerge. Firstly, it was necessary for the Carrifran restorationists to diagrammatically storyboard the likely visual changes post-restoration to the Forestry Commission. The resulting pictorial representations place particular emphasis on gestalt qualities that involve ‘relations between parts’ (Brady, 2003: 17), such as harmony, perspective, and visual integration of landscape components. Running parallel to this narrative, is one that, rather than descriptive of particular aesthetic qualities, loosely sketches out the landscape character of 6,000 YBP that is to be recovered, in a manner

that is both imaginative and affective. Interestingly, given the non-human dimensions of wilderness and wildness that are most valued in the project, this narrative is amplified by a cultural artefact (the longbow), which is seen to add charismatic qualities to the vision of a wild woodland.

What all of the narratives have in common – regardless of function and target audience – is that they cannot be divorced from the values they seek to communicate. Without doubt, the narratives are each used as a means to draw out and elucidate the values of the reference model, yet they are also wholly intertwined with, and thus become an inextricable part of, the reference model. That is to say, narration of the reference model cannot stand ‘outside’ of, or away from, the construction of that model. Eric Higgs, arguing that ‘restoration is about restorying place’ (Higgs, 2003: 285), sees narratives – both ecological and cultural – as a means of ‘bind(ing) people most tenaciously to a project’ (Higgs, 2003: 157), but also maintains that ‘restoration builds value through the elaboration of narrative’ (Higgs, 2003: 157). Thus, narratives do not only ‘express normative claims, but also justify them’ (Liszka, 2003: 42). These expressions and justifications of normative claims are evocative and imaginative in form. Thus, I agree with Firth (2008) when he argues that narrative approaches capture the sorts of culturally meaningful values that other approaches to environmental valuation (or as he terms it, Ethical Environmental Decision-Making) find problematic. What is to be made material and what is to be made symbolic in the three restoration landscapes, based on these aesthetic visions? In the next chapter, I investigate the processes by which components of these visions are – or are not – inscribed within each respective landscape.

## Chapter 6. Restoration design and aesthetics: from policy to landscape

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### *6.1. Introduction: design and human intentionality*

In Chapters 4 and 5 we saw that for each restoration site a particular set of aesthetic values were formulated through a process of evaluating the historical, contemporary and future-imagined landscapes. We also saw that restorationists at each site deployed a different set of methods to measure these values, principally through environmental economic and bio-cultural narrative approaches. In this chapter, I will now move on to critically interrogate the transition of these values from oral and written policy prescriptions, to material landscape components. To understand this, I will start by looking at the different sorts of restoration actions that are put to work, and through doing so I will recast the three sets of ecological restoration policy as strategies of landscape design.

A focus on *design* will illuminate human intentionality as the central component of the policy implementation process, including the intention to *not* carry out particular actions. Human intentionality through design practice is the driver of the assorted restoration activities undertaken at each of the three projects, even when restorationists resist the notion of ‘design’. Design is an implicit part of ecological restoration, even if practitioners are uncomfortable with stress placed on such an ‘human-centred’ conceptualisation of the practice (Higgs, 2003: 273).

While not wholly chaotic, this transition from policy to materiality does not occur in a linear manner (Colebatch, 2006; Layzer, 2004: 16). Indeed, as we shall see, certain material components and resultant aesthetic qualities have not come about through the operationalisation of values – aesthetic or otherwise – that were discursively constructed or accounted for in policy materials. Landscapes, their components (species, abiotic matter), and other forces that act on and through them (climate systems, weathering regimes), have their own vitality that can – and indeed do – significantly change the dynamics of the implementation of policy values. Certain values may be abandoned or reworked so as to be compatible with pre-existing material realities. Often, unexpected materialities are embraced – even encouraged – so long as they are broadly

congruous with the desired aesthetic qualities and overarching character. At other times, restorationists need to act pragmatically in the face of budgetary and/or time constraints, and the values actually implemented may fall short of what was hoped for during the formulation of these values.

Additionally, despite the best efforts of restorationists to get ‘results’ within policy timeframes, the work of recalibrating landscapes through ecological restoration can take decades, if not centuries (Block *et al.*, 2001: 299) after tools have been laid down. Trees can only grow at certain rates and ecological niches take time to develop. This presents an interesting point of departure for my critical assessment. It necessarily gives space for thinking through the various ways that different subjects and objects – a certain policy document, the growing requirements of a particular plant species – are synthesised into the co-production of restoration landscapes. While I take human intentionality through landscape design to be the driver of the assorted restoration activities, such a synthesis avoids theorising the relationship between human restorationists and non-human nature as the former *always acting on* the latter.

As I assess components of landscape design, I am interested in looking not only at the processes by which certain components, and aesthetic qualities, are designed *into* the landscape – from flora and fauna to land art – but also practices that actively design *out* components. Designers and landscape architects use such practices as a matter of course. These practices include attempts at the complete or partial physical removal of components from a site. Visual and aural barriers may be used, especially to conceal elements not harmonious with desired aesthetic qualities (Thompson, 2000: 273). Likewise, façades may be created to give a veneer of age to newly introduced components (Lowenthal and Prince, 1965: 200).

Design strategies that attempt to include and exclude certain landscape components will also be interrogated for the ways in which they are rooted to particular modes of aesthetic appreciation. That is to say, I will attend to how design strategically creates – or perhaps more accurately, *promotes* – certain forms of sensory experience of those landscapes. This includes the provision of seating arrangements, pathways, signs, and car parks, as well as the promotion of particular forms of human use of each landscape, for example disengaged scenic viewing, or engaged recreational activity.

These different lines of enquiry will be threaded together through a concern for the relationship between the values expressed in policy and the materiality of each restoration. The core here, and for the chapter as a whole, is not just to ascertain what is lost or gained from each project's aesthetic value system as it is implemented, but also to understand what the post-restoration landscape can reveal about the very aims of each project. When values appear as written text, especially when presented as a list, there is a flattening out of the relative values between each stated objective. This is to say that, when values appear in textual form it is hard to know how these are to be prioritised. However, when we look at the material composition of each project post-restoration, we gain a richer understanding of where stress is placed amongst objectives – perhaps implicitly or perhaps retroactively stressed – and a clearer account of what is meant by imprecise policy terms such as 'wilderness' and 'naturalness'.

#### *6.2.1. Aesthetic-technical design at the River Skerne*

Simply re-stated, and at the risk of repetition, the central objective of the River Skerne project was to restore the river to a more 'natural' state, primarily mediated through structural physical restoration. The restorationists' aesthetic conceptualisation of a 'natural' river is based on the degree to which the river flows along a path it would do 'naturally,' that is to meander with no human constraint, in an approach that has been characterised as 'working with the river, rather than against it' (RRP, 1995a: 4). Other socio-ecological objectives of the restoration were seen to hinge on this restoration of naturalness: better flood control prevention would result from the re-meandering of the river's channel, new habitats would emerge, and improvements to the recreational landscape would be made (RPA, 1997: sections 5.0-8.2).

As a result, the restoration designs centred on the river channel's morphology: its sinuousness, bank profile, in-channel features, and channel depth (RRP, 1996: 3-8). These river attributes are emphasised as primary areas for restoration intervention in the preliminary Landscape Assessment (SGS Environment, 1994: 37). We saw in Chapter 4 that the goals of these restoration objectives were focused on delivering an assumedly foreseeable dividend, measured instrumentally by way of contingent valuation methods. These pre-conceived calculations of outputs, positions the River Skerne restoration within a managerial ecology discourse and policy decision-making process. As we shall

now see, the implementation of the river design was no less rationalised along technical lines, and executed toward predetermined endpoints.

We also saw in Chapter 4 that the River Skerne was chosen in part because it offered a sufficiently ‘...wide range of degradations that can be reversed, measured, and developed with confidence in the future’ (RRP, 1995a: 4). In addition, such reversions of degradation were preconceived as ‘technically achievable’ (RRP, 1995a: 4). In response to these discrete degradations, the restorationists developed a range of discrete structural restoration ‘techniques.’ In 1999 the RRC produced a document entitled *The Manual of River Restoration Techniques* (RRC, 2002; herein referred to as ‘the Manual’). The Manual is interesting in that it not only acts as a documentation of all the designed restoration techniques deployed on both the River Skerne and the River Cole, it is also intended to act as a ‘best practice’ guide to instruct river restoration practitioners working on other projects, with the view that these techniques will be refined over time and fed back in to new editions of the Manual (RRC, 2002: 1).<sup>46</sup> This is in keeping with the RRCs remit to gain wide institutional influence over accepted procedures of river restoration, and specifically for the Rivers Cole and Skerne to act as sites of *technique demonstration*. Thus, the Manual is both a recorded document of techniques executed at particular restorations, and also a collection of techniques generalisable to other river environments.

The Manual is organised in to eleven parts, ‘...each part encompassing a significant activity, or objective, that may typically be included in a restoration project brief’ (RRC, 2002: 1). Each section is then broken in to specific techniques used at either or both sites, giving detail of the upfront monetary cost; the particular objective(s) the technique is attempting to meet; landscape designs of the technique, including diagrammatic plan and sectional views of the river channel; and a brief reflection on the technique’s success in reaching the stated objective, accompanied by photographs of both before and after the technique was introduced.

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<sup>46</sup> Updated in 2002 to include new techniques from projects other than those carried out at the Rivers Skerne and Cole, the Manual is now available as a web-based, downloadable PDF file, as well as a physical document (see: [http://www.therrc.co.uk/rrc\\_manual\\_pdf.php](http://www.therrc.co.uk/rrc_manual_pdf.php) last accessed 3/03/11)

### 6.2.2. Phase one: designing a sinuous river

Eleven of the fifteen techniques are concerned with re-designing the shape of the river channel (see Figure 8.1 for an generalised elevated view of the techniques). The pivotal design technique to achieve a sinuous shape is 1.4: ‘new meanders to one side of existing channel’ (RRC, 2002: 1.4; Figure 8.2). In Chapter 5 I showed how the project’s reference ecosystem was based in part on the historical meandering planform of the river, as it appeared in historical maps dating back to the 1850s. In practice, however, the realization of this historical state has been constrained. A gas main pipeline runs the length of the north bank, so meanders could only be put in place along the southern bank of the river. At the same time, contaminated industrial tipping material lying 10 to 50m adjacent to the south bank restricted where these meanders could feasibly be created (RRC, 2002: 1.4; Figure 8.2). This ‘...precluded any possibility of ‘mirroring’ historic meander patterns that were sustained by entirely different hydraulic criteria’ (RRC, 2002: 1.4). This reinforces the idea put forward in Chapter 5 that the creation of a ‘Carbon Copy’ of an ‘original’ (Hilderbrand *et al.*, 2005) – while it may hold conceptual weight to direct a restoration – is not relevant when the materiality of landscapes is encountered. We see then, that historical meanders conceptually *inform*, rather than rigidly *prescribe* the morphological goal of a sinuous channel.

As a result of the limitations encountered in designing a wholly meandering channel, the restorationists sought to create small-scale in-channel modifications to ‘try and get a bit more movement’ along the river (Clare Jones, 2009). Between Hutton Avenue footbridge and the start of the new meanders, a series of deflectors were constructed from secured tree trunks filled with clay (Figure 8.3). These deflectors, placed on alternating sides of the channel, create a visual sense of undulating flow, and encourage the continual scouring and deposition of bank side sediment material that occurs along meandering river systems (RRC, 2002: 3). However, such bank erosion was only encouraged up to a point. While attention was paid to the technical production of a sinuous river that has the appearance of having arisen from river processes alone, concurrently there was a concerted effort to effectively retard any major channel realignments that may subsequently occur as a result of the river’s new flow regime. Techniques 4.1 to 4.5 are thus concerned with protecting the banks from ‘serious’ erosion that may affect the gas mains pipe on the north bank, the buried industrial waste

on the south bank, an underground high voltage electricity cable that crosses the river, and the stability of the paths running parallel to the river (EA, 1998: 9).

As part of its demonstration site status, the Skerne acted as a means to illustrate the potential of using ‘soft’ engineering techniques, principally living vegetation, rather than ‘hard’ engineering that utilises concrete and steel (EA, 1998: 7). Attempts at controlling bank erosion levels – collectively termed ‘revetments’ (EA, 1998: 7) – consisted of techniques such as willow spiling, where live willow poles are weaved around live willow stakes; mesh nylon planted with living willow; and the laying of fibre rolls planted with aquatic plant species. The plant species used have not been selected for their ecological value. For example, while willow species used in the various revetments, including crack willow, white willow and grey willow, proved to be ecologically beneficial through providing a habitat for bird, vole and invertebrate populations, they were primarily chosen by restorationists for their structural-material qualities. These willow species are thin and flexible, making them ‘effective at deflecting high water flows,’ and are fast growing, with the result that they quickly establish on riverbanks and encourage silt deposition, which has the effect of protecting bank sides (EA, 1998: 16-33). While they structurally support the riverbanks and the meanders, they also visually enhance the sinuous qualities of the river:

The willows readily accentuate the course of the meandering river and give a natural feel to the landscape. They give a vertical dimension to the scene where previously there had been very few points of reference. Their visual impact both at two levels is substantial; they can be seen from a distance as a distinct feature along the river bank, while close up, the characteristics of the species can be appreciated.

(EA, 1998: 33)

Thus, in the production of a naturalistically sinuous riverscape, we see an interesting interplay between technical intervention and the production of aesthetic qualities. Technical interventions such as willow revetments are themselves naturalistic, and so hide their own technical nature. In this case, soft engineering does not just ‘soften the edges’ of hard engineering; it sensorially dissolves the very notion of an engineered river. This approach results in the integration of discrete structural interventions – meanders, revetments – into a seamless and coherent naturalistic whole. To the uninformed eye, the meander is

read as a meander integrated in to the channel system, not as an example of a discrete restoration technique. The following extract from an interview with Martin Janes (2009) demonstrates that the introduction of techniques into the river system that are aesthetically naturalistic is a key objective, rather than an accidental by-product:

Martin: Our objective here was if we could do this work, walk away, come back in ten years time and people wouldn't realise anything had been done, that would be the best epitaph...

Jonathan: So for it to have a feel of it being un-engineered?

Martin: Yeah, so that it needed one of us to go and show people and tell them what had happened, and then they could maybe, maybe just about understand all the work involved, whereas if they just wandered along and thought hey this is a natural river, that would be great.

Ten years on from the introduction of river restoration techniques at the Skerne, this has started to occur. Even when people have toured the river with prior knowledge of the restoration scheme, they have expressed disbelief that human intervention has taken place along the river channel (Clare Jones, 2009).

### 6.2.3. Phase two: planting and landscaping

Once the river's morphology had been reshaped, the restorationists focused on the landscaping of the site, from the channel margins to the site's outer perimeter.<sup>47</sup> This occurred predominantly through the planting of native aquatic and non-aquatic plant species,<sup>48</sup> but also through some earthworking. Prior to the restoration works, aquatic species present were those associated with polluted water stretches, such as fennel pondweed (RRPa, 1995: 201). The riverbanks were primarily vegetated with annual and perennial herb and grass species, including creeping thistle, great willowherb, common nettle and Himalayan balsam (RRPa, 1995: 201). No rare or 'nationally notable' species were present, and overall the conservation value of the vegetation was considered as only 'moderate' on a four-point Species Rarity Index (RRP, 1995: 201),<sup>49</sup> and

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<sup>47</sup> While this is an overlap between phase one and phase two, especially in the planting of revegetations, morphological changes to the river system largely preceded any landscaping efforts.

<sup>48</sup> I turn my attention to 'nativeness' in restoration design in Chapter 7.

<sup>49</sup> The Species Rarity Index is a measurement of species rarity that places regions on a four point system (low, moderate, high, very high) (Biggs *et al.*, 1998: 245). See Collinson *et al.* (1995) for details of the Index.

demonstrated little in the way of structural diversity (SGS, 1994: 13). To the west of the Five Arches railway bridge, Rockwell Nature Reserve and mature trees lining the riverbank were conserved (Figures 9.1-9.4). Vegetation in this section of the river system is primarily constrained to the riverbanks, due to the industrial areas to the south bank and housing on the north bank (SGS, 1994: 31; see Figure 8.1). Along the riverbank to the east of the railway bridge, vegetation cover was sparse (see Figures 2.23 and 2.24). One clump of willows on the south bank (Figure 9.5) and a solitary white willow on the north bank (Figure 9.6) were the only existing trees. Both of these are marked on Figure 8.2, delineating the extent of the section of the river that has been re-meandered. Flat and open grassland extended north and south from the bank edges to the edge of the site (Figures 2.22-2.24), on which a few groups of ornamental trees have been maintained through the restoration project (SGS, 1994: 34; Figure 9.7).

As a means of detailing both the visual and sonic components of the River Skerne restoration design that have been implemented, I will take a written 'walk' along the river, retreading a physical walk taken in September 2009 with Clare Jones. Starting from Hutton Avenue footbridge on the north bank, I will move westwards to the extent of the restoration at the Skerne Bridge, then follow the river east along the south bank from the Locomotive footbridge back to Hutton Avenue footbridge.

1. Adjacent to the Hutton Avenue footbridge, a horse paddock enclosed by a corrugated metal fence on the west side (Figure 2.28), has been screened from view with a hedgerow containing hawthorns, elder and dog rose (Figure 9.8). Along the paddock's south perimeter edge, trees were planted to screen the paddock, though most of the saplings planted were eaten by horses (Clare Jones, 2009). To the south of the paddock in-stream and bank planting took place (Figure 9.9).

2. Standing at the Hutton Avenue footbridge facing west, in-channel and bank side planting has occurred along the river corridor, stretching toward the new meanders (compare Figure 2.32 with Figure 9.10). An aquatic ledge has been incorporated in to the river channel (visible in the right-hand side foreground of Figure 9.10). This aquatic ledge consists of a biodegradable coir matting that holds river bed silt in place, which is planted with marginal aquatic plants,

notably purple loosestrife and meadowsweet (RRC, 2002: 3.2). Directly behind the aquatic ledge a stone riffle has been created (Figures 9.10 and 9.11; Tracks 1.1 and 1.21). Here, crushed stones of different gradations are laid directly on the riverbed, creating a shallow area; this forces water to flow over the stones, creating small eddies (RRC, 2002: 3.3). This was intended to design in a positive sound element linked to visual interest: ‘so one of the things we did specifically in terms of the aural element, was to put the riffle in by the footbridge...so people could stand on the footbridge, visually see water moving around and hear the noise of the river as well’ (Martin Janes, 2009). Continuing west along from the riffle, a bank side willow (Figure 9.10), has self-rooted, probably originating from one of the willow revetments or deflectors (Clare Jones, 2009). A pathway has been laid along the whole restored stretch of the river on the north side (compare Figure 2.21 with Figure 9.14). Made from tarmac, this allows for comfortable and accessible mobility along the river’s edge, creating particular haptic and sonic qualities underfoot (Track 1.9). The path runs parallel to the river channel, following the contours of the various meanders.

3. Visible from the north bank are a series of in-channel deflectors, planted with marginal aquatic species, including canary reed grass, flag iris and lesser pond sedge (EA, 1998: 31; Figure 9.12). The pre-existing grassland area extending from the north bank forms part of the floodplain, and so is susceptible to waterlogging (Figure 9.13). The river was in view from this section prior to the restoration (Figure 2.21). Post-restoration, during the growing season the river is visually obscured by the riverbank planting (Figure 9.14), this is made visible through winter when the perennial vegetation dies back (Figure 9.15).

4. Wetland plants were planted within a section created and enclosed by a meander (meander S1, Figure 8.2). It was assumed that the area would remain boggy as the pre-restoration river channel flowed through this section; however, the area dried up leading to tall grasses and other perennials now dominating the space (Clare Jones, 2009; Figure 9.16).

5. Between meanders N1 and N2 (Figure 8.2), a backwater has been constructed (marked ‘2.1’ on Figure 8.1; see 9.17 and 9.18). This is a small body of water connected to the main channel that is formed from part of the pre-restored

channel (RRC, 2002: 2.1). An area of landscaped grassland follows the contour of the backwater and the adjacent meander (meander S2 on Figure 8.2). The grassland is profiled in a way that prevents flooding events from stranding people from the path. The backwater attracts a range of waterfowl, including ducks, geese and moorhens (Track 1.4).

6. Through the reworking of the river channel, 19,000m<sup>3</sup> of excavated surplus spoil material had to be disposed of (RRC, 2002: 10.1). An area located north of the Rockwell Nature Reserve along with an area on the south section colloquially known as the ‘Keepsafe’, was identified as areas that could be re-landscaped using this material (located on Figure 8.1 as 10.1). Built upon a flat expanse of clay that was ‘bare and horrid’ (Clare Jones, 2009), the landscaped material has created a smoothly graded incline, peaking at the northern most section of the site. An ‘L’ shaped hedgerow has been planted along the edge of the adjacent housing, enclosing an area of mixed grass seeds (Figure 9.19). Adjacent to this sits a shallow pond, excavated during the restoration works (Figure 9.20), which attracts dragonfly and Great Crested Newts, but also litter. Continuing north, a row of trees has been planted to buffer the sound of the east coast rail line that travels just to the east of this section (Figure 9.21). This leads to an expanse of inclined grassland at the northern boundary of the site (Figure 9.22).

7. Adjacent to the Five Arches railway bridge, a fish-friendly weir has been installed (Figure 9.23): ‘...to make it [the river] more attractive, it’ been very quiet, and now you’re thinking ‘hmm, there is a river there,’ even as the vegetation grows up’ (Clare Jones, 2009). In this way, the sound of water cascading over the weir (Track 1.8) brings the river system back in to sensory focus, regardless of its visibility. Another prominent sound source at this point, which is not controllable, is the sound of trains travelling along the railway bridge (Figure 9.24; Tracks 1.8 and 1.14).

8. Along the path leading away from the Five Arches Bridge, fencing on the northern edge has been screened with ivy to stop graffiti artists tagging the fence (Clare Jones, 2009; compare Figures 2.7 and 2.10 with 9.25), while a handrail has been installed on the southern edge of the path for safety purposes, as the

riverbank is on a steep incline at this section (Clare Jones, 2009; Figure 9.25). Further on west, tree coverage and dense vegetation along the southern edge obfuscated a clear visual line along the pathway. This created a sense of unease for path users, especially females, so the path was made wider, vegetation was cleared from the banks, and the trees underwent crown-lifting (compare Figure 2.7 with Figure 9.4).<sup>50</sup>

9. At the western extent of the restoration site, the path leads underneath Albert Road Bridge (Figure 8.1 and Figure 9.26). Some in-channel and verge planting has occurred between Albert Road Bridge and the Skerne Bridge on the north bank of the river (Figure 9.27). No work was carried out on the south bank, where gas and water pipes remain visible (compare Figure 2.1 with 9.28).

10. Walking back east past the Five Arches Bridge, a new bridge known as the Locomotive Footbridge has been installed. This has been designed as a reference to Darlington's railway heritage, complete with a steam train funnel on the north bank (Figure 9.29). This has created a circular walking route between it and Hutton Avenue footbridge.

11. On the south side of the river beyond the footbridge, a wildflower meadow has been planted (Figure 9.30). Adjacent to this a 'scrape' has been created between two meanders on the south bank (technique 7.1 on Figure 8.1). Scrapes are shallow ponds that form in low spots of floodplains; in this case the scrape was excavated to a depth of 300mm (RRC, 2002: 7.1). While the scrape is fed by a small spring, the area is now colonised by vegetation that has largely reduced the pond to a marshy area (Figures 9.31 and 9.32).

12. As mentioned in point 6, the Keepsafe was identified as an area that could be landscaped to accommodate some of the spoil material that was created from the re-meandered channel. The Keepsafe sits adjacent to the final meander as you walk east from this point (s1 on Figure 8.2). The landscaping has created undulating mounds of grassland, lined with trees and low hedges (Figure 9.33). Trees lining the west bank of the Keepsafe have been strategically planted to visually and sonically screen the industrial area to the south (compare Figure

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<sup>50</sup> This is a tree management practice where lower branches are removed from the trunk, effectively lifting the crown.

2.22 with 9.34). This necessitated the removal of a row of cherry trees (Clare Jones, 2009).

13. A final design technique that has been carried out across the length of the restored section of the Skerne, relates to the placing of surface water outfall pipes that drain surface rainwater (RRC, 2002: 9.1). Prior to the restoration, a series of 13 outfall pipes with ‘ugly concrete headwalls’ sat visibly above the water line of the river (RRC, 2002: 9.1). The head of the outfalls were redesigned so that they were no longer visible from the riverbanks, and to reduce the amount of material – silt, oil and sewage – that escapes into the river system (RRC, 2002: 9.1). Recessed covers that are inconspicuously grassed over, provide access to maintain and clean out material that gets trapped in the outfall, and to monitor pollution when necessary (RRC, 2002: 9.1).

#### *6.2.4. Framing experiences of the sinuous river*

As we build up a detailed aesthetic ‘picture’ of the restored River Skerne, we see that design strategies amount to the re-calibration of the landscape in a way that attempts to sensorially frame the river’s structural naturalisation. I need to clarify what I mean by ‘framing’ in this context. Environmental aestheticians have discussed framing in relation to the aesthetic appreciation of landscapes in a way that is analogous to frames surrounding art objects. Much of what has been written about this relationship has concluded that framing is either an ‘incorrect’ approach to the proper aesthetic experience of non-human nature. Ronald Hepburn argues that nature is ‘frameless’ in that it cannot be bounded, whereas art works can (Hepburn, 2004: 46), while Allen Carlson posits that attempts to frame landscapes requires the imposition of stasis to form a ‘scene’ that neglects the dynamic interaction inherent in the relationship between an environment and viewer (Carlson, 2000: 36).<sup>51</sup>

When I talk of framing landscapes, I base this on Ronald Moore’s recognition that framing is part of what humans do when comprehending natural objects: ‘We constantly and habitually organize parts and wholes in our experience, whether we are dealing with natural objects or artefacts. We don’t live life as a vast undifferentiated panorama of experience. We frame what we experience as we go along’ (Moore, 2008: 114). ‘As we go along’ implies that frames need not

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<sup>51</sup> It must be stated here that Hepburn and Carlson are only talking about *visual* framing, whereas I am talking about *multi-sensory* framing.

produce ‘scenes’ to be apprehended from a distance: framing occurs when we are embedded *within* and travelling *through* landscapes. However, Moore’s conceptualisation concentrates the power of framing landscape experiences solely on the observer. Instead, when I talk of design aspects that frame landscapes, I am placing emphasis on the role of landscape designers and restorationists who do the work of framing the landscape *before* observers of that design go about the process of framing through habitual organization. Such framing through design includes designed components within the landscape that attempt to sustain, emphasise and make focal the rivers meandering naturalness; components that guide and frame human experience of the river; and components that delineate the visual and aural boundary of the site. In short, I am interested in those aspects of the restoration design that seek to spatially organize components of the landscape for the viewer to comprehend, or not comprehend. I term this ‘multi-sensory framing’ as these modes of framing attempt to guide sensory perception of the landscape that at least accounts for the sonic – as well as visual – domain. Note I use the word ‘attempt’, as I am not suggesting that an experience of the landscape can only be comprehended through the restorationists’ frame; rather, I am trying to identify the restorationists’ framing *intentions*.

At the River Skerne, sensorial framing designs into the landscape visual and sonic components that are associated with naturalistic, meandering river systems: ‘...the sorts of things you would find in a river, and the sort of landscape you would find around a natural river’ (Martin Janes, 2009). The riffle pool and weir introduce the sound of bubbling water in to the soundscape, a common technique that is used in environmental design to partially mask surrounding ambient sounds (Augoyard and Torgue, 2008: 68). It is also an attempt to bring back a naturalistic sound associated with meandering rivers and in-channel water movement. This produces something akin to an anamnesis effect, that is the ‘evocation of the past’ through sound (Augoyard and Torgue, 2008: 21). At the Skerne, this is the evocation of an imagined past, as it is unknown if and where riffles and weirs were located along the pre-canalized river system. We also see the introduction of ‘typical’ riverside habitats within the river meanders: wetlands, scrapes, wildflower meadows and backwaters. Though the former two are no longer sustained due to changing soil water levels, these bank side habitats were introduced to provide enjoyment (Martin Janes,

2009), and ‘visual interest to previously unremarkable areas’ (RRC, 2002: 7.1). These introduced visual and sonic components aid in reconstructing the river system in the image of the desirable historic-aesthetic qualities – ‘babbling brooks’ and Constable paintings – that we saw in Chapter 5.

Multi-sensory framing also encompasses attempts to screen out certain visual and sonic aesthetic components of the pre-restored landscape through planting and earthworking. Where this framing occurs at the perimeter of the site, it is analogous to the creation of a border around an artwork in that it seeks to enclose space. In landscape design terminology, this is the production of a ‘spatial edge’: ‘successful spaces usually have edges that screen external elements that would otherwise destroy desired sense of place and that enframe views to promote this sense....Spatial edge encloses space, terminates sight line, and defines viewshed’ (Motloch, 2000: 190).<sup>52</sup> Metal fences, gratified walls, outfall pipes, industrial buildings, and train sounds are all treated as aesthetic degradations to the naturalistic constitution of a post-industrial riverscape. Ivy is trailed over walls, earth is mounded, and fast growing hedgerow and tree species are planted in response. ‘Bringing the countryside into town,’ therefore, does not only rely on the visual and sonic representation of countryside ‘elements’ at the site – meanders, wetlands, meadows, riffles – but also the strategic shielding of sensory clues to the industrial presence beyond the site’s perimeter. This strategy has had a mixed success. For example, while the industrial area to the south of the site is no longer visible, it is still audible from a range of distances (compare Figure 2.22 with Figure 9.34; Track 1.13, also note the HGV reversing lights and banging in Tracks 1.3, 1.6, 1.7, and the rhythmic banging in Track 1.16).

There was an expectation that components located away from the perimeter that could not be screened, could instead be redesigned to harmonise these components with the new river form. Alternatively, they could be moved out of sight, as is the case with the outfall pipes. The Hutton Avenue Footbridge (Figures 9.35 and 9.36) is described in the Landscape Assessment as: ‘...a dilapidated concrete structure with chain link wire additions....The structure requires a facelift *in sympathy with the new image of the river*, including new surfacing and railing etc.’ (SGS Environment, 1994: 34; emphasis added). Similarly, the Landscape Assessment identified a culvert adjacent to the Rockwell Conservation Area (Figure 2.12) that should be considered for

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<sup>52</sup> It is worth noting that in the Landscape Assessment of the River Skerne, pre-restoration, spatial edge is referred to as the ‘visual envelope’ (SGS Environment, 1994: 3).

‘...enhancement through new railings, surfaces and seats’ (SGS Environment, 1994: 31). However, these were left untouched during the restoration project because of the prohibitive financial costs involved in their redesign (Martin Janes, 2009; Clare Jones, 2009).

We see then that the intentional sensorial framing of components of the River Skerne is an important point of landscape design consideration and implementation for the project’s restorationists, and that such framing – operating within the sonic as well as the visual domain – is intended to complement and emphasise desired sinuous and naturalistic aesthetic qualities, both along the river channel and across the wider riverscape.

### *6.3.1. (Non)designing wilderness at Carrifran Wildwood*

The concept of designing wilderness may appear paradoxical. If we accept that an absence of human intentionality in the shaping of the landscape links the multitude of definitions of wilderness employed by the Carrifran restorationists, then how can we talk of ‘designing’ wilderness, when ‘design’ implies exactly the opposite? Indeed, the chief architects of the Carrifran restoration balked when I asked them about the Group’s ‘design plans’:

Myrtle Ashmole: we weren’t creating a landscape

Philip Ashmole: no, we were not designing a landscape... it’s a quite different approach, so we never thought along those lines at all except in so far as we had to make a bow in that direction in the environmental statement, we tried to work out what would have been natural.

(Myrtle Ashmole and Philip Ashmole, 2009)

Here, Myrtle and Philip pick up on an assumedly intrinsic link between the design of landscape and the human creation of artefacts. Rather than acting as human designers of a landscape, the Wildwood Group see themselves rediscovering and recovering the natural (non-human) landscape. Such a plan for recovery through restoration is based on minimal and temporary intervention: ‘the whole ethos is doing what is necessary to get it moving and then back off, and let things happen’ (Philip Ashmole, 2009). Such intervention ‘...should as far as possible reinvigorate and mimic natural processes rather than using technological approaches....one should be wary of the use of fertilisers and herbicides, and eschew mechanical processes that leave the land scarred’

(Ashmole and Ashmole, 2009: 10-11). In outlining subsequent management practices, there is also a clear sense of the primacy of natural evolution, unguided by human intervention: ‘We have no fixed view on what the structure and composition and structure [sic] of the woodland will be in the long term, as a key objective is to allow natural processes to predominate’ (Wildwood Group, 2000a: 26). The consequences of such an approach are to be accepted, even if ‘...the woodland may ultimately be of lower floristic and structural diversity than that established initially’ (Wildwood Group, 2000a: 27). Therefore, the Carrifran restorationists see their role as one of *initiating* a process of the ecological recovery of a historical landscape, rather than as *creators* of that landscape.

In what follows, I will contest that in the case of Carrifran Wildwood, both the materiality of the wilderness landscape and the means to aesthetically comprehend it are in fact *both* outcomes of design practice. While the restorationists may express discomfort with the idea of ‘designing wilderness,’ I will show that this has been a practical necessity, for a number of ecological, political, economic, institutional – as well as aesthetic – reasons. I will then go on to demonstrate that, as a corollary to this, material engagement with the site during the execution of restoration design has been guided by an aesthetic principle that I term ‘non-design’. Non-design is a form of design that firstly attempts to conceal human intentionality, and secondly attempts to mimic non-human ecological processes. Such non-design, I shall show, goes beyond the bucolic riverscaping that was undertaken during the River Skerne restoration.

### 6.3.2. *Ecological and institutional constraints to wild reforestation*

The principal structural changes to the landscape at Carrifran Wildwood are, and will continue to be, driven by tree planting activities and subsequent management practices. This may seem an obvious point to make, as the ecological *raison d'être* of the restoration is the reforestation of the landscape. I make this point because – aside from a car park, which I discuss later – no physical reshaping of the valley through landscaping has taken place. Neither have there been attempts to change the site’s soil characteristics to those found before the valley was deforested (Wildwood Group, 2000a: 26).<sup>53</sup> This approach

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<sup>53</sup> ‘In this project we have decided *not* to attempt to alter the soil characteristics excepting those changes which will occur naturally as a result of reforestation activities’ (Wildwood Group, 2000a: 26).

of working with the landscape composition ‘as it was found’ is in keeping with the natural recovery orientation of the project: ‘...natural regeneration would clearly be the preferable means of establishing trees on the site. Woodlands established by natural regeneration tend to display a more irregular structure, and are more likely to preserve local genetic distinctiveness than planting’ (Wildwood Group, 2000a: 52-53).

The ecological realities of the site ‘as found,’ however, have prevented the complete natural regeneration of the forested landscape. Existing tree stands were severely limited in extent, and those species pre-dating the restoration were assumed to be unlikely to: ‘...establish themselves at significant densities at distances of more than 100m from a seed source’ (Wildwood Group, 2000a: 53). In fact, ash seedlings in the valley have only dispersed 20 metres from mature trees, and so 100 metres may be ‘somewhat optimistic’ (Wildwood Group, 2000a: 53). This means that, while there is hope that natural regeneration will occur on open ground that is left unplanted, this method is ‘not considered practical over most of the valley’ (Wildwood Group, 2000a: 53). The direct sowing of tree seeds has also been ruled as only having a minor role to play – primarily confined to the rocky slopes of the site – in the establishment of the woodland, due to a limited onsite seed supply (Wildwood Group, 2000a: 54). At the same time, the Group had concerns about leaving regeneration to ‘chance’: ‘...there was a danger that unless progress was obvious during the first few years, the cohesion and involvement of the group – and also the input of funds – would dwindle’ (Ashmole and Ashmole, 2009: 112). Thus, the pace of non-human nature was considered to be too slow in relation to a demand for short-term perceptible landscape change.

Instead it was decided that the valley would be reforested through the direct planting of trees that have been cell grown from seed off-site (Ashmole and Ashmole, 2009: 124). In 1996, the Group started to collect seeds from local woodland stands across Dumfriesshire and the Borders, including rowan, birch, alder, hazel and sessile oak seed (Matthews, 2009: 146). As seeds were collected they were distributed to commercial nurseries, primarily Alba Trees in East Lothian, and also to volunteers to grow in their gardens (Matthews, 2009: 146). By the time planting in the valley started on New Year’s Day 2000, about 31,000 trees had been raised through the commercial nurseries and 4,400 from volunteer gardens (Matthews, 2009: 148). While volunteers were to undertake

some of the on-site planting, the majority of the work (about 90 percent) was tendered to professional woodland management contractors (Hugh Chalmers, 2010).

To pay for the contracted planting work, the Group sought funding from the Forestry Commission (FC) under their Woodland Grant Scheme (WGS). This necessitated, as already stated in the previous chapter, the provision of an Environmental Statement (ES). 25 members of the Wildwood Group formed the Ecological Planning Group. Led by Adrian Newton, who was a University of Edinburgh forestry ecologist at the time, the Ecological Planning Group produced a management plan from which the ES emerged (Ashmole and Ashmole, 2009: 109-110). As already detailed, the valley is part of the Moffat Hills SSSI, and is also designated as an SAC under European legislation. As a result, the ES had to also be approved by Scottish Natural Heritage (SNH), as well as the Scottish Environmental Protection Agency (SEPA), and the local Council (Philip Ashmole, 2009). SNH require an ES to be produced if there are proposals to change the nature of a SSSI, which are called Potentially Damaging Operations (PDOs) (Nature Conservation (Scotland) Act, 2004). It was decided that, as the SSSI designation was principally due to the presence of montane and sub-montane plants high in the crags, and as the planting was to primarily occur on the valley floor, the SSSI designation would not be threatened by the PDO (Ashmole and Ashmole, 2009: 113).

On the 21<sup>st</sup> January 2000, the FC approved the Group's WGS contract for the first five years of contracted tree planting (Chalmers, 2009: 154). The authorization from SNH and the FC to start planting was, however, subject to a number of policy constraints that impacted the site's design. Spatial stipulations were imposed concerning the establishment of trees. In total, 20% of the valley floor needed to be left as open, unplanted ground (Hugh Chalmers, 2010). This rule, applicable across the whole of the UK, is enforced to allow for subsequent natural colonisation of vegetation, and to protect any existing areas of important flora (Forestry Commission, 2004: 34-35). Because of concerns over the acidification of water systems as set out in the FC's *Forests and Water Guidelines* (Forestry Commission, 2003a), the intentional planting of trees along the burns at Carrifran is not allowed under the WGS. This requirement demonstrates an institutional forestry policy that is inflexible to the specific context and ultimate aim of the restoration project; it was conceived when

afforestation was assumed to entail the planting of conifer species that are associated with the acidification of aquatic environments, rather than the mixed broadleaf planting that is taking place at Carrifran (Philip Ashmole, 2009; Hugh Chalmers, 2010).

In addition, there are also constraints arising from the 11 archaeological structures. Through consultation with Jane Brann, the Regional Archaeologist for Dumfries and Galloway, no planting will occur on or within 5 metres of each structure (Wildwood Group, 2000a: 51, 81). Strict targets were also set to regulate the final tree density. When planting ‘new native woodlands,’ there is an expectation that there will be an established density of 1,100 trees per hectare (Forestry Commission, 2003b: 15). In the case of Carrifran, the density was initially set at 1,600 trees per hectare, due to anticipation that there would be high losses of trees due to herbivore grazing, with a final density by 2010 set at 1,100 trees per hectare (Wildwood Group, 2000a: 43; Hugh Chalmers, 2010). This density establishment quota has very real financial consequences for the Group if it is not met. The WGS paid the Group £1,050 per planted hectare, with the expectation that 40 hectares would be planted each year from 2000 to 2005 (Chalmers, 2009: 162-163; Hugh Chalmers, 2010). 70% of the total money for this period is paid in year one, with the remaining 30% paid in year five when the trees are established:

‘Established’ in this case meant that the trees should be at least 60cm high and able to grow with only basic protection from deer and domestic herbivores. Failure to establish trees would require the repayment, with interest, of all the Forestry Commission grant....Grant repayment of over £110,000 was impossible, so failure was not an option.

(Chalmers, 2009: 163)

Qualitative stipulations to the planting regime were also set. While the requirement to select species ‘which are, or might have been, native to the site’ (Forestry Commission, 2003: 15) was central to the Group’s planting strategy, the provision that a maximum of 10% of the total planting could be shrub species (Forestry Commission, 2003: 16), was a ‘significant constraint’ since ‘...several important species including hazel, hawthorn, juniper and most of the willows were classed as shrubs’ (Ashmole and Ashmole, 2009: 122).

These forms of extrinsic institutional policy constraints, alongside existing climatic, soil and vegetation patterns, have unavoidably led to the imposition of

a design procedure that delineates the spatial and temporal contours of tree establishment, and in doing so the aesthetic qualities of the woodland. To what extent this will affect the future structural composition of the Wildwood cannot be determined. However, it destabilises any claim of restoration through ‘natural recovery’ that foregrounds stochastic and unplanned patterns of woodland development in the short-term. What is interesting is that the methods by which the Group have made the restoration designs manifest in the landscape – through a guiding aesthetic principle I term ‘non-design’ – the restoration has been able to proceed through an *appearance* of natural recovery. This is the subject to which I will now turn.

### *6.3.3. Material inscription at Carrifran: uneven wild wood*

In tracing the process by which the restoration designs have been implemented at Carrifran Wildwood, it is possible to demarcate the site in to two sections. The ‘lower valley’ lies to the south of the site, adjacent to the A708 Moffat to Selkirk road to the south, and the Carrifran Burn running along its western perimeter. This section, colloquially named Barker’s Paddock after former owner John Barker (see Figure 10.1), totals 7 hectares (Ashmole and Ashmole, 2009: 132). While the total site extends to 665 hectares, this lower valley section is separate from the rest of the valley (herein termed the ‘upper valley’) due to the implementation of a different set of guiding design principles. Starting at the lower valley, I will now proceed to describe the various design components referring to textual, photographic, and phonographic documentation.

Upon entering the site from the road entrance (Figure 11.1 and 11.2), a small car park is reached (Figure 11.3). While the Group were initially unsure as to whether or not they should create a car park at all (Philip Ashmole, 2009), it was decided that one should be built to accommodate a maximum of six cars (Wildwood Group, 2000a: 32). Excavated in 2000, the car park was designed to be: ‘hidden from the road by the existing gravelly banks, which have been modified for the purpose,’ while bushes planted ‘...on the bank at the back of the car park will screen it effectively from almost all parts of the site itself’ (Wildwood Group, 2000a: 32). These two screening effects create Motloch’s spatial edge, but in the pursuit of different ends. Screening the car park from the site itself was due to a consideration of its (visual) aesthetic impact for valley

visitors, while screening it from the road was an attempt to prevent passers-by noticing its presence: ‘...Myrtle and I sort of got together you know, got down with a bit of paper and pencil and sketched out a way in which it could be concealed completely... and so we designed this thing which is almost invisible from the road, so you can see what I’m getting at, we’re not trying to become a honey pot, we’re trying to avoid becoming a honey pot’ (Philip Ashmole, 2009).<sup>54</sup>

Entry to the site from the car park is gained through a kissing gate (Figure 11.4). This is the start of a circular trail path that navigates through Barker’s Paddock (see Figure 10.1 for a generalised outline of the route). The creation of trails through wilderness sites has been cautioned against in the landscape design literature as they ‘have an adverse effect on the spirit of a place, removing the sense of wildness and introducing an atmosphere of tameness’ and also because they ‘disturb fragile habitats and increase pressure by concentrating visitors in one area’ (Bell, 2008: 105). However, the Group decided to create the circular trail through the lower valley to act as a means of sheltering the upper valley from such assumedly deleterious visitor effects: ‘...we had to be a little bit defensive of the wilderness feel. But we tried to do that in a subtle way, and the first thing we did was design a trail, only at the mouth of the valley, a half hour loop,’ based on the premise that this is what ‘most casual visitors would want’ as it is ‘an easy stroll’ (Philip Ashmole, 2009). In addition, while it is not commented upon by the restorationists, it should also be noted that due to the physical aspect of the lower valley, vehicular traffic travelling on the adjacent A708 can be heard (Tracks 2.7-2.9) from within the lower valley. Therefore, the lower valley section cannot sustain a *sonic* wilderness aesthetic, as the absence of human presence is a requirement.

The pathway in the lower valley has not been planted with vegetation, and repeated walking has continuously re-inscribed the path line, so that it is visible and thus legible (Figures 11.5 and 11.6). Two boggy sections of the trail have had wooden boardwalks laid over them (Ashmole and Ashmole, 2009: 138; Figures 11.7 and 11.8); this aids movement across the area and demarcates the prescribed path line. In addition, small but visible wooden signs have been placed along the edge of the pathway, aiding in the production an easily navigable circular route (Figures 11.7-11.9). Planting in the lower valley does

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<sup>54</sup> I will discuss other strategies to prevent the site becoming a ‘honey pot’ in Chapter 7.

not fall under the jurisdiction of the WGS; this has allowed for gradual planting ‘at our leisure with volunteers, without the constraints of timing or density’ (Ashmole and Ashmole, 2009: 133), and therefore can be as enclosed or open as the Group desire. This planting on either side of the path accentuates the path line, creates a sense of enclosure, and dissuades ‘off-path’ walking, while the width of the path allows for comfortable single-file movement (Figures 11.5-11.8). The line of the path gently undulates, creating indirect movement through the landscape and thus a sense of mystery (Motloch, 2001: 158). This is heightened as the upper valley is visually obscured from the lower valley, due to a gentle incline caused by the deposition of glacial moraine material (the car park is located at the lowest point of the lower valley section), and secondly due to a sign along the path that announces ‘path to viewpoint,’ which creates a sense of expectation (Figure 11.10).

The pay-off for this attenuated sense of mystery is revealed upon reaching this viewpoint at the pinnacle of the circular walk. Here, you reach a rounded 20<sup>th</sup> Century sheep stell (Figure 11.11) from which the upper valley is made visible as a cohesive whole (Figure 11.12); the valley sides and plane of the valley floor produce a clear linear perspective of the landscape.<sup>55</sup> This dramatic climax at the mid-point of the circular walk is not an accident of geological formation: ‘...the idea that you get that surprise view as you come up, that was all very carefully thought out so we’ve made people wind ‘round, not getting it on this moraine, and then you pop over the top at the sheep stell, and then you see what it really is’ (Fiona Martynoga, 2009). Housed within the sheep stell are three interpretation boards (Figure 11.13) outlining the ancient natural and cultural history of the valley (Figures 11.14 and 11.15), and the plans for restoration (Figure 11.16).

Upon entering the upper valley from the sheep stell, it is apparent that the design effects of the lower valley – informal paths, circular walking routes, signs, interpretation boards – are now undesirable cultural landscape components (Ashmole and Ashmole, 2009: 140). Instead, the restoration in the upper valley has been guided by what I term non-design: a visual and sonic expression of non-human wild naturalness. Firstly, non-design includes the removal or blending of traces of pre-existing human presence. Fences were removed (Ashmole and Ashmole, 2009: 140), while a pre-existing track that

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<sup>55</sup> Where linear perspective is the ‘communication of three dimensions through the convergence of parallel lines to vanishing points’ (Motloch, 113).

runs parallel to Carrifran Burn and extends to about the mid-point of the valley, is being ‘made as inconspicuous as possible, by developing a few wiggles in it and planting trees and shrubs’ (Ashmole and Ashmole, 2009: 140). This planting, however, runs parallel to the track, which has the effect of visually enhancing it (Figures 11.17-11.19). Planting will need to be carried out directly on the track to break up the compacted soil caused by vehicular access. Additionally, two pre-existing structures (aside from the remnants of the 11 archaeological features) are located within the upper valley. There’s a ‘little sort of hovel...about a mile in’, to which the Group have added a corrugated metal roof that has been turfed, so as to provide a form of shelter for volunteers during inclement weather (Ashmole, 2009). This has a bench adjacent to it, which is the only (intentional) seating arrangement in the whole of the valley (Figure 11.20). Further into the valley just above Holly Gill, there is a small stalker’s hut made of wood with a turfed corrugated metal roof, used for deer stalking activities across the valley (Ashmole and Ashmole, 2009: 203; Figures 11.21 and 11.22). These structures have been constructed out of materials (wood and stone walls with turfed metal roofing) to make them inconspicuous from a distance, and naturalistic up-close. Over the long-term, both of these structures are *temporary*: the bench and the stalker’s hut will for certain be removed (Ashmole, 2009; Ashmole and Ashmole, 2009: 203).

Secondly, through non-design the Group have sought to design out those traces of human agency that are required for the establishment of trees. To this end, the following design principles have been observed:

1. the avoidance of visually intrusive ground preparation techniques such as ploughing and mounding;
2. only limited use of tree shelters;
3. where tree shelters are used, they will be removed once the tree is self supporting;
4. the effects of spot applications of herbicide as part of the planting procedure will be conspicuous only at short range and is only a temporary effect;
5. planting at regular spacing and in straight lines will be avoided

(Wildwood Group, 2000a: 82)

Concerns over the effects of grazing herbivores including Sika and Roe deer, feral goats, hares, and voles on the ability of tree saplings to establish and mature, led the restorationists to implement a series of measures to reduce grazing pressures on the landscape. Firstly, a 1.4m high stock fence has been erected around the perimeter of the valley to exclude feral goats and sheep that are present in adjoining landscapes. Access points by way of stiles are provided for walkers to gain access into the valley, which has so far proven successful (Ashmole and Ashmole, 2009: 124; Wildwood Group, 2000a: 56). Because of concerns that the presence of fences can ‘destroy any sense of wildness’ (Ashmole and Ashmole, 2009: 124), and for the fact that it was assumed that the stock fence would need to be maintained over the long term, the perimeter fence has been erected in such a way that it is not visible from within the valley.

Deer, on the other hand, posed a significant problem for the restorationists. Fencing out deer from the whole valley was rejected because of its impact on landscape quality (the fence would need to be significantly higher than the stock fence), and because of its potential impact on bird populations, especially black grouse (Ashmole and Ashmole, 2009: 32). This led to the production of a separate deer management plan in consultation with the Deer Commission for Scotland (Ashmole and Ashmole, 2009: 124). Consultations brought about the following conclusion: ‘Borders Forest Trust recognises that the Carrifran Wildwood project will fail unless intensive culling of intruding or colonising deer is carried out during the plantation phase’ (Wildwood Group, 2000b: 30). Using the aforementioned stalker’s hut as a base, the Group subcontracted culling to various firms, including Border Pest Control Services and Eskdale Forest and Wildlife Management (*ibid.*). The number of deer culled is not predetermined; instead, this number is set through ongoing assessments of tree damage, and will be increased or decreased accordingly (*ibid.*, 32-33).

To control hare and vole grazing, it was decided that tree shelters should be used to protect emerging saplings over the short term. This was not a decision that was easily reached. The Group was apprehensive, not over concerns for displaced wildlife, but that the use of shelters was both expensive and visually unsightly within a wild landscape (Ashmole and Ashmole, 2009: 125). It was therefore determined that shelters would only be used in a targeted manner for the most vulnerable species – particularly oak – and those used would be as short and inconspicuous as possible. Thus, the Group now use 20cm transparent

plastic vole guards and 60cm green plastic tree tubes to protect saplings from larger herbivores (Wildwood Group, 2000a: 57-58; Ashmole and Ashmole, 2009: 124-125, 154; Figures 11.23 and 11.24).

While we have already seen that both the choice of tree species to plant, and their pairing with different soil types within the landscape was by no means random, the Group followed a planting pattern to ensure that the resulting woodland structure would have a visual appearance of self-generation. Indeed: ‘success will have been achieved at Carrifran if it is eventually difficult to ascertain whether the woodland in the valley was originally planted rather than established by natural regeneration’ (Wildwood Group, 2000a: 43). This translates in to an attempt to: ‘mimic a natural distribution with a mixture of dense clumps, sparse areas and irregular gaps’ (Chalmers, 2009: 154; Figures 11.12 and 11.17). To this end, various methods of mimicry were used, for example fallen petals from a cherry tree were used as a guide to where saplings should be planted (Chalmers, 2009: 161).

We have seen that the Group places low ecological value on existing Forestry Commission conifer plantations visible from within the valley, primarily due to their ‘non-native’ status. Additionally, these plantations are also evaluated negatively due to their ‘unnatural’ visual appearance, as they create a ‘straight line margin’ within the landscape and are considered less ‘appropriate’ to the landscape setting in terms of both scale and shape, when compared to the restoration planting (Wildwood Group, 2000a: 82; Wildwood Group, 2000b: 45; Figure 11.25).

This brings me to the third aspect of non-design: human intentionality in the upper valley. The first two components of non-design at Carrifran are attendant to the removal of human traces within the landscape by means of strategies that are similar to those used in the restoration of a naturalistically sinuous riverscape along the River Skerne. Unlike the naturalistic design at the River Skerne, however, non-design at Carrifran does not amount to the installment of a design that encourages human amenity use. Rather, there are notable attempts to preclude particular future human amenity use. What is perhaps striking about the design of designated wilderness areas – especially national parks – is the amount of infrastructure that is often necessary for their proper functioning as visitor amenity landscapes, including buildings, as well as roads and pipes to move in and out materials (goods, energy, waste). Such infrastructure, for example public

sanitation facilities, water storage facilities and small-scale power stations, are constructed within park boundaries, and then screened and visually integrated into the landscape in response to wilderness policy requirements (Colten and Dilsaver, 2005), invariably through the deployment of appropriately ‘rustic’ features (Carr, 1998: 7). This, however, has not occurred within the upper valley. During the planning of the restoration design, there was some consideration given to building an ‘education facility’ onsite. This was eventually rejected, not because of monetary costs, but due to concerns that it would have the effect of ‘encouraging lots of people’ to visit Carrifran (Philip Ashmole, 2009). Additionally there are no other facilities or seating arrangements – formal or informal – beyond the temporary bench already mentioned.

When we also consider that trails are being obscured and no interpretation is being offered in the upper valley, we see that non-design intentionally attempts to *limit* those human interactions with the site that are comfort-orientated: passive scenic viewing; stopping and resting; linear or circular walking on ‘improved’ smooth ground; or café and toilet breaks. Predicated on an understanding that ‘...only serious walkers and people with a real interest in the project would want to go far in to the valley’ (Ashmole and Ashmole, 2009: 140), non-design reinforces, and materially replicates the pre-determined functioning of Carrifran Wildwood as one that is to be passed through by a *limited* number of human walking visitors,<sup>56</sup> rather than to serve as a site of touristic or recreational ‘non serious’ enjoyment.

It appears, then, that the restorationists are able to use a range of methods to visually compose an aesthetic wilderness experience of the upper valley using non-design principles. The same, however, cannot be said for the sonic experience of the landscape at all moments in time. Through non-design principles, certain sonic components of wilderness can be co-produced. For example, the ‘wild’ untamed sounds of Carrifran Burn and its tributaries dominate the soundscape, primarily in the central section of the valley running north to south (Tracks 2.1, 2.3 and 2.4). Bird song (Tracks 2.2, 2.4 and 2.5) and wind passing through planted trees (Track 2.5) are also apparent across the valley floor, and the absence of the sounds of vehicular transportation from the adjacent A708, due to the shape of the valley side acting as a sonic screen, as well as a general lack of domestic landscape sounds (strimmers, electricity

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<sup>56</sup> This will be explored further in Chapter 7.

generators and pylons, domesticated animals, the sounds of gravel or tarmac underfoot), compound a sonic sense of a wilderness landscape character. At certain points out of the earshot of Carrifran Burn, a sonically tranquil soundscape can be experienced (Track 2.2). Nonetheless, while bird song dominates the soundscape from above, the sound of occasional yet daily aeroplanes passing overhead creates a low frequency sound that cannot be designed out, even when close to the dominating water sounds (Track 2.1). This shows that, while non-design can fully control the visual components of landscape, certain sonic qualities can never be designed out.

#### *6.4.1. Parc Penallta: populism in landscape design*

The realisation of the Parc Penallta restoration designs has created a landscape that attempts to capture all of the seven objectives outlined in Chapter 4. As I will go on to elaborate, this multi-value approach has given rise to a form of landscape design that I term here ‘populist’. I use the term cautiously, and with the caveat that I am not using it in a derogatory manner as is usually the case in cultural theory (McGuigan, 1992). Nor am I *fully* using it in its political sense, where populism is said to be an appeal to a particular public: ‘...allowing those who have never been represented because of their class, religion, ethnicity or geographical location, to be acknowledged as political actors’ (Panizza, 2005: 11). Rather, following on from how the term has been deployed in architecture (see Kühn, 2005; Stead, 2004), I use it as a means to describe the creation of landscape features that aim to appeal to a wide range of landscape users (predominantly human but also including non-human), via a set of design motifs that are literal (as opposed to conceptual), easy to read, uncomplicated, and accessible. This is partly a reflection of the community engagement practices that occurred through the policy deliberation process, but predominantly emanates from a centralised understanding that the site needs to have wide appeal if it is to sufficiently function as a Country Park. ‘Populist’, then, speaks of the desire for a form of design to appeal to certain communities, rather than a design that is fully participatory.

I also use the term as a means to – hopefully – go some way toward capturing the ambiguous nature of Parc Penallta’s aesthetic qualities. To be sure, the design implemented at the park has not sought to create a rural picturesque or urban pastoral landscape, but nor – as we saw in Chapter 5 – has there been an

attempt to create an industrial ruins park. This is not to say that the landscape appears to be in some regard aesthetically confused or contradictory, but that the variety of landscape features and resulting aesthetic qualities do make it difficult to identify a particular unified landscape character. The park shows elements of highly formal design as well as components that are naturalistic. This means that an aesthetic character of a contrived ‘countryside environment’, as enshrined in the bureaucratic definition of ‘Country Park’, does not accurately represent the designed aesthetic qualities of the park. Instead, as we shall see later in this chapter, designed components that make the landscape *comprehensible* (signs, pathways, lookout posts), instead produce a sense of internal unification. I will now detail exactly how the designs are aesthetically populist.

#### 6.4.2. *Heterogeneous and recreational landscapes*

The River Skerne and Carrifran Wildwood restorations incorporate a variety of habitats characterised by the presence of certain flora; these are gradations on a particular (idealised) landscape character. At the River Skerne these habitats are intended to provide opportunities for passive visual and aural *amenity* of naturalistic elements. By contrast, Parc Penallta does not really constitute *one* idealised landscape; rather we can speak of the park containing multiple, heterogeneous landscapes within its borders. These landscapes are adaptable to different functions, including the conservation of ecological components, but also engaged formal and informal *recreational* activities. I will now look at the design of a selection of these landscapes.

Grassland composed of different species constitutes the centrally located landscape within the park. This landscape – generally flat and expansive with some gentle inclines – dominates the top half of the park that sits at a higher elevation than the lower half of the park where Nelson Bog SSSI, Penallta Rocks, Coed Penallta, and Penallta Marsh are all located. Some patches are dense and ‘scrubby’ with abundant clover, common daisy, and other ground covering plants. Others are closely cropped and thin, revealing the coal shale substrate underneath the vegetation (Figures 12.1 and 12.2). The eastern portion of this landscape has been demarcated as an ‘events area’; this has accommodated 3,000 people during a Penallta kite festival, which ran for one day in September 2009 (Peter Lewis, 2009; Figure 12.3). After having received one treatment of sewage sludge fertiliser, the area was planted with a ‘hard

wearing' grass monoculture mix so that the land could withstand heavy foot traffic during large events (Neil Daniels, 2009). Due to the open nature of this landscape: 'the winds are quite bad so the engineers recommended that we create [a] wall if you like to stop the wind blowing everyone away basically' (Peter Lewis, 2009; Track 3.16). Groundwork tendered out the work to produce this sheltering wall, and Mick Petts, a landscape designer and artist based in Abergavenny, won the contract. He designed a figurative earth sculpture, 'Sultan the Pit Pony', which was sculpted directly out of the coal shale and at 200 metres is one of the largest earth sculptures in Europe (Peter Lewis, 2009; Figures 12.4 and 12.5).

Sultan, as with many of the designed motifs across the park, is a literal expression of the near-recent coal mining activities at the site. Prior to mechanisation, ponies were used to haul coal underground. The ponies would spend their whole working lives in the mine, except for two weeks each year when the pits were closed for the miners to take a holiday. In this time the ponies were free to roam above ground on site. The sculpture takes its name from a pony that worked at Penallta coillery; so the story goes, Sultan was a winner of many local pony shows (Peter Lewis, 2009). Once excavated out of the shale, Sultan was hydroseeded: this is a method of substrate stabilisation, where a mixture of sewage sludge, grass, and wildflower seed is sprayed directly onto the shale (Peter Lewis, 2009). The wildflower mix was not native in species composition; rather, it was selected for its visual rather than ecological characteristics (Neil Daniels, 2009). The 'eye' of Sultan is shaped out of anthracite coal which, ironically, had to be collected from an active mine in Swansea as all local mines are now closed (Peter Lewis, 2009; Figure 12.6).

To the west of Sultan is a large flat area of scrub grass that is of generally poor vegetation cover, and is boggy underfoot during periods of rain (Figure 12.7). This area was purposefully not completely grassed over – unlike the events area – for ecological reasons. The area is 'potentially good for lapwings' that are a ground nesting species; this requires open, bare land on which to breed, and no overhead vegetation in which predatory Carrion crows can hide (Peter Lewis, 2009). Diggers have been used to hollow out shallow pools in the shape of pony hoof imprints (Figure 12.8), which has since attracted a range of dragonfly, newt and frog species (Peter Lewis, 2009). Indeed, the sound of a

dragonfly's wings can be heard at around the 1-minute mark in Track 3.14 beneath the overhead aeroplane.

A variety of other aquatic designs have been implemented across the park, having arisen to serve different landscape purposes, and because from a landscape perception perspective water 'adds interest' (Neil Daniels, 2009). A wetland area has been excavated adjacent to Nelson Bog SSSI in what was a previously 'barren' area (Neil Daniels, 2009; Figure 12.9): 'we wanted to kind of mirror what habitat you might find in Nelson Bog, without attracting people in to quite a dangerous habitat and quite a fragile habitat' (Peter Lewis, 2009). While people are still able to access Nelson Bog, it is overgrown with no path lines running through it (Figures 12.10 and 12.11). Thus, this wetland can be considered as a form of *in-situ* landscape offsetting, to compensate for a loss of *experience* rather than the physical loss of a landscape. To produce a version of Nelson Bog, reedmace, iris, and other plant species were harvested from the bog and planted within the wetland (Neil Daniels, 2009). As well as visually mimicking the bog, bank side vegetation was a conscious design feature employed to dissuade people from entering the water to swim (Neil Daniels, 2009). The sound of wind through reeds adds to its naturalistic aesthetic qualities (Track 3.7).

The restorationists did not stock the wetland with fish as they did not want fishing activities to take place; however, roach, carp and perhaps chub are now to be found, either due to fish eggs being carried by local heron populations, or through deliberate 'smuggling in' by fishermen and women (Peter Lewis, 2009). Access across the wetland has been made possible through the provision of a wooden boardwalk (Figure 12.12). Designed by Mick Petts, a series of wooden pit props have been incorporated in to the design (Figure 12.13). Pit props are structures used to support the ceiling of excavated mine tunnels; again we see literal sculptural echoes of the colliery landscape.

Lying to the east of the wetland area are two coarse fishing lakes (Figure 12.14).<sup>57</sup> These were initiated through consultation with local angling clubs, overseen by Rhymney Valley Federation of Angling Clubs (Paul Cooke, 2009). Originally these were four settling lagoons that filtered silt washed off of the tip on higher ground, but were deemed 'ugly' and 'dangerous' for the park setting (Neil Daniels, 2009; Peter Lewis, 2009). Once the surrounding silt ground was

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<sup>57</sup> Coarse fishing covers freshwater fish including roach, perch and chub, as opposed to 'game' fish, which includes salmon (Peter Lewis, 2009).

considered stable enough they were dug out and converted to two fishing lakes (Peter Lewis, 2009).<sup>58</sup> Sets of benches have been provided by the lakes, as have some fishing platforms for ease of access to the water's edge (Figure 12.15). Due to the distance of these water bodies from the park's main entrance and car park, a small dipping pond has been hollowed out at the top half of the park (Figure 12.16). This was designed 'specifically for school groups...so they didn't have to be Landrovered down to the bottom of the site, or walked down to the bottom of the site, then Landrovered back up' (Neil Daniels, 2009).

To the southeast of the fishing ponds is Penallta Marsh (Figure 12.17). This area is noticeably boggy (a so called mire landscape), and is dominated by Purple Moor Grass (*Molinia caerulea*), Southern Marsh Orchid (*Dactylorhiza praetermissa*), as well as established birch and oak saplings and Devil's Bit Scabious (*Succisa pratensis*). The latter species is a perennial that is particularly important for Penallta Marsh, as it provides a nectar source for the declining (UK-wide) Marsh Fritillary butterfly (Groundwork Caerphilly and Caerphilly County Borough Council, 2000: 17; Peter Lewis, 2009). Up until about 2004, Penallta Marsh contained a small 'satellite colony' of Marsh Fritillary from Aberbargoed, which is about 4 miles northeast from Parc Penallta (Peter Lewis, 2009). However, the meadow has changed in character as it progresses toward birch woodland, due to a lack of grazing or mowing of the landscape (Groundwork Caerphilly and Caerphilly County Borough Council, 2000: 13), and thus there have been no recent reports of the butterfly (Peter Lewis, 2009). Woodland bird species can be heard, as can insects in the long grass during fecund months (Track 3.2).

Continuing southeast of Penallta Marsh is Penallta Rocks (Figures 12.18 and 12.19). Penallta Rocks – also known as Penallta Crag – is a pennant sandstone outcrop, and is categorised as a Site of Importance for Nature Conservation (SINC) (Peter Lewis, 2009). As I have already stated, this affords the Rocks limited preservation, and as such does not preclude human engagement. Indeed, the Rocks are well used for rock climbing activities.<sup>59</sup> The surrounding woodland pre-existed the restoration project, having been planted by the Forestry Commission, primarily with larch stands, for commercial timber

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<sup>58</sup> Surface drainage in to the fishing ponds has been 'significantly' reduced due to the wetland area adjacent to Nelson Bog, and the new drainage ditches already mentioned (Groundwork Caerphilly and Caerphilly County Borough Council, 2000: 43).

<sup>59</sup> See: <http://www.ukclimbing.com/logbook/crag.php?id=738> (last accessed 2/04/11)

production (Groundwork Caerphilly and Caerphilly County Borough Council, 2000: 4). While the majority of the site is open and expansive, this woodland landscape presented the opportunity for the restorationists to create an intimate, enclosed experience for visitors (Neil Daniels, 2009; Figure 12.20). The major component of landscape design within the woodland is a stopping point at a secluded location that has been identified as an old quarry site (Phillips, 2003: 8; Figure 12.21). Artist Godfrey Phillips was employed to create an earth sculpture at the location, to which he responded with ‘The Sleeping Giant’ (Figure 12.22), which was produced again in the context of the mining history – however loosely interpreted: ‘This is a story of the underworld, a reference to mining....The Sleeping Giant is in the form of a mummy, representing Penallta as a spoil heap reborn as a country park’ (Phillips, 2003: 9). Produced from a rockery base, the Giant was then covered with soil and, as with Sultan, seeded with a grass and wild flower mix (Phillips, 2003: 9). The sound of woodland birds surrounds you, but this does not mask the sounds of vehicular traffic on the nearby Penallta Road (Track 3.3).

#### *6.4.3. Populist design: legibility and the romanticisation of vernacular memory*

In Chapter 4 we saw that the set of seven restoration objectives and the overall aim of the establishment of a Country Park were primarily derived through a top-down process, to reflect the values of both Groundwork and the Local Authority. These two institutions undertook the design and execution of the landscapes within the park, including the planting, pathways and interpretation signage, as well as the park layout (Neil Daniels, 2009; Paul Cooke, 2009). Nonetheless, some consultation arrangements were put in to place with interested user groups to ascertain the potential functions of areas of the park.<sup>60</sup> Additionally, during the implementation of objective 7 – the creation of local art features within the park – the artists selected to do so held a series of workshops with school children and mining groups to aid with designing public art works (Peter Lewis, 2009).<sup>61</sup> Both the art works and the designed elements that allow for movement through and interpretation of the site, amount to a

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<sup>60</sup> The different user groups selected for authorised use of Parc Penallta will be discussed in Chapter 7.

<sup>61</sup> Two artists, Robert Kennedy and Godfrey Phillips, were selected to hold a 12-month residency at Carrifran (2001-2002 and 2002-2003 respectively) to develop art projects within the park. Other artists were employed on an *ad hoc* basis.

concerted effort to appeal to those very communities it seeks to represent, and so is aesthetically populist.

Located to the east of Sultan the Pit Pony and the events area is the highest point of the entire park: a hill colloquially known as ‘Yellow Mountain’ due to the presence of grasses that ‘would shimmer in the wind...like a yellow haze’ (Peter Lewis, 2009). The restorationists wanted to put in place a sculptural form that would attract people to the top of the hill from the base, and to act as a visual marking beacon that could be seen externally from the outlying landscape. They put out competitive tender for artistic responses, resulting in the creation of an observatory sculpture by Scottish artist Malcolm Robinson (Peter Lewis, 2009; Figures 12.23 and 12.24). Made from stainless and weathering steel, the sculpture is shaped like a compass extending out in to the landscape. Each arm of the sculpture is directed toward a distinct point in the landscape, for example Llancaiach Fawr, a sixteenth century Manor House, distant church spires, and the adjacent Nelson Bog. Malcolm worked with school children to produce a series of images of these locations, which the children drew, and Malcolm laser cut in to each related arm of the sculpture (Figure 12.25).

At the north foot of the hill is a sequence of 12 low-lying stone installations entitled ‘Stone Stories’. The sculptor Robert Kennedy conducted a series of workshops and interviews with ex-miners ‘to find out what they were up to [when mining] and what they did and thought about the site’, as well as with school children (Peter Lewis, 2009). Excerpts from these sessions were subsequently sand blasted on to 12 pennant stones (Figures 12.26 and 12.27), which double as informal seating. Situated near to the main entrance to the park is another piece by Godfrey Phillips called ‘Coal Cutters Dream’, carved from the trunk of a locally felled cedar tree (Phillips, 2003: 1; Peter Lewis, 2009; Figure 12.28). This depicts a coal miner sitting down leaning against his coal cutting machinery, while dreaming of the future landscape (Peter Lewis, 2009).

By way of the art works selected to be presented at Penallta Parc – primarily by staff members working for Groundwork – we see the conscious production of a variety of visual, textual and textural<sup>62</sup> representations of the site’s recent coal mining history. This process, with nominal local community input but maximal appeal to that community, results in artworks that are selectively populist. For

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<sup>62</sup> The Penallta Parc artworks have been produced out of ‘big heavy’ and ‘chunky’ building materials, in part to reduce the effects of weathering, but also to reflect ‘the heavy industry within the area’ (Neil Daniels, 2009).

example, no history of the pre-mining agricultural landscape is represented at the park. There are some remaining material components of the agricultural past in the form of crumbling remains of some stone buildings, but these lie outside of the park's boundary line (Figure 12.29). Additionally, these representations are a nostalgic, even whimsical, agglomeration of mining tropes: pit props, ponies, and resting miners. Such a strategy is common during the contemporary (re)interpretation of post-industrial heritage landscapes, often leading to a 'sanitised image' of those landscape activities, such strategies seek to represent (Summerby-Murray, 2002). While this selectivity emanates from an institutional hierarchy in a top-down manner, the artworks *do* make an appeal to popular memory. They act, then, as a populist memorialisation of coal mining and the surrounding communities, or at the least as a form of populist 'guided remembrance' (Kearns *et al.*, 2010: 734).

In 2000, a document was produced that attempted to create a coherent arts strategy for the entire park (Petts and Dale, 2000). Focusing on the theme of 'energy in the landscape', plans were drawn to create:

artworks and structures [to] interpret energy in all of its contemporary forms. These would include coal, wind, water potential and solar energy. These features would work to add visual and sensory interest to the Park, as well as providing the backbone for extensive use within a developing education programme.

(Petts and Dale, 2000:1)

49 different artworks and structures (including the willow tunnel) were envisaged. For example, artwork 4 in the document is a horizontal visual representation of the vertical layers through Penallta's geology. Samples of rock and coal would act as markers, while sound posts would be used to play 'descriptions recorded from former miners of what it was like down there...or sound pictures created to convey what it sounded like' (Petts and Dale, 2000: 2). Artwork 11 adds a listening post within Sultan the Pit Pony's ear, playing 'short stories, poems and sound images of the Pit Pony's life thousands of feet below ground' (*ibid.*, 3). Artwork 19 sees the creation of interventions within the drainage gullies: weirs allow the water to flow in to stepped pools, and a small sound system would make the 'the delicate and varying sounds of trickling, gurgling water more audible...attracting visitors to investigate' (*ibid.*, 5). The theme of 'energy in the park' was extended, albeit tenuously, to also include

energy required to support other life systems, represented by sculptures of lapwings and skylarks in flight, hares, grasshoppers, dragonflies, and water beetles.

The arts strategy was not taken forward to anywhere near the same degree outlined in the document. A solitary brown hare oak sculpture produced by Rhys Harris was sited on the northern slope of Yellow Mountain (Figure 12.30). Also, the symbolic ‘Breaking the Mould’ by Andrew Mckeown sits adjacent to the open grassland and events area (Figure 12.31), but this was not specific to Parc Penallta. The same sculpture is on display at all 21 Groundwork Changing Places sites to represent ‘the new seed of growth’ initiated by landscape restoration (Peter Lewis, 2009). The artwork has an interpretation board that informs the public about the premise of the Changing Places programme, a brief history of each of the sites, and an explanation of the rather hackneyed metaphor that appears in front of them (Figure 12.32).<sup>63</sup> While the artworks that have been installed and carved out of the land do demonstrate a nostalgic sense of the recent-past, this does not mean that we see the complete reification of the whole landscape as a historically-aligned preservation piece – the so-called ‘museumification’ of place (Duane, 2000: 259; Gobster, 2007). The artworks do incorporate the presence of post-industrial (non-human) inhabitants, and so at least hint at the changing nature of the landscape, though through the ‘energy in the park’ arts strategy, the landscape-in-flux concept of restoration we saw in Chapter 5 would have been made explicit.

Interestingly, at one point during the planning stages of the park, ‘there was some talk of it being an art park more than maybe a Country Park’ (Neil Daniels, 2009). However this was rejected:

I didn’t think that the authority overall, if we had quality art there, and there’s plenty of poor quality art about, I felt that we should be insuring it and taking a liability and I didn’t think that perhaps we were ready for that... we didn’t want it to turn in to a Country Park which is stately house grounds if you like, full of some very expensive pieces of art work.

(Neil Daniels, 2009)

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<sup>63</sup> This was put to good use however: overused, fairly literal metaphors that are quick and easy to understand by a range of people, including young children, fit within the populist landscape design consensus.

Here we see the rejection of the art park concept due to concerns over the pragmatics of maintaining art works within the landscape, but also for its assumed aesthetic and affective repercussions. ‘Expensive pieces of art work’, in the minds of eye of the park’s landscape architect, would have necessitated the provision – or helped in the production of – ‘stately house grounds’. Such a landscape transformation has clear connotations of elitist formalism that would be at odds with the overriding appeal to populism, which is instead better served through a ‘low-key’ ‘comfortable’ form of accessible countryside (Neil Daniels, 2009). I will now turn to the issue of such provision of comfort and accessibility through the park’s design.

#### *6.4.4. Clarity and accessibility, inclusivity and safety*

At the River Skerne restoration, we saw that designs for human movement through the landscape was predominantly focused on two bidirectional paths that trace the undulations of the river on the north bank and a section of the south bank. At Carrifran Wildwood, circular movement was designed through the outer valley, while movement was actively discouraged and limited through the inner valley. The populist objectives at Parc Penallta have led to the production of a very different scheme of human movement through the landscape, which can be characterised by its clarity of intent through design.

We saw in Chapter 5 that the restorationists wanted to ‘encourage’ people to explore the ‘wider countryside’ by using the park as a literal and metaphorical threshold space. As part of this, the restorationists aimed to instil a sense of comfort within park visitors, in terms of ease of comprehension of the park and its navigability (Neil Daniels, 2009). This is attended to immediately upon entering the park. The main entry point to the park located off of Penallta Road brings you to a small wooden building that serves as a visitor centre (Figure 12.33). From here, free maps of the park are available (Figure 12.34), alongside other material relevant to Penallta and the surrounding area. A park warden’s office is located within the centre, on-hand to receive school groups or general visitors and to provide advice, information, and directions. When the centre is shut, maps of the park are still available from a dispenser attached to the side of the building (Figure 12.35).

Continuing along a pathway leading away from the visitor centre, a car park is reached that overlooks the events area. Once again, maps are obtainable from

a dispenser within the car park, and a notice board informs visitors of upcoming events at the park (Figure 12.36). Godfrey Philips has also created a sculptural version of the map, situated adjacent to the car park (Figures 12.37 and 12.38). From the car park are three different circular walking routes internal to the park, which are clearly plotted on the map. These are differentiated according to how 'difficult' each the walk is, both in terms of distance and the gradient of the land (Neil Daniels, 2009). The shortest route is the 'Sultan Trail', which circles past Sultan the Pit Pony and the events area, and loops below the foot of Yellow Mountain. The 'Skylark Trail' also follows the belly of Sultan, but curves round to the east, running around the area that has been excavated with pony hoof imprints. Interestingly, the route does not correspond with the area that has been marked as the best place to see or hear skylarks, which is on Yellow Mountain (Peter Lewis, 2009). Finally, the 'Woodpecker Trail', by far the longest planned route, extends down to the lower section of the park, running adjacent to the wetland area. It should be noted, however, that these routes allow for flexibility in walking directions either on or off pathways. The ability to walk off-route or even abandon a circular walk is intentional: '...[the walks] should have a start and a finishing point, there should always be the opportunity to go from A to B but diverting to go back to where you started if suddenly it's too much for you, or if you've forgotten to turn the gas off or something' (Neil Daniels, 2009).

So too were there explicit attempts to widen access to the park beyond foot traffic.<sup>64</sup> A bridleway has been provided following a section of the Woodpecker Trail, while a section of the National Cycle Route number 47,<sup>65</sup> which stretches across south Wales from Newport to Fishguard, traverses the southern boundary of the park, past Nelson Bog, the fishing lakes, and Penallta Marsh (Figures 12.34 and 12.39). One of the challenges for the restorationists has been to find a way to find peripatetic linkages between the higher and lower sections of the park:

You get a lot of people going to the top of the site, but it's hard to get people going right round the site because it's a long walk, and a steep walk, and similarly we get a lot of people going through the bottom of the site along the cycleway, who may never know what's at the top of the site.

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<sup>64</sup> There have also been attempts to prevent some forms of transportation, for example motorcycles (see Chapter 7).

<sup>65</sup> For full route see: <http://www.sustrans.org.uk/what-we-do/national-cycle-network/route-numbering-system/route-47> (last accessed: 27/04/11)

Though money is lacking to implement it, a cable car running between the top and bottom sections of the site has been proposed as a potential remedy (Neil Daniels, 2009).

While we see that there is a clear focus on designs for the movement of people throughout the park, equally important to the production of the recreational park is the demarcation of areas for physical rest. Thus, along the different travelling routes are a series of strategically placed formal seating arrangements, including picnic tables and benches. These are not contained to any one particular area of the park. Rather, they are sited at major path junctions (Figures 12.39 and 12.40), adjacent to recreational activity sites (Figures 12.14 and 12.16), and within secluded areas (Figure 12.21). Additionally, due to the expanses of smooth ground, especially on the top section of the park, and the design of some of the sculptural forms, there are also a number of informal seating opportunities (Figures 12.25 and 12.26).

The difference in gradient across the park, while problematic for the circulation of people, has allowed for the installation of a series of designated viewing areas for scenic landscape consumption. The previously mentioned observatory sculpture encourages 360<sup>0</sup> viewing of landscapes external to the park, while a second to the south of this affords a view of Ystrad Mynach (Figure 12.41). Two other viewing platforms have been designed to direct attention to focal designed features *within* the park, namely Sultan the Pit Pony (Figures 12.42 and 12.43), and the wetland area (Figures 12.44 and 12.45). These two appear less to be about creating static pictorial scenes for landscape appreciation, and more to do with allowing the comprehension of landscape elements that cannot be fully revealed at close proximity, particularly Sultan.

The ease with which the landscape is made comprehensible for its recreational consumption, comes not only through the work of designed maps, pathways, and viewpoints, but also through the restorationists' design of wayfinding markers. These include signposting of the three circular walks and cycleway along each route (Figures 12.39, 12.46, 12.47), and also the repeated use of a 'wave' motif throughout the park on signposts, fencing and bridges (Figure 12.12, 12.13, 12.36, 12.46-12.50), which came about because '...basically it's always bloody windy up here, so everything's always waving

and flowing in the wind' (Peter Lewis, 2009). This consistency of design makes the park internally unified in its aesthetic, even across and amongst the different landscape forms.

### 6.5. Chapter conclusions

In this chapter I have attended to the myriad ways in which policy values have been made materially manifest within each landscape. Firstly, I have demonstrated that the implementation of the different sets of values – from policy to realisation – is not an even, linear process across either time or space. Budgetary and time constraints, as well as the activities of non-human agents (organisms, gas pipes, boggy soils, growing speeds), result in certain level of disconnect between what is hoped for and what is achieved. The uneven application of value judgements at each site reveals something also about the adherence – or not – to institutional norms and practices, and the value systems of governing and funding bodies that shape this application.

Nonetheless, while some expressions of value may be lost – particularly ecological and historical-aligned authenticity values – adaptations to policy visions still broadly encompass aesthetic qualities that reflect desired aesthetic values. For example at the River Skerne, while there were material constraints to replicating a 'more natural' historically-aligned meandering channel, discrete aesthetic-technical interventions created a visual and sonic sense of undulating flow. Aesthetic motifs such as riffle pools and wildflower meadows are introduced for anamnesis purposes. Simultaneously, the species composition of the naturalistic bank reinforcements were chosen not for their nativeness, but for their structural properties so as to control the erosional capacity of the river in an attempt to maintain such undulating flow. Similarly, at Carrifran Wildwood, non-human regeneration of tree species has been replaced with *ex situ* propagation and subsequent planting, using a spatial design that mimics such non-human regeneration.

This non-linearity of implementation is linked to the second point I wish to raise: that of human intentionality through design and the co-production of particular aesthetic qualities. While aesthetic values can be conceptualised toward specific ends in policy documentation – an increase in house prices, the experience of non-human nature unfolding – the material 'outputs' of these policy designs have their own vitality, and thus unintentional aesthetic qualities

are inevitable. It is then the job of restorationists to make aesthetic value judgements as to whether such qualities are acceptable.<sup>66</sup>

This, I posit, means that the promotion of aesthetic values and the acceptance of resulting aesthetic qualities, is always done so in reference to landscape-level aesthetic *character*. Such a triangulated relationship between aesthetic values in policy and aesthetic qualities and characters in materiality, are necessarily in a state of constant negotiation. This holds true whether aesthetic values are made explicit in policy design, such as the value attached to designing in positive water sounds on the River Skerne or the value of installing artistic representations of mining at Penallta Parc; or whether they are implicitly demanded, for example Carrifran which *implicitly demands* a high level of human ‘silence’.

Thirdly, I have demonstrated the ways that post-restoration human engagement with each landscape has been shaped by the promotion of particular forms of landscape design, which in turn are directed by an identifiable aesthetic character. For example, at Parc Penallta the proposed art park was eventually judged to be incompatible with the park’s intended functioning as a site of popular utility. It was deemed that the emergent landscape would be of a formalist aesthetic character that had connotations of ‘stately house grounds’. At the same time, the wetland area is a populist representation of the adjacent Nelson Bog SSSI, with added cultural symbolism in the form of pit props. Thus, adherence to either a formalist or wild design would be antithetical to the aesthetic character of a populist, user-friendly parkscape.

Each project has considered movement through the landscape in different ways, predominantly using pathways to guide aesthetic experience. Designs are used variously for the efficient (River Skerne, Parc Penallta, lower valley of Carrifran Wildwood) or inefficient (upper Carrifran valley) movement of bodies through space. Yet it is when movement is dispensed with that each project becomes most conscious of the composition of landscape elements. Indeed, it is at stopping points when restorationists believe that their aesthetic workings reach their pinnacle. At the River Skerne, the riffle pool is held up to best represent the ‘babbling brook’ bio-cultural narrative we saw in Chapter 5, as other sections of the restored river do not visually *and* sonically display this

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<sup>66</sup> Any subsequent management of resulting aesthetic qualities is discussed in Chapter 7. As we shall see, in certain circumstances ‘acceptable’ aesthetic qualities are fed in to landscape management via user feedback, as well as the restorationists’ own aesthetic judgments.

aesthetic quality. As Martin Jane affirms, due to the heavy use of this bridge “...we wanted people to stop and stare over the side” (Martin Janes, 2009).

The restorationists at Carrifran Wildwood, while generally hostile to the idea of directing people’s aesthetic experience of wilderness, acknowledge that it is from the sheep stell – the only formal stopping point across the whole of the valley, once the bench has been removed – where ‘you see what it [the valley] really is’ (Fiona Martynoga, 2009). Equally, the intended aesthetic ‘centre-piece’ of Parc Penallta – Sultan the Pit Pony – is only viewable as a whole earth sculpture from the viewing platform that overlooks it. This is not to suggest that the aesthetic experience of each site is reducible to distant, mainly visual, scenic representations. Rather, this is to recognize that it is at points of non-mobility where ‘gazing’ rather than ‘glancing’ is the promoted activity (Lehari, 2008: 178), and are thus locations at which the aesthetic composition of land through design practices – framing, non-designing, interpreting – reach their zenith in policy implementation activities.

Fourthly and finally, this chapter has shed much light on the relationship between environmental aesthetics and landscape ethics, and thus the differing ways that restorationists prioritise different – sometimes competing, sometimes complementary – values. Through this chapter I have tried to not lose the context of other values that have played a role in the material transformation of the landscapes. Indeed, it is through an understanding of the relational aspects of different values – be they cultural, economic, biocentric and so on – that we can attend to the uses that aesthetic values are put to. We saw a number of practices that sought to naturalise design practices, particularly at Carrifran Wildwood (non-design) and the River Skerne (naturalisation). While the effect is similar – the dissolution of humanly derived traces within the landscape – the motivations are different.

Ultimately, at the River Skerne, the value of naturalization emerged through demonstrating the ways that discrete technical river interventions could be hidden from human perception, and how such ‘soft’ engineering should become ‘best practice’ in river restoration schemes. The Skerne restorationists also attempted to sensorially frame the river system as a means to provide visual ‘amenity’ and ‘interest’, which relied on using species chosen for their structural, rather than ecological attributes. By contrast, the Wildwood Group consciously sought to entwine (primarily visual) aesthetic value with ethical

value. In short, and tautologically, what was considered visually appropriate was also considered ethically good, even if this demanded the shooting of deer. Non-design was more than covering traces of human engagement with the land; non-design was also an attempt at mimicry of ecological processes, whether this is structural mimicry such as the spacing of trees, or qualitative stipulations concerning the species planted. This coming together of aesthetics and environmental ethics has been described as an ‘ecological aesthetic’ or an ‘ecofriendly aesthetic’ (Gobster, 1999; Gobster *et al.*, 2007; Lintott, 2006).

I will now proceed with the final empirical chapter where I will explore how various desired and undesired aesthetic values, qualities, and characters of each project are actively shaped through post-restoration strategies of management, and the resulting effects that these strategies have on both ecological and social systems of those landscapes.

## Chapter 7. Ecological restoration management and landscape aesthetics

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### *7.1. Introduction: maintenance and transgression*

In the previous three chapters I have critically outlined the role of aesthetic values in the co-production of three restoration landscapes, from pre-policy decision-making, through to the eventual enactment of policy, and the sorts of aesthetic qualities and landscape characters that result. Once the final tree has been planted or the last section of pathway has been laid, a project may be considered finished for the sake of funding bodies and potential users of that landscape. However, in all three cases the work of restorationists continues through enacting landscape management practices. These management practices have an intricate, bidirectional relationship with aesthetic qualities and – by extension – aesthetic character of the ‘post’-restoration site.

I identify two broad types of post-restoration management practices. Firstly, introduced restoration features – both biotic and abiotic – may require maintenance. For example, management practices may be put in place to maintain an introduced species at a viable population level, or repair, upgrade or replace landscape infrastructure (paths, fencing, gates, signage, benches, bridges). Equally – and I also consider this to be a form of management practice – it may be that no maintenance is forthcoming, often as a direct result of aesthetic valuations.

Secondly, there is the management of what we can consider as ‘transgressive’ elements or acts within the landscape. These may be human in origin, where a transgressive act is that which is deemed to be ‘out of place’ by an authority in control of that landscape (see Cresswell, 1996). They may also be non-human, including the activities of ecological processes such as water and nutrient cycles, as well as the presence of non-native species – including non-invasive but primarily invasive – that have been identified as ‘transgressive’ by ecological managers (Coates, 2006: 74). However, I will demonstrate that restoration managers also identify certain *native* species – even those highly valued for their ecological and/or aesthetic qualities – as transgressive. This is most evident when

there is an appearance of what we may describe as an ‘aesthetics of excess’; this is where the growth of vegetation leads to unruly, inchoate aesthetic qualities that are judged to impinge on the emergence or perception of other aesthetic qualities, or indeed the total landscape character.

Throughout the chapter I will attend to the ways in which these management practices are differentially employed across both time and space. We shall see that particular forms of management emerge in accordance with the objectives of each project and also the restorationists’ broader conceptualisations of particular forms of nature-society relations that they seek to make materially manifest. These practices can be placed on a temporal continuum between those that are pre-determinately regularised, and those that are ad-hoc, responsive, and fluctuating. Additionally, while some management practices will necessarily be enacted in perpetuity, others are to be phased out over time. They can also be placed on a spatial continuum between broad-based management practices that are evenly applied across a landscape, and practices that are small-scale and localised, resulting in a spatial unevenness of aesthetic qualities. While restorationists at each site are keen to deploy strategies of maintenance, eradication, containment, and regulation to manage particular material components – as well as certain human and non-human interactions – I will demonstrate that there are circumstances when anticipated aesthetic ‘outputs’ envisioned within restoration policy may be transformed, curtailed, or missed. This, I will show, occurs chiefly due to health and safety requirements, budgetary and time costs, because of an inability to effectively constrain a non-human or human transgression, and also because of the ongoing reassessment of aesthetic qualities as they emerge.

Finally, I will also investigate how aesthetic qualities of management strategies are *themselves* negotiated; this will primarily focus on the degree to which different management strategies are made visible. Here I shall show that some forms are obscured from view – a form I describe as ‘backstage’ management – through the mimicry of non-human aesthetic qualities or by the removal of traces of human intentionality. Other forms of management are instead purposefully displayed, which I demonstrate is deemed to be of paramount importance for that management strategy to be effective in its objective.

### *7.2.1. The River Skerne: A site management plan and aesthetic cues to care*

Management of the restored stretch of the River Skerne riverscape is a shared responsibility. Darlington Borough Council (DBC) is the principle landowner of the site and is thus charged with its management from the top of the riverbanks to the boundary of the site. While there is no legal obligation to do so, Durham Wildlife Trust (DWT) has assisted with the management of the Rockwell nature reserve since before the restoration. From the top of the banks down to the channel is the management responsibility of the Environment Agency, for flood defence and water quality purposes (RRP, 1996: 2), while Northumbrian Water Ltd. are liable for some of the water infrastructure (RRP, 1996: 15). Management, then, is outsourced to different specialist groups. As a way to harmonise management practices, and to assert where responsibilities lie post-restoration, a 'Site Management Plan' was produced (RRP, 1996). This Plan details 36 management 'operations' that need to be enacted on a regular basis – often annually – over a ten-year period (1996-2006). In addition to 'clearly define[ing] management objectives and maintenance practices', the purpose of the plan is also to 'form an example for RRP of an integrated management approach and a written record for the project' (RRP, 1996: 2). Such a written record is in accordance with the project's objectives, as detailed in Chapter 4. The document not only directs Skerne management practices, it also serves the process of organizational reinforcement of a particular form of river management knowledge, while concurrently placing the RRP at the forefront of this 'new' knowledge.

The 36 operations are outlined in the plan through a description of their respective objectives, the specifics of what needs to be carried out, where, at what time of the year, how often, and by whom. Five of these operations are concerned with the maintenance of post-restoration landscape infrastructure. A spring check and removal of tree stakes supporting young trees and rabbit guards are to be carried out annually for the first three years directed by DBC's ecologist (RRP, 1996: 16-17). The other four maintenance operations are an annual Council check of signage, footbridges, paths, and perimeter fences, for damage, defects, or graffiti, which is to be removed (RRP, 1996: 17-18, 20). Two of the operations relate to the maintenance of Rockwell Nature Reserve through liaison between DBC and DWT. The only specific course of management action

is the dredging of ponds, which should be carried out ‘sympathetically’ (RRP, 1996: 18) – though whether this is sympathy toward to aesthetics or ecology is not expanded on – and no details of timing or regularity is given.

Seven of the operations cover the maintenance of a regularised flow of water through the river channel. The River Skerne is known to be ‘quite a silty river’ (Clare Jones, 2009),<sup>67</sup> and so operations have been put in place to reduce the likelihood of flooding that can result from channel blockage. The channel is to be monitored and cleared of accumulated silt and any vegetational debris by the Environment Agency; this is to happen particularly in the autumn and winter months immediately following periods of flooding (RRP, 1996: 14-15). Installed outfall pipes and inspection chambers are to also be cleared of debris annually in the summer, in this instance by Northumbrian Water Ltd. (RRP, 1996: 15). Aside from an increase in flood liability, there is a further reason as to why an excessive quantity of suspended channel silt is judged to be a potential source of loss of post-restoration value. Public perceptions of the river’s water quality pre-restoration consolidated around the perception that it was ‘murky’, ‘filthy’ and ‘dirty’ (RRP, 1995: 9). Improvements were indeed made to the Skerne’s water quality during the time period of the restoration, yet this was due to an unconnected change in regulation concerning waste discharge into the river (Clare Jones, 2009). However this did not change the water’s visual appearance. Indeed, the negative visual judgments of the river’s quality do not stem from waste discharge but rather can be attributed to the substrate of the riverbed. This presents a distinct problem for the management of visual expectations of an ‘improved’ river system:

Because they [Northumbrian water] had already invested I think about 10 million pounds on a sewage treatment works, to upgrade the water quality in the Skerne, because there’s a large sewage pumping station...they were conscious that they were still getting hassle because people were saying, well you might spend 10 million but the water still looks brown - well that’s because it’s a clay catchment and it’s always going to look brown because it’s got clay in it, it’s never going to look like a chalk stream, so they took a fairly pragmatic, P.R. view...to say look, if we can make the river look better, then maybe that gives us a better reason for also justifying the fact that we have spent 10 million, we have improved

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<sup>67</sup> Though no quantitative measurement of silt is given, SGS Environment (1994) consistently describes the pre-restoration channel as having a ‘very silty bed.’

water quality, it won't make any difference to that... but it gave them a P.R. opportunity to say look we have spent the money and you can see some changes.

(Martin Janes, 2009)

Where a 'clean' river is associated with visibly 'clear' river water, the management of silt quantities and other suspended debris is also an attempt at the management of the river's aesthetic qualities, based on public perception.<sup>68</sup>

The majority of the 36 operations – 21 in total – relate to management interventions that seek to control unruly biota. These involve the cutting, mowing, pruning and spraying of flora for reasons of flood control, human mobility, the maintenance of particular habitats – which all intersect with aesthetic considerations – and the maintenance of particular aesthetic qualities. The eradication or control of weeds – especially 'highly invasive' Himalayan balsam (Figures 13.1 and 13.2), oilseed rape, and Japanese knotweed – is to be propagated by using a strimmer, scythe, and chemical sprays (Roundup and other Glyphosate herbicides) (RRP, 1996: 16, 19-20). The reason for the control of these species is to promote visual and ecological diversity along the riverbanks (Clare Jones, 2009).

This does not mean that plant species that qualify as 'in place' post-restoration are not to be controlled through management: 'natural regeneration of scrub and trees within the river corridor will be controlled as will the encroachment of marginal species into the open channel' (RRP, 1996: 7).<sup>69</sup> Planted herbaceous bank-side vegetation is also to be managed, receiving either a biennial or annual cut in September to 50mm from the ground, using either a strimmer or a mower (RRP, 1996: 12-14). Wildflower areas are to be cut to the same height, once in mid July and once in September (*ibid.*, 14). Revetment willows are to be pruned in winter so as to 'encourage bushy growth' to support the bank and act as a physical barrier against channel erosion (*ibid.*, 19), while trees and shrubs lining pathways are to receive an annual trim from the ground up to 'head height' during winter (RRP, 1996: 16; Figure 9.4). All cut materials from these

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<sup>68</sup> Further, it is speculated by one of the restorationists that the perception of the river as 'unclean' is partly due to the presence of Himalayan Balsam on the riverbanks, which 'smells dirty' (Clare Jones, 2009). This is a potentially interesting example of a synaesthetic response to the river.

<sup>69</sup> 'Marginal' species are semi-aquatic plants.

interventions are to be removed, rather than left on-site (RRP, 1996: 12-14, 16; Figure 13.3).

The stated objectives of these interventions are for 'flood control' purposes, and to 'encourage further diversity of habitats', as well as to maintain clear pathways for the circulation of people. These interventions result in their own particular spatio-temporal aesthetic qualities. Near-total cutback of vegetation along the banks in September allows for the meandering river to be viewed during the winter months, exposes the ground, and gives a more 'open' visual perspective across the landscape (compare Figures 13.2 and 13.3). However, the sheer cut also demonstrates how 'ephemeral and/or seasonal landscape elements are poorly catered for in environmental management' (Boyd and Gardiner, 2005: 197). An observer of the river is made keenly aware that the river's vegetation relates to cyclical and predictable human management practices, while the removal of cut debris prevents an aesthetic regard for the full cycle of death and re-growth of vegetation. This has the effect of interrupting a seasonal sense of landscape rhythm (after Motloch, 2001: 122). The aesthetic qualities of fecundity are also controlled through two operations that remove and replace 'weak tree and shrub specimens' to 'allow the stronger plants to develop' in their place (RRP, 1996: 17).

Aesthetic qualities are placed front and centre in the management of the amenity grassland that runs parallel on either side of the river corridor. This grass is to receive 14 cuts per year between March and October, to a height of 25mm so as to 'maintain low sward for amenity access/visibility for public' (RRP, 1996: 13). This is in no small part a response to the aesthetic expectations of river users. As I discussed in Chapter 4, local residents positively valued the pre-restoration amenity grassland, as it 'looked good' and was 'neat and tidy'. When considering these latter aesthetic qualities of landscapes, the work of Joan Iverson Nassauer is useful. Nassauer has detailed how the aesthetic quality of neatness expressed through landscape design and management practices, acts as a 'cue' to potential users of that landscape that there is human intentionality at the site, and that this intentionality takes the form of ongoing 'care of the landscape' (Nassauer, 1988; Nassauer, 1995: 167). Using identifiable social expectations of care in design, Nassauer argues, '...is not a means of maintaining traditional landscape forms but rather a means of adapting cultural expectations

to recognize new landscape forms that include greater biodiversity’ (Nassauer, 1995: 167). These new landscape forms could include planting ‘native’ and ‘ecologically fit’ plants into already existing neat landscapes (Nassauer, 1988: 976).

Identified ‘cues to care’ include mowing, as well as other design and maintenance strategies such as using wildlife feeders and houses for birds, and linear planting designs (Nassauer, 1995: 168). With regard to mown grass, Nassauer states the following: ‘while the omnipresent, large, continuous lawn is not necessary to communicate care, mowing a strip along human paths (streets, walkways) frames patches of greater biodiversity with clear signs of human intention’ (Nassauer, 1995: 167-168). In the case of the Skerne, during ecologically fecund months a mown strip of grass runs parallel to the river, helping to accentuate the river channel as a focal point (see Figures 9.14-9.18). If we look at the formal qualities of the landscape – that is qualities such as texture, colour, shape and height (see Budd, 2002: 112-114) – the river corridor and bank sides demonstrate the greatest visual diversity, in a manner that is chaotic but comprehensible. The mown grass, by contrast, appears uniform, flat, monotonous, and displays a patterning and height profile that can only be produced by the actions of active and repeated human management. The mown strip thus aids in framing the riverside planting scheme as an area of greater biodiversity. The restorationists identify this in terms that are strikingly similar to Nassauer’s ‘cues to care’ thesis:

We identified that one metre (or a mower width) of grass should be cut along the riverward edge of the new path along the north side of the river. This will keep growth back from the path *and should also let people see that there is intentionally different management of the amenity zone to the north of the path and the riverside management zone between the path and the river.*

(Dickson, 2001: 2; emphasis added)

The restorationists originally intended this domesticated mown strip to be managed as a ‘native’ long grass area. This, however, was changed to reflect public aesthetic expectations of the post-restoration landscape; the restorationists ‘compromised’ by making the grass areas more ‘manicured...like a lawn really’

to ‘give that look that they [the local public] want’ (Clare Jones, 2009). This was a result of low aesthetic value ascribed to the long grass itself, but also what unruly non-human nature is seen to represent. There was concern from local residents that there were ‘rats coming out of long grass’ onto the path, which was met with disgust (Clare Jones, 2009). As any sighting of a ‘rat’ would more than likely have been a misidentified water vole (Clare Jones, 2009), this is an interesting example of an aesthetic judgement that is based on a category error (see Carlson, 2002: 54-68), and one which cannot be addressed in the same way that unruly, non-mobile flora can be through ‘cues to care’.

As we have seen, the restoration of the Skerne relies on soft engineering techniques to manage the problematised river channel. This is theoretically promoted as a holistic management system that is to ‘work with the river’, yet I have shown that management in *practice* relies on arresting particular processes and functions that occur within a self-organising river system, such as the erosion of banks, the deposition of silt, and the successional development of riverbank ecosystems. These are all negotiated with human aesthetic expectations in mind. Management is timed to enhance aesthetic qualities during the most fecund months, with most of the operations taking place either side of this period, and on a human aesthetic spatial scale – trees are cut up to ‘head height’ for a clear human line of site, and grass down to 25mm for amenity access.

While the restorationists state that post-restoration management of the river was assumed to be minimal (Clare Jones, 2009; Martin Janes, 2009), the use of lively, unruly flora in planting schemes, requires additional intervention on a more regular basis than would hard engineering strategies. In concert with the transposition of a set of riverside habitat tropes, such as meadows, wetlands, ponds, riverside willows, these management strategies are necessary to preserve the aesthetic qualities where ‘native plants represent ‘the natural order’’ in the countryside (Agyeman and Spooner, 1997: 199). This reproduces an assumedly universal – rather than particular – version of a rural idyll (Bunce, 2003: 14-15) that is post-productive in both desired ecological and aesthetic qualities, and picturesque in aesthetic character. The attempt at removing transgressive oilseed rape from the landscape – a crop that ‘belongs’ within the productivist countryside – highlights a reciprocal intersection between ‘countryside’ and ‘nativeness’ in the formation of a sentimental amenity landscape (see Bunce and

Bunce, 1994), but also the potentially anti-ecological methods necessary for such control such as weed killers. These management practices will need to occur in perpetuity if the negatively valued unruly, inchoate and *ugly* visual aesthetic qualities – brown water, overgrown pathways, riverbank ‘rats’, decomposing matter – are to be kept out of the riverscape.

### 7.2.2. ‘Antisocial’ behaviour along the river

Very little of the Site Management Plan gives explicit consideration to the management of human transgression of the post-restoration river aesthetic. Litter is to be removed from the riverbanks and adjacent areas of grassland to reduce ‘risk to flora and fauna’, but also to maintain channel flow, and for ‘public amenity’ (RRP, 1996: 17). Additionally, as I have already stated, graffiti is to be removed from signage (*ibid.*, 17). Instead, the management of human transgressive acts is only implied by the contents of the Plan, while much of this management is constructed away from policy documentation. These acts are adjudicated to transgress both the emergence of valued aesthetic qualities of the restored river, and also a visitor’s ability to experience these aesthetic qualities, and are seen to primarily intersect with perceptions of personal safety and ‘anti social behaviour’.

So-called anti-social behaviour is contested and highly context-specific: ‘...what is considered anti-social, or what is tolerated or even celebrated, is dependent on norms of aesthetic acceptability for that place’ (Millie, 2008: 389). Almost exclusively at the Skerne, anti-social behaviour is associated with ‘youths’ – a commonly identified and stigmatised group constructed as anti-social due to perceptions of ‘the behaviour, dress, mannerisms and language of ‘youth’’ (Squires and Stephen, 2005: 11). Such anti-social behaviour includes ‘gangs of youths’ congregating at certain sections of the river channel, including Hutton Avenue footbridge where they ‘lurk’, and the Keepsafe where ‘sometimes you get gangs of children, youths there drinking’ (Clare Jones, 2009). Drug dealing and taking is a known issue near the Skerne Bridge, where used needles are habitually found and reports of glue sniffing are frequent (Martin Janes, 2009).

Graffiti is visible across the restoration site (Figures 13.4-13.7). Graffiti is constructed as ‘vandalism’ or petty criminality because of ‘its transgression of

official appearances' (Cresswell, 1996: 58). While graffiti is seen to represent disorder because it is 'out of place' (Cresswell, 1996: 40), it is permissible in certain urban zones where its aesthetic qualities are judged to be 'in place' and even a legitimate 'urban' art form (see Millie, 2008: 385). This is not the case at the River Skerne, as the active pursuit of a post-productive, picturesque riverscape, means that graffiti will always represent aesthetic disorder within the landscape. Additionally, young people riding scrambler motorbikes along the riverbanks, footpaths, and amenity grassland was identified as an encroachment of valued sonic aesthetic qualities:

motorbikes, scrambley-type of bikes with youngsters on with no helmet, and one of the problems was some houses just on Haughton Road near the garage, there was a couple of boys in their who had them so they just came up the back, and they got confiscated by the police, but, I mean there are various people around who have got them, they do sometimes use it...I remember these people were very concerned about it at the time 'cos they are older, they were bothered about the noise that these bikes would make.

(Clare Jones, 2009)

This representation of – and attempt at conserving – the sonic value of 'tranquillity' is described by Matless (2005: 752) as 'a moral sonic geography' aimed at 'the possibilities of policing noise'. The motorbike riding is also associated with personal safety concerns for both the riders ('with no helmet'), and to other river-going publics, as the bikes 'frighten people' (Martin Janes, 2009).

Three different management strategies have been implemented to maintain a particular sonic and visual order within the river environment. These amount to attempts at regulating the types of actions and norms of behaviour that are seen to compromise this order. These strategies differ from other management practices along the River Skerne in that they seek to pre-emptively *prevent* certain actions from taking place, rather than retroactively managing those that already have. Firstly, physical elements have been introduced into the landscape. Three stone bollards west of the Five Arches Bridge have been installed (Figure 9.4), so that motorbikes need to slow down when passing, while allowing for the passage of wheelchairs and prams (Clare Jones, 2009; Martin Janes, 2009). Two signs have also been erected: one simply states 'NO MOTORCYCLES' (Figure

13.8), and the other outlines a 1989 'Vehicles on open land' by-law, which states that 'no person shall ride, drive or operate any motorcycle or other mechanically propelled vehicle on any open land', with a penalty for those who do to not exceed £500 (Figure 13.9).

Secondly, the restorationists have sought to engender an affective relationship between local river users and the restored landscape. The various community meetings, door-to-door interviews, and the continual presence of the Community Liaison Officer during the restoration works, as well as the involvement of school children in some tree planting, were in part strategies to foster a sense of community involvement in and ownership of the restoration (Clare Jones, 2009; Martin Janes, 2009). In turn, it was hoped that there would be a desire by the community to subsequently preserve the restored landscape. For example, with regard to involving children in planting activities: 'one of the things I did was say to them, you know go home and tell your brothers and sisters that you've been doing this, with a view that the older brothers and sisters wouldn't vandalise something that their younger brother or sister had spent time doing' (Clare Jones, 2009). This appeal to community care of the landscape is given a temporal dimension: the children who planted the trees would be 'able to say, I planted those fifteen years ago and look at them now' (Clare Jones, 2009), which may help to prevent generational negligence of the landscape (Clare Jones, 2009).

The production of visible cues to landscape care – regular mowing, tree maintenance, path clearance – in conjunction with this affective appeal to landscape ownership, culminates in the third management strategy: community self-policing of the restored landscape. Self-policing is a form of governance that relies on a community self-regulating, rather than relying on an external authority (in this case, a police force) (see Raco, 2003: 1872). Such an approach was formulated between the restorationists and the Darlington police force (part of the Durham Constabulary). Just prior to the restoration, a community police officer patrolled the area on foot as part of his 'beat', but his funding ran out and he was not replaced (Clare Jones, 2009). As a result, emphasis was placed on making the landscape aesthetically attractive, 'comfortable', and navigable, to attract people to use the area. 'In turn, it was presumed that an increase in users of the river for leisure activities would effectively mean that the local community

would self-police human behaviour as there were ‘more eyes...on the ground’ (Clare Jones, 2009; Martin Janes, 2009).

This method of regulating space, known as ‘Crime Prevention Through Environmental Design (CPTED),’ allows for the surveillance of public spaces adjacent to private residences, in a bid to deter potential anti-social behaviour (Blomley, 2004). The restorationists believe that this method of behavioural management has reduced the perception of crime and anti-social behaviour, and has managed to attract particular groups of people who informally re-inscribe desired ‘in-place’ human-landscape interactions – that is passive leisure activities – along the river corridor. Dog walkers are particularly valued in this regard:<sup>70</sup>

Dog walkers...are policing the area probably more than anyone else ‘cos they’re regularly coming so they know what it was like yesterday ‘cos they were here yesterday, and the day before, so they’re a good- I think they’re good at policing, and I think there’s the downsides of- potential downsides with the dogs like running up and jumping at people that are scared of them, and the dog mess, but I think on balance it’s better to have them.

(Clare Jones, 2009)

It is expected, then, that an aesthetic of orderliness promotes ‘the norm of orderliness itself’ (Harcourt, 2001: 44) in a cyclical manner. Such subtle mechanisms of managing human transgressions are congruous with the desired aesthetic of a post-productive ‘native countryside’ that is to be primarily experienced through landscape consumption, leaving the material engagement of landscaping (cutting, planting, mending) to designated landscape managers.

### *7.3.1. Carrifran Wildwood: the value conflicts of managing wilderness and wildness*

The Carrifran Wildwood restorationists – aiming at the co-production of a non-artifactual landscape – tended to downplay their role in the design of that landscape to one that is initiating a process of ecological recovery. Likewise, the restorationists understand that management may compromise some of the values that they are seeking to make manifest at Carrifran. Indeed, ‘managing wilderness’ would appear to be an oxymoron. Landres *et al.* (2000) argue that the

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<sup>70</sup> Indeed, dogs and dog walkers were prevalent whenever I visited the site, for example Track 1.7.

management of wilderness presents both a dilemma and an irony for restorationists, as management interventions that restore certain ecological functions to an ecosystem, may encroach on the self-sustaining values of non-human wildness. This has come to be known as the ‘paradox of wilderness management’ (Throop and Purdom, 2006: 493).

For the Carrifran Wildwood restorationists, however, there is an understanding that human management of ecological transgressions is necessary, but only if these are in keeping with certain values. I will demonstrate that the temporal dimensions and aesthetic qualities of management strategies are of fundamental importance to the consideration of whether a particular human directed management strategy is consistent or contradictory with wilderness woodland. I shall show that the restorationists see management practices that promote the value of ‘historical nativeness’ are consistent with wilderness in the short to medium term, but that this needs to eventually give way to non-managed wildness so as to be consistent with wilderness in the long term. Additionally, I shall show how the aesthetic qualities of ‘backstage’ management are applied across all temporal scales – that is to say, management practices that are concealed, in much the same way that non-design in Chapter 6 operated.

As with the implementation of restoration designs, the ‘lower valley’ and the ‘upper valley’ are treated differently. In the lower valley, only one ecological management practice – the maintenance of unruly flora – is being conducted, but this management practice is explicitly confined to this section. Along the circular pathway that leads to and from the vantage point housed within the sheep stell, some path clearance is being carried out. These are done, however under strict provisions, as Philip Ashmole explains:

We’ve had to do a bit of pruning and I’ve insisted on doing that myself, you know with the objective of trying to make it invisible. In other words when a branch is spreading over the track, rather than chopping it off, (I) go right down to the base and remove it so you can’t actually see where it’s come from or won’t be able to in a year or so.

(Philip Ashmole, 2009)

This minimal interventionist approach stands in contrast to the production of visual cues to care through landscape maintenance. The lower landscape is not

being regularly pruned (across either space and time) to produce ‘neatness’; rather a few stray branches are being cut back when necessary, and in such a way that the pruning is unnoticed. Neatness is, however, not the only way of producing visible cues to care. Nassauer (1995: 246) identifies conservation signage as a form of demarcating positive human intentionality within a landscape. We have seen that signs have been erected within the lower valley to outline some of the (selective) history of the landscape, and future intentionality, and thus these signs do promote a cue to care. Yet, in the long term, it is unclear whether these signs will be renewed, once they have eventually degraded and ‘fallen to pieces’ (Myrtle Ashmole, 2009).

The overriding management principle within the upper valley is described by Philip Ashmole as ‘letting the chips fall’ (Philip Ashmole, 2009), which he outlined in an article (Ashmole, 2009) written for *Wilder Horizons*, the journal of the Wildland Research Institute based at the University of Leeds. In the article, Philip explains the principle thus:

My interpretation of the idiom “Let the chips fall where they may” is expressed neatly in one of the definitions that come up on the web. It is “not to worry about the effects of your actions”. This seems to sum up a key feature of ecological restoration (rewilding) as opposed to conservation. Ecological restoration...aims to re-establish an ecosystem, or at least a specific habitat, in approximately the form that it was in before massive human intervention, and then gradually to withdraw management and let natural processes determine the outcome.

(Ashmole, 2009: 1)

The basis of the article came from Philip being alerted to species change within the upper valley by a Carrifran volunteer (‘one of our keenest volunteers’ (Philip Ashmole, 2009)). The volunteer, after having undertaken a butterfly census, had concerns that maturing vegetation within the valley was reducing the habitat necessary to sustain Orange tip (*Anthocharis cardamines*) butterflies, and thought that some strimming would aid in preserving the species. In response, Philip stated ‘I’m afraid not, we may lose Orange tips but the idea is to let the chips fall, we shall lose some [species] as well as gaining some’ (Philip Ashmole, 2009).

Indeed, there has already been a shift in the ecological makeup of the valley ecosystem since restoration planting. The composition of bird species has

changed during monitoring activities initiated in 1998. Woodland species such as dunnock, black cap, garden warbler and siskin are now appearing within the valley, while ground nesting birds such as wheatears and stonechats have moved to adjacent landscapes, where animal grazing has maintained grasslands that are necessary for such species (Ashmole and Ashmole, 2009: 199-201; George Moffat, 2010). The development of the woodland ecosystem through time will lead to further changes to species numbers, which will have clear aesthetic repercussions.

While there is nothing to suggest that species change will result in aesthetic qualities that are valued negatively within the landscape, certain components of this overall management approach may potentially do so. It is assumed that within 15-20 years of tree establishment, tree stems will naturally die due to 'self-thinning' and disease, particularly as a result of Dutch elm disease: this will lead to the accumulation of rotting deadwood and snags (standing dead trees) across the landscape (Wildwood Group, 2000a: 66; Figure 14.1). Processes of vegetative decomposition are consistently attributed negative aesthetic value (Daniel, 2001: 18; Gobster, 1999: 56), and may be considered as a constituent of 'unscenic nature' (Saito, 2008). However, this is not considered an aesthetic transgression as it is at the River Skerne. Indeed, snags are being actively encouraged, even if dead trees are immature: 'our volunteers had this instinct that they see a tree that had fallen over they pull it up and put a stake in, and I go around taking these off' (Philip Ashmole, 2009). Further, there is discussion as to whether there should be the translocation of deadwood from other areas to the site (Wildwood Group, 2000a: 66).

Deadwood and other decomposing matter are valued in keeping with the desire to let the chips fall, quite literally. No attempts at 'tidying' or 'clearing up' the landscape are to occur through management practices, and there is 'zero tolerance' on any attempts at this (Fiona Martynoga, 2009; Philip Ashmole, 2009). Tidying would not only betray the guiding principle of management at Carrifran, it would also produce visible signs that humans are actively engaging with the landscape on a sustained level, which would have clear repercussions on the ability to have wilderness experiences. The decision to not tidy produces aesthetic qualities that are an extension of non-design. Fallen trees and their decomposition give the appearance of non-human recovery of the landscape:

‘tidy woodlands are common enough, but rare is the forest in Britain that feels wild and natural. So we shall leave fallen trees and branches where they fall, we shall walk around tangles’ (Ashmole and Ashmole, 2009: 204). Further, if translocation of deadwood into the valley is carried out, this would necessarily involve the mimicking of aesthetic qualities of a self-directing woodland ecosystem: deadwood would need to be placed in a spatially stochastic manner across the valley system, and in such a way that traces of human directedness were adequately obscured.

Deadwood is also highly valued from an ecological perspective. It is an important habitat and nutrient source for fungi, lichens, mosses, and invertebrates, and snags are used as nesting sites by woodpeckers and other woodland birds. Further, the decomposition of wood is important for the completion of nutrient cycling, and thus provides the necessary nutrients for further vegetative growth (Wildwood Group, 2000a: 66). Here, the ecological role that deadwood plays in a self-sustaining woodland ecosystem is valued, but also the likely aesthetic character – non-human wilderness – that emerges from this role. Deadwood and snags are ecologically ‘in place’ as one component in woodland, and are thus also aesthetically ‘in place’, giving an aesthetic sense of a natural, healthy functioning ecosystem. The value ascribed to deadwood should not be interpreted as an example of Allen Carlson’s ‘positive aesthetics’. This is the view that ‘all the natural world [untouched by humans] is beautiful’ (Carlson, 2002: 72). Positive aesthetic value is not directly attributed to deadwood and snags. Instead, the role of deadwood and snags is positively valued because it allows for the emergence of positive aesthetic values at the landscape level, providing as it does habitats for other organisms while also contributing to a wild, unmanaged, landscape character.

In another continuation of non-design principles that we saw in Chapter 6, management of human artefacts currently present within the landscape is directed toward their eventual visual blending or even removal or material decomposition. As already stated, the built structures introduced during the restoration works will be removed. Also, there will be no active preservation of the 11 archaeological features across the site (Myrtle Ashmole, 2009; Philip Ashmole, 2009); rather, they will be left to the continued forces of climatic and biological weathering. All that is asked of the Group is that they do not plant

directly on top of any of the structures, but tree growth around and adjacent to these may obscure a clear line of view; growth will only be removed from these sites when ‘this is considered appropriate’ (Wildwood Group, 2000a: 81).

It is important to consider that this overarching management strategy is a long-term strategy: it is fully expected by the restorationists that Carrifran Wildwood will not demonstrate the property of being wild ‘for several centuries’ (Ashmole and Ashmole, 2009: 204), and that over the short to medium term, management interventions are necessary. This follows the same contours as Higg’s (2003) conception of ‘wild design’ in restoration, which he outlines as:

The deep appreciation of what an ecosystem requires to flourish, and then making such conditions possible. There is in such action always an element of intention, but this is soon overwhelmed by the fecundity and diversity of ecological processes.

(Higgs, 2003: 284)

At Carrifran, flourishing, fecundity, and diversity are associated with floristic nativeness within the landscape. We must keep in mind that for the project, ‘nativeness’ is historically conditional: native species are those that are present in the pollen record, not necessarily those species present in the contemporary landscape. These management interventions, then, are aimed at the maintenance of historically-aligned genetic diversity to give planted populations the greatest chance of viability over the long term, at which point management interventions are to be reduced (Wildwood Group, 2000a: 62).

While the edge of the valley is being planted in such a way so as to visually blend with adjacent landscapes, the valley edge is regarded as largely *antagonistic* to desired restoration values, and is a potential source of transgression. Whether a particular management procedure occurs or not to limit or prevent an external transgression is dependent on whether it is adjudicated to be consistent with the objective of an ecosystem that self-sustains historical nativeness, while the method of carrying out a procedure must be aesthetically consistent with wilderness. For example, when there are incidences of ‘external natural disturbances’, such as wind and fire damage, there will be a ‘presumption against intervention’ as such disturbances are ‘an integral feature of the ecological dynamics of temperate forests’ (Wildwood Group, 2000a: 66-67), and so do not detract from – but rather enhance – historical nativeness. However,

when fires are known to arise from ‘muir burning in the vicinity and accidental fires caused by visitors’, these ‘will be controlled wherever possible’ (Wildwood Group, 2000a: 66), as human fires are conceived as extrinsic to a historically native woodland.

Non-native species (such as larch, sitka, sycamore, beech, and larch) are being prevented from colonising ‘as far as is practicable’ (Wildwood Group, 2000a: 27). These species, carried into the valley as seed from adjacent plantations, are to be manually uprooted (Hugh Chalmers, 2010), though this will not be the case in the long-term, when ‘future generations responsible for managing the site may decide to tolerate their presence.’ (Wildwood Group, 2000a: 27).

In Chapter 6, we saw how several mammalian species – goats, sheep, deer, voles – were deemed fundamentally incompatible with the establishment of woodland. Exclusionary management practices draw a line between species deemed compatible with the woodland, and those that are not. However, through time certain animals cross this line, and we see that an ecological consideration of ‘nativeness’ cannot fully account for whether a particular animal is ‘in’ or ‘out’ of place. Instead, the ‘correct’ place of an animal, and thus subsequent management practices aimed toward its control, emerges out of a complex negotiation between a species and the totality of the woodland ecosystem. In short, when an animal threatens the woodland’s long-term viability and/or its expected aesthetic qualities, there are continued attempts at population control and exclusion.

Sheep, feral goats, and deer have different cultural-ecological histories within the region. Domesticated sheep of different breeds have been part of the pastoral landscape since at least the 13<sup>th</sup> Century (Goodburn, 2009a: 58), while feral goats can be considered as historically native to the area, having been introduced as domestic animals to the Moffat Hills by Neolithic people (Ashmole and Ashmole, 2009: 141). Nonetheless, because of the grazing effects that sheep and goats have on woodland ecosystems, the restorationists cannot envisage ever removing the perimeter fence, so long as these species remain present within adjacent landscapes (Philip Ashmole, 2009). As Hugh Chalmers (2010) simply states: ‘I don’t think there’s any place for sheep in the wildwood, or feral goats’. The perimeter fence itself is also a focal point of management. The maintenance of an impervious border to the valley is of such importance that a ‘boundary

warden scheme' was initiated in mid-2001 by Myrtle Ashmole. An online Google Group<sup>71</sup> was set up to coordinate monthly volunteer boundary walks to check the fence – all 8 miles of it – for any sections that need repair (Ashmole and Ashmole, 2009: 175).

Like feral goats, Red and roe deer are also historically native (Ashmole and Ashmole, 2009: 62), while sika are present in the area after having been introduced to the upper Tweed about a century ago (Wildwood Group, 2000b: 31). However the Group do *not* discursively construct 'deer' as fundamentally incompatible with a wild wood. Indeed, they are considered *important* in the long term to the ecological functioning of the woodland ecosystem, as they help to create 'a diverse structure that favours many woodland species, both of plants and animals' (Wildwood Group 2000b: 30). The culling of deer is given no end date, and may well continue for decades (Hugh Chalmers, 2010), but cull levels are to be set in relation to the continual assessment of the relative damage inflicted on young trees (Wildwood Group, 2000b: 33), and so will reduce through time. Further, this culling is considered to be a form of mimicking a *natural process* – that is the control of deer populations by mammalian predators, particularly lynx (Hugh Chalmers, 2010), and so from an ecosystem perspective is deemed ethically defensible, or indeed a moral good (see Cahoone, 2009: 76-78).

The potential (re)introduction of lynx, along with wildcats, pine martens, wild boar and wolf – all present within the reference ecosystem (Ashmole and Ashmole, 2009: 62) – has been mentioned as a potential way of increasing Carrifran's wild qualities, its historical nativeness, and its ability to self-sustain itself (Wildwood Group, 2000b: 33; Hugh Chalmers, 2010; George Moffat, 2010). Being charismatic wild mammals they would enhance the landscape's aesthetic value. Such mammals have been posited to increase the aesthetic qualities of domesticated landscapes, due to their dynamic movement, the intense focus necessary for fleeting sightings, their otherness, and the general excitement that they can elicit (Rolston, 1987). At present, the valley is deemed too small to support charismatic mammals, both from an animal perspective and the because of potential human-animal and domestic-wild conflicts that may arise, but may

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<sup>71</sup> See <https://groups.google.com/group/WWood?hl=en> (last accessed 10/12/11)

be possible in a hundred years time, if a habitat network is created linking Carrifran to other extensive areas of restored woodland (George Moffat, 2010; Philip Ashmole, 2009).

Unlike the management of transgressive flora, faunal species are continually given consideration not only in relation to whether they are themselves historically native, but also their likely effects on the totality of the woodland ecosystem. Both feral goats and certain deer species are considered historically native, yet it is their effect on the woodland's capacity to self-sustain itself that is of fundamental importance to whether a species is 'in' or 'out' of place. This destabilises the notion of 'native' and 'alien' in surprising ways; in the words of Matless (2000: 132) 'it is important here not to assume a story of alien victimisation'. It also demonstrates that, with a wild *woodland* as the ultimate goal of restoration, an ecosystem-level land ethic trumps the rights of individual animal species to be fully mobile across the landscape, and even to exist within its vicinity (see Callicott, 2003: 209-210). Here, an ecosystem is given moral considerability – that is, the ecosystem is understood to have 'interests of its own, and thus can directly be victimised or benefited by our actions' (Cahen, 2003: 114).

The attempts at managing both native and non-native animal species, non-native seed dispersed through transboundary winds, and fire regimes, makes clearly apparent the tension between the goals of historical nativeness and wildness as components of wilderness. Historical nativeness requires the control of transboundary ecological assemblages, while wildness, understood as the self-direction and determination of non-human nature, demands the opposite. A compromise is thus met over the short and medium term. Historical nativeness is attended to by the erection of human boundaries, even if these boundaries are still partly penetrable. Non-native plants will always take root and on occasion feral goats will find their way into the valley, highlighting how the imposition of human boundaries is 'incompatible' with 'forms of mobile nature' (Fiege, 2005: 24). Concurrently, an aesthetics of non-human wildness is cultivated. No strimming or cutting of any kind takes place in the upper valley and no tidying of fallen or dead debris occurs – indeed deadwood is allowed to accumulate and with it a sense of time passing. Human cultural artefacts are allowed to decay through continual abiotic and biotic weathering processes, the opposite of

‘arresting decay’ practices undertaken by cultural preservationists (see DeSilvey, 2006: 326). Even if these structures are not completely obscured from view by vegetative growth, their presence only enhances the desired wildness aesthetic: seemingly, human actions within the valley are no more, and unmanaged non-human nature has ‘taken over’.

The embodied practices of those undertaking management are consistent with an aesthetics of wildness. It is solitary persons who walk the perimeter fence, assess trees for herbivore damage, and cull deer, either from the stalkers hut hidden in the side of the valley, or under the cover of darkness. Nor are management practices regularised across either space or time; instead, they are carried out in an ad-hoc, localised manner following the patterns of non-human seasonality, such as floral seasons of growth and decay, seed dispersions, and mammalian life cycles. We see, then, that not only are the material *outcomes* of management practices made to appear non-human in inception. Management practices are themselves concealed, akin to the operation of non-design. Following on from Jordan’s (2003: 160-194) consideration of ecological restoration as a performance art, we can consider Carrifran ecological management as a form of ‘backstage management’: here the work of restorationists in the aesthetic staging of non-human nature is kept ‘backstage’ and thus hidden from view ‘for all but a few insiders’ (Jordan III, 2003: 162).

Over the long term, it is assumed that human management will be curtailed to such an extent that ‘the chips will fall’ and a self-managing ecosystem will result. Conversely, an increase in self-management may pose a threat to the maintenance of historical nativeness, as the transboundary movement of ecological assemblages through the valley goes unchecked by human intentionality.

### *7.3.2. Contradictory values of humans in and out of the wilderness landscape*

The Carrifran Wildwood restoration is predominantly valued non-instrumentally – that is to say, value is ascribed in a way that does not satisfy a desire, whether this is a desire for sensory gratification or toward a practical or utilitarian end (Brady, 2003: 129). Nonetheless, some value for the restorationists involved in the project is drawn from the sensory gratification derived from the embodied, affective qualities of moving through the valley landscape – always

on foot, usually solitarily or in small groups. For example, the opportunity to experience landscape changes from juvenile plants to a mature mixed broadleaved canopy, as well as imagining potential future encounters with woodland animals, holds great potential aesthetic value for every person that I interviewed, and is repeated throughout policy documentation (see Chapter 4).

Further, the ability for people other than the restorationists to have embodied aesthetic experiences of Carrifran appears to be clearly outlined in the mission statement: ‘Access will be open to all, and it is hoped that the Wildwood will be used throughout the next millennium as an inspiration and an educational resource’ (Wildwood Group, 2000a: 6), which amounts to a mixture of instrumental and non-instrumental values. At the same time, the aesthetic qualities of wilderness – the absence of traces of human actions but also human bodies in the landscape – are considered central to the positive aesthetic qualities of the post-restoration experience of the valley. A conflict appears to arise, then, between wilderness as an embodied experience, and *too much* embodiment that would undermine the desired landscape ‘atmosphere’. This conflict is acknowledged in the Group’s Management Plan as follows:

As emphasized in the Mission Statement, access to the Wildwood will be open to all. Visitors will be welcome at any time, except when they might be endangered by deer-culling operations. At the heart of the project is an intention to create a place with a sense of wildness, and to provide visitors with inspiration and appreciation of a landscape where human influence is minimal. Access arrangements will therefore be carefully managed so as to limit the effect that visitors have on each other and on the site itself, and visitors will be encouraged to avoid endangering the tranquillity of the Wildwood. Furthermore, although the policy will be to encourage visits by all those who have an interest in the project, there will be no attempt to attract casual visitors who will be better served by the Grey Mare's Tail NTS property two miles further up the A708.

(Wildwood Group, 2000a: 32)

While there is a statement of intention that ‘access to the Wildwood will be open to all’, in practice this is not the case. At the Skerne we saw that through certain approaches to design and management, the river environment was accessible to bikes, wheelchairs, and pushchairs as well as pedestrians. Due to the uneven ruggedness of the terrain of the valley system, wheeled vehicles would be incredibly difficult to move across the landscape; indeed, walking is the only

form of mobility that is encouraged within the valley (Hugh Chalmers, 2010). Such ruggedness must also assume a degree of able-bodiedness and physical fitness (Nairn, 1999), or as Matless (1997) states, a ‘physical culture of landscape; of fitness...and health’ (Matless, 1997: 148).

Much of the potential for human transgression, however, derives not from the qualitative properties of mobility, but instead from the quantity of visitors to the valley that may ‘endanger the tranquillity’. As we saw in Chapter 6, the Group wanted to avoid becoming a ‘honey pot’, as Philip Ashmole (2009) elaborates: ‘we just didn’t feel that it was sensible to try to become a honey pot for the average tourist, who would be much happier at the Grey Mare’s Tail and Saint Mary’s Loch up the road, and who wouldn’t be likely to have a serious interest in ecological restoration’. Thus, a division is drawn between ‘casual’ (tourist) visitors, and those that have a ‘serious interest’ in visiting the site. Those visitors that are not seen as the ‘average’ tourist include hill walkers and hikers, and also those purposefully visiting for educational reasons, such as groups of school children, local, national and international ecological groups that are undertaking or have an interest in ecological restoration, and academic researchers (Fiona Martynoga, 2009; George Moffat, 2010; Hugh Chalmers, 2010).<sup>72</sup>

In Chapter 6 we saw that the design of the circular walk, the size of the car park and its visual concealment from the roadside, and a lack of visitor services, were intended to protect the site from large visitor numbers within the upper valley. Additionally, the ‘strategic placement’ of patches of blackthorn is being considered as a potential tool for managing human movement through the valley system, particularly through areas deemed ‘sensitive’ to human presence (Philip Ashmole, 2009). Offsite, there have also been attempts to reduce the overall number of people visiting the site. Again, in the words of Philip Ashmole (2009) ‘we’re there for anybody who finds us’, but the Group have been careful to avoid promoting the valley as a site of ‘tourism’ in all of their publicly available literature, and instead have focused on the ecological and wilderness aspects of the restoration (Myrtle Ashmole, 2009; Philip Ashmole, 2009). The Group are also attempting to reduce visitor numbers – even those deemed ‘serious’ – by providing detailed downloadable information about the valley through the

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<sup>72</sup> For example, George Moffat informed me that a group of 35 from the Tyrolean Forestry Society of Austria visited the site in 2009, as did a large (unnamed) ecology group from Finland.

website, meaning that ‘you can get educated by not setting foot on it at all’ (Hugh Chalmers, 2010), and also by drawing attention to the site’s non-use value, where ‘use’ extends to include non-extractive consumption of the landscape. Here, the restorationists outline a type of landscape valuation that encompasses intrinsic and existence value,<sup>73</sup> even for those that do not visit the site: ‘it’s like saving whales, you may not ever see one but you know that they’re there and I think a lot of people have been inspired by this concept of a wildwood, where the woodland will in time function as an ecological unit, but you may never visit it’ (William McGhee, 2009). In this instance, the restorationists can most easily meet both objectives of the landscape acting as a ‘place of wildness’ and as an ‘inspirational resource’, if inspiration can be inculcated offsite.

#### *7.4.1. Parc Penallta: the visibility of management and recreational utility*

As the Parc Penallta restorationists sought a populist landscape design that engages and appeals to a wide range of landscape users, post-restoration management practices are aimed at the re-inscription of a parkland that remains accessible, safe, multifunctional and appeals to a broad range of aesthetic valuers. Persistent active management of the site post-restoration is seen to be vital by the restorationists: at no point in the future will the landscape become self-managing. This is neither possible nor is it desirable. Rather, staff are needed to ‘look after it, nurture it, and control it’ to prevent the landscape ‘reverting’ (Phil Jayne, 2009). The idea that the landscape may start to revert to the pre-restoration landscape, and that this is undesirable, is consistent with how the restoration reference model was conceived.

In Chapter 5, we saw that the restorationists set out a narrative of the site’s future that foresaw the co-production of a ‘new’ landscape, involving the shaping of the landscape through both human and non-human activities, practices and processes. To reduce cultural shaping of the landscape post-restoration would threaten the landscape’s multifunctionality, the desired aesthetic qualities of humanly sculpted landforms, and also the maintenance of its accessibility and safety. In short, it would make its role as a ‘comfortable park setting’ from which

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<sup>73</sup> While intrinsic and existence value may overlap, this is not always the case (see Attfield, 1998).

to explore adjacent countryside very difficult to achieve. As a result, the phasing out of management over time – as we see at Carrifran – is undesirable, and instead ‘cues to care’ are sought.

While ‘cues to care’ at the River Skerne were made visible through the traces left behind by management practices, at Parc Penallta ongoing care is made permanently visible through the presence of management infrastructure and onsite parkland managers. Outside the visitor centre, a written diary of upcoming events (Figure 12.36) projects future engagement with the site – events that reinforce desired recreational landscape values, and thus in-place human utility of the site. Inside the centre, the park ranger, as well as Penallta Parc and CCBC literature, all replicate these values, while also speaking for other parkland objectives, such as heritage preservation, improvements to ecological health, and a degree of community inclusivity within the landscape’s transformation. This simultaneously demonstrates that the site is under sufficient human management and that it is safe for intended forms of utility. At Parc Penallta, then, a variety of visible components of the landscape act as social cues to ongoing human care that extend beyond neatness.

The countryside ranger, who is employed by CCBC to coordinate and run events at the park and also carry out and monitor any daily management requirements, is usually on-site during the day.<sup>74</sup> As an employee of CCBC, the ranger embodies two forms of political authority within the park as outlined by O’Neill (1993: 128-130). Firstly, the ranger demonstrates ‘internal authority’: this is deference to an authority’s judgement (the ranger), brought about by an individual ‘embodying the historically developed standards of [a] practice’ (*ibid.*, 128). Through carrying out educational and management roles across the park according to developed standards, internal authority is leveraged. Secondly, ‘external authority’ is also demonstrated, which stems from ‘the individual’s occupancy of a particular institutional position or status’ (*ibid.*, 129). As an employee of CCBC with a particular status (complete in CCBC-branded clothing), the ranger is given authority to make management decisions not available to those without such status. According to Hermer (2002), the very term ‘ranger’ ‘...suggests a more paramilitary, outward-looking individual who

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<sup>74</sup> At the time of writing the countryside ranger is Ben Sands.

actively wanders across a venturesome landscape’ (Hermer, 2002: 28), actively ingraining his managerial authority. His presence *in situ* communicates the intention of landscape management, even when he is not physically carrying out any management.

The visibility of management extends to landscape infrastructure that makes the continual existence of the post-restoration landscape possible. This is the opposite of ‘back-stage’ management at Carrifran Wildwood, or the consciously naturalistic veneer that covers management infrastructure at the River Skerne (for example, the removal of outflow pipes which are important to the management of river pollutants from human visibility). The importance of water drainage engineering is of vital importance to the stability, and thus the safety, of coal tips, which has been ‘learnt from past disasters’ (Peter Lewis, 2009). Of particular pertinence to Penallta is the 1966 Aberfan disaster. Heavy rain caused a tip to subside and slide down a mountainside on to the village school and about 20 houses, killing 144 people, of which 116 were schoolchildren (McClean, 1997: 285-286). Aberfan is located about 7 miles north west of Penallta and the disaster is still an emotive topic in the local area (Paul Cooke, 2009).

Thus, while certain designed bodies of water across the site are positively valued for their aesthetic and utility values (the wetland area and fishing and dipping ponds), accumulation of rainwater within the tip spoil substrate is ascribed negative value from a human safety perspective, and thus needs to be carefully managed out of and away from potentially unstable higher ground. Accumulated water is also a problem for the intended utility of certain landscapes of the park. For example, the events area was not sufficiently stable to withstand heavy foot traffic for the first few years that the park was open, and so only ‘low key’, small, events could be held there (Paul Cooke, 2009). Only in the past few years has organic matter and thicker grasses started to accumulate, which has strengthened the area, making it more ‘robust’ for larger events (Phil Jaynes, 2009). Further, accumulated water is also an aesthetic concern, as this leads to the erosion and gulying of substrate after heavy rain and its deposition further downstream, which is visually undesirable (Ben Sands, 2009). To manage the accumulation of water, a series of open stone drain channels have been laid across the park (see Figures 12.49, 15.1-15.3) that drain the higher areas (especially the events area and plateau) of the site, and channel the water

downwards in a controlled manner, terminating in small settling ponds (see Figure 15.4). The channels have been left uncovered, are constructed from ornate stonework, and are clearly visible, following the contours of the edges of pathways. As we saw in Chapter 6, when the ‘energy in the landscape’ arts strategy was being formulated, one landscape intervention – had it been executed – would have introduced a small sound system to make the ‘delicate’ and ‘varying’ sounds of the drainage channels more audible, and in so doing would have transformed negatively valued and emotionally charged water into a positive, sonically attractive, landscape feature.

Due to the erosional capacity of the water, the channels need management. After heavy rains, water can displace large amounts of sediment which blocks channels and washes out retaining walls where the channels intersect with the pathways. High levels of accumulated coal sediment within the settling ponds, also necessitates de-silting (Peter Lewis, 2009; Figure 15.4). This form of infrastructural management, reveals that landscape palimpsests – both cultural and natural – from past landscape uses and compositions, still affect current landscape processes and thus their management (Thomas, 2001), even when the project is ultimately delineated as the carving out of a ‘new’ landscape.

At the River Skerne, we saw that management practices were regularised across both time and space, which resulted in an aesthetically ‘native countryside’ riverscape during fecund months, bordered by visual signs of human intentionality. Because of the particular set of demands that are put on a Country Park – that is to act as a flexible site of active recreation above visual amenity – a very different management procedure was necessary. No overall ‘vision’ of post-restoration management was ever produced, nor was any substantial text to guide predetermined management interventions (Neil Daniels, 2009). Thus, management is generally not regularised nor is it predetermined; instead it is ad-hoc and reactive. Management interventions are also unevenly applied across space, in direct response to both the heterogeneous nature of desired utility values, and human and non-human attrition of landscape materials – for example the erosional capacity of overland water flows.

The majority of these reactive, ad-hoc maintenance procedures of vegetative ecological assemblages do not stem from aesthetic expectations of naturalistic beauty in place of ugliness, as was the case at the River Skerne. Rather,

management is intrinsically linked to safe, comfortable, and legible recreational utility. For example, as with the grassland borders running parallel to the banks of the River Skerne, management of grassland landscapes at Penallta has consisted of mowing and strimming, but for reasons of utility (Neil Daniels, 2009; Peter Lewis, 2009). While attractiveness is desired (Neil Daniels, 2009), this management does not intentionally seek to frame areas of higher biodiversity.

Mowing and strimming is carried out on an irregular basis in response to continued observations and also budgetary constraints, resulting in temporally uneven aesthetic qualities: pre-management, Sultan the Pit pony has a ‘scraggy’ appearance with a diversity of wild flowers, post-management it is more akin to a ‘lean race horse’ (Peter Lewis, 2009) with clean lines. The area to the back of Sultan is maintained as open, largely un-vegetated ground, through the removal of any developing tree or shrub species, for its utility by ground nesting lapwings (Peter Lewis, 2009). At Penallta Marsh, restoration managers have introduced cattle during the growing season to reduce woody species (through trampling and grazing) that displace Devil’s Bit Scabious (*Succisa pratensis*) – the species that Marsh Fritillary butterflies feed on (Paul Cooke, 2009; Peter Lewis, 2009). In these two latter cases, then, we see the instigation of landscape management practices that seek to maintain viable populations of non-human mobile species *within* the borders of the park.

Pathways are cleared of any encroaching vegetation to maintain uninhibited mobility across the site, and there are plans to gradually replace the existing gravel pathways with tarmac to provide a smooth surface for easier, more efficient, mobility across a range of gradients (Peter Lewis, 2009). This has already been carried out on the pathway that runs adjacent to the fishing ponds (Figure 15.5). The fishing ponds themselves are managed for their function as sites of coarse fishing utility, as they are stocked with appropriate ‘recreational’ fish species (roach, chub), rather than species that are valued for their out-of-water qualities (generally aesthetic and nutritional). Landscape utility – in its myriad of forms – is clearly then the most overriding landscape value that is responded to and replicated through practices that seek to manage both ecological transgressions, mobile non-human nature, and the means to move through and engage with parkland features. This is also the case for the

management of human transgressions, to which I now turn, where we see that management is explicitly aimed at the maintenance of particular forms of human utility of the landscape, even if this is deleterious to non-human species utility.

#### *7.4.2. Human transgressions and functional beauty*

While human recreational utility of the post-productive landscape is the core value driving management practices at Parc Penallta, this does not mean that *all* forms of human utility are promoted or even condoned on-site. Indeed, certain forms are actively managed out of the landscape. This was not, however, achieved through the same methods of landscape control as those we saw at the River Skerne (self-policing) or Carrifran Wildwood (disembodiment through design and off-site control of visitor numbers). Instead, the ranger's authority (both external and internal), is the predominant controlling force of 'in place' utility, which is, at times, reinforced by the local police, though these occurrences are rare.

The means of delineating activities as 'in' or 'out' of place, partially came about through the negotiation of formal agreements between the Council, as legal owners of the park, and potential user groups, during the design consultation period. Thus, potential users had to make a claim to land access through the formation of group identities that appeal to the Council's legal authority (Sokolove *et al.*, 2002). Ramblers, local angler groups and horse riders were among those who had their proposals met (in the shape of dedicated ponds, pathways and trails), while downhill bikers (riding pushbikes) and a model aeroplane group (called The Valley Flyers) were both rejected, and were instead offered alternative Council managed areas (Phil Jayne, 2009). The latter group were rejected because of human safety fears: the Council's insurers stated that, due to public liability, the park would need to be cleared of other members of the public, and it was decided that 'you can't let one user group have the whole park one day a week' (Phil Jayne, 2009).

The Council themselves have initiated certain activities in the park, including educational workshops, walking tours, and small conservation projects, primarily aimed at children (Peter Lewis, 2009). There is a permanently installed nature trail called the 'Countryside Collector Trail', which encourages children to walk through the park and collect the names of 10 animals and plants found in the

park, which are affixed to posts at various locations (Figure 15.6). Additionally, there is 'Junior Rangers' club, which involves 12-15 8-11 year olds meeting with the ranger on a monthly basis for walks around the park, BBQs, games, and other activities (Ben Sands, 2009). Various other informal activities take place within the park: dog walkers, picnickers, and rock climbers (using Penallta Rocks) are all unrestrained in their use of the site, for instance.

Prior to the park's restoration, the site was used informally by motorbike scramblers, as was explained to me:

'Cos the tips have been here for a long, long time, and most of them were closed in the eighties we've had twenty years for people to come around to the idea of using them on the tips and things, as we're more controlling the tips....And the trouble is 'cos the valleys are what they are, you've got lots of mountains, lots of hills, you get lots of people coming from Bristol, from further afield, twenty thirty forty fifty miles away, in their vans with their trailers, to use their motorbikes on...the tips and stuff.

(Peter Lewis, 2009)

This created a conflict over utility values, wherein the continued use of the tip by motorbikes was deemed to be incompatible with other forms of utility; this was not due to concerns over incursions into the sonic domain, as was the case at the River Skerne. Instead, the decision to manage out motorbike use was again based upon concerns for human safety (Peter Lewis, 2009; Phil Jayne, 2009). However, these users were treated differently to the downhill bikers and Valley Flyers: motorcyclists were not engaged with during the consultation period, and no alternative grounds were even considered, let alone offered. Indeed, motorcycle riding has been labelled as 'anti-social' (Phil Jayne, 2009), and motorcyclists are seen to 'disregard' other park users (Peter Lewis, 2009); thus it is deemed undesirable to offer any alternative ground. After witnessing a motorcycle user onsite, I remarked to Peter Lewis that 'I guess they've got nowhere to go', to which he replied: 'well that's right yeah. But if you've got a gun and nowhere to go, the Local Authority haven't got to provide a place to shoot your gun have they?' (Peter Lewis, 2009).

The control of motorcycles onsite was not met with pre-emptive landscape design or signage, as was the case at the River Skerne. Any attempts to materially prevent transgressive utility of the park, such as bollards or fences,

were rejected because of the possibility of unintentionally excluding other users, particularly those with mobility issues (Peter Lewis, 2009). Instead, there are attempts to stop their use by the ranger, who uses his authority to challenge users and escort them offsite. The ranger's authority to do so effectively, however, is limited because of public liability concerns: 'we've been told we've got to follow them in lukewarm pursuit rather than hot pursuit, cos if we're chasing them and they fall off their bike we could be liable' (Peter Lewis, 2009). The local police have started to impound motorcycles and occasionally prosecute riders, backing up the ranger's limited authority, but again this has had a limited impact on motorcycle use, as the police may take up to 2 to 3 hours to arrive onsite or indeed may not arrive at all (Peter Lewis, 2009).

These limited powers to stop certain activities from taking place, has resulted in the persistence of other transgressive uses of particular landscapes within the park. For example, the area within Coed Penallta where the Sleeping Giant is located has come to be utilised as a 'regular camping spot' (Ben Sands, 2009) where 'kids come up and get boozed up' (Peter Lewis, 2009). Here, fires are a persistent problem (the remains of two fires are clearly visible in Figure 12.21), as is littering, especially during periods of warm weather when 'on a weekend you can get four or five bin bags full of rubbish, just after one night' (Ben Sands, 2009). This has meant that a considerable amount of the ranger's time is spent on cleaning the area for other users, including school children that occasionally use the space as an outdoor classroom (Peter Lewis, 2009). Neither fires nor camping are allowed on site, but the rangers do not have the ability to enforce such behaviour, and they are not backed by police: 'the police push all the local kids out of problem areas, and they end up in areas like this then, and if you try and get the police involved they wouldn't be interested in doing anything up here' (Peter Lewis, 2009).

The intentional openness and inbuilt flexibility of the park for various formal and informal forms of recreational utility, means that competing forms of utility are constantly being negotiated. While landscape managers tend toward a utilitarian ethic of park use as they try to meet the needs of as many users as possible – echoing the park's populist design – they remain as the arbiters of what are acceptable and unacceptable modes of use. Not only are those uses that are deemed to impinge on other (human) users managed out of the landscape,

this is also the case for uses that are judged to be ‘anti-social’ in that they pose a safety threat to other human users.

This negotiation and arbitration also covers non-human forms of utility. We have seen that, while all three restoration projects harnessed the productivity of human and non-human species, as well as ecological processes, in both the design and implementation of restoration values, it was the Parc Penallta restorationists alone who fully embraced a non-binary design vocabulary. Nonetheless, within the post-restoration landscape, management has tended to be dominated by practices that increase the potential for human utility within the park, which has at times been detrimental to sustaining non-human animal species – even those that have been identified as aesthetically and ecologically valuable.

While undoubtedly there have been efforts to mitigate human utility of certain landscapes – most notably those landscapes that persist at the border of the park such as the wetland area adjacent to the protected Nelson Bog SSSI – important species of the central grassland landscapes have been lost, and are now only *symbolically* represented within the landscape. There used to be a lot of Brown Hares onsite, but these are now rarely seen (Peter Lewis, 2009), though the Brown Hare sculpture still stands. Likewise, both lapwings and skylarks – the latter we can recall has a walking trail named after it – have both seen dramatic reductions in numbers. This has unequivocally been put down to increased numbers of off-leash dog walking (Ben Sands, 2009; Paul Cooke, 2009; Peter Lewis, 2009), but ‘short of fencing [areas] off’, which is considered too restrictive to the circulation of humans within the park, ‘there’s not a lot you can do to discourage that’ (Ben Sands, 2009). Without the necessary management, the aesthetic qualities of the landscape and the species within it will tend toward the domesticated (dogs), and non-mobile (plant species), and concurrently there will be a loss of what has been identified as the main positive sonic qualities within the park, namely the songs of skylarks and lapwings. At the same time, we may consider these losses arising from human utility – as well as their future potential reoccurrence – as a continuation of the flexible approach to landscape design that the restorationists champion.

On the face of it, it may appear that the aesthetic values identified during the planning, design and implementation stages of the project have in some way

been sidelined due to this overriding concern for human landscape utility. However, this is not the case. While less *explicitly* expressed than within either the Carrifran Wildwood or River Skerne management plans, a consideration of the park's aesthetic value is intrinsic to its management for utility, but is obscured as these aesthetic values are seamlessly integrated and managed within the predominantly functionalist landscape perspective of the project.

Rather than naturalistic or wild aesthetic values, we see management aimed toward what Parsons and Carlson (2008) identify as 'functional beauty'. The authors outline 'functional beauty' as 'a thing's aesthetic qualities emerging from its function or something closely related to its function, such as its purpose, use, or end' (Parsons and Carlson, 2008: 2). With regard to the management of Parc Penallta, I think it necessary to adapt this understanding of the relationship between aesthetic qualities and function, from only the former emerging *from* the latter, to the former emerging *alongside* the latter. For example, consider the grassland landscape that has been explicitly sculpted to function as a site within which to stage large scale events. As we have seen, this landscape is managed in such a way so as to prevent vegetational growth from inhibiting its utility. From this management emerges visual qualities of clean lines, near-uniform colouration, and general orderliness, and so an aesthetic quality of 'simplicity', which, when understood in the context of a functional landscape can be considered a type of functional beauty (Parsons and Carlson, 2008: 96), rather than, say, a boring or mundane landscape. Yet we can also consider this simplicity as a *precursor* to the landscape successfully functioning as an event area. Thus, both the aesthetic qualities and function of the landscape necessarily emerge in tandem.

Broadening out our focus, the park taken as a whole – and at risk of over-repetition – has been designed and is being actively managed with clarity and coherence, with human users in mind. Again, when understood in the context of its function as a space for easily navigable and safe utility, the park management demonstrates both mechanical function, where we see efficiency, exactness and repetition of patterns<sup>75</sup> (Berleant, 1997: 88), and organic function, where we see integrity and harmony between elements (Berleant, 1997: 88-89) – that is, the

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<sup>75</sup> For example, the repeating wave pattern on signage, fences, and bridges.

various landscapes that comprise the park. Again, we may consider that these aesthetic qualities are necessary for the park to properly function as a country park set within the rural-urban fringe.

### 7.5. Chapter conclusions

During the course of outlining the way in which aesthetic values are materially transcribed within a restoration landscape, I have tried to highlight that there is considerable slippage between the different stages of a restoration, from the drawing up of values and their embedding within policy decisions through to landscape design and implementation, and that such stages do not necessarily unfold in a linear fashion. This is particularly true of management strategies: ‘management’ as broadly conceived occurs throughout the restoration project. Nonetheless, at each site we can identify a moment in time where the majority of the work done by restorationists is focused on the management of ‘post’-restoration landscape elements – whether this is directed toward managing them in or out of the landscape – rather than the introduction of novel elements.

Throughout this chapter I have differentiated between two types of management: that which *sustains* introduced features of the restoration landscape (ecological assemblages, infrastructure), and that which *counters* what are considered to be social and ecological transgressions. We can see that the former are strategies for keeping certain things (objects, actions, experiences) viable and perceivable (predominantly visually but also sometimes audibly), while the latter are strategies for constraining certain things from, if not viability, then the full encroachment of other things. Both efforts directed at sustaining and countering particular material and immaterial things are ultimately attempts at the regulation of space in accordance with socially desired values, and reflect the ‘quasi-public’ nature of these landscapes, as particular publics and their activities – including legal activities – are constrained (Southworth, 2005: 160). The work of David Sibley (1995) is of use here. In his discussion of practices of spatial exclusion, Sibley identifies two theoretically opposite ways that space is structured:

...We can speak of strongly classified space, where there is internal homogeneity and clear, strong boundaries separate that space from others.  
....Weak classification and framing as forms of spatial structure would be associated with social mixing, a tolerance of difference and little interest

in boundary maintenance.

(Sibley, 1995: 80-81)

While Sibley used the concepts of strongly and weakly classified spaces in relation to social control (Sibley, 1995: 81), these can equally be applied to the control of non-human materials and actions through the deployment of management practices. In this light, Carrifran Wildwood can be seen to be a strongly classified space. An internal homogeneity of non-human wilderness is actively reproduced through management practices, even though two different (temporally aligned) management strategies exist: historical nativeness over the short term, and non-managed wildness over the long term. This internal homogeneity is aesthetically pursued through management practices that consciously foreground non-human 'native' aesthetic qualities, even if such qualities may be negatively valued, for example the maintenance of deadwood and fallen snags, and a general lack of landscape 'tidying'. A 'strong boundary' in the form of a perimeter fence that separates 'that space from others' is of vital importance to this attempt at internal management, while remaining visually obscured by the high ground of the valley edge.

While Parc Penallta may have accumulated a stronger *identity* as a space for leisure than the River Skerne does, when we dissect management practices at both locations we see that the former is actually a more weakly classified space than the latter. This is because of the ways in which the Parc Penallta managers, while attempting aesthetic harmony between the various landscapes, embrace heterogeneous space and a porous, flexible boundary across which ecological assemblages are largely free to move across – both inwards and outwards. Only when an activity is deemed to exclude other (human) users of the landscape are they themselves managed. In contrast, at the River Skerne *any* transgressions to the aesthetic orderliness of an internally homogenous post-productive amenity riverscape are considered to be valid targets for management, even if they do not interfere in any way with other users. We also see the management of a strong visual (picturesque) and sonic (tranquil) boundary, which clearly demarcates the restoration site from adjacent landscapes.

In this chapter, I have shown that those materialities, actions, and processes that are seen to be 'transgressive' within a landscape by restoration managers, are

broader in scope than current conceptualisations of human actions and ‘non-native’ species ‘out of place’. I have shown that transgressive components extent to also include unruly native species, water and decomposing vegetation. Such components of the landscape are designated as transgressive as they impinge on either the emergence of desired aesthetic qualities and overall landscape character (for example particular vistas, other species, or the appearance of orderliness), or the means to safely move across a landscape to aesthetically perceive and interact with particular landscape components. Relatedly, I have also shown that the dichotomy of ‘native’ and ‘non-native’ can only partially explain a species’ categorisation of ‘in’ or ‘out’ of place. Indeed, certain non-native species are construed as ‘in’ place, while certain species that would be classified as ‘native’ and thus ‘in place’ ecologically, are being actively managed out of the landscape. In the case of Carrifran Wildwood, we see a shift between feral goats and deer being ‘in’ and ‘out’ of place along temporal lines. Ultimately, it is down to the potential benefits or harms (both aesthetic and ecological) that a species may bring to the total landscape, as to whether they are ‘in’ or ‘out’.

I have also demonstrated that certain management practices are operationalised along both spatial and temporal axes. At the River Skerne, unruly biota is managed through outsourced prescriptive actions that are regularised across both time and space, which is in keeping with the project’s managerial ecology approach to restoration, wherein the landscape is necessarily predictable, stable, and measurable. This results in aesthetic qualities of non-human nature that foreground post-productive naturalistic fecundity, while eliminating an aesthetic comprehension of floral death and decomposition. At Carrifran Wildwood, the overarching minimal interventionist approach of ‘letting the chips fall’ within the upper valley, attempts to transition from aesthetically mimicking non-human processes of landscape change, wherein aesthetic qualities of age and decay are actively encouraged, to a landscape that is self-managing. Thus, unlike the other two projects, over the long term desired aesthetic qualities do not result from perpetual human intervention within the landscape. At Parc Penallta, ad-hoc, reactive management is directly related to the landscape’s intended form of utility within the park and the relative degree of that landscape’s attrition. Management practices are therefore not carried out uniformly across space or

time, resulting in the spatially unequal distribution of aesthetic qualities across the park.

Across the three restoration sites, we see a variety of ways in which aesthetic values intersect with management practices. Aesthetic values are in many instances *the* key driver for undertaking a particular form of management, particularly in the control of landscape components (activities, processes, materialities) that are adjudicated to be either a social or ecological transgression. Even when this is not apparent, a consideration of aesthetic qualities that emerge in conjunction with management practices is of vital importance in all cases. For instance, at varying times and within different spatial contexts, the degree to which a management procedure is ‘back stage’ or purposefully displayed is regarded as intrinsic to the likelihood that it will be successful. Visibly harsh strimming would be of dubious efficacy in controlling ecologically transgressive flora at Carrifran Wildwood – not only because of its indiscriminate, non-selective nature, but also because the aesthetic qualities of strimming (including the sound and visibility of a strimmer) and the traces of human intentionality that would be left (surface and shape qualities of cut vegetation), would be aesthetically transgressive within the context of an aesthetic wilderness. Likewise, the efficacy of attempting to control transgressive utility at Parc Penallta through backstage management would likely be lower than the visible presence of the park ranger. Thus, aesthetic qualities of management practices must be negotiated by the restorationists.

I now turn to the final chapter, where I draw the various strands of this thesis together. Additionally, I outline the implications of these findings for ecological restoration research, and landscape research more broadly.

## Chapter 8. The roles of aesthetic value in ecological restoration

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### *8.1.1. Introduction*

The primary research question of this thesis was to critically assess the role of aesthetic values in the creation and implementation of ecological restoration policy, using three different types of ecological restoration case studies initiated in the last 20 years within the United Kingdom to do so. Across the three case study sites, I have demonstrated that a multitude of aesthetic values are *central* to the practice of ecological restoration. Indeed, while we can identify a whole range of ecological and social values that variously shape the different stages of the three ecological restoration projects, I have shown that aesthetic value is fundamental within each step of a policy pathway, from a project's conception to its implementation. Often, these roles are acknowledged, measured and consciously negotiated within a restoration policy. I have also documented the instances when aesthetic values are only ever made implicit in policy, but play a no less significant role within the course of an ecological restoration project.

An ancillary question was to investigate the methods through which aesthetic values were spoken about, measured, and operationalised within a restoration landscape by restorationists. Thus, I was interested to see how aesthetic values are captured through measurements of existing and potential future value, how aesthetic values are discursively constructed through policy positions, and how aesthetic values are transformed into particular biotic and abiotic material components, and so give rise to certain aesthetic qualities and landscape characters. What now follows is a distillation of the findings arising from these two associated research questions across the three projects.

### *8.1.2. Motivations to restore, aims, objectives, and measurements*

At Carrifran Wildwood, aesthetic and ecological valuations of the Southern uplands intersected with one another, which proved to be the catalyst to undertake an ecological restoration project. We saw that an aesthetic tension arose between the 'familiar' 'superb' and 'beautiful' hills that were nonetheless understood to be the mere 'bare bones' of former forested ecosystems. Negative

aesthetic value was attributed to the hills, as they represented a loss of experiential and embodied forest aesthetic qualities that were directly ascribed to historical patterns of human economic productivity in the form of sheep husbandry. At the River Skerne and Parc Penallta, aesthetic degradation did not serve as the motivation to undertake ecological restoration. Instead, the requirement for an institutionally bound demonstration site, and a legal requirement to carry out some form of restoration, respectively, initiated each practice. Yet when we look at the premises upon which both of these restorations have been built, we see that aesthetic value is identified by both sets of restorationists as intrinsic to their understanding of the type of landscape degradation that ecological restoration can remedy.

In the case of the River Skerne, a diagnosis of landscape degradation is associated with particular forms of hard engineering river management systems, which produced a structurally ‘monotonous’ river with poor quality water (both in terms of chemical composition and water colouration), and an associated loss of positive floodplain beauty and landscape character. Similarly, even though Parc Penallta was described as biologically ‘quite interesting’, the primary mode of landscape valuation was through a direct judgement of its aesthetic qualities. Here, the former economically productive landscape was adjudicated to have been reduced to a ‘derelict’ ‘old tip’ that stood as a ‘black scar’ within the region, and so degradation was articulated aesthetically.

From the perspective of providing supporting evidence for particular restoration policy formulations, what was interesting was that only the restorationists at the River Skerne sought to measure pre-restoration aesthetic value in a systematic way. Whereas the other two projects assumed that degradation was self-evident requiring nothing more than stating the presence of negative aesthetic value, the River Skerne restorationists outsourced the production of a formal landscape assessment to SGS Environment so as to describe, classify, and evaluate the landscape’s aesthetic ‘character and quality’. Through this assessment, degradation was located wherever the river was seemingly compromised by the imposition of non-naturalised aesthetic qualities due to ‘industrial’ landscaping: ‘untidy’ pipes, ‘noisy’ roads, ‘unattractive’ terraces, and generally ‘derelict’ landscape features, were all assessed as qualities that needed to be remedied (removed, screened, naturalised) through restoration,

even though findings from pre-restoration public perception surveys did not fully agree with these negative aesthetic value conclusions.

With these attributions of negative value as a starting point, I showed that in each of the three cases restorationists used an aesthetic ‘discourse of improvement’ (Thompson, 2000: 272) to not only substantiate the claim that ecological restoration is the most appropriate future trajectory for the landscape in question, but also that *their* version of such a trajectory is most appropriate. These discourses of aesthetic improvement, while acting as objectives in and of themselves, generated further restoration objectives: thus, a raft of social and ecological objectives were built into the project that expanded from the original motivation to restore, and in so doing constructed an ‘ecology’ of different types of values (Weston, 2010: 307). These objectives were all articulated through written text: in the case of the River Skerne and Parc Penallta this was a list of objectives, while the Carrifran Wildwood restorationists produced a mission statement that loosely encompasses wilderness objectives.

The precision and clarity used to define and measure these objectives was dependent on institutional norms, and the requirements placed on policy. For instance, the amorphous objective of ‘mainly forested wilderness’ allowed the Carrifran restorationists to project both collectively and individually desired aesthetic values onto the future landscape. While previous baseline biological surveys will in the future help to document ecological landscape changes, these measurements are intended to serve as data for the wider conservation and restoration community, not to measure the Wildwood objectives. Rather, the means to do so – the use of fixed-point photography to qualitatively monitor woodland development – is consistent with the Group’s lack of desire to explicitly articulate the minutiae of the project’s aesthetic objectives.

The Parc Penallta restorationist’s list of 7 objectives were composed from both GC’s and CCBC’s respective remits of improving access and transforming – through landscaping – the tip into a locus of predominantly human utility. 26 quantitative parameters acted as ‘performance target indicators’ for the project, ranging from ‘trees/shrubs planted’ to ‘people consulted’, and for every financial year from 1995/96 to 1999/2000, a target was set for each. While this at least attests to a desire for setting quantifiable restoration goals (though none are equivocally aesthetic), no records exist of monitoring practices – indeed, no one

can recall such monitoring having ever occurred, let alone whether these goals were met and what would happen if they weren't. This may speak of the particular institutional culture of the early-to-mid 1990s that the restorationists found themselves in, when output measurements were not an essential part of the project in the same way that they are now (Phil Jayne, 2009).

Relative to the ambiguity over measuring objectives at both of these projects, the River Skerne restorationists put in considerable effort to quantify both the expected and actual changes to a range of values. Pre-restoration aesthetic values were captured through a Landscape Assessment and a public perception survey, whose results were 'taken into account' during the design process. The likely benefits of aesthetic change arising from restoration were measured indirectly through contingency valuations: willingness to pay responses and assumed changes in property prices were intended to capture 'enjoyment' and 'amenity' values respectively. Further, a series of spatial 'before' and 'after' measurements were maintained, including changes to water quality, the river's hydrological regime, and aquatic and floodplain plant communities, to understand a variety of river dynamics throughout the restoration project. This systematic method of appraising incremental value gains and losses is entirely consistent with the overarching managerialist view of river restoration promoted by the RRC.

### *8.1.3. Landscape reference models and aesthetic visions*

The identification of the role of aesthetic values in the production of landscape reference models is perhaps one of the most important contributions that this thesis has made to ecological restoration scholarship. Reference models are predominantly framed as endeavours through which historical landscape states are recuperated based on empirical data. The more data that exists of a previous landscape state – whether quantitative or qualitative in nature – the more accurate the reference model and the more 'authentic' the subsequent restoration project will be. However, through a close analysis of the ways that each of the reference models have been constructed and the values that they seek to express, I have shown that landscape reference models should be conceptualised not as empirical *recuperations* of past states, but instead as spatiotemporal representations of *aesthetic visions of future landscapes*, which

may reference historical landscape states to a greater or lesser degree, using both empirical and non-empirical methods to do so.

Secondly, I have demonstrated that when we attend to the aesthetic values of landscape reference models, we see that the moment in time that is chosen by restorationists to act as the restoration model is far from arbitrary; in essence the opposite of what is often presumed within the ecological restoration literature. Instead, in each case the reference model chosen is one that *strategically reflects* the restorationists' respective aesthetic vision. For example, at Carrifran Wildwood the moment in time (6,000 YBP) chosen to act as the landscape reference model is one that best encapsulates the aesthetic vision of a landscape with high floristic species diversity and concurrent minimal human intervention.

The moments chosen as the basis of the reference model for both the River Skerne and Parc Penallta, problematizes the notion that only temporality – rather than temporality and spatiality – is critical to this choice. Indeed, all three of the restoration projects demonstrate keen spatial considerations of both internal and external landscape forms when choosing a reference model that best reflects the aesthetic vision. The predominant mode of framing reference models within the ecological restoration literature places emphasis on landscape history (whether *sensu stricto* or *sensu lato*), at the expense of spatial determinants of reference models. Bratton's statement that one of the two most important values within ecological restoration is 'the past' (Bratton, 2000: 59) is indicative of this.<sup>76</sup> Even Choi's (2004) concept of 'futuristic' restorations only considers temporality as a determining factor in the process of deciding upon and producing a restoration reference model. At the River Skerne, a reference floodplain drawn from the regional 1:10560 Ordnance Survey map from 1857 loosely served as the reference model. This historically aligned model, however, was chosen not because it represented a moment in time before humans had degraded the river, but instead for its spatial characteristics that best reflected the aesthetic vision of a meandering river (though not *too* meandering), structurally integrated with its floodplain.

At Parc Penallta, we saw that historically aligned landscape states were not at all important to the production of a reference model: a return to the pre-mining

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<sup>76</sup> The second important value is 'naturalness' (Bratton, 2000: 59).

landscape was in no way part of the aesthetic vision of the project. Indeed, the restorationists rejected the previously agreed 1994 plan to restore the tip to the pre-mining agricultural landscape of grassland, hedgerows, and copses, instead favouring the co-production of a 'new' landscape, with its mix of cultural heritagization, nature preservation, and the restoration of ecosystem health. In the place of a historically aligned project, the restorationists looked to spatial aesthetic qualities. The aesthetic vision of Parc Penallta visually integrated into the landscape meant that the reference model was solely based on the aesthetic qualities of adjacent landscapes as they *contemporarily* appear, with its mix of open fields, woodlands, and wetland corridors.

It appears, then, that an attempt at capturing historical authenticity through landscape reference models is not as important to the practice of ecological restoration as the current theoretical literature seems to suggest (see for example Egan and Howell, 2001: 1-15; Higgs, 2003: 131-177). Interestingly, the one claim of historical authenticity through the reconstruction of a previous landscape state at Carrifran Wildwood, does not relate to the authenticity debate that consumes so much time and energy in the philosophical literature on ecological restoration (see Brook, 2006; Elliot, 1997; Katz, 2000). While the restorationists are adamant that there will eventually be a transition from historical nativeness directed by human actions to non-human wildness, there is no suggestion from the restorationists that human directionality within non-human nature produces anything that amounts to a 'fake' 'artifactual' nature that is of lesser value than an 'original nature'. Indeed, the restorationists see that human intentionality is a *necessary precursor* for wildness, and thus an authentic re-creation of a past landscape is both desirable and possible.

Thirdly, I demonstrated how each set of restorationists used different types of narratives as mechanisms to communicate their respective reference models, and thus project their aesthetic visions of the post-restoration landscape. I showed that these narratives used a variety of strategies of post-restoration representation to do so, including affective, qualitative descriptions of desired landscape characters, diagrammatic storyboards, descriptive leaflets and newsletters, and face-to-face communication, and that the strategy used was dependent on the intended audience of the narrative. Additionally, I showed that these forms of narrative did not simply *reflect* these aesthetic visions, but instead were central in

*justifying* normative claims of aesthetic value. Think, for example, of the ways that the restorationists at the River Skerne used evocations of the ‘countryside’ to justify a picturesque aesthetic vision, or how the Carrifran Wildwood restorationists created a story surrounding a found broken long bow, to substantiate both the aesthetic wilderness and wildness of the aesthetic vision.

#### *8.1.4. The implementation and management of aesthetic values*

In detailing how the restorationists went about propagating desired aesthetic values within the landscape, I focused on the realization of landscape designs and management practices, not as a way of denying non-human agency in the co-production of a restoration landscape, but for the fact that such an approach recognises that each of these restorations were driven by human assessments of – and desires for – particular values, even if there is a degree of reticence in acknowledging this by restorationists. Indeed, I accounted for the biotic and abiotic vitality of landscapes and their components. For instance, at the River Skerne the pre-existing materiality of gas main pipelines rendered the complete historical re-meandering of the river channel unfeasible. Similarly, the ‘as found’ limited on-site seed supply at Carrifran necessitated the direct planting of tree species, while the coal substrate at Parc Penallta placed limitations on the types of vegetation that could be planted, resulting in a high ratio of non-native to native plant species.

Through tracing the various entanglements of human and non-human constituents that co-constructed each restoration landscape, I clearly showed that the operationalization of aesthetic policy objectives within a landscape is not a straightforwardly linear process. Instead, we see a constant negotiation between desired aesthetic values and landscape characters within policy documentation, the pre-existing materiality of a site, and aesthetic qualities as ‘outputs’ from restoration practices. Through this framework of landscape design, I teased out how restorationists attempted to not only design *in* certain components to a restoration landscape, but also strategically design *out* others, in accordance with the range of desired aesthetic values envisioned through each corresponding landscape reference model.

At the River Skerne, in addition to the a-historical structural re-design of the river channel, I showed how the restorationists gave particular attention to designing in landscape tropes that sensorially framed the naturalistically meandering river. This included the introduction of wetlands and meadows, and the screening out and harmonisation of signifiers of non-naturalised visual and sonic qualities that existed at the spatial edge (outfall pipes, metal fences, train sounds). Importantly for this thesis, I outlined how the restorationists gave consideration to designing in particular watery sonic qualities that were strategically used to aesthetically evoke an imagined past, or at least not the *Skerne's* past, and frame the river as a dynamic watershed, in place of the formerly straight and 'monotonous' river channel.

At Carrifran Wildwood, I showed how the approach to propagating aesthetic values within the landscape was guided by a principle I termed 'non-design'. As I discussed, non-design was deployed as a means to proceed through an aesthetic *appearance* of natural recovery. Consequently, attention was paid to the removal or blending of pre-existing human qualities (fences, remnants of structures, paths), and designing out traces of human-led tree establishment. Further, non-design precluded particular future human uses of the site, as visitor infrastructure was purposefully absent.

Non-design at Carrifran demonstrated the existence of different spatial properties of visual and sonic qualities within a landscape. How sound behaves in relation to physical spaces – in terms of resonances, reflections, echoes, diffusion and absorption – is different to the behaviour of light (Blessner and Salter, 2007). This has repercussions for controlling a spatial edge through design. For example, while the road and car park could be visibly obscured from within the lower valley, these could not be sonically obscured. In the upper valley, the presence of sonic qualities of Carrifran Burn and its tributaries, certain forest-dwelling birds, and wind through the trees, make an aesthetic wildness possible. However, the sonic incursion of aeroplanes travelling over the site, which disrupts an aesthetic sense of wilderness, was impossible to design out.

Lastly at Parc Penallta, I outlined how the restorationists introduced and extended desired aesthetic values attributed to adjacent landscapes through the park. The introduction of different landscape types to meet the aesthetic vision

reflected within the reference model was carried out in such a way that human intentionality through design was often clearly visible. Hoof prints, Sultan the Pit Pony, the Sleeping Giant, and the fishing ponds, are the most acute examples of this. I could not find any examples of practices where the Penallta restorationists designed out material components, and no attempts at producing or sustaining a visual or sonic spatial edge. In fact, erected viewing points actively encourage the scenic consumption of adjacent landscapes from within the park. Coal substrate was levelled and tiered across the site, but there were no attempts at disguising the progeny of the material. Indeed, there was a simultaneous designing in of visual representations of the cultural heritage of the recent past. This was achieved through an arts strategy that was both literal (rather than conceptual) and nostalgic in regard to what representations were selected, and how they were designed and executed (pit props, ponies, resting miners, children's imagery).

I continued tracing the role of aesthetic values through to what we can conceive of as the 'post-restoration' period of a project, wherein management practices are carried out. Here I went about differentiating between two management forms. Firstly, I outlined management practices that seek to maintain pre-existing and designed in landscape components, so that positive aesthetic values are sustained at viable and perceptible levels. Secondly I outlined management practices that counter post-restoration social and ecological transgressions. I demonstrated that when certain objects, processes, or actions are deemed to impinge on desired aesthetic qualities, an overall landscape character, or the ability for humans to move through a site and aesthetically perceive landscape components, then they are identified as transgressive and are acted upon through management. Importantly here, I expanded the concept of 'transgression' to include 'unruly' biotic and abiotic *native* components of landscapes, and in so doing I established that a native/non-native dichotomy holds limited explanatory power for a complete understanding of what constitutes an aesthetic transgression that requires managing.

Further to this, I showed that both of these forms of landscape management are at their essence attempts at the regulation of space. Here I applied Sibley's formulation of strongly and weakly classified spaces to the management practices of each restoration site, showing that Carrifran Wildwood and the River

Skerne can be characterised as strongly defined spaces, each with a clearly defined (and defended) aural and visual boundary, and a strongly reproduced, internally homogenous, landscape aesthetic. Parc Penallta management embraces heterogeneous internal space and a flexible boundary that seamlessly integrates (ecologically but mainly aesthetically) with adjacent landscapes, meaning that the park is weakly classified.

I also determined that management practices *themselves* are judged in relation to the aesthetic objectives of a restoration project. These assessments are based on both the aesthetic qualities of management and the material traces that they leave, and ultimately whether these are compatible or not with the aesthetic vision of the project. Management at Carrifran Wildwood was purposefully ‘backstage’: deer are stalked at night or from a hidden stalkers hut, the valley side screens the perimeter fence, light pruning in the lower valley is undertaken by hand (no strimming or mowing), and visually unobtrusive tree guards were used. At the River Skerne and Park Penallta, certain management practices and the imprints they leave within the landscape – grass cutting, strimming herbaceous vegetation, installing signage, the ranger and his management actions, drainage channels – were purposefully made visible and audible, as this was considered to be intrinsic to the efficacy of the management practice in question.

### *8.2.1. Aesthetic values and human/ non-human relationships*

The third and final central research question of this thesis was to elucidate upon how aesthetic values intersected with other types of value through each ecological restoration policy pathway. In the preceding section I have done much to answer this question, showing where and how aesthetic values were indirectly measured and articulated. These intersections tended to wax and wane both across and through each pathway; however, one type of value – namely ethical value – consistently converged with aesthetic value. Of course, I have shown that the very decision to carry out an ecological restoration has ethical implications, as it is a decision about what should be preserved and what should be erased in a landscape. However, I now want to briefly conclude upon the ways in which we see the entanglement of aesthetic and ethical values, through the envisioning of future desired human and non-human relationships at each site.

### 8.2.2. *The River Skerne*

While a number of objectives were built into the River Skerne project, the restoration was fundamentally aimed at the technical re-shaping of various structural attributes of the river channel and its floodplain. Previous forms of ‘hard’ engineering for flood management had ‘technically degraded’ the river, and the answer to this was to implement a set of ‘state-of-the-art’ management techniques that were ‘technically achievable’. Once these techniques had been demonstrated at this particular river, they could then be adapted to other river channels.

In turn, the aesthetic vision encapsulated in the chosen reference model reflects this conscious framing of ‘new’ river restoration as the application of ‘soft engineering’ technical interventions within the riverscape. Such framing *demanded* the strategic aesthetic naturalisation of technical interventions to both visually and sonically dissolve any technical aesthetic qualities intrinsic to hard engineering (a straightened channel and minimal bank side vegetation). This softening of the appearance of river management relinquished hard engineering management, without having to relinquish management *per se*; therefore, naturalised softening of river management is a technique in and of itself.

In the absence of a detailed historical reference model, this dissolution through naturalisation was guided by an aesthetic vision of the picturesque. Firstly, picturesque qualities were desirable, as they were understood by the restorationists to be universally valued (specifically through watery landscape painting depictions) and so applicable to rivers restorations elsewhere. Secondly, picturesque qualities (asymmetry, curved lines) could best dissolve undesired aesthetic qualities of hard engineering into a coherent naturalistic whole, without having to employ undesired ‘wild’ qualities. Thirdly, it was assumed that a non-productive picturesque landscape character would necessitate less aftercare management than other types of design (the alternative of sports playing fields was mentioned). And fourthly, the predicted attractiveness of a post-productive picturesque river displaying cues to care was intended to encourage informal utility of the river area, while also guiding expected human behaviour, and regulating out social transgressions.

At the River Skerne, two major themes thus emerge that represent the restorationists desired human/ non-human relations at the site. On the one hand,

non-human nature is understood to be stable, knowable, and calculable, wherein specific components of the river system (meanders, backwaters, nutrient levels and so on) are ‘reduced to the functional roles they perform’ (Bavington, 2005: 126), and can be improved through the application of managerial ecology techniques. On the other hand, non-human nature is to be consumed as a picturesque representation of the (non-productive) countryside. Such consumption does not necessarily reduce the aesthetic experience of the river to pictorially static scenes. Both visual and sonic values have been designed in (and out) of the riverscape, and pathways encourage movement through the landscape. It does, however, promote interactions between humans and non-human nature that are immaterial, disengaged and framed by the actions of restorationists. Only outside management contractors are to materially engage with the landscape during spatially and temporally regularised occurrences.

### *8.2.3. Carrifran Wildwood*

While desired relations between humans and non-humans at the River Skerne are implicitly stated through design and management practices, these are made explicit in the founding mission statement of the Carrifran Wildwood restoration. The resulting woodland is to be a tract of wilderness that supports wild non-human nature, while simultaneously limiting and managing the impact of humans within the woodland. Aesthetic values expressed through the restoration were wholly in tandem with both of these wilderness aims; thus, the restoration purposefully set out to recalibrate the relationship between landscape aesthetics and ethics.

Before the restoration, while aesthetic value was ostensibly perceived in the landscape by the restorationists, the beauty of the hills still represented a degradation of ecological value due to their denuded state, and was an affront to the Group’s landscape ethic. Indeed, moral considerability is applied at the landscape level, trumping the rights of individual animal species internally and also externally when an adjacent landscape is antagonistic to desired internal values. Restoration was intended to recover this value, realigning a wild aesthetic – which included landscape components that may be interpreted as ugly – in support of a wilderness landscape ethic. Here we see the clear application and realisation of an ecological aesthetic that ‘asserts that it is desirable for humans

to take aesthetic pleasure from landscapes that embody beneficial ecological functions' (Gobster *et al.*, 2007: 962).

The chosen reference model was tactful in that it represented an aesthetic vision of wild, self-directed nature, and humans that are mobile and temporary within the landscape, lending support to this wilderness landscape ethic. In application, the restorationists removed or blended traces of human intentionality within the landscape, while accelerating a wild aesthetic through a 'no tidying' policy. Clearly, while the restorationists may have only begrudgingly accepted that they were undertaking human-led design and management, they still saw the role of humans within the landscape as a force for good in the recuperation of this ecological aesthetic, even if only over the short term. Thus, while the restorationists predominantly placed ethical value in non-human nature, humans were not ascribed negative value in their relations with the landscape: rather, wilderness was necessarily anthropogenic in origin.

Over the long term, aesthetic mimicry of a wilderness landscape is to be replaced by aesthetic qualities resulting from spontaneous, non-human directed natural processes. Thus, the eventual goal is a wilderness that is not only free from traces of human intentionality, but also one that is largely autonomous from human actions (Heyd, 2005), that is, a non-human landscape that is wild and demonstrates aesthetic qualities that are undirected by human interventions. This presented an ethical dilemma for the project. The restorationists wanted to promote *experiential* human aesthetic engagement within the landscape to act as an 'inspiration' for a particular landscape ethic, rather than aesthetic detachment. At the same time, over-embodiment would be transgressive as it would impinge on both ethically and aesthetically determined wilderness.

Post-restoration management, then, has had to navigate between reducing total visitor numbers without reducing the site's potential to inspire. Again, aesthetics was critical to the management of these two potentially contradictory projections of desired human/ non-human relations. Visual concealment of the site from the road, the installation of a circular walk and a scenic viewing point, and the promotion of off-site aesthetic existence values, were all approaches to 'defend' Carrifran's wilderness, while still allowing for wilderness experiences for those humans that do venture into the upper valley.

#### 8.2.4. *Parc Penallta*

Two different aesthetic visions of the future landscape(s) in Parc Penallta were synthesised into the landscape reference model. Firstly, diachronic integrity spoke of a vision to maintain the structural composition of the tip due to its post-industrial heritage value. Secondly, spatial integrity spoke of a vision to visually integrate the tip within the surrounding landscape, using a general formula of ‘valley side woodland, open field, and wetland corridor’ to guide this. These two seemingly oppositional visions negated any sense that the pre-coal mining landscapes of the late 18<sup>th</sup> Century should serve as the reference guide for the project; instead, it was understood that an attempt at meshing these two visions together would necessarily create a ‘new’ site.

The tension implicit within these two visions meant that a creative solution was necessary so that neither was lost. As I went on to show, this was accomplished through a mixture of landscape preservation, the introduction of ‘new’ landscapes, and a heritage arts strategy, which rejected both the aesthetic naturalization of the cultural landscape, and also an industrial ruins park that would dislocate expressions of non-human agency. Instead, the reference model mapped out a future dialectical relationship between the human and non-human components of the pre-restoration landscape, culminating in a liminal country park space that breaches multiple dualisms: culture versus nature; urban versus rural; and preservation versus reconstitution. In this way, the vision encapsulated multiple overlapping values and potential ‘outputs’ through this expression of human/ non-human relations.

Through landscape design and management, multifunctional utility has been advocated on site. Scenic visual consumption of the park and surrounding landscapes is promoted through the viewing points installed at high elevation. However, I demonstrated that this advocacy has primarily focused on engaged human utility of the various landscapes: fishing, pond dipping, rock climbing, horse riding, cycling, hiking, orienteering, kite flying, wildlife identification, landscape art appreciation, and so on.

I showed that functional beauty emerged in conjunction with this focus on utility in a relational manner. Management for engaged human utility produced a

version of functional beauty, specifically an aesthetic quality of simplicity. At the same time, functional beauty was a precursor for the landscapes to properly function this way. Functional beauty is represented through human as well as non-human components in the park, including bridges, signs, pathways, fences, seating, and art works. Naturalistic qualities are not necessarily required – indeed they are undesirable in many respects – and so there is no necessity to maintain an internally homogenous naturalism as there is at both the River Skerne and Carrifran Wildwood. Functional beauty, then, does not demand the disassociation of human artefacts and non-human nature, generating a view of human/ non-human relations that are hybrid, rather than essentialist.

Through attending to the aesthetic qualities of designed and managed landscapes, I have shown that we can decipher much about the desire for particular future human and non-human relations. Desired relations between humans and non-humans produce particular types of aesthetic qualities. In turn, aesthetic qualities as outcomes of particular aesthetic values both support and shape these desired relations. I now turn to the final section of this chapter, and indeed this thesis, where I will look at the implications of my findings to future research agendas, approaches questions and methods.

### *8.3. Implications for ecological restoration and landscape research*

The intended goal of interpreting the role of aesthetic values in the practice of ecological restoration, forced me to give deep consideration to the problem of how to best document and represent aesthetic values, qualities, and landscape characters at each site. Put simply, I had to look to methods that have only tentatively been applied within geographical research to do so – namely field recording and walk and talk interviews that attend to non-human visual and sonic attributes – and set these to new questions. Early on in the thesis, I documented how there has been a wealth of environmental philosophy research that laments the relative lack of attention paid to aesthetic values and qualities other than those that are visual, yet very few researchers have acted on this to think about how to account for and investigate multi-sensorial landscape aesthetics. The situation in human geography, I showed, is currently better, where there has been a recent focus on multi-sensory perception. Appropriate methods, however, still lag behind any conceptual shift.

These two methods I believe, hold a considerable amount of potential to engage with the problems of documentation and representation of the non- or more-than-visual. These could be widely applied within human geography and a great number of research projects within landscape studies. As I showed in Chapter 3, very little landscape research has considered the sonic aspects of landscapes, and those that have tended to only do so through verbal and textual documenting. I do not need to fully re-state why this is problematic; suffice to say that verbal and textual documentation can never fully convey the full range of sonic registers within a landscape, and nor can they properly act as evidence for the existence of certain qualities and the absence of others. To overcome this, I collected field recordings at each post-restoration site. While I have already detailed why these are not objective sonic representations, I believe that they concisely communicate sonic values of landscapes in a way that preserves much of their aesthetic qualities. They act as empirical evidence of sonic attributes – both intentional and incidental – allowing a reader/listener of the study to confirm or reject not only a restorationist’s statements on sonic attributes of a particular landscape, but also my own. At the very least, the presentation of sound recordings in this way draws attention to the multi-sensory nature of landscapes, and affirms that the visual is only one way of understanding the spatio-temporal qualities of a landscape, one way of thinking through the consequences of implementing landscape design, and one way of considering landscape change more generally.

The second method – walk and talk interviews – allowed for multi-sensory components of the landscape to be discussed as they were encountered, eliciting a thoughtful consideration of aesthetics, including visual, sonic, haptic, scent, and kinaesthetic properties of landscapes or landscape components. This method shifts the interview process from being a two-way question-and-answer session, to one where the landscape makes constant incursions into conversations. A certain sound or smell, a change in incline or material texture under foot, a new visual frame from a viewing platform, or a sense of movement from enclosed to open space, changed the topic and the dynamics of these conversations, making them necessarily semi-structured. I think that it would have been unlikely that the level of aesthetic detail that I gleaned from this walk and talk method would have

been equalled if I had relied on *ex situ* interviewing or even photo-elicitation methods.

Having now used them, I feel that they hold significant potential to inform and improve the practices of future research strategies, particularly those that focus on landscape aesthetics, but also more generally in landscape studies where questions of landscape conservation and restoration policy making, landscape design, management and consumption, and environmental ethics, are raised. Rather than decry the ‘ocularcentrism’ of landscape studies, and thus a bias toward capturing only visual aesthetic values, an embrace of either or both of these methods would accordingly capture something broader. Additionally, field recording and walk and talk interviewing seem to lend themselves to the recent turn toward non- or more-than-representational cultural geographies, as I believe that they have demonstrated – in the words of Lorimer (2002: 83) – that they can: ‘...better cope with our self-evidently more-than-human, more-than-textual, multisensual worlds’ (Lorimer, 2005: 83).

This thesis was partly a response to the dearth of case study approaches within the ecological restoration literature, and the effect that this has had on current restoration theory. Through examining the complete policy pathway of three cases, I revealed intersections between environmental aesthetics, ethics, and landscape that have featured very little in research. The ongoing debate over theories of value replacement in ecological restoration and the issue of ‘authenticity’ and ‘faking’ nature (see Elliot, 1997; Katz, 2000; Light, 2000; Rolston, 2000), has dominated restoration theory (Brook, 2006) and largely continues to, yet this way of conceptualising restoration had little to no bearing on any of these three case studies. While this framework is undoubtedly necessary for ecological restoration scholarship, such domination has come at the cost of crowding out intellectual time and space to a whole gamut of vital questions related to ecological restoration praxis that I have only been able to begin to touch in this thesis.

As this study has amply shown, if researchers approached ecological restoration through grounded case studies more often, this would precipitate a broader, more nuanced understanding of the intersections between social and environmental values and ecological restoration. Further, such a ‘ground up’ building of theory will mean that researchers interested in ecological restoration

are better positioned to engage with environmental decision makers and makings, as they will engage with theoretical and practical problems as actually faced. Ecological restoration will continue to expand within 'active' conservation circles, regardless of whether the very concept of restoration is accepted or rejected by landscape and environmental ethicists. I am not suggesting that all ecological restoration research undertaken by geographers and environmental philosophers must be 'policy relevant', a problematic and unhelpful proposition (see Ward, 2005). However, I broadly agree with Andrew Light (Light, 2010) in his call for environmental ethicists to help shape policy debates.

Above all, this thesis has demonstrated the importance of examining a full policy pathway, from initial conception through to implementation and any subsequent after-care. Early on in the thesis, I showed that it is often considered that environmental policy is narrow in framing and operationalising aesthetic values. This, I believe, is partially a by-product of the narrow methods used by researchers to capture such values. Yet, if we tease out the role of aesthetic value in the co-production of landscapes through each step, as I have done, we may actually find that aesthetic values are to be richly found, and that they are deeply considered by policy makers, even if these are not directly articulated through policy literatures.

### Appendix 1. River restoration Site Appraisal Form

#### Aims

What is the potential for the achievement of the following:

River: to restore a severely modified river to a regime that is naturally sustainable and appropriate to its historic environment

Floodplain: to similarly restore the floodplain of the river ensuring that it is fully integrated with the river

Wildlife: to restore degraded river and floodplain as a suitable habitat for characteristic wetland plants and animals

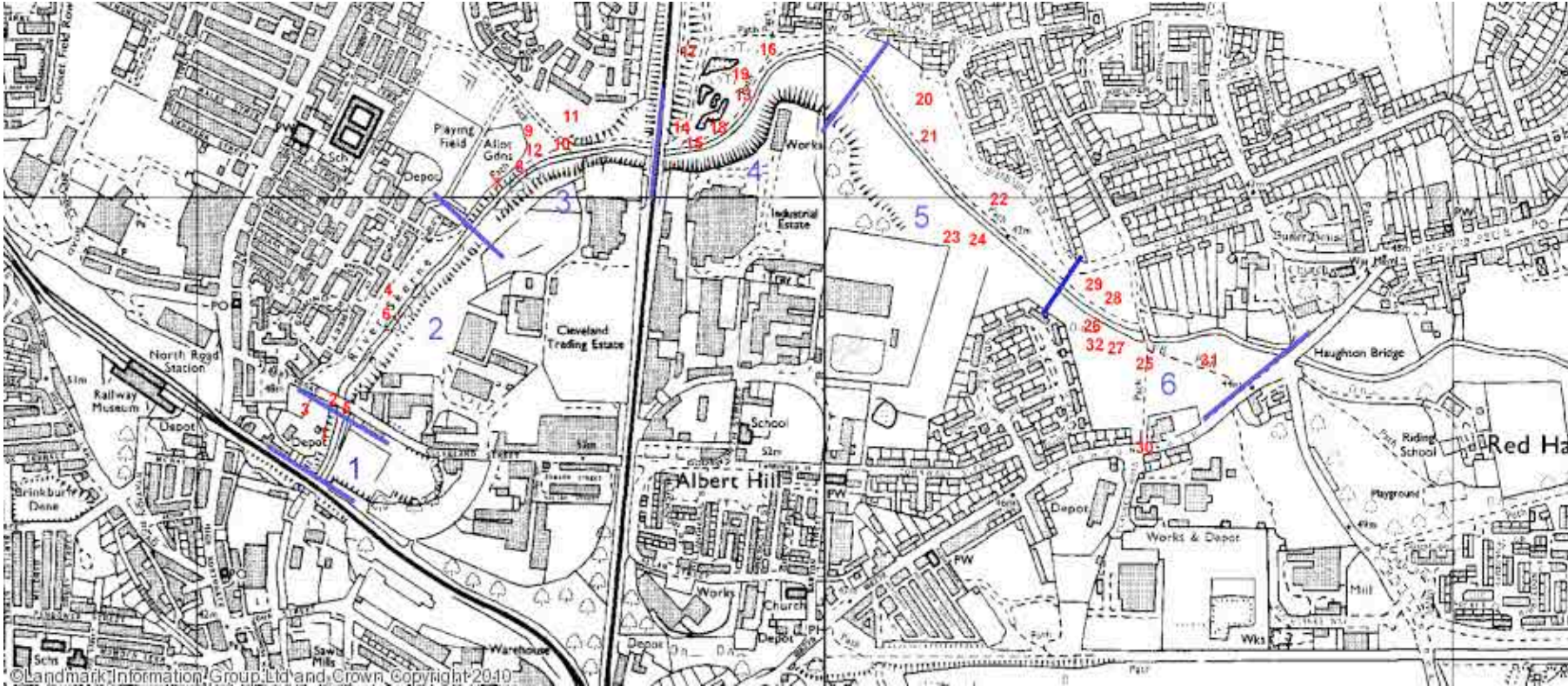
Landscape: to restore the river and its floodplain such that its character is enhanced and blends naturally with the surrounding landscape

Recreation/amenity: to enhance appropriate opportunities for public enjoyment of the restored river and its floodplain either through improved use of these areas or through its enhanced appearance in the landscape

Heritage: to conserve or restore any aspect of practice, use or facility forming part of the heritage of the river valley that contributes to the maintenance of environmental quality

(from Vivash and Biggs, 1994: Appendix 4: Site Appraisal Form)

Appendix 2. River Skerne site map and Landscape Assessment photographs



Map showing the six Landscape Assessment sections (blue), and the location of the Landscape Assessment photographs (red) (after SGS Environment, 1994: 51).

Landscape Assessment photographs (from SGS Environment, 1994)

Section 1



Figure 2.1



Figure 2.2

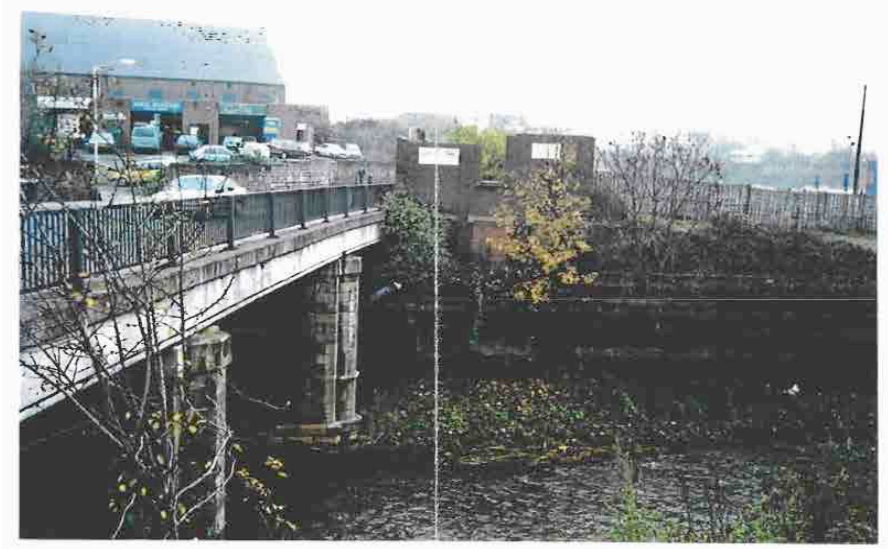


Figure 2.3

Section 2



Figure 2.4



Figure 2.5



Figure 2.6

Section 3



Figure 2.7



Figure 2.8



Figure 2.9



Figure 2.10



Figure 2.11



Figure 2.12

Section 4



Figure 2.13



Figure 2.14



Figure 2.15



Figure 2.16



Figure 2.17



Figure 2.18



Figure 2.19

Section 5



Figure 2.20



Figure 2.21



Figure 2.22



Figure 2.23



Figure 2.24

Section 6



Figure 2.25



Figure 2.26



Figure 2.27



Figure 2.28



Figure 2.29



Figure 2.30

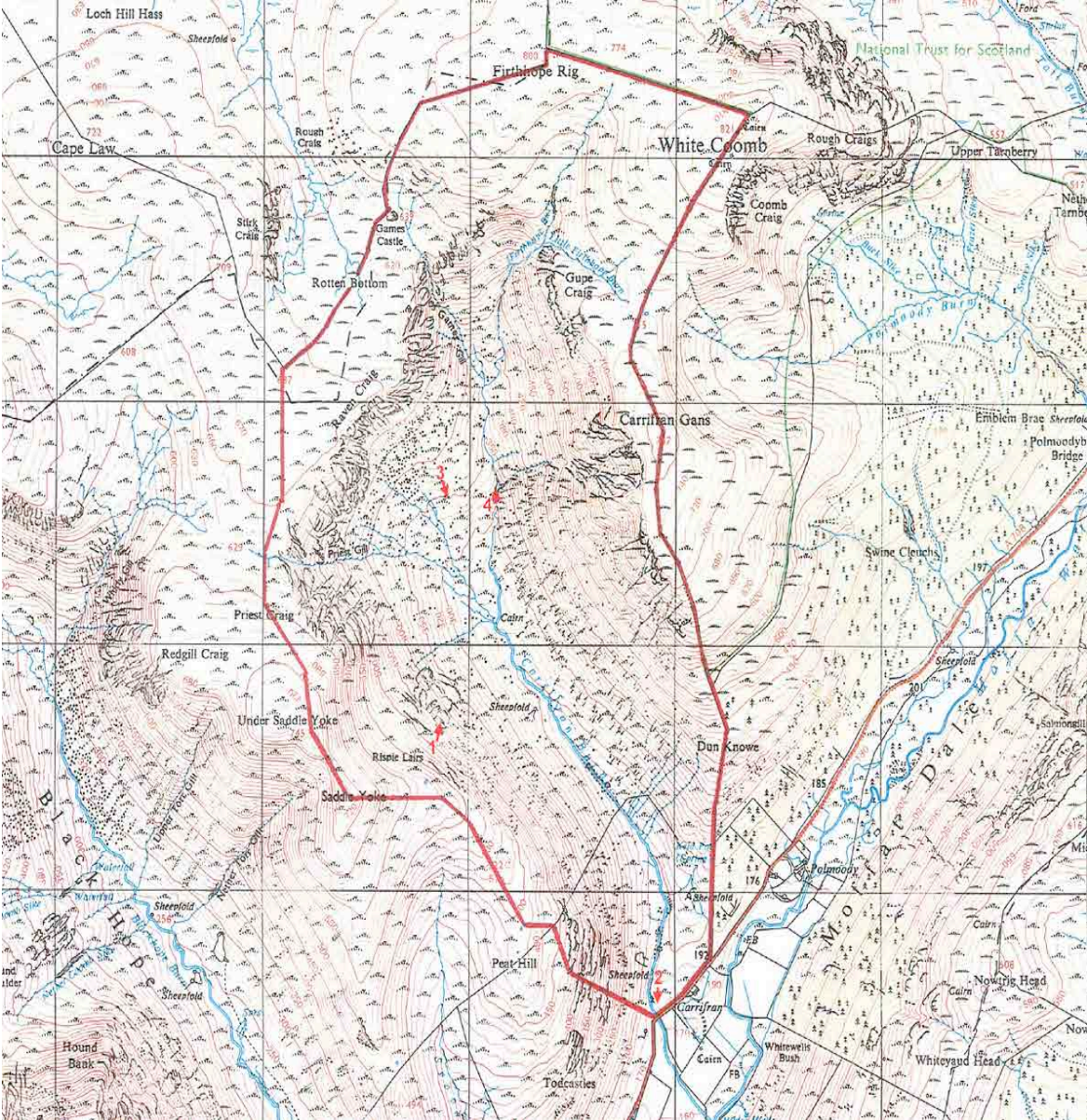


Figure 2.31



Figure 2.32

Appendix 3. Carrifran Wildwood site map and illustrative landscape feature photographs



Map showing the approximate location and direction of the landscape feature photographs (original map Wildwood Group, 1999: 1).



Figure 3.1 View of the Carrifran Wildwood site. The three hill summits are (l-r): Raven Craig; Firthhope Rig; Carrifran Gans (which obscures White Coomb). Carrifran Burn and its tributaries can be seen flowing through the centre of the valley (February 2004, courtesy of Hugh Chalmers).



Figure 3.2 The southern limit of the Carrifran site, bordered by the A708; Carrifran Burn is also pictured (August 2009).

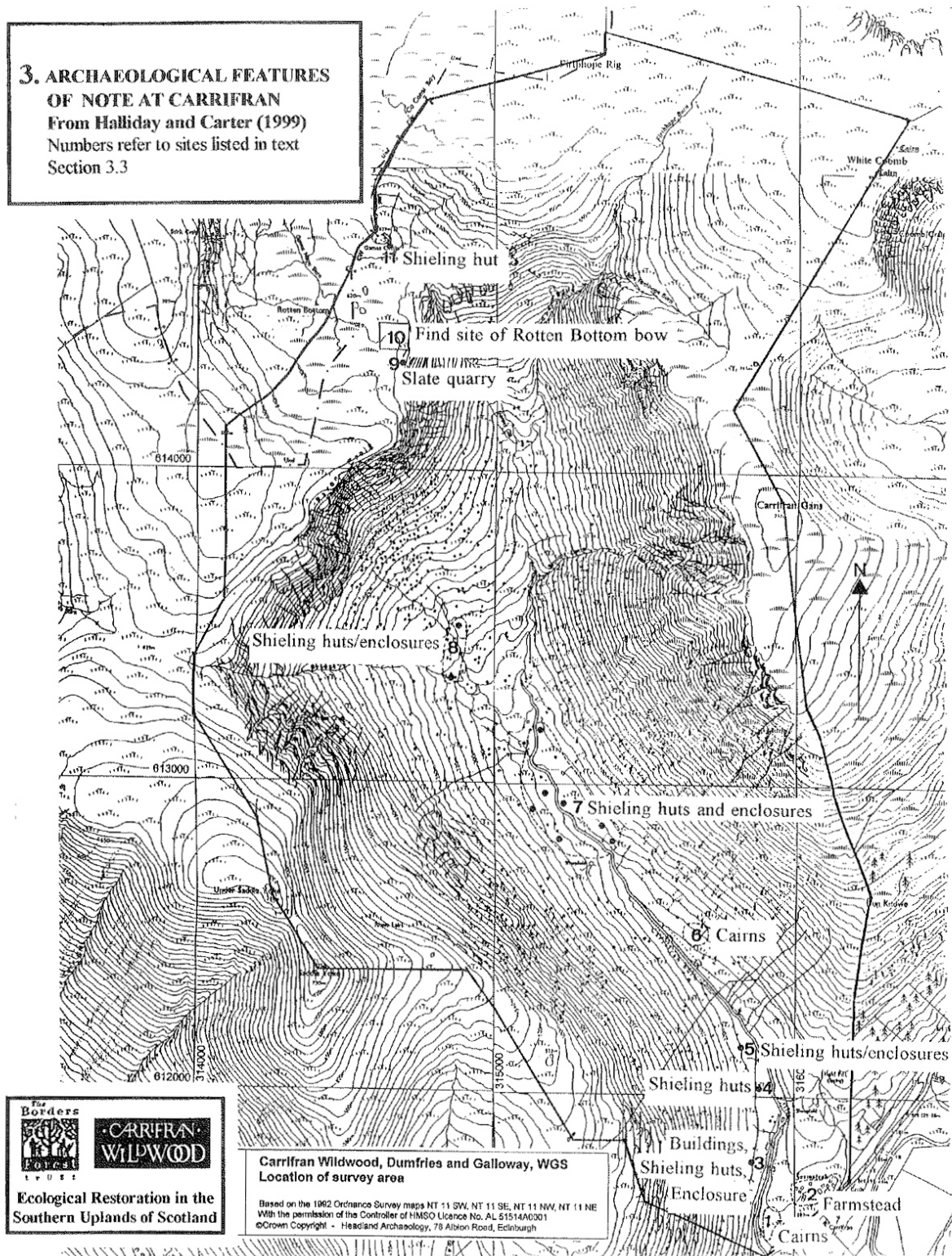


Figure 3.3 An elevated view of Carrifran valley looking south. View of the A708 is obscured by glacial deposits at the mouth of the valley (March 2004, courtesy of High Chalmers).



Figure 3.4 Some pre-existing tree remnants at Holly Gill, inaccessible to grazing animals (September 2002, courtesy of High Chalmers).

## Appendix 4. Carrifran Wildwood site map of archaeological features



Map showing the location of the 11 archaeological features (original map Wildwood Group, 1999).

Appendix 5. Parc Penallta site map, 1994

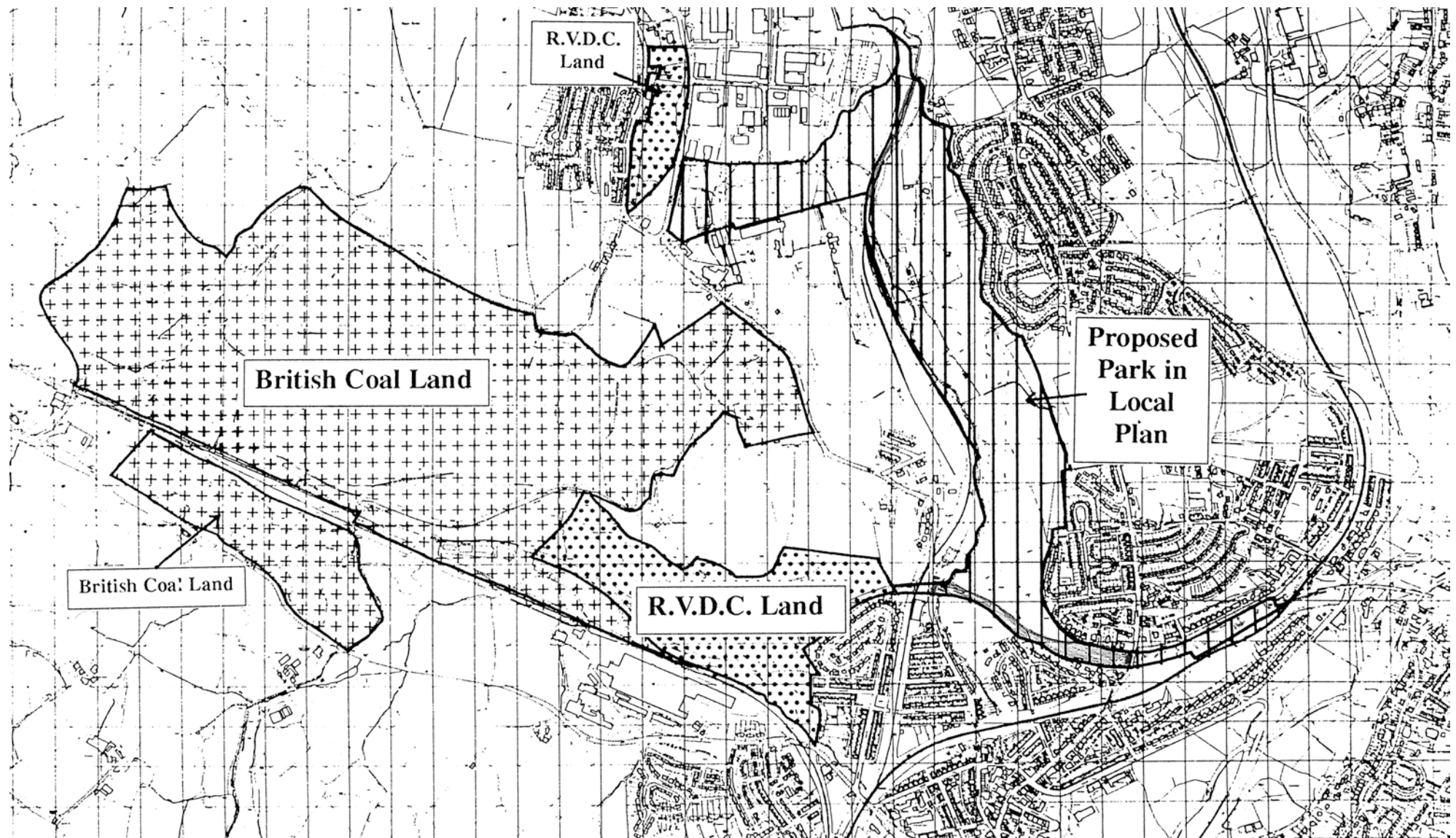


Figure 5.1 The two areas marked 'British Coal Land' are the sections that were under the original restoration agreement. The area marked 'R.V.D.C.' (Rhymney Valley District Council) to the south of the map, includes Penallta Rocks, Coed Penallta, and Penallta Marsh (map from Groudwork Islwyn and Rhymney, 1994: unpaginated).

Appendix 6. River Skerne Ordnance Survey maps



Figure 6.1 River Skerne Ordnance Survey 1st Edition 1:10560 (1857). The River Skerne is the thickest line running west to east through the centre of the map.



Figure 6.2 River Skerne Ordnance Survey 2nd revision 1:10560 (1923)

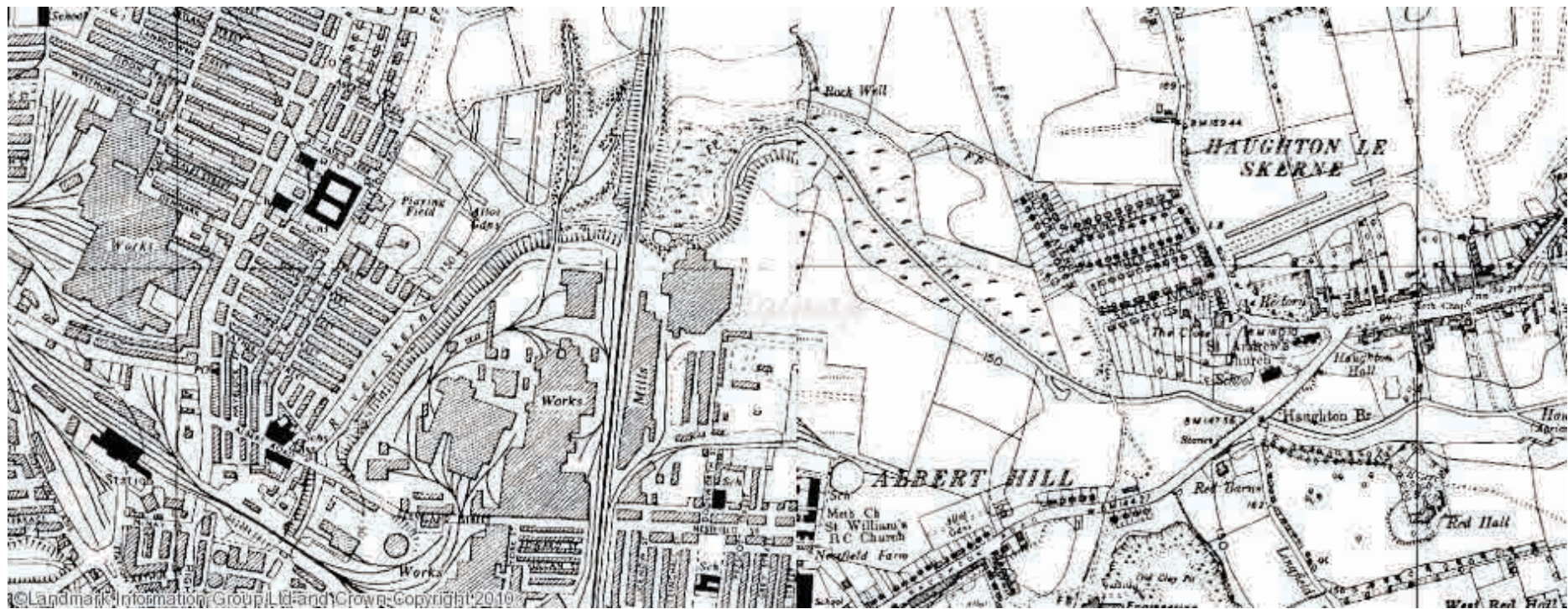


Figure 6.3 River Skerne Ordnance Survey 1:10560 (1957)

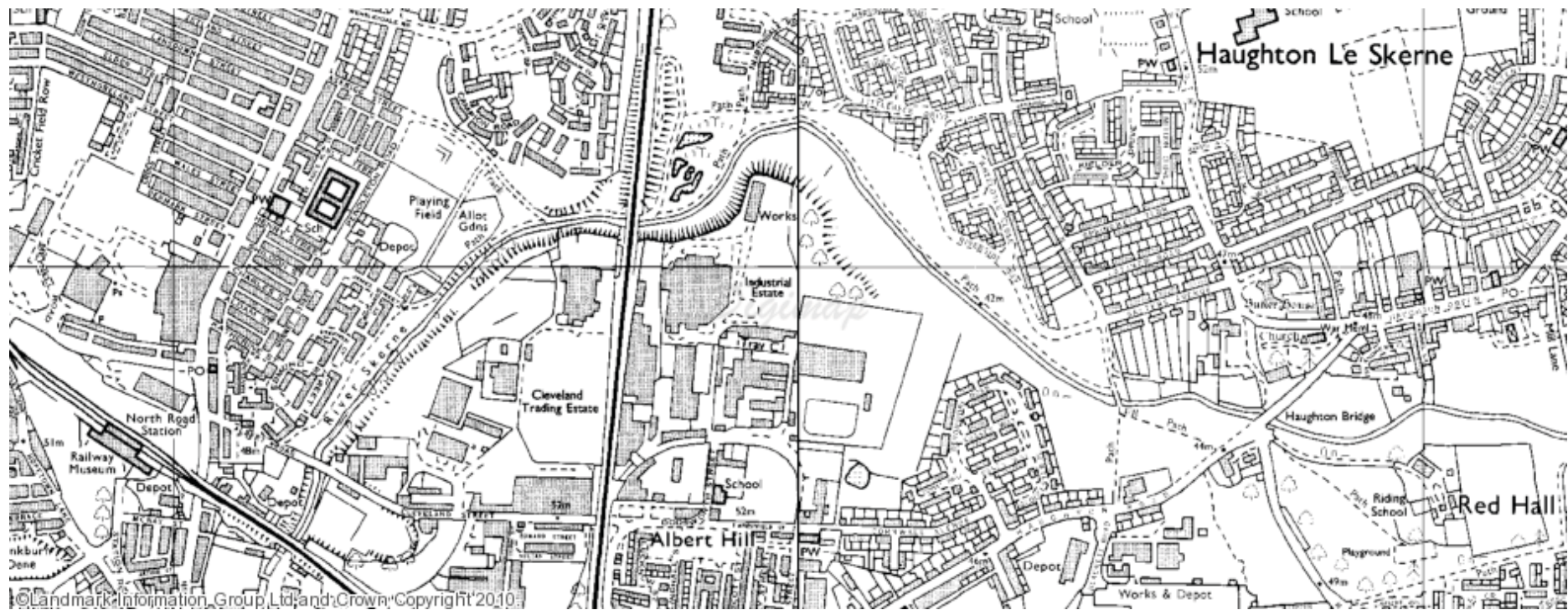


Figure 6.4 River Skerne Ordnance Survey 1:10000 (1991)

Appendix 7. Carrifran Wildwood Landscape Appraisal images

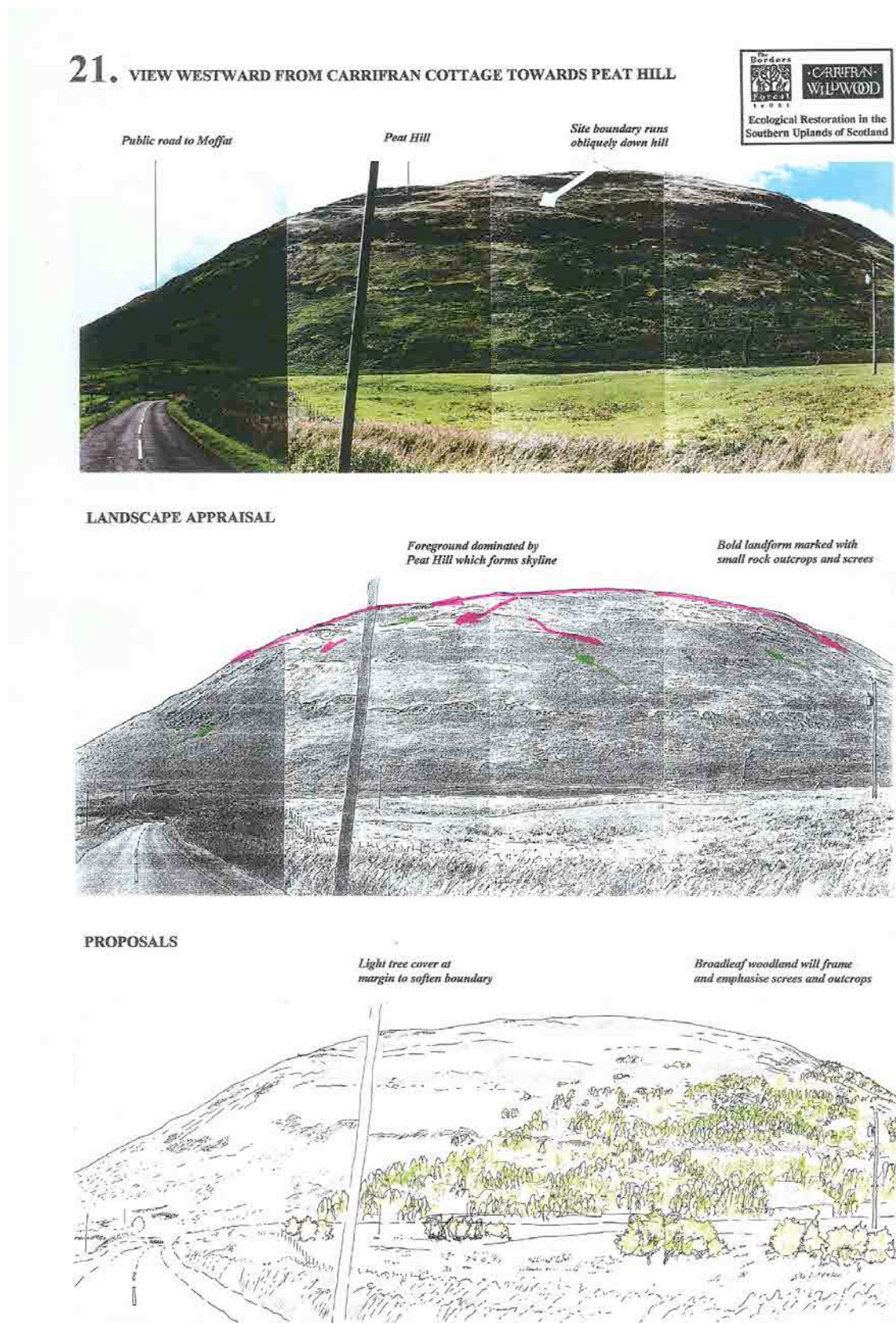


Figure 7.1 Landscape appraisal and diagrammatic restoration proposals (Wildwood Group, 1999: unpaginated)

## 22. VIEW ALONG CARRIFRAN VALLEY FROM A708 TOWARDS RAVEN CRAIG



### LANDSCAPE APPRAISAL



### PROPOSALS

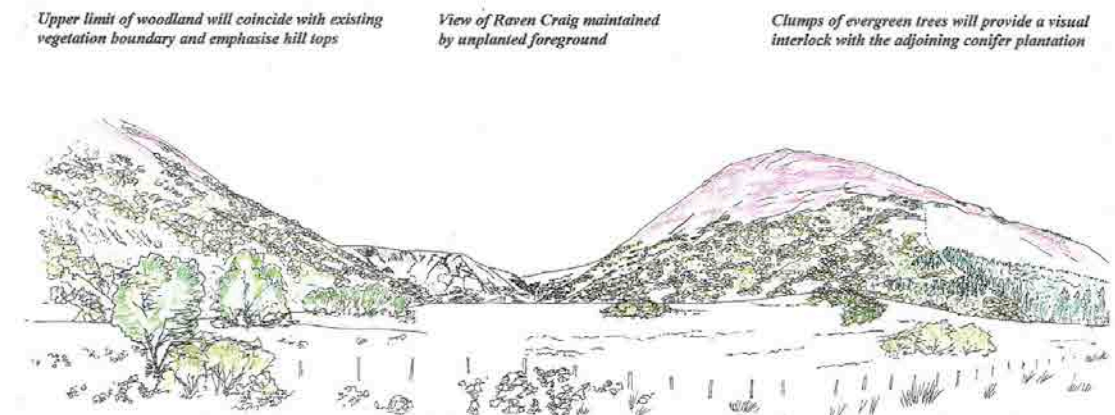
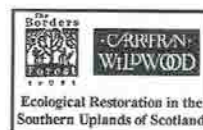


Figure 7.2 Landscape appraisal and diagrammatic restoration proposals (Wildwood Group, 1999: unpaginated)

**23. VIEW ALONG CARRIFRAN VALLEY NORTHWARDS FROM SHEEP STELL (PROPOSED SITE VIEW POINT)**



**LANDSCAPE APPRAISAL**

*Sense of enclosure provided by high ridges and steep slopes*

*Full expanse of valley only revealed on reaching sheep stell*

*Major landscape features of Raven Craig and Carrifran Gans dominate skyline*

*Carrifran Burn with riparian woodland strip forms important feature*

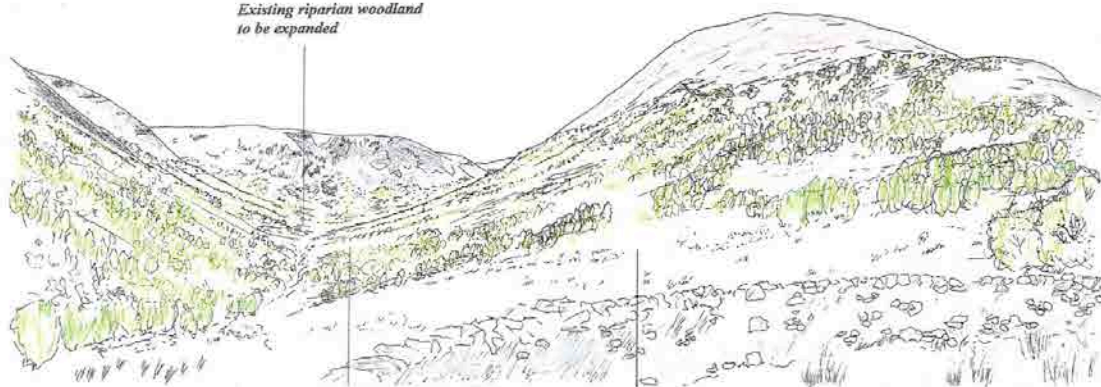


**PROPOSALS**

*Woodland enhances sense of perspective through change in scale from foreground to background*

*Contrast between wooded valley floor and open craigs, screes and summits will emphasise the changes in elevation*

*Existing riparian woodland to be expanded*



*Open mire habitat retained*

*Foreground to remain unplanted preserving view*

Figure 7.3 Landscape appraisal and diagrammatic restoration proposals (Wildwood Group, 1999: unpaginated)

## 24. VIEW WESTWARDS FROM BELOW CARRIFRAN GANS



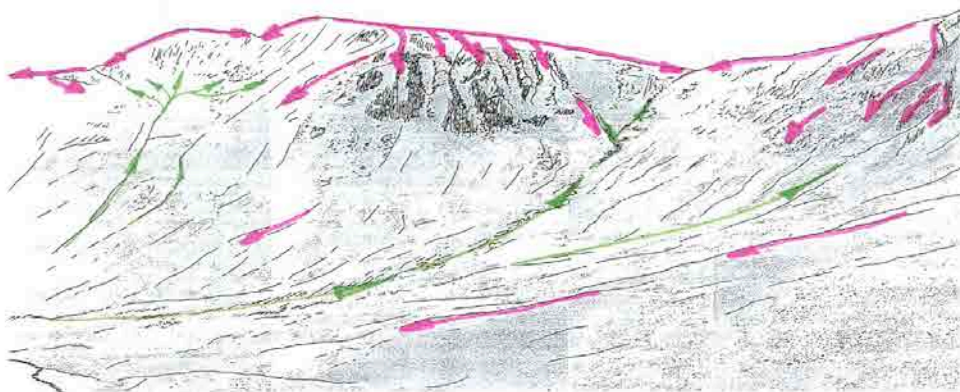
### LANDSCAPE APPRAISAL

*Hanging valley below  
Saddle Yoke*

*Landscape dominated  
by high ridge*

*Craigs form a  
conspicuous feature*

*Marked river gully  
at Priest Gill*



### PROPOSALS

*Low density shrubby  
planting at higher elevations*

*Craigs and and screes emphasised  
by woodland areas below*

*Woodland will provide an element of visual diversity  
and seasonal change missing from the existing valley*

*Mire left unplanted*

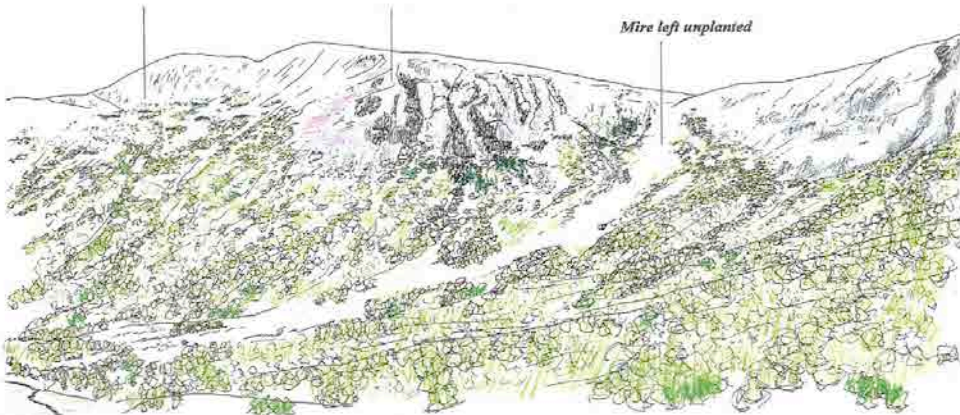
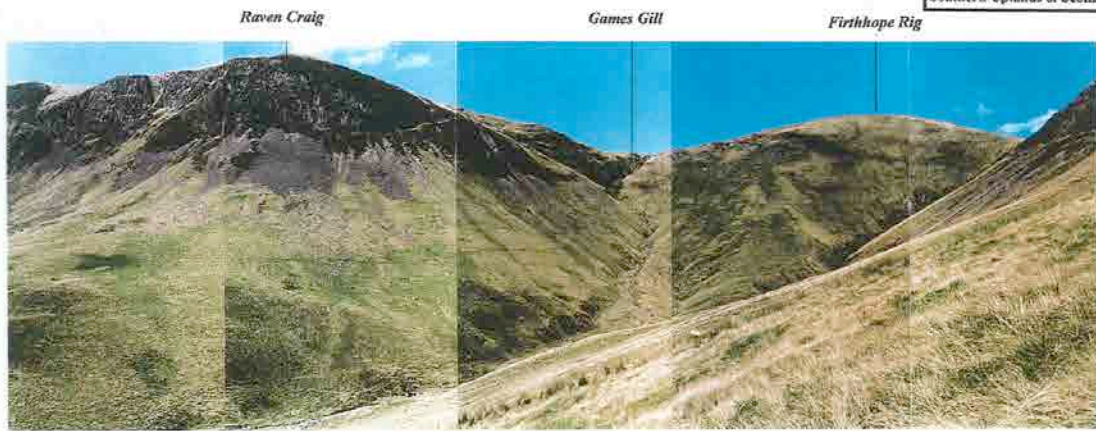
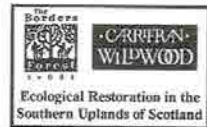


Figure 7.4 Landscape appraisal and diagrammatic restoration proposals (Wildwood Group, 1999: unpaginated)

**25. VIEW NORTHWESTWARDS FROM BELOW CARRIFRAN GANS** (continuous with 4)

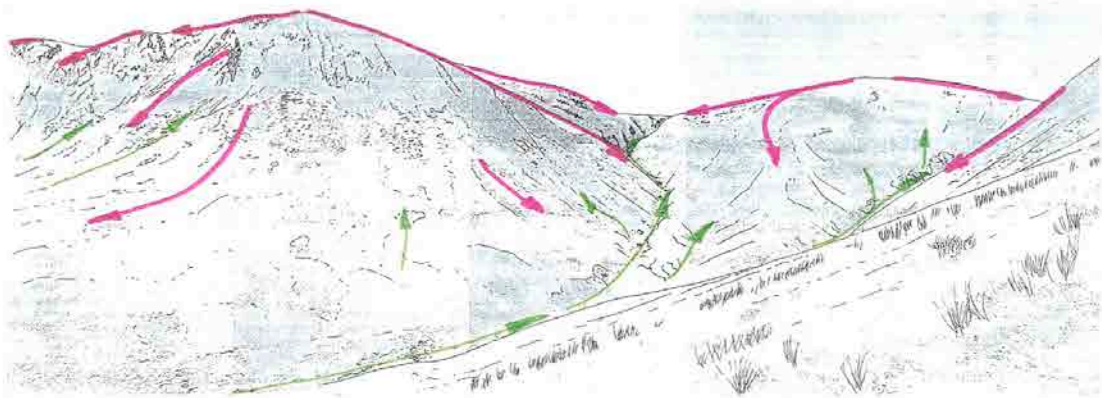


**LANDSCAPE APPRAISAL**

*Landscape dominated by crags*

*River gullies drain unseen plateau above*

*Firthhope Rig an important skyline feature*



**PROPOSALS**

*Broadleaf woodland along gullies and hollows will emphasise land form*

*Ridge tops remain unplanted*

*Lighter tree cover at higher elevation gives a natural transition from wooded to open ground*



Figure 7.5 Landscape appraisal and diagrammatic restoration proposals (Wildwood Group, 1999: unpaginated)

Appendix 8. The Manual of River Restoration Techniques

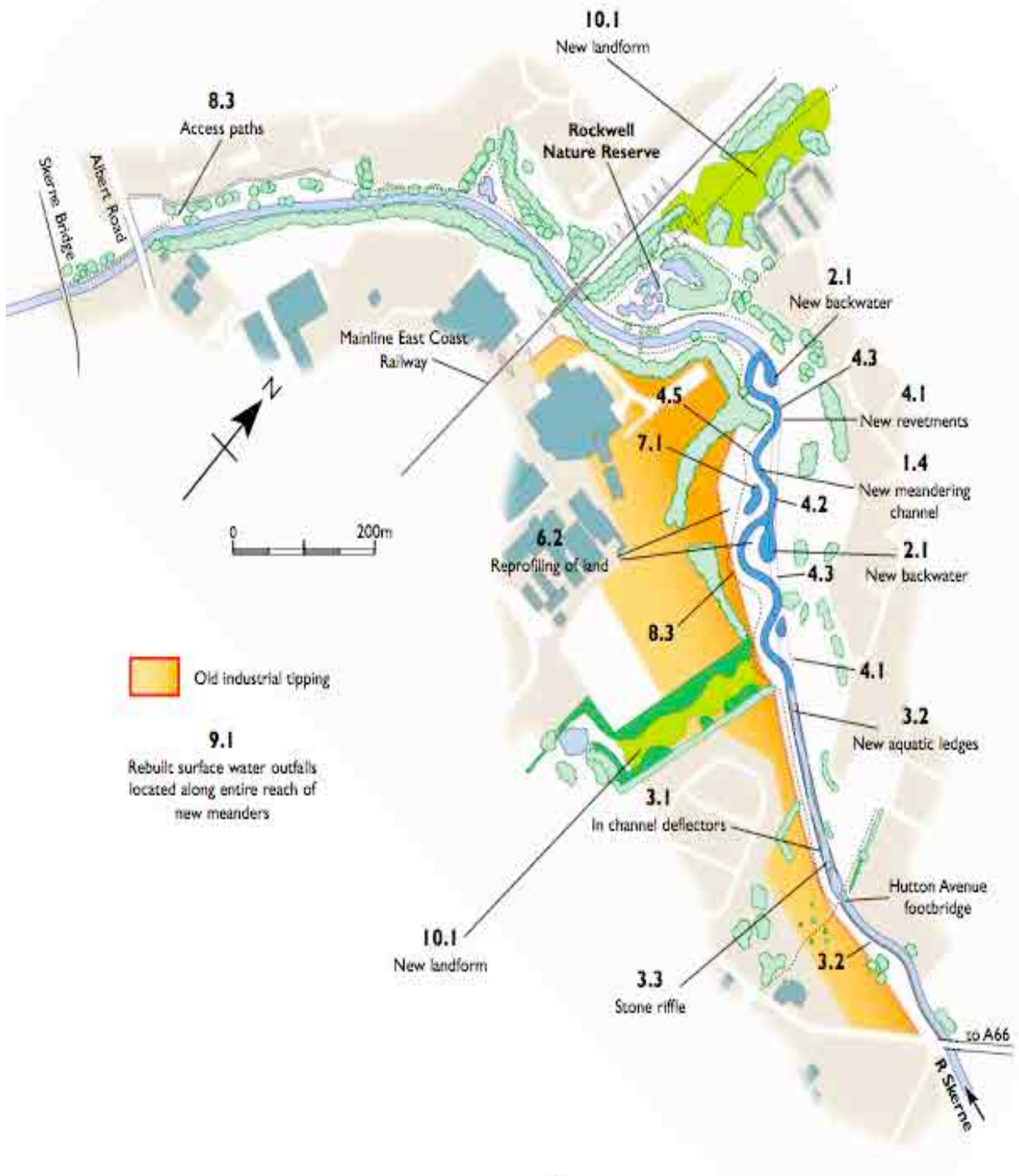


Figure 8.1 Designed restoration techniques as they appear in The Manual of River Restoration Techniques (RRC, 2002: 5).

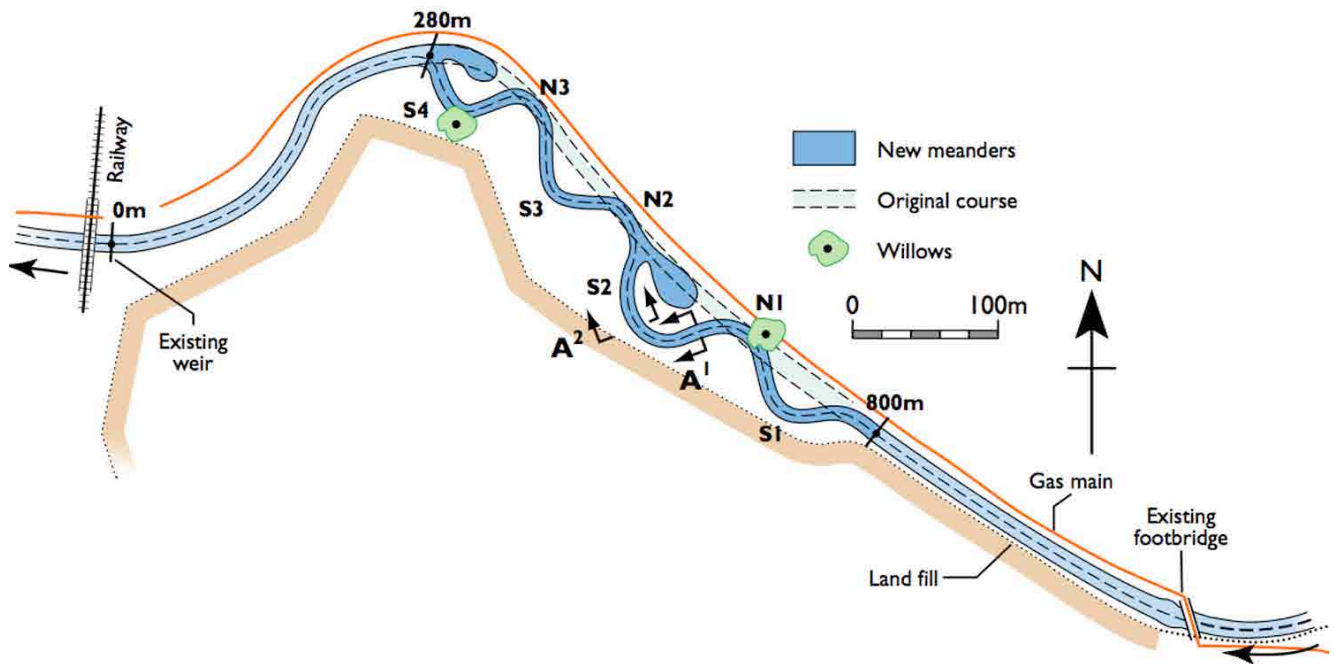


Figure 8.2 Diagram from The Manual of River Restoration Techniques detailing the location of new meanders. Note the location of the gas pipeline and the landfill material (RRC, 2002: 1.4).

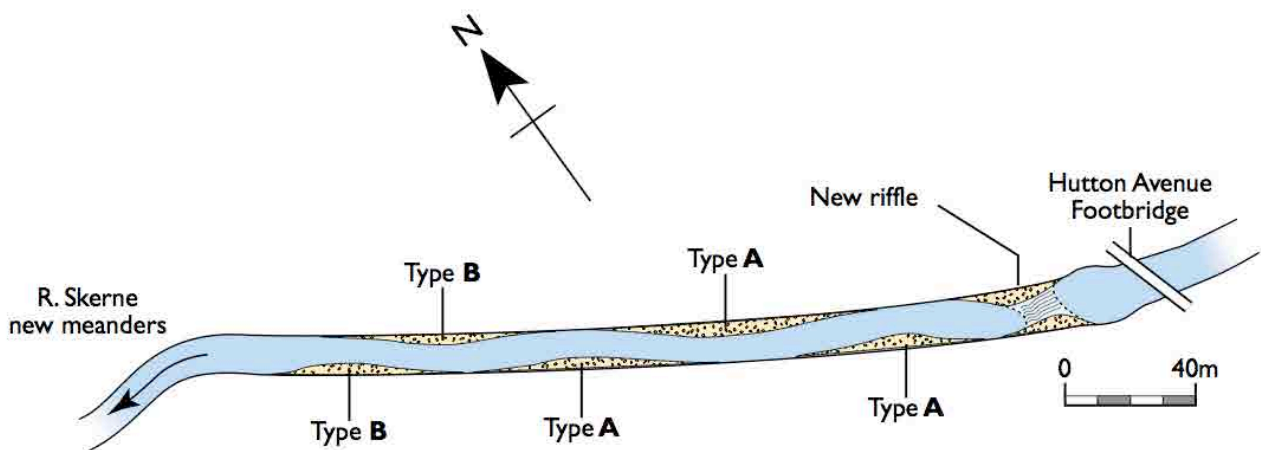


Figure 8.3 Diagram from The Manual of River Restoration Techniques detailing the location of new deflectors. Type 'A' deflectors point downstream, type 'B' point upstream (RRC, 2002: 3.1).

Appendix 9. River Skerne post-restoration photographs



Figure 9.1 Rockwell Nature Reserve pre-existed the restoration works (July, 2009).



Figure 9.2 Rockwell Nature Reserve from the same location as 9.1 (February, 2010).



Figure 9.3 Tree and vegetation cover pre-existing the restoration works (taken from the north bank, July, 2009)

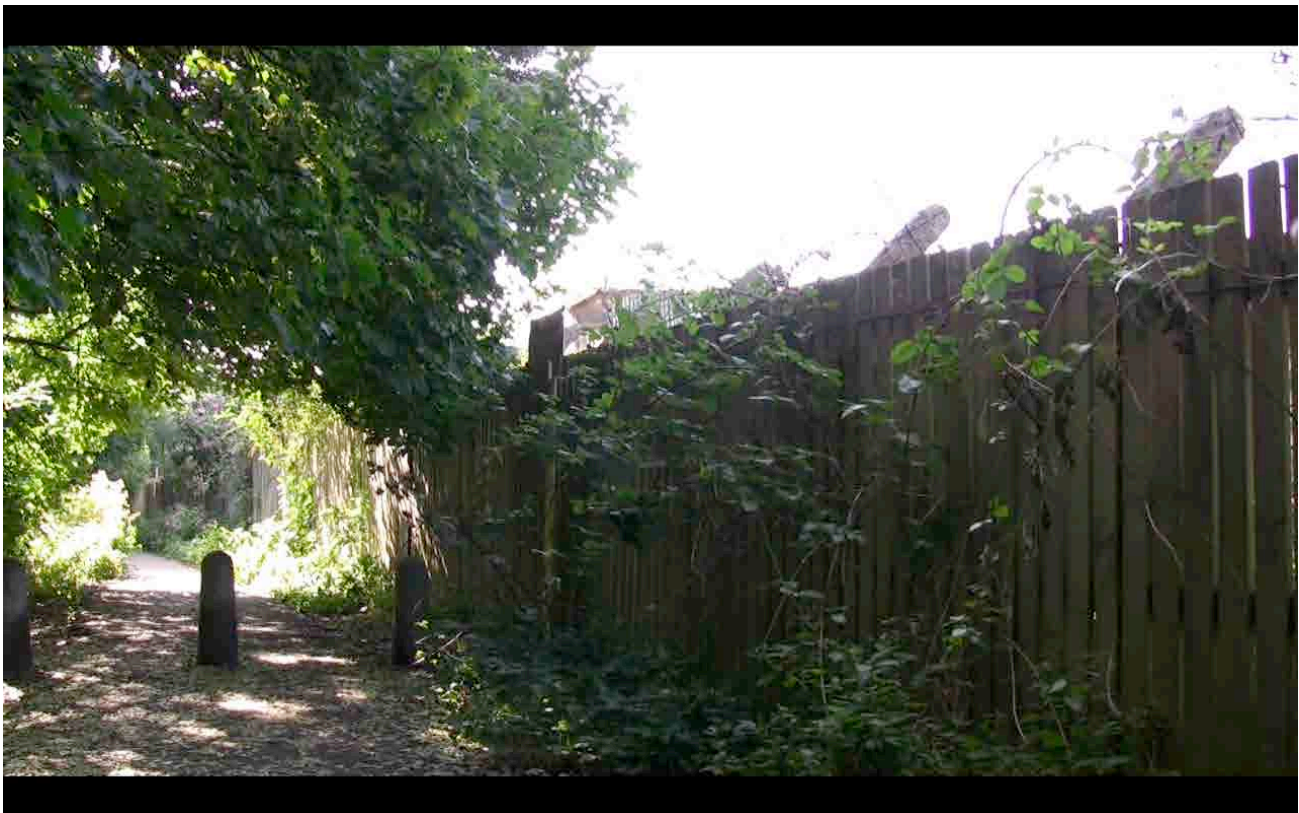


Figure 9.4 Tree canopy pre-existed the restoration works, now managed by crown lifting (September, 2009; compare with Figure 2.7).



Figure 9.5 Clump of willows on the south bank pre-existing the restoration works (taken from north bank, July, 2009).



Figure 9.6 White willow on the north bank pre-existing the restoration works (September, 2009).



Figure 9.7 View from the north bank path showing pre-existing grassland and ornamental tree stands (September, 2009).



Figure 9.8 View of the corrugated fence screened by a hedgerow (September, 2009).

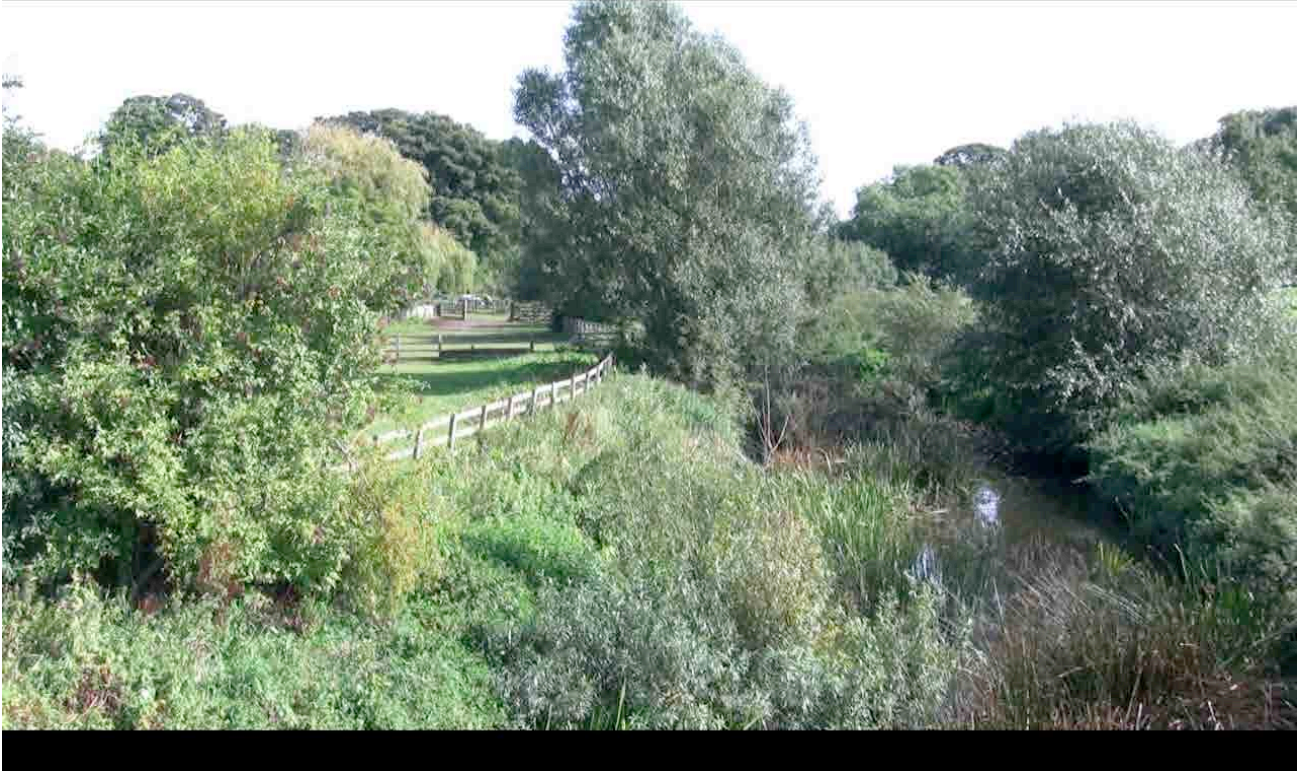


Figure 9.9 South fence of the horse paddock post-restoration, showing tree planting to screen the paddock (centre of the photograph), and in-channel and bank planting (September, 2009).



Figure 9.10 View from Houghton Avenue Footbridge looking west, post-restoration. Note the designed aquatic ledge within the channel in the foreground on the right, the riffle pool directly behind, and a self-rooted willow downstream (September, 2009).



Figure 9.11 View from Houghton Avenue Footbridge looking west, post-restoration. In-channel and bank side vegetation has died back over winter (February, 2010).



Figure 9.12 View from north bank looking south. In-channel deflector visible on south bank (September, 2009).



Figure 9.13 Grassland area to the north of the river susceptible to waterlogging (February, 2010).



Figure 9.14 Facing west on the north bank. The riverbank planting obscures views of the river channel (July, 2009).



Figure 9.15 Perennial vegetation dies back during winter revealing views of the river channel (February, 2010).



Figure 9.16 On the left is the planted 'wetland' within an area enclosed by meander S1 (September, 2009).



Figure 9.17 Backwater viewed from the path (centre of the photograph) with landscaped grassland leading off of the path (July, 2009).



Figure 9.18 Backwater viewed from the landscaped grassland area (July, 2009).



Figure 9.19 'L' shaped hedgerow with mixed grassland in foreground (September, 2009).



Figure 9.20 Shallow pond excavated during the restoration (September, 2009).



Figure 9.21 Row of trees buffering adjacent housing from the sound of the train line (September, 2009).



Figure 9.22 The top of the grassed incline marks the northern boundary of the site (September, 2009).



Figure 9.23 Installed 'fish-friendly' weir (July, 2009).



Figure 9.24 Train crossing the Five Arches Bridge (February, 2010).



Figure 9.25 Fence on the north edge of the path has been planted with ivy, while a handrail has been installed on the south side (September, 2009).



Figure 9.26 Approaching Albert Road Bridge (July, 2009).

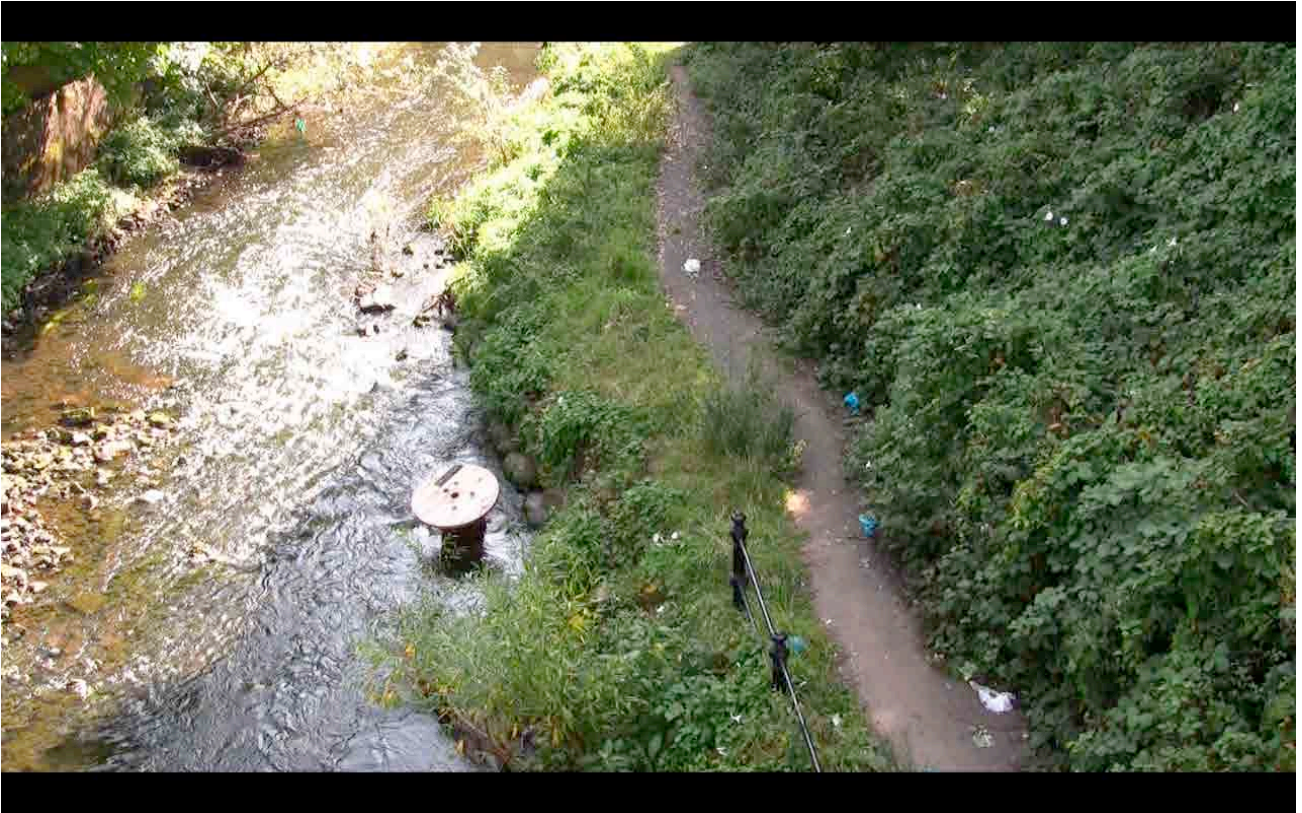


Figure 9.27 View of the north bank from Albert Road Bridge (September, 2009).

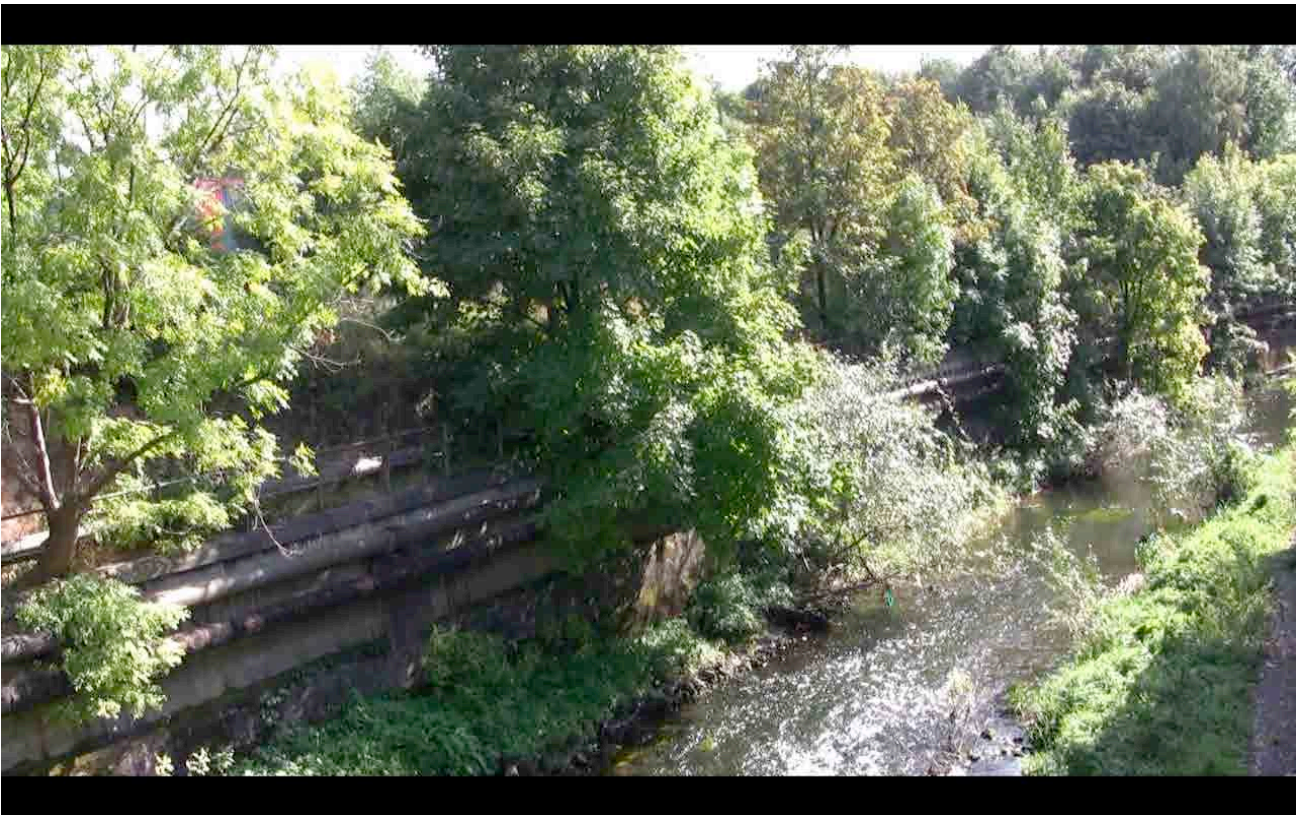


Figure 9.28. View of the south bank from Albert Road Bridge. Gas and water pipes are still clearly visible (September, 2009).



Figure 9.29 The Locomotive Footbridge, with a steam train funnel on the north bank of the Skerne (July, 2009).



Figure 9.30 Planted wildflower meadow. Houses on the north bank are visible through the trees (July, 2009).



Figure 9.31 The scrape vegetated during the growing season (September, 2009).



Figure 9.32 The scrape area is no longer a pond but a boggy area, even during high rainfall seasons (February, 2010).



Figure 9.33 The 'Keepsafe' (February, 2010).



Figure 9.34 The 'Keepsafe' post-restoration from the north bank looking south. Trees have been planted to screen industrial buildings (September, 2009).



Figure 9.35 Hutton Avenue Footbridge (July, 2009).

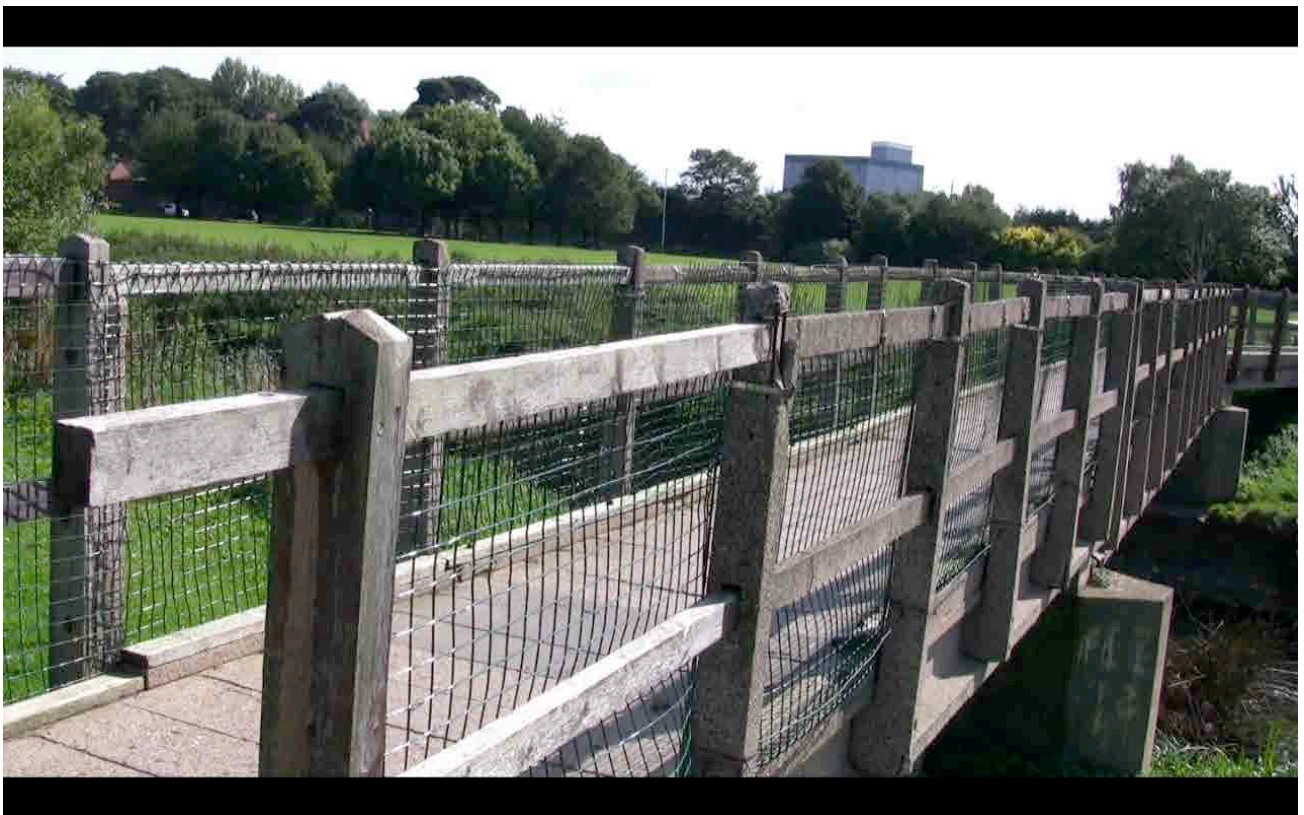


Figure 9.36 Hutton Avenue Footbridge (September, 2009).

# Appendix 10. Carrifran Wildwood map

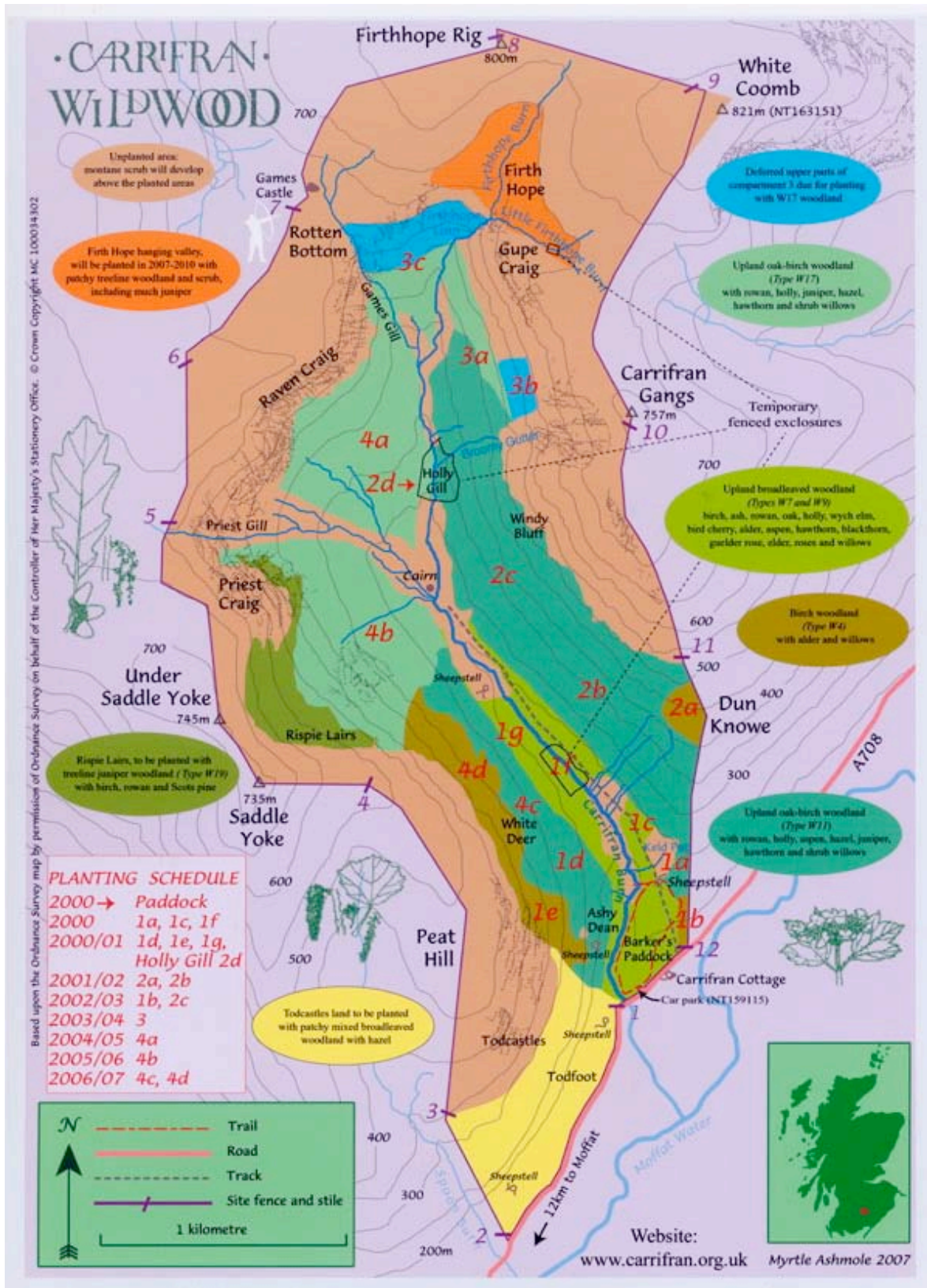


Figure 10.1 Plan of the lower and upper sections of the valley including the location of the car park and Barker’s Paddock. The sheep stell now houses information plaques and acts as a scenic viewpoint overlooking the upper valley (Ashmole, 2007).

## Appendix 11. Carrifran Wildwood post-restoration photographs



Figure 11.1 A708 towards Selkirk. Fence to the left delineates eastern boundary of Carrifran (Taken from the entry gate, August, 2009).



Figure 11.2 Entry gate to Carrifran Wildwood. The planted mound behind the sign screens the car park from the road (June, 2010).



Figure 11.3 The car park (August, 2009).



Figure 11.4 Entry to the lower valley from the car park is accessed through a kissing gate (August, 2009).



Figure 11.5 Repeated walking along the circular trail continuously re-inscribes the path line (June, 2010).



Figure 11.6 Trail re-inscribed through repeat walking (August, 2009).



Figure 11.7 Section of the boardwalk (August, 2009).



Figure 11.8 Section of boardwalk (August, 2009).



Figure 11.9 Short wooden posts have been installed along the edge of the pathway (August, 2009).



Figure 11.10 'Path to viewpoint' sign (August, 2009).



Figure 11.11 Entering the circular sheep stell (August, 2009).



Figure 11.12 View of the upper valley from the sheep stell. Note the clumps of trees on the valley sides and the gaps between these (August, 2009).



Figure 11.13 Three interpretation boards located within the sheep stell (August, 2009).



Figure 11.14 One of the interpretation boards located within the sheep stell (August, 2009).



Figure 11.15 One of the interpretation boards located within the sheep stell (August, 2009).



Figure 11.16 One of the interpretation boards located within the sheep stell (August, 2009).



Figure 11.17 The pre-existing track at the entry point to the inner valley (June, 2010).



Figure 11.18 The pre-existing track is gradually being designed out of the landscape (June, 2010).



Figure 11.19 The pre-existing track becomes visually obscured further into the valley (June, 2010).



Figure 11.20 Hovel with turfed roof and adjacent bench (June, 2010).



Figure 11.21 Deer stalker hut (June, 2010).



Figure 11.22 Deer stalker hut. The corrugated iron roof is visible under the turf (June, 2010).



Figure 11.23 60cm tree tubes visible across the landscape (August, 2009).



Figure 11.24 20cm transparent vole guard (June, 2010).



Figure 11.25 A Forestry Commission conifer plantation south of Carrifran Wildwood viewed from the sheep stall (August, 2009).

## Appendix 12. Parc Penallta post-restoration photographs

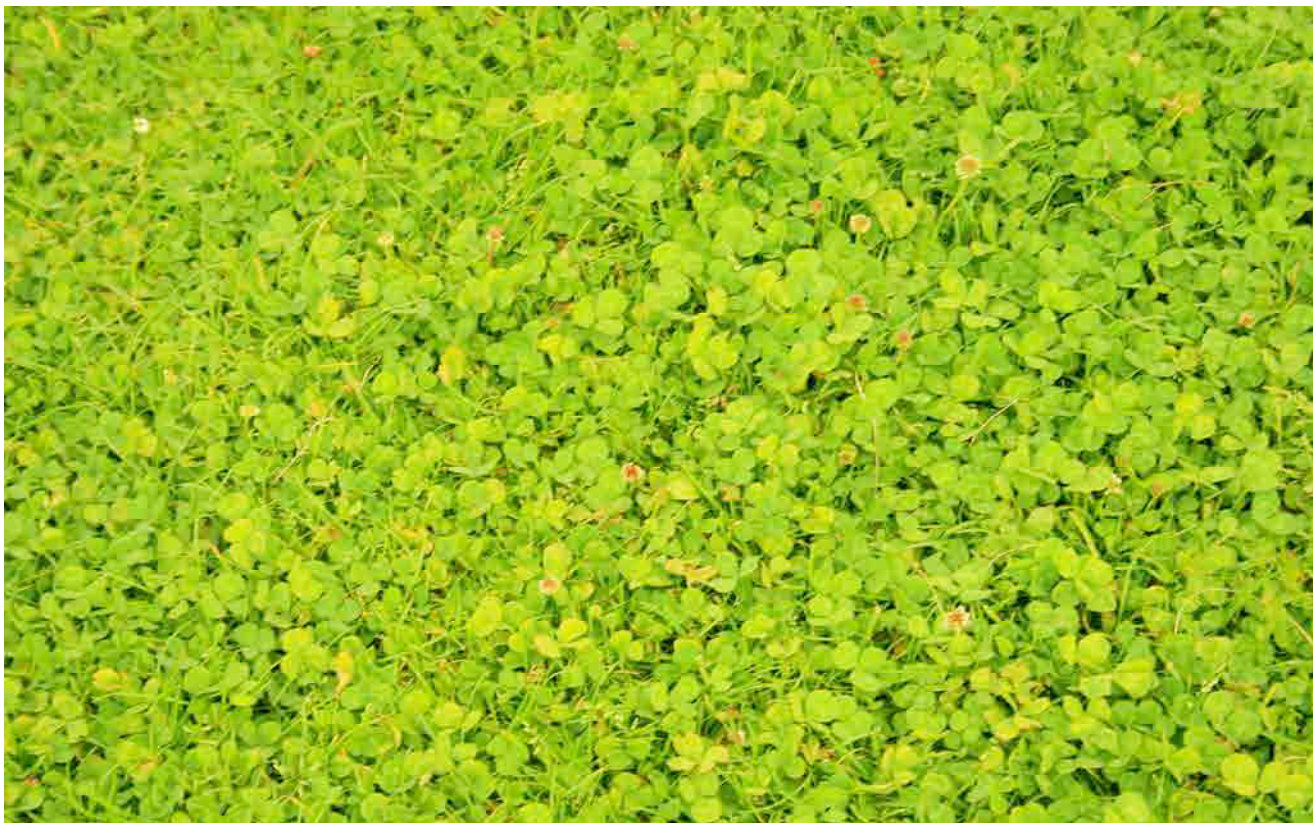


Figure 12.1 Grassland dominated by clover (June, 2009).



Figure 12.2 Thin grassland and visible coal substrate (June, 2009).



Figure 12.3 Eastern section demarcated as an events area (June, 2009).

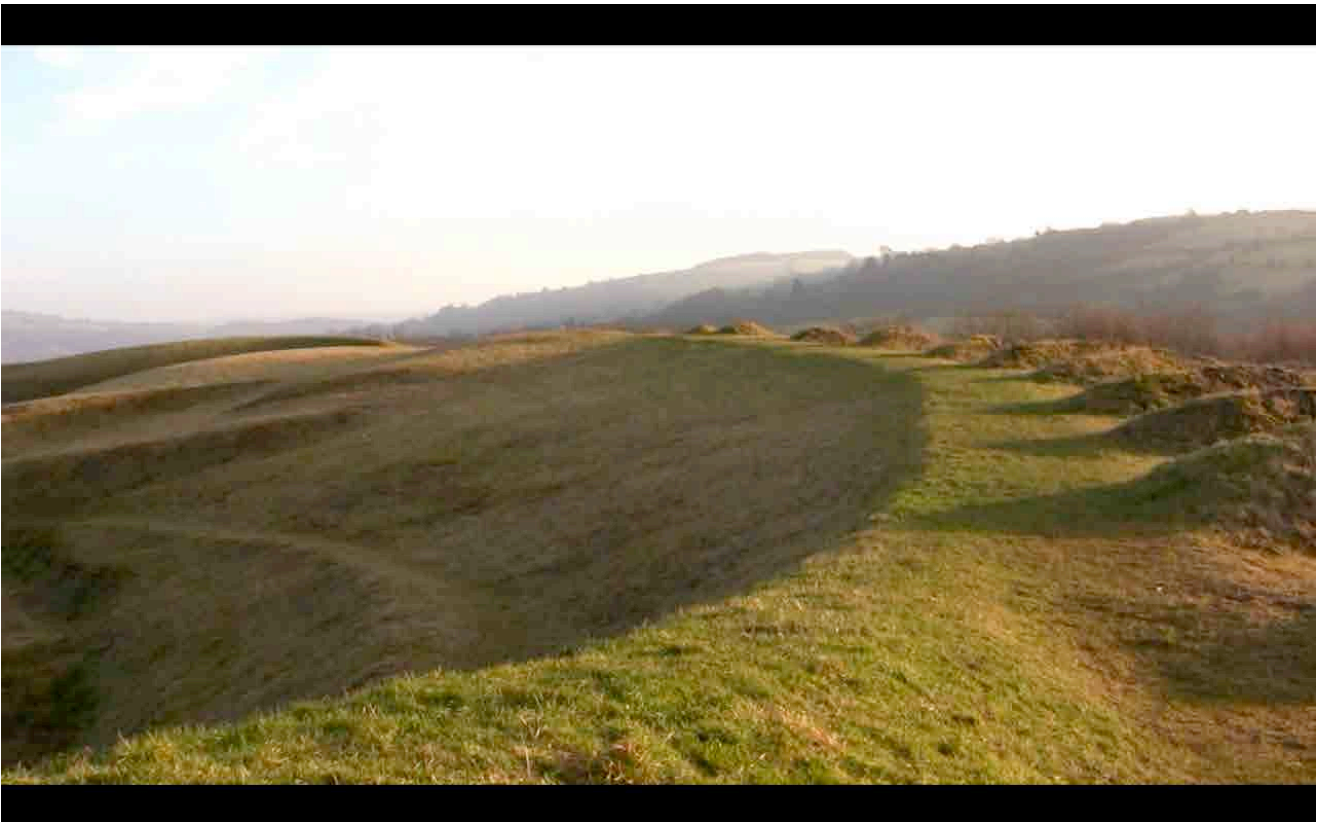


Figure 12.4 On top of Sultan the Pit Pony, looking across the body from the neck (January, 2010).



Figure 12.5 On top of Sultan the Pit Pony, looking across the body from the neck. Note the curve of the stomach creates a sheltering wall for the events area to the left (January, 2010).



Figure 12.6 The eye of Sultan, made from Swansea anthracite coal, and Sultan's wire ear (January, 2010).



Figure 12.7 The grassland area to the west of Sultan is 'potentially good for lapwings' (June, 2009).

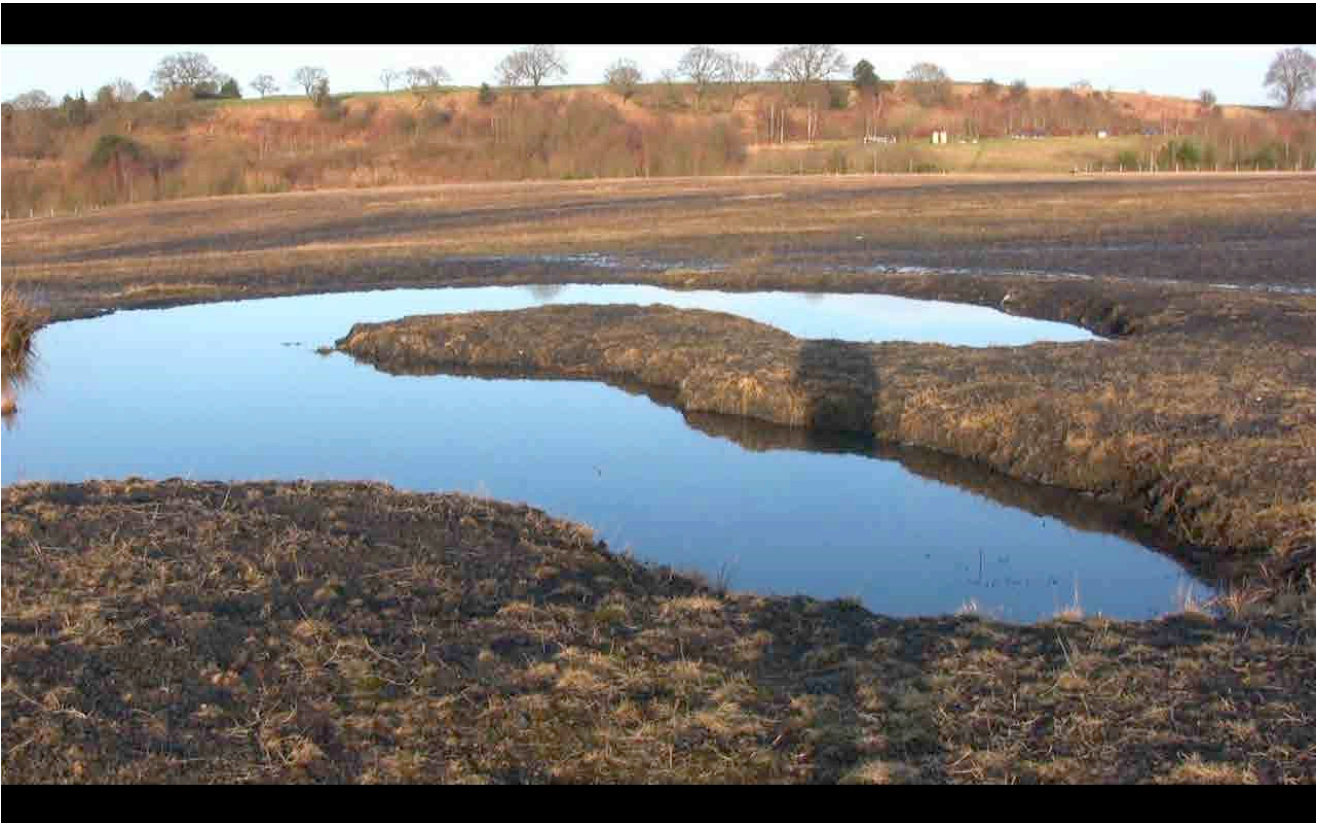


Figure 12.8 Hoof prints hollowed out of the coal shale (January, 2010).



Figure 12.9 Excavated wetland area adjacent to Nelson Bog (June, 2009).



Figure 12.10 On the edge of Nelson Bog looking outwards (June, 2009).



Figure 12.11 Nelson Bog (June, 2009).



Figure 12.12 Accessible boardwalk across the wetland area (June, 2009).



Figure 12.13 Wooden pit props across the wetland boardwalk (June, 2009).



Figure 12.14 One of the coarse fishing ponds with seating (June, 2009).



Figure 12.15 Fishing platforms on one of the fishing ponds (February, 2010).



Figure 12.16 Dipping pond near entrance of the park with bench visible (June, 2009).



Figure 12.17 Penallta Marsh (June, 2009).



Figure 12.18 Penallta Rocks (centre) viewed from Penallta Link Road (June, 2009).



Figure 12.19 At the base of Penallta Rocks (June, 2009).



Figure 12.20 Woodland landscape creates an intimate, enclosed experience in relation to the rest of the park, which is open and expansive (June, 2010).



Figure 12.21 Secluded stopping point within the pre-existing woodland area. Stone walling and seating arrangements have been built (June, 2009).



Figure 12.22 The Sleeping Giant earth sculpture by Godfrey Philips (June, 2009).



Figure 12.23 Approaching the observatory sculpture by Malcolm Robertson, on Yellow Mountain (June, 2009).



Figure 12.24 Observatory sculpture by Malcolm Robertson (June, 2009).



Figure 12.25 Detail of one of the arms of the observatory sculpture. Each arm provides informal seating (June, 2009).



Figure 12.26 Two of the 12 pennant stones that form Robert Kennedy's 'Stone Stories'. The stones are also intended to act as informal seating (June, 2009).

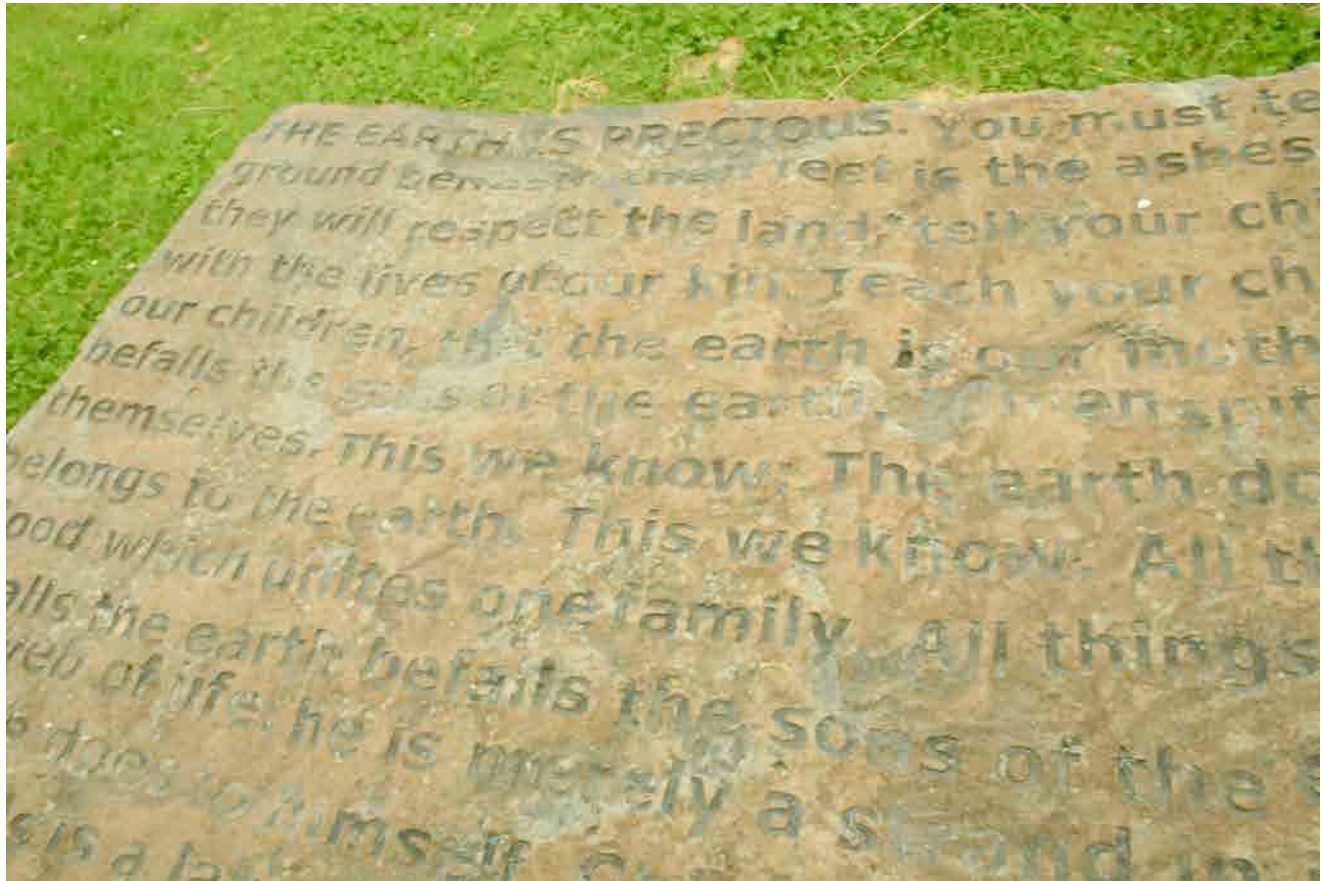


Figure 12.27 Detail of one of the Stone Stories (June, 2009).



Figure 12.28 Coal Cutters Dream by Godfrey Philips (June, 2009).



Figure 12.29 Remains of agricultural stone buildings outside of the park's boundary (February, 2010).



Figure 12.30 Brown hare by Rhys Harris (June, 2009).



Figure 12.31 Breaking the Mould by Andrew McKeown (June, 2010).



Figure 12.32 Interpretation board in front of Breaking the Mould, explaining the *Changing Places* Programme (June, 2010).



Figure 12.33 Visitor centre located near to the entrance of the park (June, 2009).

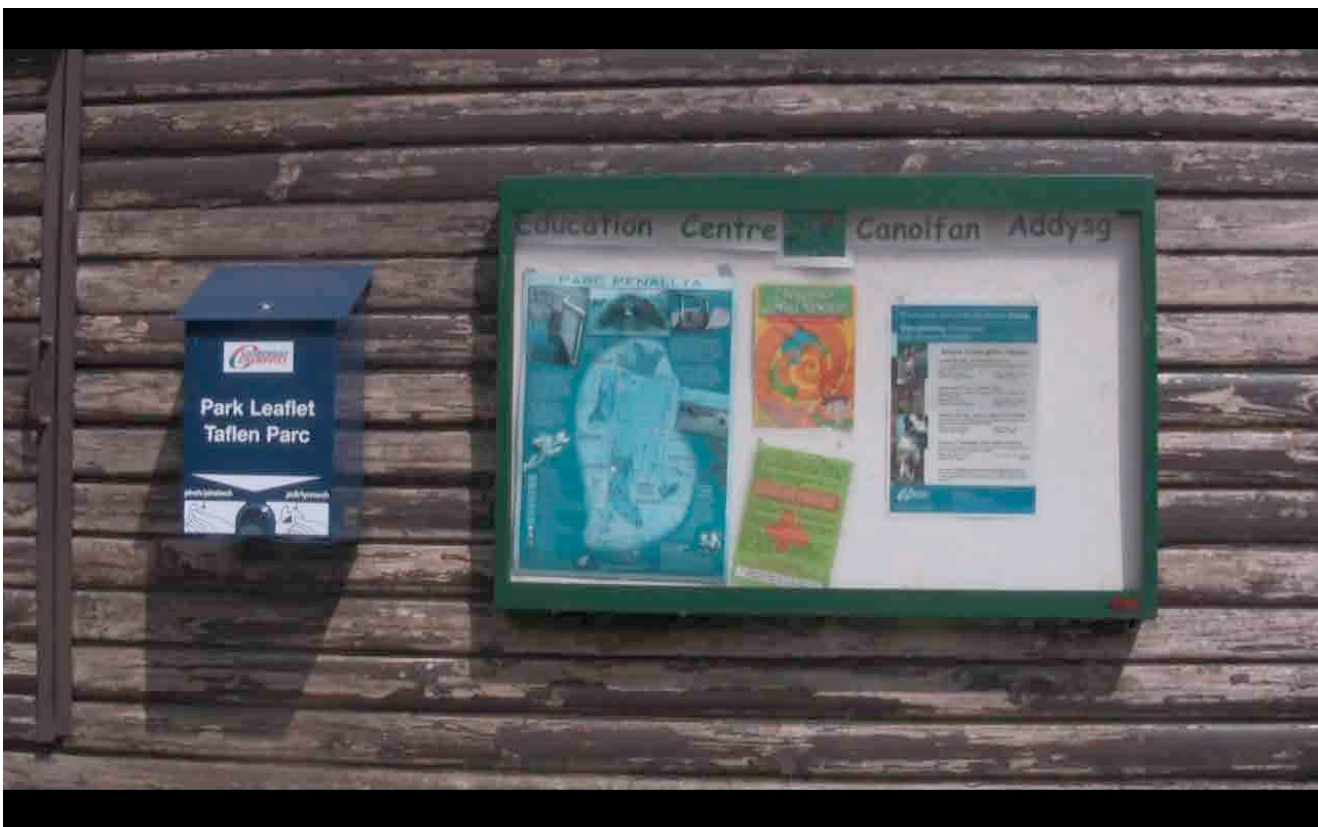


Figure 12.35 Map dispenser on the side of the visitor centre (June, 2010).

# PARC PENALLTA



Os ydych chi eiddo wedi dymuno gael tro ar gefn merlen, yna mae'n rhaid i chi ymweld â Pharc Penallta. Mae Sultan, cob y parc, ar gael trwy'r amser ar gyfer reidiau. Byddwch yn ddewr, mae'n 200m mewn hyd, 15m o uchder a chredwn taw ef yw cerflun tir ffuguraidd fwyaf y DU. Eisteddych yn ei glust a mwynhewch y golygfeydd!

Mae Parc Penallta ar agor drwy gydol y flwyddyn. Mae yna ganolfan addysg fach ar gael ar gyfer ysgolion a grwpiau sy'n ymweld. Rydym hefyd yn rhedeg Clwb Ceidwaid Iau. Ffoniwch ni a gofynnwch i gael siarod â'r Uwch Geidwad.

If you've ever fancied a go on a pony then a visit to Parc Penallta is a must. Sultan, the park's own pit pony, is always available for rides. Be brave though, he's 200m long, 15m high and is (we reckon) the UK's largest figurative earth sculpture. Sit in his ear and enjoy the views!

Parc Penallta is open all year. There is a small education centre available for visiting schools and groups. We also run a monthly Junior Rangers Club. Give us a call and ask to speak to the Senior Ranger.



## KEY ALLWEDD

- SULTAN TRAIL LLWYBR SWLTAN
- WOODPECKER TRAIL LLWYBR CNOCELL Y COED
- SKYLARK TRAIL LLWYBR YR EHEDYDD
- NATIONAL CYCLE ROUTE 47 LLWYBR BEICIO GENEOLAETHOL 47
- RHYMNEY VALLEY RIDGEWAY WALK LLWYBR CEFNFFOROD CWM RHYMNEY
- BRIDLEWAY LLWYBR CEFYRL
- OTHER PATHS LLWYBRAU ERAILL
- LOCAL NATURE RESERVE CADWRAETH NATUR LLEOL
- PICNIC SITE SAFLE PICNIG
- CAR PARK MAES PARCIO
- VIEWPOINTS GOLYGFANNAU
- SCULPTURE CERFLUNIAETH



Figure 12.34 Parc Penallta visitor map (Caerphilly County Borough Council, undated).



Figure 12.36 Map dispenser and notice board in car park (June, 2010).



Figure 12.37 Sculptural version of the map of the park by Godfrey Philips (June, 2010).



Figure 12.38 Detail of the sculptural map, showing Yellow Mountain, the observatory sculpture, and the various walking trails (coloured dots) (June, 2010).



Figure 12.39 Sculptural sign marking the National Cycle Route 47, which is to the right, and picnic tables to the left (June, 2009).



Figure 12.40 Seating adjacent to the wetland area (February, 2010).



Figure 12.41 Designated viewing area overlooking Ystrad Mynach (February, 2010).



Figure 12.42 Viewing platform overlooking Sultan the Pit Pony (June, 2009).



Figure 12.43 View of Sultan the Pit Pony from viewing platform (February, 2010).



Figure 12.44 Viewing area overlooking wetland area (June, 2010).



Figure 12.45 View of wetland area from viewing platform (June, 2010).



Figure 12.46 Skylark (top) and woodpecker walking routes signposted (June, 2010).



Figure 12.47 Sultan (top) and woodpecker walking routes signposted (June, 2010).



Figure 12.48 Wave motif on a bridge (June, 2010).



Figure 12.49 Wave motif on a footbridge (June, 2010).



Figure 12.50 Wave motif on a warning sign and perimeter fencing adjacent to the fishing ponds (June, 2010).

## Appendix 13. River Skerne management photographs

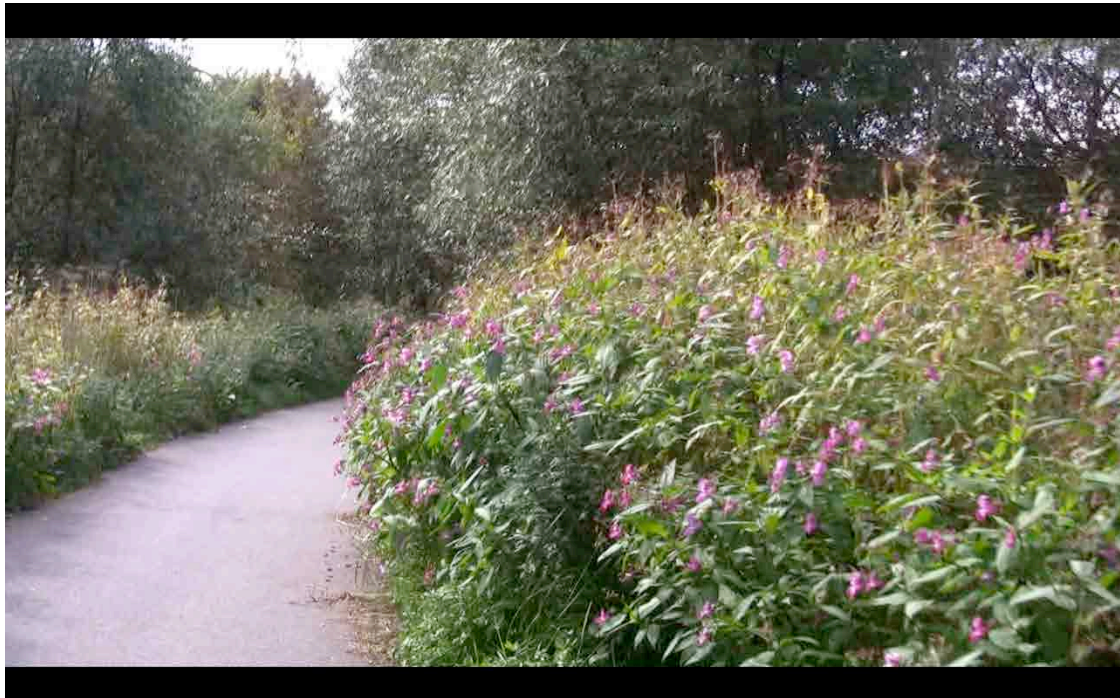


Figure 13.1 Himalayan Balsam lines the path to the west of the Locomotive Footbridge (September 2009).

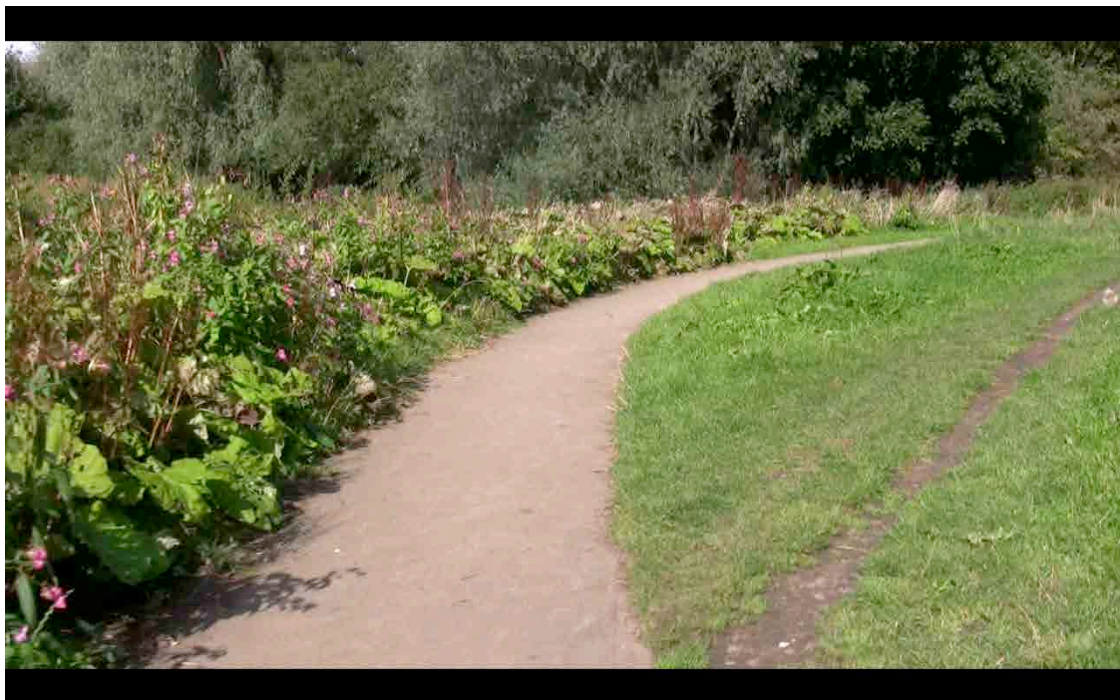


Figure 13.2 Himalayan Balsam lines the south bank to the east of the Locomotive Footbridge (September 2009).



Figure 13.3 Same location as Figure 13.2: Himalayan Balsam is cut back and dead material is completely removed from the ground revealing the river (February 2010).



Figure 13.4 Graffiti on signage (July 2009).



Figure 13.5 Graffiti on fencing (July 2009).



Figure 13.6 Graffiti on Five Arches Bridge (July 2009).

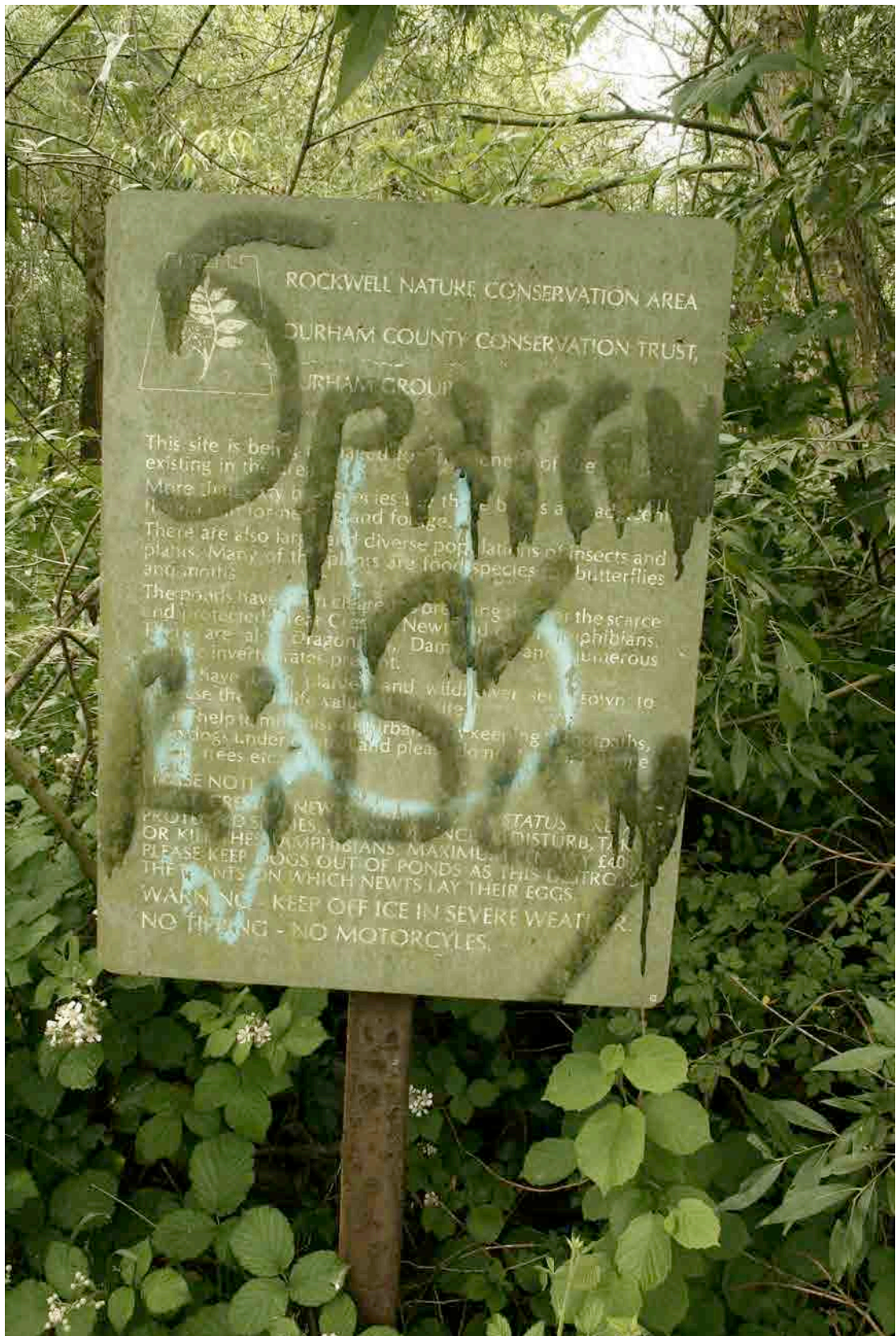


Figure 13.7 Graffiti on Rockwell Nature Conservation Area sign (July 2009).



Figure 13.8 'No motorcycles' sign (September 2009).



Figure 13.9 1989 'Vehicles on open land' by-law sign (July 2009).

Appendix 14. Carrifran Wildwood management photographs



Figure 14.1 Dead wood accumulating at Holly Gill (September 2002, courtesy of High Chalmers).

## Appendix 15. Parc Penallta management photographs



Figure 15.1 Channel draining the events area (June 2010).



Figure 15.2 Channel draining the plateau (June 2010).



Figure 15.3 Drainage channel running adjacent to footpath (June 2010).



Figure 15.4 A drainage channel terminating at a settling pond. Note the accumulated coal where the channel terminates (June 2010).



Figure 15.5 Tarmac path running adjacent to the fishing ponds (June 2010).



Figure 15.6 'Emperor Dragonfly' sign attached to the wetland boardwalk (June 2010).

## Bibliography

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- Abram, D. (1996) *The Spell of the Sensuous: Perception and Language in a More-Than-Human World*. New York: Pantheon Books.
- Adair, S. and Ashmole, P. (2009) 'Woodland relics at Carrifran', in Ashmole, M. and Ashmole, P. (eds) *The Carrifran Wildwood Story: Ecological Restoration from the Grass Roots*. Ancrum: Borders Forest Trust, 80-84.
- Adams, M., Cox, T., Moore, G., Croxford, B., Refaee, M. and Sharples, S. (2006) Sustainable soundscapes: noise policy and the urban experience. *Urban Studies*, 43 (13): 2385-2398.
- Adams, P.C. (2001) 'Peripatetic imagery and peripatetic sense of place', in Adams, P.C., Hoelscher, S.D. and Till, K.E. (eds) *Textures of Place*. Minneapolis: University of Minnesota Press, 186-206.
- Adams, W.M., Perrow, M.R. and Carpenter, A. (2004) Conservation and champions: river managers and the river restoration discourse in the United Kingdom. *Environment and Planning A*, 36: 1929-1942.
- Agyeman, J. and Spooner, R. (1997) 'Ethnicity and the rural environment', in Cloke, P. and Little, J. (eds) *Contested Countryside Cultures: Otherness, Marginalisation and Rurality*. London: Routledge, 190-210.
- Allen, C.D., Savage, M., Falk, D.A., Suckling, K.F., Swetnam, T.W., Schulke, T., Stacey, P.B., Morgan, P., Hoffman, M. and Klingel, J.T. (2002) Ecological restoration of Southwestern Ponderosa pine ecosystems: a broad perspective. *Ecological Applications*, 12 (5): 1418-1433.
- Allison, S.K. (2004) What *do* we mean when we talk about ecological restoration? *Ecological Restoration*, 22 (4): 281-286.
- Altman, R. (1992) 'Introduction: Four and a half film fallacies', in Altman, R. (ed) *Sound theory/Sound Practice*. London: Routledge, 35-45.
- Anderson, B. (2004) Recorded music and practices of remembering. *Social & Cultural Geography*, 5: 3-20.
- Anderson, J. (2004) Talking whilst walking: a geographical archaeology of knowledge. *Area*, 36 (3): 254-261.

- Antrop, M. (2005) Why landscapes of the past are important for the future. *Landscapes and Urban Planning*, 70 (1-2): 21-34.
- Arefi, M. (1999) Non-place and placelessness as narratives of loss: rethinking the notion of place. *Journal of Urban Design*, 4 (2): 179-193.
- Aronson, J., Floret, C., LeFloc'h, E., Ovalle, C. and Pontanier, R. (1993) Restoration and rehabilitation of degraded ecosystems in arid and semi-arid lands. I. A view from the South. *Restoration Ecology*, 1 (1): 8-17.
- Aronson, J., Milton, S.J. and Blignaut, J.N. (2007) 'Restoring natural capital: Definition and rationale', in Aronson, J., Milton, S.J. and Blignaut, J.N. (eds) *Restoring Natural Capital: Science, Business, and Practice*. Washington: Island Press, 3-8.
- Ashmole, M. and Ashmole, P. (eds) (2009) *The Carrifran Wildwood Story: Ecological Restoration from the Grass Roots*. Ancrum: Borders Forest Trust.
- Ashmole, P. (2009) Let the chips fall! But be aware of likely consequences. *Wilder Horizons*, 1 (1): 1-2.
- Ashmole, P. and Tipping, R. (2009) 'The peat core from Rotten Bottom – a unique record of a changing environment', in Ashmole, M. and Ashmole, P. (eds) *The Carrifran Wildwood Story: Ecological Restoration from the Grass Roots*. Ancrum: Borders Forest Trust, 76-80.
- Attfield, R. (1998) Existence value and intrinsic value. *Ecological Economics*, 24: 163-168.
- Attoh, K. (2011) The bus hub. *ACME: An International E-Journal for Critical Geographers*, 10: 280-285.
- Augoyard, J-F. and Torgue, H. (2008) *Sonic Experience: A Guide to Everyday Sounds*. Montreal: McGill-Queen's University Press.
- Badenoch, C. O. (2003) 'Where we were, where we are and where we want to be: A review', in Kohn, D. (ed.) *Restoring Borders Woodland: The Vision and the Task*. Ancrum: Borders Forest Trust, 7-18.
- Baker, S. (2003) Auto-audio ethnography; or, pre-teen girls' capturing their popular musical practices on tape. *Context: Journal of Music Research*, 26: 57-65.
- Basso, K.H. and Feld S. (eds) (1996) *Senses of Place*. Santa Fe: School of American Research Press.

- Bavington, D. (2002) Managerial ecology and its discontents: exploring the complexities of control, careful use and coping in resource and environmental management. *Environments*, 30 (3): 3-21.
- Bavington, D. (2005) 'Homo Administrator: managing a needy nature?', in Heyd, T. (ed.) *Recognizing the Autonomy of Nature: Theory and Practice*. New York: Columbia University Press, 121-136.
- Bell, S. (1999) *Landscape: Pattern, Perception and Process*. New York: Routledge.
- Bell, S. (2008) *Design for Outdoor Recreation* (2<sup>nd</sup> Edition). Abingdon: Taylor & Francis.
- Benediktsson, K. (2007) 'Scenophobia', geography and the aesthetic politics of landscape. *Geografiska Annaler, Series B: Human Geography*, 89 (3): 203–217.
- Bennett, K. and Shurmer-Smith, P. (2002) 'Handling case studies', in Shurmer-Smith, P. (ed.) *Doing Cultural Geography*. London: Sage Publications Ltd, 199-210.
- Benson, J. (2008) Aesthetic and other values in the rural landscape. *Environmental Values*, 17: 221-238.
- Berleant, A. (1992) 'Aesthetic perception in environmental design', in Nasar, J.L. (Ed.) *Environmental Aesthetics: Theory, Research and Applications*. Cambridge: Cambridge University Press, 84-97.
- Berleant, A. (1997) *Living in the Landscape: Toward an Aesthetics of Environment*. Kansas: University Press of Kansas.
- Berleant, A. (2005) *Aesthetics and Environment: Variations on a Theme*. Aldershot: Ashgate Publishing Ltd.
- Biggs, J. (1996) *River Restoration: Benefits for Integrated Catchment Management, Monitoring Programme*. Year 2 (1995) Interim Report. Huntingdon: River Restoration Project.
- Biggs, L., Corfield, A., Grøn, P., Hansen, H.O., Walker, D., Whitfield, M. and Williams, P. (1998) Restoration of the rivers Cole and Skerne: a joint Danish and British EU -LIFE demonstration project, V — Short-term impacts on the conservation value of aquatic macroinvertebrate and macrophyte assemblages. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 8 (1): 241-255.
- Birksted, J. (2000) 'Landscape between memory and experience', in Birksted, J. (ed.) *Landscapes of Memory and Experience*. London: Spon Press.
- Blandy, D., Congdon, K.G. and Krug, D.H. (1998) Art, ecological restoration, and art education. *Studies in Art Education*, 39 (3): 230-243.

- Blessner, B. and Salter, L-R (2007) *Spaces Speak, Are You Listening? Experiencing Aural Architecture*. Cambridge, MA: MIT Press.
- Block, W.M., Franklin, A.B., Ward Jr, J.P., Ganey, J.L. and White, G.C. (2001) Design and implementation of monitoring studies to evaluate the success of ecological restoration on wildlife. *Restoration Ecology*, 9 (3): 293-303.
- Blomley, N. (2004) Un-real estate: proprietary space and public gardening. *Antipode*, 36 (4): 614-641.
- Boswell, C. (2008) The political functions of expert knowledge: knowledge and legitimation in European Union immigration policy. *Journal of European Public Policy*, 15 (4): 471-488.
- Bott, S., Cantrill, J.G. and Myers Jr., O.E. (2003) Place and the promise of conservation psychology. *Human Ecology Review*, 10 (2): 100-112.
- Bourassa, S.C. (1991) *The Aesthetics of Landscape*. London: Belhaven Press.
- Boyd, W.E. and Gardiner, J.E. (2005) Stooking the peanuts: historical agriculture and the management of a dying seasonal landscape, north-east New South Wales, Australia. *Landscape Research*, 30 (2): 193-220.
- Boyer, M.C. (1994) *The City of Collective Memory: Its Historical Imagery and Architectural Entertainments*. Cambridge: MIT Press.
- Brady, E. (1998) Imagination and the aesthetic appreciation of nature. *Journal of Aesthetics and Art Criticism*, 56: 139-147.
- Brady, E. (2003) *Aesthetics of the Natural Environment*. Edinburgh University Press: Edinburgh.
- Brady, E. (2006a) The aesthetics of agricultural landscapes and the relationship between humans and nature. *Ethics, Place & Environment*, 9 (1): 1-19.
- Brady, E. (2006b) Aesthetics in practice: valuing the natural world. *Environmental Values*, 15: 277-291.
- Brady, E. (2008) 'Aesthetic character and aesthetic integrity in environmental conservation', in Light, A. and Rolston III, H. (eds) *Environmental Ethics: An Anthology*. Oxford: Blackwell Publishing Ltd., 397-412.
- Brady, E. (2010) Ugliness and nature. *Enrahonar*, 45: 27-40.
- Bratton, S.P. (2000) 'Alternative models of ecosystem restoration', in Throop, W. (ed.) *Environmental Restoration: Ethics, Theory, and Practice*. Amherst: Humanity Books, 53-68.

- Breglia, L. (2006) *Monumental Ambivalence: The Politics of Heritage*. Austin: The University of Texas Press.
- Bried, J., Magalhães, M.C., Bolton, M., Neves, V.C., Bell, E., Pereira, J.C., Aguiar, L., Monteiro, L.R. and Santos, R.S. (2009) Seabird habitat restoration on Praia Islet, Azores Archipelago. *Ecological Restoration*, 27 (1): 27-36.
- Brigham, J. (1993) Reclamation artists: a report from Boston. *Leonardo*, 26 (5): 379-385.
- Brook, I. (2003) Making here like there: place attachment, displacement and the urge to garden. *Ethics, Place and Environment*, 6 (3): 227-234.
- Brook, I. (2006) Restoring landscapes: the authenticity problem. *Earth Surface Processes and Landforms*, 31: 1600-1605.
- Bryman, A. (2006) Integrating quantitative and qualitative research: how is it done? *Qualitative Research*, 6 (1): 97-113.
- Budd, M. (2002) *The Aesthetic Appreciation of Nature: Essays on the Aesthetics of Nature*. Oxford: Clarendon Press.
- Buijs, A.E. (2009) Public support for river restoration. A mixed-method study into local residents' support for and framing of river management and ecological restoration in the Dutch floodplains. *Journal of Environmental Management*, 90: 2680-2689.
- Bunce, M.F. (2003) 'Reproducing rural idylls', in Cloke, P. (ed.) *Country Visions*. Harlow: Pearson Education Limited, 14-30.
- Bunce, M.F. and Bunce, M. (1994) *The Countryside Ideal: Anglo-American Images of Landscape*, London: Routledge.
- Burgess, J. and Gold, J.R. (1982) 'On the significance of valued environments', in Gold, J.R. and Burgess, J. (eds) *Valued Environments*. London: Allen & Unwin, 1-8.
- Butler, T. (2006) A walk of art: The potential of the sound walk as practice in cultural geography. *Social and Cultural Geography*, 7 (6): 889-908.
- Cahen, H. (2003) 'Against the moral considerability of ecosystems', in Light, A. and Rolston III, H. (eds) *Environmental Ethics: An Anthology*. Oxford: Blackwell Publishing Ltd, 114-128.
- Cahoone, L. (2009) Hunting as a moral good. *Environmental Values*, 18 (1): 67-89.
- Cairns Jr., J. and Heckman, J.R. (1996) Restoration ecology: the state of an emerging field. *Annual Review of Energy and the Environment*, 21: 167-189.

- Callicott, J.B. (1994) 'The Land Aesthetic', in Chapple, C.K. (ed.) *Ecological Prospects: Scientific, Religious, and Aesthetic Perspectives*. Albany: State University of New York Press, 169-170.
- Callicott, J.B. (2003) 'The land ethic', in Jamieson, D. (ed.) *A Companion to Environmental Philosophy*. Oxford: Blackwell Publishing Ltd, 204-217.
- Callicott, J.B. (2008) 'Leopold's Land Aesthetic', in Carlson, A. and Lintott, S. (eds) *Nature, Aesthetics, and Environmentalism: From Beauty to Duty*. New York: Columbia University Press, 105-118.
- Callicott, J.B. and Nelson, M. (eds) (1998) *The New Wilderness Debate*. Athens: University of Georgia Press.
- Callon, M. and Law, J. (1995) Agency and the hybrid collectif. *South Atlantic Quarterly*, 94: 481-507.
- Carles, J.L., Barrio, I.L. and de Lucio, J.V. (1999) Sound influence on landscape values. *Landscape and Urban Planning*, 43: 191-200.
- Carlson, A. (1979) Formal qualities in the natural environment. *Journal of Aesthetic Education*, 13 (3): 99-114.
- Carlson, A. (2000) *Aesthetics and the Environment: The Appreciation of Nature, Art and Architecture*. London: Routledge.
- Carlson, A. and Berleant, A. (2004) *The Aesthetics of Natural Environments*. Peterborough: Broadview Press.
- Carpiano, R.M. (2009) Come take a walk with me: the "go-along" interview as a novel method for studying the implications of place for health and well-being. *Health & Place*, 15 (1): 263-272.
- Carr, E. (1998) *Wilderness by Design: Landscape Architecture and the National Park Service*. Lincoln: University of Nebraska Press.
- Carter, J., Dyer, P. and Sharma, B. (2007) Dis-placed voices: sense of place and pace-identity on the Sunshine Coast. *Social and Cultural Geography*, 8 (5): 755-773.
- Carter Park, D. and Coppack, P.M. (1994) The role of rural sentiment and vernacular landscapes in contriving sense of place in the city's countryside. *Geografiska Annaler B*, 76 (3): 161-172.
- Casey, E. (1997) *The Fate of Place: A Philosophical History*. Berkeley: University of California Press.

- CCBC (1996) *History and background details to Penallta Community Park Millennium Project: reclamation and restoration of Penallta Tip and Nelson Bog*. Prepared by CCBC Client Services, 14 June 1996.
- Chalmers, H. (2009) 'Establishing Woodland at Carrifran', in Ashmole, M. and Ashmole, P. (eds) *The Carrifran Wildwood Story: Ecological Restoration from the Grass Roots*. Ancrum: Borders Forest Trust, 154-167.
- Chan, E.C. (2009) What role for ruins? Meaning and narrative of industrial ruins in contemporary parks. *Journal of Landscape Architecture*, 2: 20-31.
- Chapman, R. (2006) Ecological restoration restored. *Environmental Values*, 15: 463-478.
- Cho, M-R. (2010) The politics of urban nature restoration: the case of Cheonggyecheon restoration in Seoul, Korea. *International Development Planning Review*, 32 (2): 145-165.
- Choi, Y.D. (2004) Theories for ecological restoration in changing environment: toward 'futuristic' restoration. *Ecological Research*, 19: 75-81.
- Christoff, P. (2000) 'Ecological modernisation, ecological modernities', in Young, S.C. (ed.) *The Emergence of Ecological Modernisation: Integrating the Environment and the Economy?* London: Routledge, 209-231.
- Clewell, A.F. and Aronson, J. (2006) Motivations for the restoration of ecosystems. *Conservation Biology*, 20 (2): 420-428.
- Clewell, A.F. and Aronson, J. (2007) *Ecological Restoration: Principles, Values, and Structure of an Emerging Profession*. Washington D.C.: Island Press.
- Coates, P.A. (2006) *American Perceptions of Immigrant and Invasive Species: Strangers on the Land*. Berkeley: University of California Press.
- Colebatch, H.K. (2006) What work makes policy? *Policy Sciences*, 39 (4): 309-321.
- Collinson, N.H., Biggs, J., Corfield, A., Hodson, M.J., Walker, D., Whitfield, M. and Williams, P (1995) Temporary and permanent ponds: an assessment of the effects of drying out on the conservation value of aquatic macroinvertebrate communities. *Biological Conservation*, 75: 125-133.
- Colten, C.E. and Dilsaver, L.M. (2005) The hidden landscape of Yosemite Park. *Journal of Cultural Geography*, 22 (2): 27-50.
- Conesa, H.M., Schulin, R. and Nowack, B. (2008) Mining landscape: A cultural tourist opportunity or an environmental problem? *Ecological Economics*, 64 (4): 690-700.

- Cosgrove, D. and Daniels, S. (eds) (1988) *The Iconography of Landscape: Essays on the Symbolic Representation, Design, and Use of Past Environments*. Cambridge: Cambridge University Press.
- Cosgrove, D., Roscoe, B. and Rycroft, S. (1996) Landscape and identity at Ladybower Reservoir and Rutland Water. *Transactions of the Institute of British Geographers*, 21(3): 534-551.
- Countryside Commission (1968) *Countryside Act: Chapter 41*. London: Countryside Commission, Crown copyright, July 1968.
- Cowell, R. (1997) Stretching the limits: environmental compensation, habitat creation and sustainable development. *Transactions of the Institute of British Geographers*, 22: 292-306.
- Cowell, R. (2003) Substitution and scalar politics: negotiating environmental compensation in Cardiff Bay. *Geoforum*, 34 (3): 343-358.
- Crang, M. (2002) Qualitative methods: the new orthodoxy? *Progress in Human Geography*, 26 (5): 647-655.
- Crang M. (2003) Qualitative methods: touchy, feely, look-see? *Progress in Human Geography* 27 (4): 494-504.
- Cresswell, T. (1996) *In Place/Out of Place: Geography, Ideology, and Transgression*. Minneapolis: University of Minnesota Press.
- Cronon, W. (ed.) (1996) *Uncommon Ground: Rethinking the Human Place in Nature*. New York: W.W. Norton & Company.
- Daniel, T.C. (2001) 'Aesthetic preference and ecological sustainability', in Sheppard, S.R.J. and Harshaw, H.W. (eds) *Forests and Landscapes: Linking Ecology, Sustainability, and Aesthetics*. Wallingford: CABI Publishing, 15-30.
- Darby, W.J. (2000) *Landscape and Identity: Geographies of Nation and Class in England*. Oxford: Berg.
- Davis, M.A. and Slobodkin, L.B. (2004) The science and values of restoration ecology. 12 (1): *Restoration Ecology*, 1-3.
- DEFRA (2002) *Common Land Policy Statement*. London: Department for Environment, Food & Rural Affairs, Crown copyright, July 2002.
- DEFRA (2009) *Byelaws powers for local authorities*.  
<http://archive.defra.gov.uk/rural/countryside/byelaws.htm> (Last accessed 24/02/2011)

- DeSilvey, C. (2006) Observed decay: telling stories with mutable things. *Journal of Material Culture*, 11 (3): 318-338.
- De Sousa, C.A (2003) Turning brownfields into green space in the City of Toronto. *Landscape and Urban Planning*, 62 (4): 181-198.
- Diamond, J. (1987) Reflections on goals and on the relationship between theory and practice', in Jordan III, W., Gilpin, M.E. and Aber, J.D. (eds) *Restoration Ecology: A Synthetic Approach to Ecological Research*. Cambridge: Cambridge University Press, 329-336.
- Dickson, K. (2001) 'Maintenance of River Skerne restoration site', letter of management amendment addressed to Darlington Borough Council, 14<sup>th</sup> June 2001. Darlington: Environment Agency.
- Diggelen, R.V., Grootjans, A.P. and Harris, J.A. (2001) Ecological restoration: state of the art or state of the science? *Restoration Ecology*, 9 (2): 115-118.
- Drenthen, M. (2009) Ecological restoration and place attachment: emplacing non-places? *Environmental Values*, 18: 285-312.
- Dryzek, J.S. (1997) *The Politics of the Earth: Environmental Discourses*. Oxford: Oxford University Press.
- Duane, T.P. (2000) *Shaping the Sierra: Nature, Culture, and Conflict in the Changing West*. Berkeley: University of California Press.
- Duffy, M. and Waitt, G. (2011) Sound diaries: A method for listening to place. *Aether: The Journal of Media Geography*, 7: 119-136.
- Duncan, J.S. and Duncan, N.G. (2001) The aestheticization of the politics of landscape preservation. *Annals of the Association of American Geographers*, 91 (2): 387-409.
- EA (1998) *Revetment Techniques Used on the River Skerne Restoration Project*. R&D Technical Report for The River Restoration Centre. Bristol: Environment Agency.
- Eden, S. (2002) Faking it? The multiple meanings of environmental restoration near Twyford Down. *Cultural Geographies*, 9: 313-333.
- Edensor, T. (2005) *Industrial Ruins: Space, Aesthetics and Materiality*. Oxford: Berg.
- Edensor, T. (2008) 'Walking through ruins', in Ingold, T. and Vergunst, J. (eds) *Ways of Walking: Ethnography and Practice on Foot*. Aldershot: Ashgate, 123-141.

- Efroymson, R.A., Nicolette, J.P. and Suter, G.W. (2004) A framework for net environmental benefit analysis for remediation or restoration of contaminated sites. *Environmental Management*, 34 (3): 315-331.
- Egan, D. and Howell, E.A. (eds) (2001) *The Historical Ecology Handbook: A Restorationist's Guide to Reference Ecosystems*. Washington D.C.: Island Press.
- Ehrenfeld, J.G. (2000) Defining the limits of restoration: the need for realistic goals. *Restoration Ecology*, 8 (1): 2-9.
- Elliot, R. (1982) Faking nature. *Inquiry*, 25 (1): 81-93.
- Elliot, R. (1997) *Faking Nature: The Ethics of Environmental Restoration*. London: Routledge.
- Escobar, A. (1996) Constructing nature: elements for a post-structuralist political ecology. *Futures*, 28 (4): 325-343.
- Evans, D. (1997) *A History of Nature Conservation in Britain* (2<sup>nd</sup> Edition). London: Routledge.
- Evernden, N. (1981) The ambiguous landscape. *Geographical Review*, 71 (2): 147-157.
- Fairhead, J. and Leach M. (1996) *Misreading the African Landscape: Society and Ecology in a Forest-Savanna Mosaic*. Cambridge: Cambridge University Press.
- Fiege, M. (2005) The weedy West: mobile nature, boundaries, and common space in the Montana landscape. *Western Historical Quarterly*, 26 (1): 22-47.
- Firth, D. (2008) The role of aesthetic considerations in narrative based approach to nature conservation. *Ethics & The Environment*, 13 (2): 77-100.
- Fischer, A. and Marshall, K. (2010) Framing the landscape: discourses of woodland restoration and moorland management in Scotland. *Journal of Rural Studies*, 26: 185-193.
- Fisher, J.A. (1998) What the hills are alive with: in defense of the sounds of nature. *The Journal of Aesthetics and Art Criticism*, 56 (2): 167-179.
- Forestry Commission (2001) *Ecological Site Classification: A PC-based Decision Support System for British Forests User's Guide*. Roslin: Forestry Commission. Available to download from:  
[www.forestresearch.gov.uk/pdf/manual.pdf/\\$FILE/manual.pdf](http://www.forestresearch.gov.uk/pdf/manual.pdf/$FILE/manual.pdf)
- Forestry Commission (2003a) *Forests & Water Guidelines* (4<sup>th</sup> Edition). Edinburgh: Forestry Commission. Available to download from:  
[www.forestry.gov.uk/pdf/FCGL002.pdf/\\$FILE/FCGL002.pdf](http://www.forestry.gov.uk/pdf/FCGL002.pdf/$FILE/FCGL002.pdf)

- Forestry Commission (2003b) *A Guide to the Woodland Grant Scheme*. Edinburgh: Forestry Commission. Available to download from: <http://www.forestry.gov.uk/forestry/INFD-6DFKLB>
- Forestry Commission (2004) *The UK Forestry Standard: The Governments Approach to Sustainable Forestry* (2<sup>nd</sup> Edition). Edinburgh: Forestry Commission. Available to download from: [www.forestry.gov.uk/pdf/fcfc001.pdf/\\$FILE/fcfc001.pdf](http://www.forestry.gov.uk/pdf/fcfc001.pdf/$FILE/fcfc001.pdf)
- Foster, C. (1998) The narrative and the ambient in environmental aesthetics. *Journal of Aesthetics and Art Criticism*, 56 (2): 127-137.
- Foster, C. (2000) 'Restoring nature in American culture: An environmental aesthetic perspective', in Gobster, P.H. and Hull, B.R. (eds) *Restoring Nature: Perspectives from the Social Sciences and Humanities*. Washington D.C.: Island Press, 71-94.
- Foster, J. (2005) Restoration of the Don Valley Brick Works: whose restoration? Whose space? *Journal of Urban Design*, 10 (3): 331-351.
- Gabriel, N. (2011) The work that parks do: towards an urban environmentality. *Social & Cultural Geography*, 12 (2): 123-141.
- Gamborg, C., Gremmen, B., Christiansen, S.B. and Sandoe, P. (2010) De-domestication: ethics at the intersection of landscape restoration and animal welfare. *Environmental Values*, 19: 57-78.
- Garrett, B.L. (2011) Videographic geographies: Using digital video for geographic research. *Progress in Human Geography*, 35 (4): 521-541.
- Geist, C. and Galatowitsch, S.M. (1999) Reciprocal model for meeting ecological and human needs in restoration projects. *Conservation Biology*, 13 (5): 970-979.
- George, A.L. and Bennett, A. (2005) *Case Studies and Theory Development in the Social Sciences*. Cambridge, MA: MIT Press.
- Gitelman L. (1999) *Scripts, Grooves, and Writing Machines: Representing Technology in the Edison Era*. California: Stanford University Press.
- Glazebrook, T. (2003) Art or nature? Aristotle, restoration ecology, and flowforms. *Ethics and the Environment*, 8 (1): 22-36.
- Gobster, P. H. (1997) The Chicago wilderness and its critics: the other side: a survey of arguments. *Restoration and Management Notes*, 15 (1): 32-37.
- Gobster, P.H. (1999) An ecological aesthetic for forest landscape management. *Landscape Journal*, 18 (1): 54-64.

- Gobster, P.H. (2000) 'Introduction: restoring nature: Human actions, interactions, and reactions', in Gobster, P.H. and Hull, B.R. (eds) *Restoring Nature: Perspectives from the Social Sciences and Humanities*. Washington D.C.: Island Press, 1-20.
- Gobster, P.H. (2001) Visions of nature: conflict and compatibility in urban park restoration. *Landscape and Urban Planning*, 56: 35-51.
- Gobster, P.H. (2007) Urban park restoration and the "museumification" of nature. *Nature and Culture*, 2 (2): 95-114.
- Gobster, P.H., Nassauer, J.I., Daniel, T.C. and Fry G. (2007) The shared landscape: what does aesthetics have to do with ecology? *Landscape Ecology*, 22: 959-972.
- Godlovitch, S. (1998) Evaluating nature aesthetically. *The Journal of Aesthetics and Art Criticism*, 56 (2): 113-125.
- Goodburn, A. (2009a) 'People in historic times', in Ashmole, M. and Ashmole, P. (eds) *The Carrifran Wildwood Story: Ecological Restoration from the Grass Roots*. Ancrum: Borders Forest Trust, 58-63.
- Goodburn, A. (2009b) 'The geographic setting of Carrifran', in Ashmole, M. and Ashmole, P. (eds) *The Carrifran Wildwood Story: Ecological Restoration from the Grass Roots*. Ancrum: Borders Forest Trust, 70-71.
- Grese, R.E., Kaplan, R., Ryan, R.L. and Buxton, J. (2000) 'Psychological benefits of volunteering in stewardship programs', in Gobster, P.H. and Hull, B.R. (eds) *Restoring Nature: Perspectives from the Social Sciences and Humanities*. Washington D.C: Island Press, 265-280.
- Groundwork Caerphilly (1996) *Penallta Community Park Millennium Project: Development Strategy*. Groundwork Caerphilly, April 1996.
- Groundwork Caerphilly (1999) *Penallta Community Appraisal: Hengoed and Cefn Hengoed*. Groundwork Caerphilly, December 1999.
- Groundwork Caerphilly and Caerphilly County Borough Council (2000) *Penallta Wildlife Corridor: Design Study*. Prepared by Haire Landscape Consultants and Fiona Clarke Associates, June 2000. Brecon: Groundwork Caerphilly and Caerphilly County Borough Council.
- Groundwork Islwyn and Rhymney (1995a) *Penallta Community Park: Millennium Bid Business Plan*. Groundwork Islwyn and Rhymney, September 1995.
- Groundwork Islwyn and Rhymney (1995b) *Penallta Community Park: Millennium Bid Development Report*. Groundwork Islwyn and Rhymney, October 1995.

- Groundwork Islwyn and Rhymney (1996) *Penallta Community Park, Phase II: Millennium Bid*. Groundwork Islwyn and Rhymney, January 1996.
- Gustafson, P. (2001) Roots and routes: exploring the relationship between place attachment and mobility. *Environment and Behavior*, 33 (5): 667-686.
- Hajer, M.A. (1995) *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*. Oxford: Oxford University Press.
- Hajer, M.A. (1996) 'Discourse coalitions and the institutionalization of practice: the case of acid rain in Great Britain', in Fischer, F. and Forester, J. (eds) *The Argumentative Turn in Policy Analysis and Planning*. Durham: Duke University Press, 43-76.
- Hall, M.C. and Page, S.J. (2006) *The Geography of Tourism and Recreation: Environment, Place and Space* (3<sup>rd</sup> edition). New York: Routledge.
- Hall, T., Lashua, B. and Coffey, A. (2008) Sound and the everyday in qualitative research. *Qualitative Inquiry*, 14 (6): 1019-1040.
- Halle, S. (2007) Science, art, or application-the "karma" of restoration ecology. *Restoration Ecology*, 15 (2): 358-361.
- Hammersley, M. (1992) *What's Wrong with Ethnography?* London: Routledge.
- Hands, D.E. and Brown, R.D. (2002) Enhancing visual preference of ecological rehabilitation sites. *Landscape and Urban Planning*, 58: 57-70.
- Harcourt, B.E. (2001) *Illusions of Order: The False Promise of Broken Windows Policing*. Cambridge, MA: Harvard University Press.
- Hargrove, E.C. (2008) 'The historical foundations of American environmental attitudes', in Carlson, A. and Lintott, S. (eds) *Nature, Aesthetics, and Environmentalism: From Beauty to Duty*. New York: Columbia University Press, 29-48.
- Harris, J.A., Hobbs, R.J., Higgs, E. and Aronson, J. (2006) Ecological restoration and global climate change. *Restoration Ecology*, 14 (2): 170-176.
- Hartley, J. (2004) 'Case study research', in Cassell, C. and Symon, G. (eds) *Essential Guide to Qualitative Methods in Organizational Research*. London: Sage Publications Ltd, 323-333.
- Haskell, B.D., Norton, B.G. and Costanza, R. (1992) 'What is ecosystem health and why should we worry about it?', in Costanza, R., Norton, B.G. and Haskell, B.D. (eds) *Ecosystem Health: New Goals for Environmental Management*. Washington D.C.: Island Press, 3-20.

- Hay, C. (1998) 'The tangled webs we weave: the discourse, strategy and practice of networking', in Marsh, D. (ed.) *Comparing Policy Networks*. Buckingham: Open University Press, 33-51.
- Haynes, R. J. (2004) The development of bottomland forest restoration in the Lower Mississippi River Alluvial Valley. *Ecological Restoration*, 22 (3): 170-182.
- Head, L. and Muir, P. (2006) Suburban life and the boundaries of nature: resilience and rupture in Australian backyard gardens. *Transactions of the Institute of British Geographers*, 31: 505-534.
- Healey, P. (2000) Planning theory and urban and regional dynamics: a comment on Yiftachel and Huxley. *International Journal of Urban and Regional Research*, 24 (4): 917-921.
- Healy, C. (2001) 'Race portraits' and vernacular possibilities: heritage and culture', in Bennett, T. and Carter, D. (eds) *Culture in Australia: Policies, Publics and Programs*. Cambridge: Cambridge University Press, 278-298.
- Heathwaite, A.L. and Harris, G. (2005) Inadmissible evidence: knowledge and prediction in land and riverscapes. *Journal of Hydrology*, 304 (1-4): 3-19.
- Hedfors, P. and Berg, P.G. (2003) The sounds of two landscape settings: auditory concepts for physical planning and design. *Landscape Research*, 28 (3): 245-263.
- Helford, R.M. (1999) Rediscovering the presettlement landscape: making the oak savanna ecosystem 'real'. *Science, Technology, & Human Values*, 24 (1): 55-79.
- Hepburn R.W. (1963) Aesthetic appreciation of nature. *British Journal of Aesthetics*, 3 (3): 195-209.
- Hepburn, R.W. (2004) 'Contemporary aesthetics and the neglect of natural beauty', in Carlson, A. and Berleant, A. (eds) (2004) *The Aesthetics of Natural Environments*. Peterborough: Broadview Press, 43-62.
- Hermer, J. (2002) *Regulating Eden: The Nature of Order in North American Parks*. Toronto: University of Toronto Press.
- Heyd, T. (2001) Aesthetic appreciation and the many stories about nature. *British Journal of Aesthetics*, 41: 125-137.
- Heyd, T. (2005) 'Introduction: recognizing the autonomy of nature: theory and practice', in Heyd, T. (ed.) *Recognizing the Autonomy of Nature: Theory and Practice*. New York: Columbia University Press, 1-22.
- Higgs, E.S. (1997) What is good ecological restoration? *Conservation Biology*, 11 (2): 338-348.

- Higgs, E. (2003) *Nature by Design: People, Natural Process, and Ecological Restoration*. Cambridge, MA: MIT Press.
- Higgs, E. (2005) The two-culture problem: ecological restoration and the integration of knowledge. *Restoration Ecology*, 13 (1): 159-164.
- Hilderbrand, R. H., Watts, A.C. and Randle, A.M. (2005) The myths of restoration ecology. *Ecology and Society*, 10 (1): 19.
- Hobbs, R.J. (2007) Setting effective and realistic restoration goals: key directions for research. *Restoration Ecology*, 15 (2): 354-357.
- Hobbs, R.J. and Harris, J.A. (2001) Restoration ecology: repairing the Earth's ecosystems in the new Millennium. *Restoration Ecology*, 9 (2): 239-246.
- Holland, A. and O'Neill, J. (1996) The integrity of nature over time. *The Thingmount Working Paper Series on the Philosophy of Conservation, No.1*. Lancaster University: Department of Philosophy.
- Holmes, N.T.H. and Nielsen, M.B. (1998) Restoration of the rivers Brede, Cole and Skerne: a joint Danish and British EU-LIFE demonstration project. I: setting up and delivery of the project. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 8: 185-196.
- Holstein, J.A. and Gubrium J.F. (2004) 'The active interview', in Silverman, D. (ed.) *Qualitative Research: Theory, Method and Practice* (2<sup>nd</sup> Edition). London: Sage Publications Ltd, 140-161.
- Hourdequin, M. and Havlick, D. (2011) Ecological restoration in context: ethics and the naturalization of former military lands. *Ethics, Policy & Environment*, 14 (1): 69-89.
- Hudson, R. (2006) Regions and place: music, identity and place. *Progress in Human Geography*, 30 (5): 626-634.
- Ingold, T. (2007) 'Against soundscape', in Carlyle, A. (ed.) *Autumn Leaves: Sound and the Environment in Artistic Practice*. Paris: Double Entendre, 10-13.
- Ingram, G.B. (1991) Habitat, visual and recreational values and the planning of extractive development and protected areas: A tale of three islands. *Landscape and Urban Planning*, 21: 109-129.
- Instone, L. (2004) Situating nature: on doing cultural geographies of Australian nature. *Australian Geographer*, 35 (2): 131-140.

- Jacques, D.L. (1980) Landscape appraisal: the case for a subjective theory. *Journal of Environmental Management*, 10, 107-113.
- Jones, K., Gilvear, D., Willby, N. and Gaywood, M. (2009) Willow (*Salix* spp.) and aspen (*Populus tremula*) regrowth after felling by the Eurasian beaver (*Castor fiber*): implications for riparian woodland conservation in Scotland. *Aquatic Conservation: Marine and Freshwater Ecosystems*, 19 (1): 75–87.
- Jones, M., Howard, P., Olwig, K.R., Primdahl, J. and Herlin, I.S. (2007) Multiple interfaces of the European Landscape Convention. *Norsk Geografisk Tidsskrift – Norwegian Journal of Geography*, 61 (4): 207-216.
- Jones, O. (2005) ‘An ecology of emotion, memory, self and landscape’, in Davidson, J., Bondi, L. and Smith, M. (eds) *Emotional Geographies*. Aldershot: Ashgate Publishing Ltd, 205-218.
- Jordan III, W.R. (1994) “‘Sunflower forest’: Ecological restoration as the basis for a new environmental paradigm’, in Baldwin Jr., A.D., De Luce, J. and Pletsch, C. (eds) *Beyond Preservation: Restoring and Inventing Landscapes*. Minneapolis: University of Minnesota Press, 17-34.
- Jordan III, W.R. (2003) *The Sunflower Forest: Ecological Restoration and the New Communion with Nature*. Berkeley: University of California Press.
- Junker, B. and Buchecker, M. (2008) Aesthetic preferences versus ecological objectives in river restorations. *Landscape and Urban Planning*, 85: 141-154.
- Kanngieser, A. (2011) A sonic geography of voice: Towards an affective politics. *Progress in Human Geography*, in print.
- Katz, C. (1998) ‘Whose nature, whose culture? Private productions of space and the “preservation” of nature’, in Braun, B. and Castree, N. (eds) *Remaking Reality: Nature at the Millenium*. London: Routledge, 46-63.
- Katz, E. (1993) Artefacts and functions: a note on the value of nature. *Environmental Values*, 2: 223-232.
- Katz, E. (2000) ‘The big lie: The human restoration of nature’, in Throop, W. (ed.) *Ecological Restoration: Ethics, Theory and Practice*. Amherst: Humanity Books, 83-93.
- Kearns, R., Joseph, A.E. and Moon, G. (2010) Memorialisation and remembrance: on strategic forgetting and the metamorphosis of psychiatric asylums into sites for tertiary educational provision. *Social & Cultural Geography*, 11 (8): 731-749.

- Kelman, A.Y. (2010) Rethinking the soundscape: A critical genealogy of a key term in sound studies. *The Senses and Society*, 5 (2): 212-234.
- Kempton, W., Boster, J.S. and Hartley, J.A. (1995) *Environmental Values in American Culture*. Cambridge, MA: MIT Press.
- King, R.J.H. (1999) Narrative, imagination, and the search for intelligibility in environmental ethics. *Ethics & The Environment*, 4 (1): 23-38.
- Knigge, L. and Cope, M. (2006) Grounded visualization: integrating the analysis of qualitative and quantitative data through grounded theory and visualization. *Environment and Planning A*, 38 (11): 2021-2037.
- Kühn, C. (2005) 'Complexity and Populism,' in Shamiyeh, M. (ed.) *What People Want: Populism in Architecture and Design*. Basel: Birkhäuser, 249-253.
- Kusenbach, M. (2003) Street phenomenology: the go-along as ethnographic research tool. *Ethnography*, 4 (3): 455-485.
- Lambert, D. (2006) The history of the Country Park, 1996 – 2005: towards a renaissance? *Landscape Research*, 31 (1): 43-62.
- Landres, P.B., Brunson, M.W., Merigliano, L., Sydoriak, C. and Morton, S. (2000) Naturalness and wildness: the dilemma and irony of managing wilderness. *USDA Forest Service Proceedings*, RMRS-P-15, Vol. 5: 377-381.
- Latham, A. (2004) 'Researching and writing everyday accounts of the city: An introduction to the diary-photo diary-interview method', in Knowles, C. and Sweetman, P. (eds) *Picturing the Social Landscape: Visual Methods and the Sociological Imagination*. London: Routledge, 117-131.
- Laurier, E., Lorimer, H., Brown, B., Jones, O., Juhlin, O., Noble, A., Perry, M., Pica, D., Sormani, P., Strebel, I., Swan, L., Taylor, A.S., Watts, L. and Weilenmann, A. (2008) Driving and passengering: notes on the ordinary organisation of car travel. *Mobilities*, 3 (1): 1-23.
- Layzer, J.A. (2004) *The Environmental Case: Translating Values into Policy* (2<sup>nd</sup> Edition). Washington D.C.: CQ Press.
- Lee, J. and Ingold, T. (2006) 'Fieldwork on foot: Perceiving, routing, socializing', in Coleman, S. and Collins, P. (eds) *Locating the Field: Space, Place and Context in Anthropology*. Oxford: Berg, 67–86.
- Lee, K. (1995) Beauty forever? *Environmental Values*, 4: 213-225.

- Legard, R., Keegan J. and Ward K. (2003) 'In-depth interviews', in Ritchie J. and Lewis J. (eds) *Qualitative Research Practice: A Guide for Social Science Students and Researchers*. London: Sage Publications Ltd, 138-169.
- Lehari, K. (2008) 'Wandering in a Landscape', in Arntzen, S. and Brady, E. (eds) *Humans in the Land: The Ethics and Aesthetics of the Cultural Landscape*. Oslo: Oslo Academic Press, 177-195.
- Lehr, J.C. (1983) Texas (when I die) - national identity and images of place in Canadian country music broadcasts. *Canadian Geographer/ Le Géographe Canadien* 27 (4): 361-370.
- Leopold, A. (1966) *A Sand County Almanac: With other Essays on Conservation from 'Round River'*. Oxford: Oxford University Press.
- Light, A. (2000) 'Restoration, the value of participation, and the risks of professionalization', in Gobster, P.H and. Hull, R.B (eds) *Restoring Nature: Perspectives from the Social Sciences and Humanities*. Washington D.C.: Island Press, 163-181.
- Light, A. (2010) 'Methodological pragmatism, pluralism, and environmental ethics', in Keller, D.R. (ed.) *Environmental Ethics: The Big Questions*. Chichester: John Wiley & Sons Ltd.
- Light, A. (2012) 'The death of restoration?', in Thompson, A. and Bendik-Keymer, J. (eds) *Ethical Adaptation to Climate Change: Human Virtues of the Future*. Cambridge, MA: MIT Press, 105-122.
- Light, A. and Higgs, E.S. (1996) The politics of ecological restoration. *Environmental Ethics*, 18: 227-247.
- Ling, C., Handley, J. and Rodwell, J. (2007) Restructuring the post-industrial landscape: a multifunctional approach. *Landscape Research*, 32 (3): 285-309.
- Lintott, S. (2008) 'Toward ecofriendly aesthetics', in Carlson, A. and Lintott, S. (eds) *Nature, Aesthetics, and Environmentalism: From Beauty to Duty*. New York: Columbia University Press, 380-396.
- Liszka, J.J. (2003) The narrative ethics of Leopold's *Sand Country Almanac*. *Ethics & The Environment*, 8 (2): 42-70.
- Longhurst, R. (2003) 'Semi-structured interviews and focus groups', in Clifford, N.J. and Valentine, G. (eds) *Key Methods in Geography*. London: SAGE Publications, 117-132.

- Lorimer, H. (2005) Cultural geography: the busyness of being 'more-than-representational'. *Progress in Human Geography*, 29 (1): 83-94.
- Lothian, A. (1999) Landscape and the philosophy of aesthetics: is landscape quality inherent in the landscape or in the eye of the beholder? *Landscape and Urban Planning*, 44: 177-198.
- Lowenthal, D. (2007) Living with and looking at landscape. *Landscape Research*, 32 (5): 635-656.
- Lowenthal, D. and Prince, H.C. (1965) English landscape tastes. *The Geographical Review*, 55: 186-222.
- Lucas, R.M., Ellison, J.C., Mitchell, A., Donnelly, B., Finlayson, M. and Milne, A.K. (2002) Use of stereo aerial photography for quantifying changes in the extent and height of mangroves in tropical Australia. *Wetlands Ecology and Management*, 10 (2): 159-173.
- Lund, K. (2006) Seeing in motion and the touching eye: Walking over Scotland's mountains. *Anthropological Journal*, 18 (1): 27-42.
- Martynoga, F. (2009) 'Archaeological remains in the Carrifran valley', in Ashmole, M. and Ashmole, P. (eds) *The Carrifran Wildwood Story: Ecological Restoration from the Grass Roots*. Ancrum: Borders Forest Trust, 100-104.
- Matless, D. (1997) Moral geographies of English landscape. *Landscape Research*, 22 (2): 141-155.
- Matless, D. (2000) 'Versions of animal-human: Broadland, c. 1945-1970', in Philo, C. and Wilbert, C. (eds) *Animal Spaces, Beastly Places: New Geographies of Human-Animal Relations*. London: Routledge, 117-141.
- Matless, D. (2005) Sonic geography in a nature region. *Social & Cultural Geography*, 6 (5): 745-766.
- Matthews, M. (2009) 'Seed collection and propagation', in Ashmole, M. and Ashmole, P. (eds) (2009) *The Carrifran Wildwood Story: Ecological Restoration from the Grass Roots*. Ancrum: Borders Forest Trust, 145-150.
- Matthews, P. (2002) Scientific knowledge and the aesthetic appreciation of nature. *The Journal of Aesthetics and Art Criticism*, 60 (1): 37-48.
- Matthews, P. (2012) From area-based initiatives to strategic partnerships: have we lost the leaning of regeneration? *Environment and Planning C: Government and Policy*, 30 (1): 147-161.
- McCartney, A. (2002) Circumscribed journeys through soundscape composition.

- Organised Sound*, 7: 1-3.
- McGuigan, J. (1992) *Cultural Populism*. London: Routledge.
- Mclean, I. (1997) On moles and the habits of birds: the unpolitics of Aberfan. *Twentieth Century British History*, 8 (3): 285-309
- McNeill, D. and Tewdwr-Jones, M. (2003) Architecture, banal nationalism and re-territorialization. *International Journal of Urban and Regional Research*, 27 (3): 738-743.
- Merchant, C. (1991) 'Restoration and reunion with nature', in Willers, B. (ed.) *Learning to Listen to the Land*. Washington D.C.: Island Press, 206-211.
- Merchant, C. (1992) *Radical Ecology: The Search for a Livable World*. New York: Routledge.
- Merchant, C. (2007) *American Environmental History: An Introduction*. New York: Columbia University Press.
- Merriman, P. (2006) "A new look at the English landscape": landscape architecture, movement and the aesthetics of motorways in early postwar Britain. *Cultural Geographies*, 13: 78-105.
- Miles, I., Sullivan, W.C. and Kuo, F.E. (1998) Ecological restoration volunteers: the benefits of participation. *Urban Ecosystems*, 2: 27-41.
- Millie, A. (2008) Anti-social behaviour, behavioural expectations and an urban aesthetic. *British Journal of Criminology*, 48: 379-394.
- Moreno-Calles, A. and Casas, A. (2010) Agroforestry systems: restoration of semiarid zones in the Tehuacán Valley, Central Mexico. *Ecological Restoration*, 28 (3): 361-368.
- Moore, H. (2008) *Natural Beauty: A Theory of Aesthetics Beyond the Arts*. Peterborough: Broadview Press.
- Morrison, D. (1987) 'Landscape restoration in response to previous disturbance', in Turner, M.G. (Ed.) *Landscape heterogeneity and disturbance*. New York: Springer-Verlag, 159-172.
- Morrison, M.L. (2002) *Wildlife Restoration: Techniques for Habitat Analysis and Animal Monitoring*. Washington D.C.: Island Press.
- Morton, F. (2005) Performing ethnography: Irish traditional music sessions and new methodological spaces. *Social & Cultural Geography*, 6: 661-676.
- Moses, J.W. and Knutsen, T.L. (2007) *Ways of Knowing: Competing Methodologies in Social and Political Research*. Basingstoke: Palgrave Macmillan.

- Motloch, J.L. (2001) *Introduction to Landscape Design* (2<sup>nd</sup> Edition). New York: John Wiley & Sons Inc.
- Murray, A.H. (1991) Pits and pitfalls: Harriet Feigenbaum's reclamation art. *Woman's Art Journal*, 12 (1): 29-35.
- Murtagh, B. and Sterrett, K. (2006) Instrumental and interpretative methods in evaluating urban programmes. *Urban Policy and Research*, 24 (1): 83-96.
- Nairn, K. (1999) Embodied fieldwork. *Journal of Geography*, 98 (6): 272-282.
- Nash, R.F. (1982) *Wilderness and the American Mind* (3<sup>rd</sup> edition). New Haven: Yale University Press.
- Nassauer, J.I. (1988) The aesthetics of horticulture: neatness as a form of care. *Horticultural Science*, 23 (6): 973-977.
- Nassauer, J.I. (1992) The appearance of ecological systems as a matter of policy. *Landscape Ecology*, 6 (4): 239-250.
- Nassauer, J.I. (1995) Messy ecosystems, orderly frames. *Landscape Journal*, 14 (2): 161-170.
- Naveh, Z. (1998) Ecological and cultural landscape restoration and the cultural evolution towards a post-industrial symbiosis between human society and nature. *Restoration Ecology*, 6 (2): 135-143.
- Nicolson, M.H. (1997) *Mountain Gloom and Mountain Glory: The Development of the Aesthetics of the Infinite*. Seattle: University of Washington Press.
- Nielsen, M.B. (1997) *River Restoration: Benefits for Integrated Catchment Management*. Final Report for The County of South Jutland.
- O'Brien, W. (2006) Exotic invasions, nativism, and ecological restoration: on the persistence of a contentious debate. *Ethics, Place and Environment*, 9 (1): 63-77.
- O'Connor, M. (1994) *Is Capitalism Sustainable?: Political Economy and the Politics of Ecology*. New York: Guilford Press.
- Olwig, K.R. (1996) Recovering the substantive nature of landscape. *Annals of the Association of American Geographers*, 86 (4): 630-653.
- O'Neill, J. (1993) *Ecology, Policy and Politics: Human Well-Being and the Natural World*. London: Routledge.
- O'Neill, J. (2003) 'The varieties of intrinsic value', in Light, A. and Rolston III, H. (eds) *Environmental Ethics: An Anthology*. Oxford: Blackwell Publishing Ltd., 131-142.
- O'Neill, J., Holland, A. and Light, A. (2008) *Environmental Values*. Abingdon:

- Routledge.
- Özgüner, H. and Kendle, A.D. (2004) Public attitudes towards naturalistic versus designed landscapes in the city of Sheffield (UK). *Landscape and Urban Planning*, 74: 139–157.
- Palang, H., Fry, G., Jauhiainen, J.S., Jones, M. and Sooväli, H. (2005) Editorial: landscape and seasonality—seasonal landscapes. *Landscape Research*, 30 (2): 165-172.
- Palmer, C. (2003) ‘An overview of environmental ethics’, in Light, A. and Rolston III, H. (eds) *Environmental Ethics: An Anthology*. Oxford: Blackwell Publishing Ltd., 15-37.
- Palmer, M.A., Ambrose, R.F. and LeRoy P.N. (1997) Ecological theory and community restoration ecology. *Restoration Ecology*, 5 (4): 291-300.
- Panizza, F. (2005) ‘Introduction,’ in Panizza, F. (ed.) *Populism and the Mirror of Democracy*. London: Verso.
- Parsons, G. (2008) *Aesthetics and Nature*. London: Continuum International Publishing Group.
- Parsons, G. and Carlson, A. (2008) *Functional Beauty*. Oxford: Oxford University Press.
- Parsons, R. (1995) Conflict between ecological sustainability and environmental aesthetics: conundrum, canard or curiosity. *Landscape and Urban Planning*, 32: 227-244.
- Paterson, M. (2009) Haptic geographies: ethnography, haptic knowledges and sensuous dispositions. *Progress in Human Geography*, 33 (6): 766-788.
- PEC (1994) *Restoring Borders Woodland*. Peebles: Peeblesshire Environment Concern.
- Peck, J. (2003) Fuzzy old world: a response to Markusen. *Regional Studies*, 37 (6 & 7): 729-740.
- Peck, J. and Theodore, N. (2012) Follow the policy: a distended case approach. *Environment and Planning A*, 44 (1): 21-30.
- Peet, R. and Watts, M. (1993) Introduction: development theory and environment in an age of market triumphalism. *Economic Geography*, 69 (3): 227-253.
- Peterken, G.F. (1996) *Natural Woodland: Ecology and Conservation in Northern Temperate Regions*. Cambridge: Cambridge University Press.

- Petts, M. and Dale, B. (2000) *Penallta Community Park: Artworks Strategy*. Produced for Groundwork Caerphilly, 21 March 2000.
- Phillips, G. (2003) *Groundwork Caerphilly: 12 Month Residency Final Report*. Caerphilly: Groundwork Caerphilly.
- Pink, S. (2007) *Doing Visual Ethnography: Images, Media and Representation in Research*. Manchester: Manchester University Press.
- Pink, S. (2008) An urban tour: the sensory sociality of ethnographic place-making. *Ethnography*, 9: 175-196.
- Plumwood, V. (2005) 'Toward a progressive naturalism', in Heyd, T. (ed.) *Recognizing the Autonomy of Nature: Theory and Practice*. New York: Columbia University Press, 25-53.
- Porteous, J.D. (1996) *Environmental Aesthetics: Ideas, Politics and Planning*. London: Routledge.
- Potteiger, M. and Purinton, J. (1998) *Landscape Narratives: Design Practices for Telling Stories*. New York: John Wiley & Sons, Inc.
- Prior, J.D. (2007) Aesthetic value in the politics of landscape: preservation versus restoration at Radley Lakes, Oxfordshire. Unpublished MScR thesis: The University of Edinburgh.
- Qviström, M. (2007) Landscapes out of order: studying the inner urban fringe beyond the rural – urban divide. *Geografiska Annaler: Series B, Human Geography*, 89 (3): 269-282.
- Raco, M. (2003) Remaking place and securitising space: urban regeneration and the strategies, tactics, and practices of policing in the UK. *Urban Studies*, 40 (9): 1869-1887.
- Raitz, K. (1998) American roads, roadside America. *Geographical Review*, 88 (3): 363-387.
- Ramírez-Yáñez, L., Chávez-Ramírez, F., Kim, D.H. and Heredia-Pineda, F. (2011) Grassland bird nesting on restored and remnant prairies in South Central Nebraska. *Ecological Restoration*, 29 (1/2): 8-10.
- Rapport, D.J. (1992) 'What is clinical ecology?', in Costanza, R., Norton, B.G. and Haskell, B.D. (eds) *Ecosystem Health: New Goals for Environmental Management*. Washington D.C.: Island Press, 144-156.
- Revill, G. (2004) Performing French folk music: dance, authenticity and nonrepresentational theory. *Cultural Geographies*, 11 (2): 199-209.

- Robbins, P. and Luginbuhl, A. (2005) The last enclosure: resisting privatization of wildlife in the Western United States. *Capitalism Nature Socialism*, 16 (1): 45-61.
- Robertson, M.M. (2000) No net loss: wetland restoration and the incomplete capitalization of nature. *Antipode*, 32 (4): 463-493.
- Rodwell, J.S. (2006) *National Vegetation Classification: Users' Handbook*. Peterborough: Joint Nature Conservation Committee.
- Rohde, K. (2005) *Nonequilibrium Ecology*. Cambridge: Cambridge University Press.
- Rolston III, H. (1989) 'Beauty and the beast: aesthetic experience of wildlife', in Decker, D.J. and Goff, G.R. (eds) *Valuing Wildlife: Economic and Social Perspectives*. Boulder: Westview Press, 187-207.
- Rolston III, H. (1998) Aesthetic experience in forests. *The Journal of Aesthetics and Art Criticism*, 56 (2): 157-166.
- Rolston III, H. (2000) 'Restoration', in Throop, W. (ed.) *Environmental Restoration: Ethics, Theory and Practice*. Amherst: Humanity Books, 127-132.
- Rolston III, H. (2008) 'From beauty to duty: Aesthetics of nature and environmental ethics', in Carlson, A. and Lintott, S. (eds) *Nature, Aesthetics, and Environmentalism: From Beauty to Duty*. New York: Columbia University Press, 325-338.
- RPA (1997) *Benefit Analysis of River Restoration on the River Cole and River Skerne*. Draft Report, November 1997, prepared for the River Restoration Project (RRP). Loddon, Norfolk: Risk & Policy Analysts Limited.
- RRC (1998) *River Skerne: Restored 1995/98*. Bedfordshire: The River Restoration Centre.
- RRC (2002) *Manual of River Restoration Techniques*. Cranfield: River Restoration Centre.
- RRP (1995a) *River Restoration: Benefits for Integrated Catchment Management. UK Monitoring Programme Year 1 (1994) Interim Report*. Huntingdon: River Restoration Project.
- RRP (1995b) *River Skerne Public Perception Survey: Stage Two*. April 1995, prepared for the River Restoration Project (RRP). Enfield: Flood Hazard Research Centre.
- RRP (1996) *River Skerne Restoration Project Reach Site Management Plan*. Huntingdon: River Restoration Project.

- Ruiz-Ballesteros, E., Valcuende, J.M., Quintero, V., Cortes, J.A. and Rubio, E. (2009) Naturalizing the environment: perceptual frames, senses and resistance. *Journal of Material Culture*, 14 (2): 147-167.
- Ryan, R. L. (2000) 'A people-centred approach to designing and managing restoration projects: insights from understanding attachment to urban natural areas', in Gobster, P.H and Hull, R.B. (eds) *Restoring Nature: Perspectives from the Social Sciences and Humanities*. Washington D.C.: Island Press, 209-228.
- Saito, Y. (2008) 'The aesthetics of unscenic nature', in Carlson, A. and Lintott, S. (eds) *Nature, Aesthetics, and Environmentalism: From Beauty to Duty*. New York: Columbia University Press, 238-253.
- Sandelowski, M. (1995) Sample size in qualitative research. *Research in Nursing & Health*, 18 (2): 179-183.
- Sandelowski, M. (2000) Whatever happened to qualitative description? *Research in Nursing & Health*, 23 (4): 334-340.
- Sayre, N.F. (2010) Climax and "original capacity": the science and aesthetics of ecological restoration in the southwestern USA. *Ecological Restoration*, 28 (1): 23-31.
- Schafer, R.M. (1994) *The Soundscape: Our Sonic Environment and the Tuning of the World*. Rochester: Destiny Books.
- Scoones, I. (1999) New ecology and the social sciences: what prospects for a fruitful engagement? *Annual Review of Anthropology*, 28: 479-507.
- Scott, A. (2011) Beyond the conventional: meeting the challenges of landscape governance within the European Landscape Convention? *Journal of Environmental Management*, 92 (10): 2754-2762.
- Seddon, P.J. and Soorae, P.S. (1999) Guidelines for subspecific substitutions in wildlife restoration projects. *Conservation Biology*, 13 (1): 177-184.
- Selman, P. and Swanwick, C. (2010) On the meaning of natural beauty in landscape legislation. *Landscape Research*, 35 (1): 3-26.
- SER (2004) *The SER International Primer on Ecological Restoration*. www.ser.org and Tucson: Society for Ecological Restoration International.
- Seymour, E.J. and Ridley, A.M. (2005) Toward environmental management systems in Australian agriculture to achieve better environmental outcomes at the catchment scale. *Environmental Management*, 35 (3): 311-329.

- SGS Environment (1994) *River Restoration: Benefits for Integrated Catchment Management, LIFE Programme of the Commission of the European Communities Priority Action A2V: River Skerne Darlington Landscape Assessment*. Durham: SGS Environment.
- Shepherd, B. and Whittington, J. (2006) Response of wolves to corridor restoration and human use management. *Ecology and Society*, 11 (2): 1.
- Sibley, D. (1995) *Geographies of Exclusion: Society and Difference in the West*. London: Routledge.
- Simpson, I.A., Parsisson, D., Hanley, N. and Bullock, C.H. (1997) Envisioning future landscapes in the Environmentally Sensitive Areas of Scotland. *Transactions of the Institute of British Geographers*, 22 (3): 307-320.
- Smith, K. (2006) Problematizing power relations in 'elite' interviews. *Geoforum*, 37 (4): 643-653.
- Smith, S.J. (1997) Beyond geography's visible worlds: a cultural politics of music. *Progress in Human Geography*, 21 (4): 502-529.
- Smith, S.J. (2000) Performing the (sound)world. *Environment and Planning D-Society & Space*, 18: 615-637.
- Sober, E. (1986) 'Philosophical problems for environmentalism', in Norton, B.G. (ed.) *The Preservation of Species: The Value of Biological Diversity*. Princeton: Princeton University Press, 173-194.
- Sokolove, J., Fairfax, S.K. and Holland, B. (2002) Managing place and identity: the Marin Coast Miwok experience. *Geographical Review*, 92 (1): 23-44.
- Soliva, R. (2007) Landscape stories: using ideal type narratives as a heuristic device in rural studies. *Journal of Rural Studies*, 23: 62-74.
- Soper, K. (2003) 'Privileged gazes and ordinary affections: Reflections on the politics of landscape and the scope of the nature aesthetic', in Dorrian, M. and Rose, G. (eds) *Deterritorialisations: Revisioning Landscapes and Politics*. London: Black Dog, 338-348.
- Soulé, M.E. (1985) What is conservation biology? *Bioscience*, 35 (11): 727-734.
- Southworth, M. (2005) Reinventing Main Street: from mall to townscape mall. *Journal of Urban Design*, 10 (2): 151-170.
- Spash, C.L. (2008) Contingent valuation design and data treatment: if you can't shoot the messenger, change the message. *Environment and Planning C: Government and Policy*. 26 (1): 34-53.

- Squires, P. and Stephen, D.E. (2005) *Rougher Justice: Anti-Social Behaviour and Young People*. Cullompton: Willan Publishing,
- Stead, N. (2004) The Semblance of populism: the National Museum of Australia. *The Journal of Architecture*, 9 (3): 385-396.
- Stedman, R.C. (2003) Sense of place and forest science: toward a program of quantitative research. *Forest Science*, 49 (6): 822 – 829.
- Steinitz, C. (1990) Toward a sustainable landscape with high visual preference and high ecological integrity: The loop road in Acadia National Park, U.S.A. *Landscape and Urban Planning*, 19: 213-250.
- Stevens, Q. (2007) ‘Betwixt and between: Building thresholds, liminality and public space’, in Franck K.A. and Stevens, Q. (eds) *Loose Space: Possibility and Diversity in Urban Life*. Abingdon: Routledge, 73-92.
- Strohmaier, D.J. (2003) Threescore and ten: fire, place, and loss in the West. *Ethics & the Environment*, 8 (2): 31-41.
- Summerby-Murray, R. (2002) Interpreting deindustrialised landscapes of Atlantic Canada: memory and industrial heritage in Sackville, New Brunswick. *The Canadian Geographer*, 46 (1): 48-62.
- Swart, J.A.A., van der Windt, H.J. and Keulartz, J. (2001) Valuation of nature in conservation and restoration. *Restoration Ecology*, 9 (2): 230-238.
- Thomas, M.F. (2001) Landscape sensitivity in time and space – an introduction. *Catena*, 42 (2-4): 83-98.
- Thompson, I. (2000) Aesthetic, social and ecological values in landscape architecture: a discourse analysis. *Ethics, Place and Environment*, 3 (3): 269-287.
- Thrift, N. (2008) *Non-representational Theory: Space, Politics, Affect*. London: Routledge.
- Throop, W. (2000) ‘Introduction’, in Throop, W. (ed.) *Ecological Restoration: Ethics, Theory and Practice*. Amherst: Humanity Books, 11-23.
- Throop, W. and Purdom, R. (2006) Wilderness restoration: the paradox of public participation. *Restoration Ecology*, 14 (4): 493-499.
- Tipping, R. (1998) The application of palaeoecology to native woodland restoration: Carrifran as a case-study, in Newton, A.C. and Ashmole, P. (eds) *Native Woodland Restoration in Southern Scotland: Principles and Practice. Occasional paper no. 2*. Ancrum: Borders Forest Trust, 9-21.

- Trigger, D., Mulcock, J., Gaynor, A. and Toussaint, Y. (2008) Ecological restoration, cultural preferences and the negotiation of 'nativeness' in Australia. *Geoforum*, 39: 1273-1283.
- Tuan, Y.F. (1974) *Topophilia: A Study of Environmental Perception, Attitudes, and Values*. New Jersey: Prentice-Hall.
- Tuan, Y.F. (1977) *Space and Place: the Perspective of Experience*. University of Minneapolis: Minnesota Press.
- Tunstall, S. (1994) *Institutional aspects of river restoration in the UK*. Report to the River Restoration Project. Middlesex University: Flood Hazard Research Centre.
- Turner, F. (1990) 'The self-effacing art: restoration as imitation of nature', in Jordan III, W.R., Gilpin, M.E. and Aber, J.D. (eds) *Restoration Ecology: A Synthetic Approach to Ecological Research*. Cambridge: Cambridge University Press, 47-50.
- Turner, F. (1991) 'Cultivating the American garden', in *Rebirth of Value: Meditations On Beauty, Ecology, Religion, and Education*. Albany: State University of New York Press, 51-64.
- Vivash, R. and Biggs, J. (1994) *Site appraisal for river restoration*. Report to English Nature, River Restoration Project, February 1994.
- Waite, G., Gill, N. and Head, L. (2009) Walking practice and suburban nature-talk. *Social & Cultural Geography*, 10 (1): 41-60.
- Walsh, K. (1992) *The Representation of the Past: Museums and Heritage in the Post-Modern World*. London: Routledge.
- Ward, K. (2005) Geography and public policy: a recent history of 'policy relevance'. *Progress in Human Geography*, 29 (3): 310-319.
- Watt, L.A. (2002) The trouble with preservation, or getting back to the wrong term for wilderness protection: A case study at Point Reyes National Seashore. *Association of Pacific Coast Geographers Yearbook*, 64: 55-72.
- WBP (2008) *Wildlife Sites Guidance Wales: A Guide to Develop Local Wildlife Systems in Wales*. Wales Biodiversity Partnership.
- Weston, A. (2010) 'Beyond intrinsic value: Pragmatism in Environmental Ethics', in Light, A. and Rolston III, H. (eds) *Environmental Ethics: An Anthology*. Oxford: Blackwell Publishing Ltd., 307-318.
- Whatmore, S. (2002) *Hybrid Geographies: Natures, Cultures, Spaces*. London: Sage.

- White, P.S. and Walker, J.L. (1997) Approximating nature's variation: selecting and using reference information in restoration ecology. *Restoration Ecology*, 5 (4): 338-349.
- Whiting, S.N., Reeves, R.D., Richards, D., Johnson, M.S., Cooke, J.A., Malaisse, F., Paton, A., Smith, J.A.C., Angle, J.S., Chaney, R.L., Ginocchio, R., Jaffré, T., Johns, R., McIntyre, T., Purvis, O.W., Salt, D.E., Schat, H., Zhao, F.J. and Baker, A.J.M. (2004) Research priorities for conservation of metallophyte biodiversity and their potential for restoration and site remediation. *Restoration Ecology*, 12 (1): 106–116.
- Wilderness Act (1964) An act to establish a national wilderness preservation system for the permanent good of the whole people, and for other purposes, 1964 (78 Stat. 890). Available from:  
[http://www.nps.gov/history/history/online\\_books/anps/anps\\_6b.htm](http://www.nps.gov/history/history/online_books/anps/anps_6b.htm)
- Wildwood Group (1999) *Environmental Assessment and Woodland Grant Scheme Application: Carrifran Wildwood, Ecological Restoration in the Southern Uplands of Scotland, Figures*. Ancrum: Borders Forest Trust.
- Wildwood Group (2000a) *Carrifran Wildwood Project, Native Woodland Restoration in the Southern Uplands of Scotland: Management Plan*. Ancrum: Borders Forest Trust.
- Wildwood Group (2000b) *Carrifran Wildwood Project, Native Woodland Restoration in the Southern Uplands of Scotland: Appendices to Management Plan*. Ancrum: Borders Forest Trust.
- Williams, D.R. and Stewart, S.I. (1998) Sense of place: an elusive concept that is finding a home in ecosystem management. *Journal of Forestry*, 96 (5): 18-23.
- Wood, N., Duffy, M. and Smith, S.J. (2007) The art of doing (geographies of) music. *Environment and Planning D-Society & Space*, 25: 867-889.
- Woods, M. (2005) 'Ecological restoration and the renewal of wilderness and freedom', in Heyd, T. (ed.) *Recognizing the Autonomy of Nature*. New York: Columbia University Press, 170-188.
- Woolley, J.T. and McGinnis, M.V. (2000) The conflicting discourses of restoration. *Society & Natural Resources*, 13 (4): 339-357.
- Wylie, J. (2005) A single day's walking: Narrating self and landscape on the South West Coast Path. *Transactions of the Institute of British Geographers*, 30: 234–47.
- Wylie, J. (2007) *Landscape*. London: Routledge.

- Yanow, D. (1996) *How Does a Policy Mean? Interpreting Policy and Organizational Actions*. Washington D.C.: Georgetown University Press.
- Yarwood, R. and Charlton, C. (2009) 'Country life'? Rurality, folk music and 'Show of Hands'. *Journal of Rural Studies*, 25: 194-206.
- Young, T.P. (2000) Restoration ecology and conservation biology. *Biological Conservation*, 92: 73-83.
- Young, H., Graham, L. and Ruzicka, V. (2008) The Big Apple and beyond: challenges and successes of habitat restoration in the Long Island Sound watershed *Ecological Restoration*, 26 (3): 182-184.
- Zimmerer, K.S. (2000) The reworking of conservation geographies: nonequilibrium landscapes and nature-society hybrids. *Annals of the Association of American Geographers*, 90 (2): 356-369.