## *British wilderness: a case for designation and management*

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# BRITISH WILDERNESS - A CASE FOR DESIGNATION AND MANAGEMENT

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# ABSTRACT

The notion of 'wilderness' has its origins in or before Biblical times and man's relationship with wild nature has a long and changing history. In the USA, the development of the appreciation of wild landscape evolved throughout the period of colonisation and frontier consolidation. It reached its zenith with the creation in 1964 of designated Wilderness Areas backed by congressional law.

Wilderness and wild nature have many meanings and much significance both in an anthropogenic and an ecological sense. In Britain, these meanings have been less clearly identified than in the USA but they nevertheless form an important part of our cultural and biological heritage.

The role of wild nature in Britain is inevitably tied to a profound and long-standing involvement in land management, even in our most remote landscapes. Many aspects of this management are appreciated by recreationalists where the print of man may even enhance the positive experience of wild country.

If Britain is to develop a wilderness tradition and designate wilderness areas at the top of its hierarchy of reserve areas, we must appreciate three things: firstly the ecological need for allowing natural processes to proceed without interference; secondly the value placed on artificial elements by recreationalists; and thirdly the need for a sense of remoteness, solitude and tranquillity to reign in these areas. Accommodating these three conflicting ideas will be an immensely difficult management task, especially in our most popular uplands like the Lake District.

Recent discussions on the future of nature management and many current management plans for wild and remoter parts of our landscape are recognising that the wilderness tradition does have a role in British land management practice and that its development is overdue.

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# CHAPTER ONE

# INTRODUCTION

*Wilderness is needed because it is a means of reassuring ourselves of our sanity as creatures: it is part of the geography of hope* (Hendee at al., 1978).

## 1.1 A Wilderness Ethic for Britain

The idea of 'wilderness' is one which originated in the Old World but which was refined, developed and ultimately exposed to a mass audience from the New World (in particular the USA). Although in certain contexts, 'wilderness' has a strict meaning, for the most part it is a term with a profoundly individualistic meaning both to people and land managers. The aim of this thesis is to bring the concept of wilderness back to Britain. What is the value and role of wilderness in Britain at the start of the twenty-first century? What can be learned from the New World experience of wilderness designation and management? How can land areas be identified, designated and managed to further the wilderness ideal?

Some of this discussion has already taken place (Landscape Associates, 1994; Council for National Parks, 1997) and these reports have made a strong case for the development of the wilderness ethic within British land management. This study hopes to add to their work both by supplying a different historical and philosophical context to the idea of a British Wilderness and by exploring the perceptions of recreational users of British wild land.

Throughout this study, the word 'wilderness' (lower case 'w') will be used as a non-specific term which is (inevitably) interpreted in an individualistic way by all. By contrast, 'Wilderness' will only be used in a specific, defined sense, according to

precise designation criteria, or have a strict connotation of designation according to precise criteria.

The British Isles has few areas which can be considered as Wilderness under any hard criteria developed by agencies devoted to reserve management. There is little of the British land surface, indeed, which has not been altered in some significant way, and few areas where climax vegetation can be seen on any large scale. As a result, the ideas of Wilderness have not been fully appreciated by managers of wild areas in Britain. Politicians and land managers have neglected the lessons that Wilderness designation and management could teach us in the ways that they have been applied in the USA and other countries. This study hopes to make a case for the appreciation of the wilderness concept and to take lessons from Wilderness management elsewhere in the world in how Britain can gain from a deeper understanding of the role of wilderness and the necessity to strive for the development of Wilderness areas. Even if we will never reach the quality criteria of Wilderness areas elsewhere in the world, we are in a position to add to the natural heritage of Britain in a way which, it is argued, will be valuable. This involves, ultimately, a re-definition of Wilderness in the British context.

Kaplan and Kaplan (1989) begin their study of the psychological understanding of nature by asking three questions:

1. *Is the effect of nature on people as powerful as it intuitively seems to be?*
2. *How does it work? What lies behind the power of environments that not only attract and are appreciated by people but also are apparently able to restore hassled individuals to healthy and effective functioning?*
3. *Are some natural patterns better than others? Is there a way to design, to manage, to interpret natural environments so as to enhance these beneficial influences?*

These are key themes which recur in this thesis. The first part of this study addresses the first two of Kaplan and Kaplan's questions, looking at the origin and meaning of the wilderness concept. The latter part of the study address Kaplan and Kaplan's third question particularly in a British (and mainly English) context. Out of these themes there emerge several key questions concerning wilderness in Britain which this thesis aims to explore.

## 1.2 Key Questions

- **What is wilderness?**

The notion of 'wilderness' is one which has a profound significance and symbolism for many different nationalities, cultures, groups and individuals. It is a term used liberally in all sorts of contexts and often without any well-defined meaning. In order to move towards a British wilderness ethic there is a need to recognise the complex human relationship with nature and to track our changing attitudes towards it both in an international and a British context. A wilderness for Britain will, inevitably, reflect a domestic economic, cultural and ecological history. A resulting definition represents a possible way forward for the identification and designation of British reserve areas.

- **What is the role of a British wilderness?**

The definition and designation of British Wilderness areas is only possible with an appreciation of the role of Wilderness in the countries where it exists as a formal designation, and in the minds of potential users of the land. Wilderness has both a bio-physical role of habitat and landscape preservation, and a recreational role for human activity. Are these two roles irreconcilable?

- **Does Britain have an indigenous wilderness tradition?**

Britain certainly has a profound cultural heritage of appreciation of wild nature albeit one which is expressed in a different way and a different context to the American model. The landscape heritage in Britain demonstrates a long and complicated human interaction with nature and finds evidence of a profound relationship. This is significantly different from the well-researched and well-identified landscape tradition in North America, but, nonetheless, it is a tradition worthy of recognition.

- **What are British attitudes towards wild nature?**

Within the British context there is also the need to investigate the attitudes of potential Wilderness users to landscape. One important aspect of this thesis aims to ascertain the key elements of desirable and undesirable landscape attributes and to explore issues of landscape management which might be needed to create or preserve the Wilderness condition. This is explored in the empirical part of this study in chapters 5 and 6.

The attitudes of wild country recreationalists towards wild nature are, of course, only one of the many sets of interests which need to be considered in any development of a British Wilderness ethic. Perceptions and interests of other recreational users, nature conservationists, landowners, economic users of land, and the role of nature itself also need to be considered. It is not within the scope of this study, however, to explore these (often conflicting) demands on wild land. The perspectives of recreationalists are, however, a start to this process and it is these which form the empirical basis of this study.

- **How can land be identified and designated as Wilderness in the British context?**

There are many models of Wilderness identification and various designation criteria have been used across the world. These may not always be relevant or applicable in the British context. Nevertheless landscape criteria and specific locations need to be identified if any statutory wilderness designation is to take root.

- **What are the management implications for Wilderness areas in Britain?**

Given the population density, recreational pressure and conservation philosophy in Britain, the development of any wild areas needs extreme care and possibly the evolution of new ways of thinking in land management.

- **To what extent do specific areas of Britain meet criteria for re-wilding? And can Britain's most visited National Park, The Lake District, develop any aspect of the wilderness condition?**

Following national and international agreements on bio-diversity and habitat preservation, there has been renewed impetus for sustainable land management. On a domestic scale, too, the ever-increasing pressure for recreational space has forced managers to think increasingly about zonation and separation of conflicting land uses. This inevitably has led to calls for specific areas to be designated for a more limited range of impacts than elsewhere in our reserve system.

# CHAPTER 2

# A BRIEF HISTORY OF THE WILDERNESS ETHIC

*Wilderness, in short, is so heavily freighted with meaning of a personal, symbolic, and changing kind as to resist easy definition* (Nash, 1967).

## 2.1 Ancient Beliefs

Most definitions of 'wilderness', whether official or personal, express an appreciation for the notion of open spaces without the marks of humankind imposed upon them. The precise landscape imagined will vary from individual to individual, no doubt influenced largely by personal experiences of wild areas. Our appreciation of wilderness is, therefore, one of profound individuality, but it has its origins in a long tradition of contrasting attitudes to nature which have shaped past and present thinking.

The origin of the word 'wilderness' comes from the Old English 'wild-deor-ness' - the place of wild beasts (Nash, 1973) - which immediately supplies a connotation of fear and danger to a modern mind. Yet for most of human history, we have evolved in an environment which we would recognise today as one of largely unaltered, climatic climax wilderness. It is, perhaps, a reflection of our evolution into agricultural and latterly urban lifestyles which has influenced our view of wild areas. For most of human evolution, as hunter-gatherers, there was only wilderness. In the modern perspective, however, we cannot see wilderness, except as a contrast to civilisation. Without civilisation, there is no wilderness.

Western civilisation has its roots in the city states bordering the Mediterranean. As permanent settlement took hold and agrarian economies developed, humans became increasingly separated from the natural environment.

> *This wilderness, which had nurtured humans throughout their evolution into the Stone Age, was now abandoned by civilised man and was relegated to the realm of the unknown, engendering the fear and foreboding that humans so typically ascribe to the unknown. ... Religious ideology underwent [an equivalent] transformation from the nature-based spirit world of hunter gatherer societies to the abstract single, human and male all-powerful God of Judaism, Christianity, and Islam* (Klein, 1974).

A profound view of wilderness, which has permeated western attitudes for centuries, is derived from Biblical references. The word wilderness (or desert or waste - with the same Hebrew root) appears hundreds of times in the Bible where it distinguishes uncultivated desert lands from agricultural areas (Nash, 1967). Wilderness has contrasting connotations in the Bible. At one level, wilderness is seen in a fearful way, as a location of banishment and punishment, and as a place to meet devils. Such lands were perceived as evidence of God's displeasure - witness the fate of Adam and Eve after being driven from the Garden of Eden (Hendee et al., 1978). At another level, however, it is seen as a place of spiritual awakening. Given the nature of the Old Testament God, these are not, perhaps, inconsistent responses. G. H. Williams (1962) describes the wilderness of the Holy Land deserts as "a place of protection, a place of contemplative retreat ... as one's inner nature or ground of being, and ... as the ground itself of the divine being." But it is also the "world of the unredeemed, the wasteland, and the realm or phase of punitive or purgative preparation for salvation."

God first appeared to Moses in the wilderness surroundings of Mount Horeb (Exodus 3:1-2) and it was through the wilderness that God led the Israelites to the Red Sea (Exodus 13:17 - 14:22) in order to escape the Egyptians

> *The desert wilderness symbolises the relinquishing of human concerns so that God can be their sole consideration, in a way that allows the believers to glimpse something of the transcendence of God, something too easily lost sight of amid the concerns of human society* (Warren, 1985).

Wilderness themes are also prevalent in the New Testament. John the Baptist preached and baptised Christ there. After Christ had been baptised, "the Spirit immediately drove him out into the wilderness. And he was in the wilderness forty days, tempted by Satan; and he was with the wild beasts; and the angels ministered to him" (Mark 1:13).

The tradition of the religious hermit was maintained by the early Christians of whom the best known was St. Anthony of Egypt (c.251 to 356). Anthony spent over twenty years in the deserted fort at Pispir and inspired many other early Christians to seek spiritual fulfilment in the desert wilderness (France, 1996). The form of monastic life of the Desert Fathers lasted in Egypt until the fifth century with substantial numbers living at Nitria and Scete on the left bank of the Nile. As these communities declined in the middle to late fifth century, the tradition was continued further north in the Syrian Desert.

## 2.2 The American Wilderness - The Era of the Pioneers

It was with a fearful, medieval attitude towards the wilderness, the forest and the mountains that the Pilgrim Fathers set sail to the New World in 1620. William Bradford stepped off the Mayflower into a "hideous and desolate wilderness" (Nash, 1967). The early pioneers were not woodsmen, but farmers and artisans. They did bring with them the iron axe and saw, however (Udall, 1963), and they saw it as their duty to tame the wilderness. They were not used to thick, unmanaged and boundless forest. Their country of their origin was already substantially deforested (Rackham, 1990), and much of what remained would have been either intensively worked coppice or private hunting grounds.

The Pilgrim Fathers saw the forest as not only fearsome, but largely unproductive (Udall, 1963). To the early North American pioneers:

> *the wilderness was 'dark' and 'gloomy' or 'nightmarish'. The pioneers' obsession was to clear the land, to remove the vision-obscuring trees and vines, to bring light into darkness. Certainly there was an economic motive for this attitude. Religion also figured in it, since wilderness was construed by most frontiersmen to be in league with devils, demons and the evil forces of darkness that civilisation must overcome* (Nash, 1967).

Contemporary descriptions of the landscapes of North America are instructive. The pioneers expressed 'relief' at reaching the prairies describing it as 'garden' rather than 'wilderness' (Nash, 1967). Bourassa (1991) quotes many examples of similar perceptions among explorers and artists of the Australian wilderness.

The woods of the Atlantic coast also held another source of fear for the pioneers - that of the Native American.

> *The Eastern woods, after all, had been the habitat of the godless Indian. To make a godly settlement required that both the wilderness and the wild men be comprehensively cleared. Beauty lay in clearance; danger and horror lurked in the pagan woods* (Schama, 1996).

The religious roots and attitudes of the early pioneers brought a distinctive notion of wilderness which was to influence subsequent American thought (Nash, 1967). The wilderness and their need to conquer it, became seen, therefore, as both an economic necessity and a symbol of their missionary zeal.

> *For the Puritans, of course, wilderness was metaphor as well as actuality. On the frontier the two meanings reinforced each other, multiplying horrors. Seventeenth century writing is permeated with the idea of wild country as the environment of evil* (Nash, 1967).

The pioneer attitude toward the conquering of nature permeated throughout the seventeenth and eighteenth century. This belief was, in part at least, based on the abundance of the land wealth of the North American continent. When exhausted or

deemed not suitable for current purposes, land could be discarded (Udall, 1963). This attitude produced what Udall calls The Myth of Superabundance.

> *According to the myth our (the USA's) resources were inexhaustible. It was an assumption that made wise management of the land and provident husbandry superfluous* (Udall, 1963).

In the late eighteenth century, this myth would plunge the USA into a century of land plunder and land abuse. It was fed by stories of untold wealth, always just over the horizon of the settled frontier, and perpetuated by explorers not allowing the truth to get in the way of good publicity (Nash, 1967; Udall, 1963).

The Myth of Superabundance, along with the gradual deforestation of much of the eastern USA helped diminish the fear of the wild lands in the West. The exploits of Daniel Boone in the last decades of the eighteenth century and of Lewis and Clark in the first years of the nineteenth, helped in this process. Whilst these adventurers were by no means the first (or the last) to explore the western edges of the frontier, they were, at the time, highly publicised and influential in opinion formation in the urbanising East.

## 2.3 American Wilderness - The Nineteenth Century

By the nineteenth century, much of the continent had been explored by the European migrants and their descendants, but relatively little had been settled. The advent of the railroads midway through the century was to change all that. Frontiers continued to be explored and expanded, but a consolidation behind the frontier brought in thousands to farm and extract lumber from the seemingly unending resources of the continent. The white settlers, of course, merely took over territories which had been previously occupied by the Native Americans. And they did so in profound ignorance

of the cultural and environmental traditions of the peoples they displaced. In their back-breaking efforts to tame the wilderness they manufactured their own heritage.

> *Americans became independent, self-reliant, ingenious and tough because of their contact with wilderness, but they saw it as something to be conquered, to be lived separate from. It was there to be hoed, burnt, cut, built on settled, roaded, used, stripped, tamed and subdued. America's wild country began to diminish at an alarming rate and the qualities of the land that had developed the American character increasingly disappeared* (Ranney, 1983).

At the same time as the frontier was being pushed back and consolidated behind, however, a countervailing force was emerging. Some opinions were beginning to soften. It was now possible, in the USA, to avoid the wilderness altogether, and live and travel in entirely urban ways. It had become fashionable for the literati of the eastern cities to make periodic excursions into the remaining wilderness.

> *Wilderness was a sanctuary both from 'the turmoil, the anxieties, and the hollowness of society' and from 'the busy haunts of sordid, money-making business'* (Anon, 1833 quoted in Nash, 1967).

The remote West was also romanticised in contemporary literature. Laura Ingalls Wilder's books, especially *By the Shores of Silver Lake (1967), Little Town on the Prairie* (1964) and *These Happy Golden Years (1970)* demonstrated her (and others') love of wilderness and ambivalence at the prospect of settled urban living.

Following independence, nationalists seized upon the American wilderness as a feature which made America distinctive and in which it was better endowed and served than was Europe. The size, uniqueness and quality of the landscape began to be appreciated. Literature such as that of James Fenimore Cooper (*Last of the Mohicans,* 1831) and the paintings of Thomas Cole and Frederic E. Church from the Hudson River School celebrated the wilderness landscape in their art. The rise of the Naturalists - John James Audubon, Ralph Waldo Emerson and Henry David Thoreau - reflected an awakening in the sensibilities of American thinkers.

Nineteenth century America saw the burgeoning of a body of art and literature which popularised and glamorised American nature. Audubon's ornithology published between 1827 and 1838, Washington Irvings' *A Tour on the Prairies* (1835), numerous articles in Magazines such as Atlantic Monthly and Harper's Weekly, all brought the natural world back into the increasingly urbanised lives of east coast Americans (Bunce, 1994). This increasing interest allowed the flowering of the key thinkers in the history of landscape appreciation in the USA and Canada.

> *Men like Thoreau, Emerson, Parkman, Bertram, and Audubon were the idea makers, the essential forerunners of the conservation movement. They started a new process of thought; they began the development of an American land-consciousness and set in motion a salutary countercurrent against the raider spirit of their era* (Udall, 1963).

However, at the same time as opinion was beginning to change, a technological revolution prolonged and intensified the previous exploitation of land and resources. The railroads opened up most of the continent to a new wave of pioneers and settlers. The steam engine allowed the processing of lumber in previously unimaginable quantities. The awakenings of the preservation movement were subsumed by a more potent force, which continued what the Pilgrim Fathers had started - the conquering of the wilderness for economic gain.

> *Opinion was in a state of transition. While appreciation of wild country existed, it was seldom unqualified. Romanticism, including deism and the aesthetics of the wild, had cleared away enough of the old assumptions to permit a favourable attitude towards wilderness without entirely eliminating the instinctive fear and hostility a wilderness condition had produced* (Nash, 1967).

## 2.4 The American Wilderness - Into the Modern Era

It was not until the 1890s that the belief systems underwent a significant change. It was highly ironic that it took a dramatic reduction in the amount of wilderness remaining in the United States to force the public finally to appreciate its value.

> *For appreciation to flourish, wilderness had to become a novelty, and this in turn depended on the rise of an urbanized, industrialized society* (Hendee et al., 1978).

George Perkins Marsh's seminal work, *Man and Nature* (1864), alerted the American people to the importance of their natural heritage and its fragility and vulnerability. It was a combination of the loss of the natural landscapes so beloved of Thoreau, and the recognition of the remarkable quality of the newly accessible parks of the West which finally inspired the popularity of the preservation movement.

> *Wilderness preservation succeeded in the US because the demand for it in the East, a consequence of its destruction in the old part of the country, happened at a time when there was undespoiled wilderness remaining in the West* (Hendee et al., 1978).

The wilderness ideal was becoming an icon of the country - a badge of individuality for the nation and of its people. The wilderness had become a symbol of the American experience.

> *The frontier not only made the American different from the European, but better. Out of his wilderness experience, ... out of the freedom of his opportunities, he fashioned a formula for social regeneration - the freedom of the individual to seek his own. Democracy was a forest product. Living in the wilderness fostered individualism, independence and confidence in the common man that encouraged self-government. ... Wilderness appealed to man as a fair blank page on which to write a new chapter in the story of man's struggle for a higher type of society* (Nash, 1967).

As such, the wilderness became a cornerstone of the American ideal. Tourism and recreation were growing in popularity and the railroads had opened up much of the country to a new type of experience for the rich urban groups of the east coast. By the 1890s:

> *no longer did the forest and the Indian have to be battled in hand-to-hand combat. The average citizen could approach wilderness with the viewpoint of the vacationer rather than the conqueror. Specifically, the qualities of solitude and hardship that had intimidated many pioneers were likely to be magnetically attractive to their city-dwelling grand-children* (Nash, 1967).

The action of the pioneer was beginning to change - from exploitation to appreciation, from subjugation to scientific exploration, from conquest to contemplative recreation - but none of these are ultimately possible without the frontier remaining in place. None are achievable without wilderness.

The rise of nature worship in America was one of the defining ideals of nineteenth century intellectual culture (Bunce, 1994). It was also a foreboding of impending loss; "a melancholic anticipation of the advance of civilisation and, with it, the disappearance of the natural world." From these sentiments emerged the call for the preservation of what was left of this world, and especially of the wilderness which had become a remainder of the uniquely American symbol of that world.

> *With a considerable sense of shock, Americans of the late nineteenth century realised that many of the forces which had shaped their national character were disappearing. Primary among these were the frontier and the frontier way of life. ... Wilderness was essential to pioneering: without wild country, the concept of frontier and pioneer were meaningless* (Nash, 1967).

It is from this context of changing appreciation of wild areas that John Muir derived his constituency and changed the face of American land use planning.

Muir appreciated the spiritual values of the solitude and simplicity of recreation amongst wild nature. He developed a missionary zeal to promote and disseminate the virtues of his view of wilderness. He wrote and lectured widely, and received a contemporary popularity never enjoyed by his transcendental mentors, Emerson or Thoreau.

The latter decades of the nineteenth century saw a flurry of activity in the burgeoning preservation movement. The first National Park - Yellowstone - was established in 1872 and the Adirondack Forest Preserve in 1885. This was followed by the designation of the Adirondack Park in 1892. These were not established to protect

wilderness, however, but to allow, respectively, for enhanced and perpetuated tourist visitors and for watershed protection. In 1892 John Muir and a group of Californian university professors formed the Sierra Club which soon became the primary lobby organisation for the preservation movement. Nash describes the 1890s and the early decades of the twentieth century as the era of the 'Wilderness Cult' which saw the burgeoning expression of the American (male) spirit of adventure, manhood, and virility - a reaction to the busy life of the city (Nash, 1967). This attitude was reflected in the most overt way by Theodore Roosevelt, whose book *Ranch life and the hunting-trail* (1898), illustrated his profound interest in the lifestyle of the American outdoorsman.

The patterns of thought and appreciation of nature, which had been laid down by earlier philosophers, writers and artists, finally began to come to fruition. Without the groundwork having been done, the desire for a political expression of preservation would not have occurred. Neither would the preservationist movement has prospered had the American public not recognised that what they saw as a valuable resource - the wild land of the frontier - was fast running out.

Through John Muir and the Sierra Club, a growing appreciation of the spiritual value of wilderness was awakened. John Muir became the leading light of the preservationists not because he was the first to have said what he did, but because he was the first to be read and listened to by the general public (Udall, 1963). Muir popularised the movement like none that had gone before. Thoreau's books from a generation before had remained unsold and his lectures ill-attended. Muir's writings were highly successful and acclaimed. Thoreau, then, was a man ahead of his time. Muir tapped into an increasingly popularist and contemporary current of thought.

A pivotal time in the history of the preservation movement was the controversy and the national debate over the Hetch Hetchy dam in Yosemite National Park, which was finally approved in 1913. Although the battle (with Muir at its heart) to save the valley was finally lost, the impetus gained by the movement was to become unstoppable. The USA had come a long way from the position of one hundred years previously of unconcerned exploitation of wilderness areas. The American psyche had been aroused.

> *For three centuries (Americans) had chosen civilisation without any hesitation. By 1913 they were no longer so sure* (Nash, 1967).

Yet the preservationist movement was still essentially an anthropocentric one. Muir's desire for the preservation of wild areas was to allow these areas to continue to inspire and refresh his fellow man. His main battle was with those whose beliefs were in the exploitation of these areas for more pragmatic goals - lumber, minerals, grazing. The Hetch Hetchy battle was lost because San Francisco's water supply was deemed more important than the aesthetic and spiritual qualities of the valley. Muir's conviction was that the best parts of the woodlands and wilderness should be preserved inviolate as sanctuaries of the human spirit (Udall, 1963).

The growing park movement (a Federal National Park Service was established in 1916), also paralleled the allocation of homestead land in the latter years of the nineteenth and early twentieth centuries. At the same time as that the frontier was being put under the plough, a growing national consciousness determined that the most spectacular parts of the American landscape should be protected from rapacious land-owners and brought under protected federal control. Due to the growing demands (and commercial prospects) of the burgeoning tourist industry, the rail road companies were at the forefront of the push for the creation of national parks (Sax, 1980).

*The park concept also fitted neatly with the nationalistic ideas of the time. It appealed to the American desire to measure up to European civilization. ... In the awesome scenery of the mountain West, America had at last a way to compete on an equal place with the Old World* (Sax, 1980).

Aldo Leopold took up the baton following Muir's death in 1914, and it was he who became the pivot in changing a sentimental attachment to wilderness to the appreciation of a scientific value of it.

## 2.5 The American Wilderness - The Move to a Statutory Recognition

Aldo Leopold was both a passionate advocate for wild landscapes and a practical forester with the US Forest Service. A practising land manager, Leopold was in a position actively to develop policy for the preservation of landscapes and forests. He identified 'roadless areas' which become the fore-runners for official, designated Wilderness. As early as 1919, the Quetico-Superior Area in Minnesota and Ontario was recommended as a wilderness area (Nash, 1983). By 1926, the National Forest Service had designated parts of the Superior National Forest as roadless and off limits to private development. (This area was later to become part of the Boundary Water Canoe Area Wilderness.) Two years prior to this, the Forest Service created its first formal wilderness area in the Gila National Forest in New Mexico.

A substantial step on the road to statutory Wilderness designation came in 1926, when the US Forest Service ordered an inventory of roadless areas. This was followed by a 1929 regulation - the "L-20" which authorised the establishment of 'primitive areas' defined as areas managed to maintain primitive conditions of "environment, transport, habitation, and subsistence, with a view to conserving the value of such areas for the purposes of public education and recreation" (Hendee et al., 1978). This was still a very anthropocentric view.

Another advocate of wilderness within the US Forest Service, Robert Marshall continued the work of Leopold. In the inter-war period , the National Forest Service, in no small part due to the effort of Leopold and Marshall restricted the development of roads, settlement and economic development on millions of acres of National Forest land (Nash, 1983).

Marshall was central in the formation of the Wilderness Society in 1935 - dedicated to the establishment and preservation of wilderness areas under statutory and inviolate protection. Under the momentum of the success in the campaign to prevent dam construction in Echo Park on the Colorado-Utah border, the Wilderness Society, proposed a wide-ranging National Wilderness Preservation System. Such a system would "give an unprecedented degree of protection to wild country ... and would make any alteration of wilderness conditions within the system illegal" (Nash, 1983).

Between 1957 and 1964 there were nine separate congressional hearings on the proposed Wilderness Act. Six thousand pages of testimony were submitted and the legislation was subject to sixty-six different rewrites and submissions. Part of the delay was due to the:

> *vigorous opposition to the permanent preservation of wilderness from wood-using industries, oil, grazing, and mining interests, most professional foresters, some government bureaus and proponents of mass recreation with plans for mechanised access to outdoor areas* (Nash, 1983).

The opposition was not due so much to the principle of wilderness but challenged the amount and location of wilderness designation. 54 individual areas with nine million acres of Forest Service land were specifically identified for Wilderness status in the 1964 Act. Congress also gave itself the ability to identify and designate other areas under the auspices of the Act at a later date. The first extension of the system took

place in 1968 and by 1994, there were 631 Wilderness areas totalling nearly 104 million acres, in 44 States (Gorte, 1994).

In 1975 the Eastern Wilderness Act, using slightly different designation criteria identified and incorporated 83,772 hectares within national forests of the Eastern USA into the Wilderness Protection System.

Wilderness continues to be identified and incorporated and still brings with it debate and controversy. In the 1990s intense argument and political lobbying surrounds the proposal to designate large parts of Utah into the Wilderness Preservation System (Gorte 1995).

## 2.6 Definitions of Wilderness

Aldo Leopold envisioned wilderness as:

> *a continuous stretch of country preserved in its natural state, open to lawful hunting and fishing, big enough to absorb a 2 weeks' pack trip, and kept devoid of roads, artificial trails, cottages or other works of man* (Leopold, 1921).

And Robert Marshall offered a similar definition:

> *I ... shall use the word wilderness to denote a region which contains no permanent inhabitants, possesses no possibility of conveyance by any mechanical means and is sufficiently spacious that a person in crossing it must have the experience of sleeping out. The dominant attributes of such an area are: first, that it requires any one who exists in it to depend exclusively on his own effort for survival; and second, that it preserves as nearly as possible the primitive environment. This means thet all roads, power transportation and settlements are barred. But trails and temporary shelters, which were common long before the advent of the white race, are entirely permissible* (Marshall, 1930).

The US Wilderness Act of 1964, Section 2c states:

> *A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognised as an area where the earth and its*

*community of life is untrammelled by man, and where man himself is a visitor who does not remain.*

There follows a legal definition:

*an area of undeveloped federal land retaining its primeval character and influence, without permanent improvements or habitation, and which (1) genuinely appears to have been affected primarily by the forces of nature, with man's imprint substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least 5000 acres of land or is of sufficient size to make practicable its preservation; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value.*

This working definition clearly recognises the difficulty is identifying 'ideal concept' wilderness - there are no specific designation criteria in the law. The phrases 'untrammelled by man,' 'retaining its primeval character', and 'man's imprint substantially unnoticeable,' are far from precise. Even the size criteria of 5000 acres is not absolute; smaller areas can be designated, if they are able to be protected. The smallest area in the US Wilderness System - Wisconsin Island in the Green Bay National Wildlife Refuge of Lake Michigan - is only two acres (Gorte, 1994). Compromising from the ideal was recognised at the outset. The designation of Wilderness areas was therefore based on the concept of the highest available standards rather than absolute environmental purity (Hendee et al., 1978). Ultimately, 'Wilderness Areas' are whatever Congress designates them to be, regardless of developments or activities which, some would argue, disqualify areas from Wilderness status (Gorte, 1994).

Hendee et al. (1978) produce a definition which could be applied to a British context.

*Wilderness is an area (1) featuring substantially natural ecological conditions and (2) offering the visitor outstanding opportunities for solitude in his pursuit of a primitive and unconfined type of recreation.*

Simmons (1977) defines wilderness as "'Virgin' lands ... which remain wild because ... there is a deliberate preservation of the wild for its own sake or for some other non-exploitative purpose".

In a talk given as part of the 1995 Lecture Series: 'The Land and the People', Mcdonald and Mcdonald present three types of wilderness or wild land definition:

- Nature in her original condition, undisturbed ... an area unaffected by humankind.
- Somewhere unaffected by mechanised human activity.
- Land which is not being actively managed by humans.

The first of these definitions has the great difficulty of applicability. World wide pollution impacts are being increasingly felt in even the most remote of locations and global climate change reaches all locations. The second definition is difficult because of the further definition needed of the word 'mechanised' – does it mean the stone axe, the metal plough, the wheel or the internal combustion engine, for instance? Much damage can be done with a stone axe. The third of these definitions at least allows us to feel that there may be parts of Britain where some of this can be found, or which is achievable with appropriate designation and control.

Mcdonald and Mcdonald (1995) also provide a potential differentiation between 'wilderness' and 'wild land'. 'Wilderness' is often felt to have overriding Biblical connotations of austerity, of trial and testing, whereas 'wild land' is more generally positive in feeling, more of a living, changing environment.

Objectively then, 'wilderness' requires a predominantly biological definition albeit one overlain with subjective values and responses. Subjectively the term can be

understood more than satisfactorily from an anthropocentric point of view in terms of the experience that it offers the visitor. We might not be able, completely, to escape the hand of humankind in its alteration of our land, but we can still enjoy the 'wilderness experience' in many parts of our islands. Understanding the term is one thing, but a firm definition based on this subjective appraisal is impossible. As the introductory quotes to Chapters Two and Three illustrate, wilderness is a human construct.

# CHAPTER 3

# WILDERNESS PHILOSOPHY

*Wilderness is a state of mind. Like beauty, it is defined by human perception* (Hendee et al., 1978).

## 3.1 The Value of Wilderness

As described at the end of Chapter Two, Wilderness areas are usually identified in terms of their physical characteristics. It is, however, the human response to the physical environment which has produced the impetus for wilderness preservation and which gives this particular environment its special value.

> *While the environments in which wilderness might be found have an objective ecological reality, and usually one that largely excludes obvious human modification, what makes that reality specifically 'wilderness' rests very much with the individual, and her or his personal cognition* (Kliskey & Kearsley, 1993).

> *Wilderness is not merely a condition of the land, but also a condition of the mind evoked by the land* (Robinson, 1975).

Wilderness may therefore be viewed (perhaps can only be viewed) from a multi-dimensional perspective.

Kliskey and Kearsley, (1993) collected perceptions of 'wilderness' from recreationalists in a designated Wilderness park in New Zealand. They used this data to show that:

> *wilderness is not necessarily a fixed and objective concept but one which is formed on the basis of individual perceptions, expectations and cultural values, and that, because for many people wilderness can be found where others would not recognize it, a series of 'wildernesses' can be identified.* (Kliskey & Kearsley, 1993)

These they called "multiple perceptions of wilderness".

Deep ecologist George Sessions (1992) outlines eleven arguments for the idea of wilderness and why it should be preserved (see Figure 3.1).

1. The Silo Argument
   Wilderness provides a stockpile of genetic diversity for the benefit of humans.

2. The Laboratory Argument
   Wilderness provides a location and subject matter for scientific study.

3. The Gymnasium Argument
   Wilderness is a location of human recreation (of an appropriate nature, of course!)

4. The Cathedral Argument
   In wilderness we can derive aesthetic pleasure and spiritual inspiration.

5. The Art Gallery Argument
   Aesthetic qualities such as colour, beauty etc. are present and unblemished in wilderness areas.

6. The Monument Argument
   There is a symbolic value of the non-human world to the human, i.e. the existence of wild species living in unmanaged ecosystems is an important symbol of human freedom.

7. The Minding Animals Argument
   Human intelligence is bound to the presence of animals.

8. The Natural, Human Ontogeny Argument
   Allowing humans to bond with nature is an important psycho-genetic development for us as a species.

9. The Anti-Totalitarian Argument
   Wilderness provides the standard for human freedom and autonomous behaviour and as a refuge from totalitarianism.

10. The Life Support System Argument
    Nature provides the life support systems to the whole planet (and therefore to us) for example, nutrient cycling, weather systems.

11. The Gaia Hypothesis Argument
    The earth itself is a living organism. This is close to Barry Commoner's first law of ecology, that "everything is connected to everything else".

**Figure 3.1 Sessions' arguments for the idea of wilderness**

Sessions' arguments can broadly be divided into three main groups. Arguments 1, 2 and 10 can be thought of as pragmatic, utilitarian and scientific. They reflect the contemporary concern with biodiversity and the necessity to preserve for posterity valuable genetic material. These arguments reflect our increasing concern that in

allowing habitats to deteriorate we inevitably threaten some species with extinction. The loss or potential loss of genetic material is seen as increasingly dangerous as we progressively learn to use genetic material for research, food crops, medicines etc..

Arguments 3 to 9 are broadly socio-psychological arguments whereby humans derive benefits form their proximity to wilderness. These are the essentially anthropocentric arguments although arguments 7 and 8 suggest that they are deeply imbued within our psycho-genetic make-up as a species. These psycho-genetic arguments are reflected closely in the discussions of Wilson (1984) in his seminal work, *Biophilia.*

Arguments 10 and 11 are Deep Ecology ideas reflecting what Naess (1994) calls the principle of "biospherical egalitarianism" - that all individuals, of all species, have an equal right to live and blossom.

Hendee et al., (1978) identify three consistent themes around which wilderness proponents have gathered, experiential themes, mental and moral restoration themes, and scientific themes, (though the authors admit that there is much in common between the experiential and the mental and moral themes).

At their most fundamental, however, these themes can all be assembled into anthropocentric and biocentric approaches to the wilderness ideas.

### 3.2 Anthropocentric Views

Early appreciation of wilderness was almost always from a human, anthropocentric perspective. Ever since biblical times, wilderness has been seen as a location of spiritual re-awakening and contemplation.

The US Wilderness Act (1964) itself is, primarily, an anthropocentric piece of legislation, emphasising, as it does, the "use and enjoyment" of wilderness rather than the inherent natural qualities of the areas designated. In the introductory section of the Act, it states that:

> *'wilderness areas' ... shall be administered for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness, and so as to provide for the protection of these areas, the preservation of their wilderness character, and for the gathering and dissemination of information regarding their use and enjoyment as wilderness.*

Whilst 'protection' is mentioned, it is clear from a close reading of the Act that human use of Wilderness Areas is more central than biological preservation (Nash, 1973).

Sessions' argument number four on the spiritual value of wilderness (see Figure 3.1) has a history which goes back to pre-Christian traditions in the West and is well-recognised in native cultures such as Native Americans and Australian Aborigines. In more modern times, the spiritual value of solitude was recognised by the Transcendentalists. Ralph Waldo Emerson, the early leading light of American Transcendentalism, based his beliefs on the "mystical union with God through contact with nature: that behind nature, throughout nature, spirit is present. ... In other words, in nature lay the true salvation for the human soul" (Bunce, 1994). France (1996) describes Transcendentalism as the belief that "to attain the ultimate in knowledge one must go beyond the senses," something which Thoreau, who can be regarded as the leading practitioner of the philosophy, achieved by using his experiences among wild nature (Thoreau, 1854).

One of Thoreau's aims in his extended stays in the woods near Walden Pond, was to return to a more simplified life, to see how many things he could live without and thus to free up time for amusement and contemplation. In this respect there may be a reflection of the activities of many hunter-gatherer peoples who survive without

spending much time on food collection or house-building and as a result can devote large parts of their lives to social and communal interaction and ceremony.

Mental and moral restoration themes are closely linked with the experiential. Writers from Thoreau and Muir to Leopold and Marshall, all stress the restorative powers of a deep communion with wild nature. In the words of one of Thoreau's most famous quotations:

> *I went to the woods because I wished to live deliberately, to front only the essential facts of life, and see if I could not learn what it had to teach and not, when I came to die, discover that I had not lived* (Thoreau, 1854).

Thoreau (1842) thought of the countryside as having a therapeutic influence on the illnesses generated by urban living. "In society you will not find health but in nature." As one of the first 'wilderness philosophers', Thoreau believed that the crucial environment was within the person. "Wilderness was ultimately significant to Thoreau for its beneficial effect on thought" (Nash, 1973).

Thoreau also drew the important link between wilderness and civilisation, emphasising that the two cannot exist without each other. Thoreau's love of wild places was not only because of its positive spiritual impact which is apparent in all his nature writing. He also believed that the power of wilderness was ultimately important for the maintenance of civilisation. In possibly his most quoted words:

> *In wildness is the preservation of the world* (Thoreau, 1862).

Sessions' arguments seven and eight (see Figure 3.1) are well recognised throughout the literature of wilderness philosophy, though sometimes couched in different terms. Thoreau recognised the value of wild areas for human creativity: "It is the marriage of the soul with nature that makes the intellect fruitful that gives birth to imagination" (Thoreau, 1983). Kaplan and Kaplan (1989) quote many examples of scientific

research which demonstrate that ill health (or the lack of it) are significantly related to the landscape visible to the patient. Recovery times for physical or psychological illness are shorter when there is visible attractive natural scenery, and levels of use of health care facilities in US federal jails are lowest for inmates whose cells look out onto farmland.

Kaplan and Kaplan (1989) emphasise the value of the experience offered to people in a wild setting in terms of nature appreciation, education, freedom, solitude, simplicity, as well as spiritual, aesthetic and mystical dimensions of the wilderness experience. They discuss the findings of extensive research into the attitudes of participants in the Outdoor Challenge Program, a wilderness backpacking programme lasting up to two weeks, in upstate Michigan. Through a series of questionnaires completed by participants before, during and after their experiences, they were able to evaluate the extent to which participants underwent changing attitudes and changes in self-perception. They found that not only did participants develop their skills and competences in practical ways, such as in navigation and the practicalities of outdoor living, but they also developed much higher levels of self-esteem. These positive changes were maintained long after the participants left the programme. These ideas of self-discovery in a wilderness context are, however, by no means confined to American cultures or to contemporary experiences. European Fairy Tale myths are full of such references (Bettleheim, 1976).

Brown (1983) talks about wilderness as a self-developmental or therapeutic tool. For Brown "we need to experience and deeply explore the natural world on our quest for wholeness...We live in bodies that are exquisitely wired by evolution to perceive and respond to subtle shifts in colour, temperature, sound and movement." Brown's experience comes form running a wilderness experience programme in the USA.

'Vision Quest' - the title of his programme refers to the traditional Native American coming-of-age ritual whereby adolescent boys were sent out into the wilderness for several days to fast and have visions. This tradition itself is deeply imbued in the human relationship with nature so explicitly recognised in Native American culture.

Wilderness recreationalists are in pursuit of self-justifying goals - what Csikszentmihalyi (1975) calls 'autotelic'. Participants seek no external goals (such as payment or approval from outsiders), just a sense of personal satisfaction - achievement for an activity undertaken. These autotelic rewards are common to musicians, outdoor recreationalists and, in today's contexts, computer nerds.

Where such autotelic goals have been identified, three elements underpin a positive experience. Firstly, there is a sense that the participant has entered freely into the activity considered. Secondly, there is a feeling of being in control, even where danger is involved. If hazardous activities are undertaken (such as rock-climbing) the hazards are self-imposed. Thirdly there needs to be a level of complexity in the activity and/or the environment that demands total commitment from the participant.

These ideas fit with Carl Rogers' ideas (Rogers & Freiberg, 1993) that freedom from external constraints (workplace, family etc.) allows individuals to focus on their inner resources and derive profound satisfaction from activities where goals are self-set rather than imposed from the outside (Sax, 1980).

> *Some men had a psychological urge for challenge, adventure and the freedom of the wilderness. Their very sanity depended upon pushing into the blank spaces on the map* (Nash, 1973).

Outdoor recreation of an extended duration allows people to re-connect with the natural rhythms of a life most of us have long lost with generations of detachment

from an agrarian economy. As Bunce (1994) points out, the framework in which we live our industrial, urban-centred lives is a long way removed from those earlier patterns of daily life. To regain, albeit only in part and temporarily, those daily patterns of activity and sensibility has become a profound recreational and psychological need for many of us.

The nature of these socio-psychological values of wilderness are vital for the management of wild areas. It is the quality of the wilderness experience which is an important aspect of defining the wilderness itself. If the value of an experience is diminished, for example by persistent low flight paths of military aircraft, then the notion of wilderness may be difficult to appreciate by the recreational user notwithstanding the ecological and landscape qualities of the areas. In a British context, a positive experience, even in a fundamentally altered physical environment, may still allow the pursuit of wilderness goals.

These socio-psychological values have also been subject to much criticism because of a lack of empirical evidence to support them. Most of the discussion of the benefits of wilderness landscapes and experience has derived from philosophical writings. Psychologists, on the other hand, have much more difficulty in accepting any specific and superior role for wilderness (Stringer, 1975).

### 3.3 Biocentric Approach

Scientific themes only really emerged in relation to wilderness, with the work of Marsh, Leopold and the early ecologists. It is only twentieth century wilderness thinkers and philosophers who have begun to value wilderness for its own inherent biological attributes rather than as a location for human activity (however passive and

sustainable). It is this development of wilderness appreciation which brought an ecological component into human value-systems whereby wilderness developed "both an ecological and a human perceptual meaning" (Kliskey & Kearsley, 1993).

Leopold (1941) saw wilderness as a living laboratory - a baseline against which to study the health of land. This is mirrored by Sessions' argument number two (see Figure 3.1) reflecting the commonly stated role of wilderness in providing some kind of benchmark against which "we can model and predict favourable and adverse impacts of developmental works on non-wilderness land elsewhere" (Block, 1983). The establishment of the Wilderness Society in 1935, was an important watershed in the transition of Leopold's thinking. Whilst he had long recognised the historical and recreational values of wilderness, he subsequently developed much more of a scientific and ethical justification of such areas (Hendee et al., 1978). Leopold elaborated this in the concept of the Land Ethic which:

> *states that humans ought to act to preserve the integrity, stability, and beauty of natural systems. ... Unquestionably, even in Leopold's judgement, the land ethic is an attempt to synthesize three rival and often conflicting perspectives on the land: the ecological, ethical and aesthetic* (Oelschlaeger, 1992).

In today's parlance, Leopold would be an advocate of 'sustainability'- a deliberate self-limitation to allow the continuation of natural process without deterioration.

The development of Deep Ecology thinking in the 1970s forced a more critical appraisal of environmental protection and the wilderness concept. Nash (1973) puts the biocentric view:

> *'A wilderness area', Naess (1984) declared, 'has a value independent of whether humans have access to it.' Humans should understand wilderness not as settings for outdoor recreation but as gestures of planetary modesty, expressions of respect and reverence for the intrinsic value of nature. Seen in this way, wilderness preservation demonstrates a human commitment to share the environment with present and future generations of all creatures, rocks and trees.*

This follows the thinking of what Naess calls the principle of 'biospherical egalitarianism', whereby all individuals have an equal right to live and blossom (Sessions, 1992).

The biocentric approach can be argued to be, however, essentially elitist. It demands that only a privileged few will be able to obtain access to wilderness areas (Hendee et al., 1978). It certainly requires that non-appropriate uses of wilderness are served elsewhere. There is little chance that "wilderness management can survive unless an equitable range of alternate outdoor recreation opportunities is provided" (Hendee et al., 1978).

### 3.4 A Philosophical Synthesis

The biocentric and the anthropocentric approaches are not, however, irreconcilable. Most authors from outside of the Deep Ecology school, propose some kind of inter-relationship on a philosophical and a practical basis. Philosophically, the benefits which wilderness provides for a recreational user disappear with the erosion of the wilderness condition. The spiritual importance, the psycho-social benefits, the therapeutic values, therefore, are diminished with a deterioration in the purity of the environment.

> *It is from the primeval attributes of wilderness that its human values and benefits are derived* (Hendee et al.,1978).

In pragmatic terms, if wilderness areas are not valued by people then the political effectiveness needed to protect them will be less than if they are valued. One of the most potent ways of developing a constituency which will value and hence be active in the protection of wild areas, is to allow and encourage recreationalists to gain positive experiences from appropriate use of such areas.

The Sierra Club has adopted such a pragmatic policy on the role of wilderness. The Club's view emphasise conservation, cultural, educational, historical, recreational, scenic, scientific and wildlife values of wilderness areas. The Club also identifies the role of wilderness to serve as a benchmark, permitting comparison of relatively unmodified environments with other environments (Sierra Club, 1995).

A final summary of the multiple values of wilderness is, perhaps, best achieved by one of the earliest descriptions - that of John Muir. As he wrote in The Atlantic Magazine in 1898,

> *Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going home; that wildness is a necessity; and that mountain parks and reservations are useful, not only as fountains of timber and irrigated rivers, but as fountains of life* (quoted in Nash, 1968).

One hundred years later, Muir's words ring resoundingly true for many, many people.

# CHAPTER 4

# THE BRITISH WILDERNESS TRADITION

*It may be that as dictionary definitions are rewritten, ... more emphasis will be placed on the positive aspects afforded by wilderness, but the term conjures many contradictions in the English mind and is likely to remain a somewhat obscure term in the English* language (Landscape Design Associates, 1994).

## 4.1 A Long-Term Evolution

The history of the British relationship with nature is a much more of a long drawn-out affair than its Euro-American counterpart, and probably, as a result, a less dramatic story. Similar themes have been shared across the Atlantic but changes in attitudes in these islands have inevitably followed a more circuitous route, which reflects a more long-standing and intimate historical relationship with nature. This nature has been one in which and around which our society and economy has evolved over many centuries. British culture has, in its religious, artistic and recreational traditions, reflected complex attitudes to wild nature, but the inherent value of remote places has maintained a strong impact, even as they have diminished in their geographical extent.

There is no intention to explore every detail of the British historical relationship with nature here. This has been done, highly effectively by Thomas (1983), Bunce (1994), Schama (1996) and others. In particular, the role of literature and its reflections on the natural world are almost entirely neglected in this study, though they are, of course, of immense importance. The resulting commentary is, therefore, inevitably episodic; it does, however, attempt to bring together some themes which relate clearly to our changing attitudes to *wild* nature and which have been instrumental in affecting the cultural attitudes of Britain.

## 4.2 Christian Beliefs and the Hermitic Tradition

As it was in the New World, the early British attitudes to nature have a strong biblical foundation. Genesis Chapter 1 verse 28 instructs man to "replenish the earth and subdue it", and these religious underpinnings of life produced a culture where "uncultivated land meant uncultivated men" (Thomas, 1983).

The religious tradition in Britain, since Anglo-Saxon times, rejected the veneration of nature which were a strong part of pagan and pre-Christian Celtic spirituality, and are still retained in Eastern religions. Monasticism was reformed and purged of its Oriental asceticism by St. Benedict, whose Rule (c. 500 AD) was adopted by all the Latin monasteries outside Ireland. "The pagan deities of grove, stream and mountain had been expelled, leaving behind them a disenchanted world to be shaped, moulded and dominated" (Thomas, 1983).

In spite of biblical encouragement to suppress nature, however, early Celtic Christian anchorites had fled to remote and isolated locations to pursue their religious callings. Ireland is well-populated with hermitages dating from the sixth and seventh centuries (Herdy, 1989). In England, Crowland in Lincolnshire, The Farne Islands and Derwentwater (a retreat for Hereberht) were among the most remote and hostile of environments which accommodated these hardy hermits. The Farne Islands have a long tradition of such occupation.

In the Middle Ages, orders of monks reverted towards the establishment of small groups of hermits to emulate the Desert Fathers, and this led to the formation of the orders of the Camaldose in Italy (c. 975) and the Carthusians (1084) in France (France, 1996).

> *From Ireland to Bohemia, penitents fled from the temptations of the world into the woodland depths. In solitude they would deliver themselves to mystical transports or prevail over the ordeals that might come their way from the demonic powers lurking in the darkness. The indeterminate, boundless forest, then, was Europe's version of the Hebraic wilderness (to which it was often compared): a place where the faith of the true believer would be put to the severest test* (Schama 1996).

St Aidan (? to 652), who founded the monastery on nearby Lindisfarne used to visit the Farne Islands in order to be alone, according to the writings of Bede. St. Cuthbert (635? to 687) used Inner Farne as a location for protracted retreat in order to get closer to his God. According to various accounts (Bonner et al., 1989) he lived on Inner Farne for between three and nine years. St. Bartholomew, starting from 1150 was allowed by his Prior (in Durham) to undertake the life of a solitary on Farne. He lived there until his death forty-two years later (Piper, 1989). Durham established a regular cell on Inner Farne from 1255 and two monks at a time remained there, almost continuously, until the Reformation (Farmer, 1961). The Monk of Farne, in the fourteenth century, is among the better-known of the recluses to the islands. Even on relatively civilised Lindisfarne, the monks felt a need to construct a contemplative cell on an islet just off the south west tip of the main island. These buildings, on what is now called St. Cuthbert's Island, "reflect an important strand in the tradition of insular monasticism and the islet fulfilled an important need in providing the possibility of physical isolation within a monastic community" (O'Sullivan, 1989).

The Cistercian monasteries of the twelfth century were built in places remote from civilisation - Tintern in the Wye Valley, Fountains in the Yorkshire Dales, and Rievaulx in the North York Moors (Louth, 1991). The importance of isolation for spiritual gain was maintained into the fourteenth century when the *Speculum Inclusorum* rule of the Church preferred that every recluse live in remote places in a physical wilderness (Warren, 1985).

## 4.3 Philosophy and Nature

From the earliest times, the relationship between man, and the plants and animals he used, was inevitably strongly utilitarian and parochial. Flora and fauna were valued (often being given local names) and categorised for their usefulness. There was little sense of any inherent worth in the natural world, except that which could be exploited by man. This is reflected in the plant classification systems which were attempted before Linneaus. The period of 1500 to 1800 saw a significant shift in perceptions in Britain and a changing attitude to nature. These changes, charted by Thomas (1983) in his impressively researched *Man and the Natural World*, show the ways in which:

> *men and women, et all social levels, perceived and classified the natural world around them. In the process some long-established dogmas about man's place in nature were discarded. New sensibilities arose towards animals, plants and landscape. The relationship of man to other species was redefined; and his right to exploit those species for his own advantage was sharply challenged. It was these centuries which generated both an intense interest in the natural world and those doubts and anxieties about man's relationship to it which we have inherited in magnified form* (Thomas, 1983).

By the mid eighteenth century, a move away from the man-centred view of the world was reflected in the post-Linnean plant classification systems. These led to a more scientific approach, based more on plant structure and physiology and less on plant usage and human value (Thomas, 1983). Local, descriptive names of plants (often with rich symbolic overtones) gave way to the re-naming of species in Latin.

The eighteenth century also saw a philosophical shift in attitudes towards nature reflected in art, landscape appreciation and in the scientific understanding of nature.

> *In place of the teleological belief that nature existed to fulfil God's grand design for a human dominated earth, and of the Cartesian notion that this design could be understood as a geometric and mechanical order, came the idea that nature was governed by its own forces of which the human species was a part* (Bunce, 1994).

Central to these changing perceptions were the philosophical ideas of David Hume (1711 to 1776) and Emmanuel Kant (1724 to 1804). Hume's views on the 'economy

of nature' expressed a belief in its unsentimental internal efficiency. Kant's belief in human causality with nature (he also argued that nature could exist quite happily without humans) "represented the most complete rejection of the teleological argument" (Bunce, 1994). This changing attitude is also reflected in the rise in the Romantic tradition of the latter half of the eighteenth century which had a countervailing balance against utilitarianism (Blunden & Curry, 1985).

Alexander Von Humboldt (1769-1859) pioneered an appreciation for a wider view of the natural world. With his five volume *Kosmos*, (1845), he emphasised the interdependence of plants and animals and thus formed a substantial basis upon which the later ecological sciences could build. It was Humboldt who convinced both Darwin and the painter Frederic Church of the crucial importance of biological diversity (Tobias, 1995).

Of course these views were challenged. Objectors to Darwin's theory of evolution (*On the Origin of Species by Means of Natural Selection, or the Preservation of Favoured Races in the Struggle for Life*, 1859) expressed horror at the "degrading notion of human descent from the brutes" (Thomas, 1983). But by this Early Victorian period, the seeds of change had been well and truly sown. The scientific paradigm and the industrial revolution were to complete the transition to a view of nature far removed from the early anthropocentricity.

### 4.4 Wildwood, Wastes and the Landscape Tradition

Whilst very little natural woodland remained in England, even as early as the Norman conquest (Rackham, 1990), much of the forest as did exist was in the hands of the monarchy and the aristocracy, especially after the granting of lands to valued

supporters under the Norman kings. Some of this forest may well have been used for grazing and coppicing, but it still performed an important recreational role to its feudal owners. The wild beasts which inhabited the forest were the quarry of the chase and the use of the woods as hunting grounds by the privileged few is, perhaps, one of the earliest examples of a recreational use of wilderness. This remained the primary role of many English forests until the late seventeenth century (Thomas, 1983), when the value of timber production became a priority. This reduced the size and increased the use intensity of what little wildwood was left in the country.

In the Medieval period, early European folklore saw wilderness, especially forests, as the domicile of ferocious mythological beasts and deities. Pan, satyrs, trolls, ogres, werewolves (or even the wolf in *Little Red Riding Hood*) were all inhabitants of the forest wilderness. The untamed forest, then, was seen as a place of fear. In Britain, the woods were the refuge of the outlaw. For King Arthur and his knights, the Greenwood was a dangerous no-man's land - "an unknown world where the laws did not run and where wicked men and strange spirits found a refuge" (Keen, 1977).

Early outlaws, Eustace the Monk and Fulk fitz Warin are both recorded in the late twelfth and early thirteenth centuries. These men who spawned many legends (and ultimately, probably the Robin Hood myth) lived much of their lives as outlaws in the forest (Holt, 1982). As the home of Robin Hood, the Greenwood was, of course, out of bounds from the 'civilised' forces of law and order and, for Robin, an asylum from the tyranny of evil lords and a corrupt law. The forests were places of sanctuary for all sorts of misfits and mystics. The Robin Hood myths, as described by Knight, (1994), are held to be legends "woven out of urban fantasies of rural liberty". Whilst this may not have been of original significance in the myths, it is a reason for their enduring qualities.

'Wilderness', to the Elizabethans, usually referred to the wild wood rather than bleak, unvegetated waste. Thomas (1983) quotes from a seventeenth century poetical dictionary which suggests appropriate epithets for a forest such as "dreadful, gloomy, wild, desert, uncouth melancholy, unpeopled, and beast haunted."

By the seventeenth century, attitudes to woodland were beginning to change. Trees began to be appreciated for their aesthetic qualities, and the aristocracy, at any rate, could afford to view woodland not just for its commercial value. Amenity planting became common and poets lamented the destruction of trees (John Clare grieved "to see the woodman's cruel axe employ'd"). This attitude to trees in Britain had an echo somewhat later in the American reaction to the loss of wilderness. As the British woodlands shrank in area, they ceased to terrify and became, instead, valued sources of pleasure and inspiration (Thomas, 1983).

Prior to this change, the perception of landscape in general, reflected the utilitarian view. Early commentators saw beauty only in tamed and cultivated landscapes. Uniformity and symmetry in planting of crops was applauded (still perhaps reflected in modern ploughing competitions by farmers). Straight lines were to be admired and irregularity abhorred; more pleasure was to be gained from a yellow cornfield or a well-tended orchard than from the majesty of uncultivated moor or mountain (Thomas, 1983).

Uplands were feared by some and disliked by many. Adjectives such as 'rough', 'rugged', hideous', and 'terrible' were frequently bestowed on mountain scenery by travellers and passers-by. There is no denying, says Thomas (1983) "that before 1700 most sophisticated contemporaries found hilly country distasteful and infinitely preferred the tamed and fertile landscape over which man had asserted his control."

Captain Birt, a surveyor officer in General Wade's army of occupation in the Scottish Highlands in the 1720s demonstrated contemporary attitudes describing the Scottish uplands, in a letter to a friend as "monstrous excrescences ... rude and offensive to the sight ... their huge naked rocks producing the disagreeable appearance of a scabbed head ... of a dismal gloomy brown drawing upon a dirty purple and most of all disagreeable when the heath is in bloom" (quoted in Bicknell, 1981).

By the end of the eighteenth century, however, the prevailing attitudes had begun to change dramatically. Open vistas and wild landscapes had come to be admired, particularly in their abilities to inspire human emotion. The latter half of the eighteenth century saw a burgeoning tourist traffic in the Lake District whilst more adventurous travellers sought out the Alps or Savoy.

Part of this developing appreciation may have been due to the opening up of much more easy access following the passing of the many turnpike acts. Changing attitudes and increasing access may have fed off each other to speed the process of perceptual change. To Thomas (1983), however, a more important reason was as a response to the increasingly regulated and tamed agricultural landscapes of the eighteenth century. The enclosure movement which reached its zenith between 1760 and 1830, progressed to dominate the landscape with walls and hedgerows and "contributed to obliterate much of the untidy pattern of the common village fields - and also cleared away most of the untidy common English labourers" (Brown, 1982). It resulted in a landscape which was more regimented and broken up into small cultivated areas than any other country in Europe. Coinciding with the enclosures, changes in hunting fashions began to reduce access for the common man. 'Wasteland' as well as agricultural land was enclosed in many parts of the country, specifically for hunting

purposes. Working people were increasingly deprived of access to wild areas, both for sport and recreation and as a source of wild food. Successively restrictive and penal Game Laws up to the 1870s enshrined this change (Blunden & Curry, 1990).

One reaction to the fragmented agricultural landscape was seen in landscape design, in the appreciation of the 'natural' style often attributed to Capability Brown and others. The growth of the Picturesque movement took this trend forward. Another reaction was the compensatory appreciation for wild and untamed landscapes.

> *By the late eighteenth century the appreciation of nature, and particularly wild nature, had been converted into a sort of religious act. Nature was not only beautiful; it was morally healing. The value of the wilderness was not just negative; it did not provide merely a place of privacy, an opportunity for self-examination and private reverie (which was an ancient idea); it had a more positive role, exercising a beneficent spiritual power over man. ... The mountains themselves were no longer repugnant; they had become the highest form of natural beauty and a reminder of God's sublimity* (Thomas, 1983).

## 4.5 Attitudes to Nature in Art

In art and myth the natural world was often seen as dangerous and hostile. The devil was regularly portrayed as a mixture of man and animal. Evil spirits were depicted in the guise of an animal form - dog, cat, rat or wolf (Thomas, 1983). These attitudes to animals coloured the relationships with the much wider natural environment.

The early part of the eighteenth century saw the emergence of a new poetic enthusiasm for nature. James Thompson's publication of *The Seasons* in 1730 is, according to Bunce (1994), a key influence in the beginnings of this trend. The century brought a more positive perception of nature, but one which still yearned for harmony and conformity. There is no doubt that the changing appreciation for wild nature and landscapes was influenced, and not a little trained, by the contemporary tradition of European painting. This developing appreciation was however a selective

process and one very much dominated by the wealthy and intellectual classes. The rural peasants' view of the land was utilitarian, and they probably had little sentiment for a mystical attitude to wild scenery (Thomas, 1983). For them, wild lands would have been frustratingly unproductive. The landed aristocracy, and the rapidly growing middle classes of the eighteenth century, could enjoy the luxury of landscape appreciation. This was founded on their knowledge of classical literature and art. The gulf between the two groups was large. Part of Wordsworth's opposition, in 1844, to the Kendal to Windermere railway, was his sceptical belief that the lower classes of Lancashire, who would now be able to visit the Lake District, would not have the abilities or sensitivities to appreciate the qualities of the landscape.

Needless to say, it was the intellectual tradition which prevailed. Wordsworth and John Clare, in their poetry, Constable in his art, all articulated the aesthetic appreciation for nature in its unimproved form. The Romantic poets, Coleridge, Clare, Crabbe, Blake and, above all, Wordsworth transformed English (and American) sensibilities. In their exaltation of rural landscapes and, for the most part, antipathy towards the new urban-industrial conditions, they mined a deep seem of emerging sentiment, especially among the rapidly emerging middle classes of the nineteenth century.

> *What was notable about this new taste was that the scenery which was most particularly admired was no longer the fertile, productive landscape, but the wild and romantic one. ... That concern had many ingredients: an aesthetic reaction against the regularity and uniformity of English agriculture; a dislike for the artificialities of the gardening movement; a feeling that wilderness, by its very contrast with cultivation, was necessary to give meaning and definition to the human enterprise; a preoccupation with the freedom of open spaces as a symbol of human freedom; ... and an element of alienation or lack of sympathy for the dominant trends of the age* (Thomas, 1983).

The Picturesque movement in eighteenth century art did much to change perceptions of the landscape. Though Italianate in its inspiration, it was an essentially British

movement which formed an essential cornerstone of the romantic period which succeeded it (Jaffe, 1981).

The Picturesque softened the formerly held antipathy to the uplands and, whilst retaining its grandeur and some of its foreboding, also attributed positive aesthetic qualities to these areas. This changing taste in artistic appreciation had French painter Claude Gellee (often called Le Lorrain), 1606 to 1682, as its inspiration. Claude became almost an obsession amongst English collectors (Bicknell, 1981). The movement brought a fair degree of topographical accuracy to wild scenery but framed it with romanticised light and formal arrangements of composition.

The cult of the Picturesque also inspired the wealthy to develop the habit for picturesque travel. The uplands could now be seen in a new light, albeit one formed out of an ideal artistic notion. Thomas Gray and Horace Walpole responded positively to the picturesque landscapes of the Grande Chartreuse on their continental tour of 1739. In 1765, Gray visited Scotland and found the highlands 'ecstatic' (quoted in Bicknell, 1981), unlike Birt forty years previously. In 1769, in the Lake District, he "passed six days lap'd in Elysium" (quoted in Bicknell, 1981). The last decades of the eighteenth century saw an "avalanche of dons, divines and dilettante that descended on the Lakes and recorded their impressions in picturesque terms" (Bicknell, 1981).

Closely associated with the Picturesque was the development of the notion of the Sublime in art. The Sublime, produces the emotion of astonishment and has attributes of obscurity, power, darkness, solitude, silence, infinity. Edmund Burke's definition of the Sublime in 1756 included adjectives such as "elemental, dramatic, raw and

tough" and covered "those elements that created feelings of fear and wonder and aroused the instinct of self-preservation" (Bicknell, 1981).

The Sublime is often associated with the work of artist Salvator Rosa (1615 to 1673). In the painting of the latter half of the seventeenth century, he explored these uncomfortable feelings in precipitous landscapes, dramatic lightening-lit skies and immensity of scale. Travel was becoming less hazardous, and travellers less fearful of the remote and the barren. In response to this, painting reflected the increasing recognition of these landscapes and, in no small way, contributed to the further aesthetic appreciation of them over the ensuing centuries.

The late seventeenth and eighteenth century body of artistic work based on the qualities of landscape was but a part of the larger appreciation of nature which was seen in works of non-fiction. A large body of descriptive (but largely unscientific) natural history became highly popular towards the middle of the eighteenth century (Bunce, 1994). The fashionable interest in the natural world was demonstrated by the popularity of Gilbert White's *Natural History and Antiquities of Selbourne*, first published in 1789.

The changing trends in the visual arts were paralleled by similar themes in literature and poetry. In 1812, Byron in *Childe Harold's Pilgrimage* extolled the pleasure of the pathless woods and the rapture of the lonely shore (Blunden & Curry, 1985). The Brontes used the wild moors of the Yorkshire Pennines as settings for many of their works, and in much of his poetry, John Clare praises the beauty of plants such as ragwort and rushes which farmers perceived of as mere weeds.

For Thomas Hardy, his wilderness, Egdon Heath, was a place that impressed sensitive man and women with a brooding sense of melancholy and pessimism (Louth, 1991). Hardy represented a constituency of Victorian uneasy with the industrialisation of the world around them (Bunce, 1994). He reflected a growing interest in pre-industrial folk culture led by William Morris and John Ruskin.

In music too, composers became less tied to the services of the Church and the Crown and less reliant on their patronage. They turned their focus more towards rural imagery culminating in many 19th and early 20th century compositions by Elgar, Holst, Delius and particularly, though a little later, by Vaughan Williams (Blunden & Curry, 1990).

### 4.6 The History of the Landscape Garden

Much can be learned about the British relationship to landscape and nature from the changing fashions of landscape design.

The earliest British garden constructed in what Hadfield calls "the grand manner" was a Roman garden unearthed at Fishbourn in West Sussex. (Hadfield, 1977). This early garden, (if it followed the plan of Roman gardens elsewhere which were described by contemporary writers such as Pliny) was most probably a regular, balanced design with geometrical patterns. Regularity, order and formality remained the guiding essence of the elaborate renaissance gardens of Italy, one thousand years later.

English gardens reflected this formality beyond the medieval period. Formal geometric designs such as Hampton Court, Chatsworth and Blenheim included an abundance of small flower beds arranged in fanciful patterns and clipped and trained

avenues of trees and shrubs. Two examples of this old style can still be seen at Melbourne Hall in Derbyshire and Westbury Court in Gloucestershire, both dating from 1696.

Whilst earlier gardens were enclosed and strongly utilitarian, an important change in the feature of the Tudor garden was the loosening of the enclosure (Jiahua Wu, 1995). "The gardens were not simply thought as a refuge against danger and wildness, but a place for companionship of nature and enjoyment of life." Francis Bacon, in an essay on gardens published in 1625 suggested that one-third of the garden might be treated in a wild manner to embody his desire for 'heath or wilderness' (quoted in Colvin, 1948).

Natural planting of what were called 'wilderness' areas, in the gardens of large houses was apparent from early seventeenth century texts (Thomas, 1983). These were dense plantations of trees, though they were laid out in an orderly and geometrical pattern, which formed "a multitude of thick bushes and trees, affecting an ostentation of solitariness in the midst of worldly pleasures" (Jermin, 1639).

Following the Civil War, a combination of timber shortages and the appreciation of amenity as well as utility of forests provided a strong motive for renewed planting of woodlands (Jiahua Wu, 1995). The role of trees in the seventeenth century was central in the designs of many great houses and their lands. Trees were used to "conceal the extent of a property if it was small and display it if it was large" (Thomas, 1983). Extensively wooded grounds took on the symbolic meaning for the gentry, which the hunting grounds had held for the Norman aristocracy. They became "an indispensable part of the scenery of upper class life" (Thomas, 1983).

It was not until the beginning of the eighteenth century, however, that the hegemony of formal garden design began to be challenged. Joseph Addison in the Spectator (1712) and Alexander Pope's comic satire (1713) were both critical of the over-formality of garden design. But it was only with gardener Stephen Switzer (1682 to 1745) that landscape practice began to change with his desire to abandon the most rigid geometric symmetry. Switzer urged the designer 'to pursue Nature' abandoning the universal enclosing walls and developing the use of the ha-ha (Hunt & Willis, 1988). No longer were trees clipped and pollarded to repress their natural form and vigour; and the cultivation of trees moved from regimentation to spontaneity (Thomas, 1983). The trees' free growth symbolised the Englishman's freedom in the same way that wilderness was to symbolise the freedom of later American generations.

A bizarre development of the late eighteenth and early nineteenth centuries saw the emergence of ornamental hermits in the gardens of the English landed gentry (France, 1996). The garden grotto became a fashionable addition to the grounds of the great houses and some of the gentry adorned these places with hermits recruited for the purpose. France (1996) quotes contemporary recruitment advertisements for hermits which specified conditions of employment such as being forbidden to cut their hair or nails.

William Kent (1684 to 1748) further loosened the ties with Italianate formality with his emphasis on the informal enjoyment of nature and scenery (Bunce, 1994). He carefully incorporated points of scenic, botanical and architectural interest into his landscape designs. At Stowe, he introduced the idea of the 'garden-circuit' - a layout of drives and footpaths which permitted leisurely walks around the extensive park

(Bunce, 1994). Kent also (allegedly) invented the ha-ha and thus "leaped the fence and saw that all nature was garden" (Jellicoe & Jellicoe, 1987).

Kent's successor, who completed his work at Stowe was Capability Brown (1715 to 1783). His designs were characterised by sinuous drives and pathways along with carefully arranged clumps of trees. Brown emphasised the natural elements in landscape and moved away from the earlier interests in statues, inscriptions and, to some extent, buildings (Hunt & Dixon, 1988). He mainly used British native tree species - oak, ash, beech sometimes Scots Pine. The Cedar of Lebanon was the only non-native used extensively by Brown (Hadfield, 1977). No doubt stimulated by the wide vistas and big skies of his native Northumberland, Brown's legacy was to allow nature back into landscape design. In the 43 years of his working life, Brown covered thousands of hectares of England with aristocratic parkland - filling hollows with reflecting water, planting clumps of trees and digging ha-has to keep out the sheep (Brown, 1982). Humphrey Repton who followed Brown as the most influential designer of his generation articulated Brown's principles in 1806:

> *The perfection of landscape gardening consists in the four following requisites: first, it must display the natural beauties and hide the natural defects of every situation: secondly, it should give the appearance of extent and freedom, by carefully disguising or hiding the boundary: thirdly, it must studiously conceal every interference of art ... by which the scenery is improved; making the whole appear the production of nature only: and fourthly, all objects of mere convenience or comfort, if incapable of being ornamental, or of becoming proper parts of the general scenery, must be removed or concealed* (Repton, 1806).

The Picturesque Movement also influenced the approach to landscape design which stressed "variety, intricacy, irregularity, roughness and ruggedness, the native and the sense of place" (Adams, 1996). The Picturesque emphasised the drama of the landscape, reacting against what some saw as the bland, smooth lines of Capability Brown's designs (Hunt & Dixon, 1988).

*'Wherever man appears with his tools,' wrote William Gilpin, the self-appointed authority on the picturesque, 'deformity follows his steps. His spade and his plough, his hedge and his furrow, make shocking encroachments on the simplicity and elegance of landscape.' England, he thought, would 'be more beautiful in a state of nature than in a state of cultivation. ... The regularity of cornfields disgusts and the colour of corn, especially at harvest, is out of tone with everything else.' Morally, cultivation was pleasing. Picturesquely, it aroused disgust* (Thomas, 1983).

By the second half of the eighteenth century, interest was shifting beyond the confines of the planned garden. Picturesque designs tried to make the views more dramatic, but the grounds of the big houses were unable to compete, in terms of inherent topographical interest, with the wilder lands of the Romantic imagination. As early as 1768, a letter published by Dr. John Brown on the subject of the landscape of the Lake District, argued that the "full perfection" of the scenery around Keswick "would require the united powers of Claude, Salvator and Poussin" (quoted in Hunt & Dixon, 1988).

The rapid development of urban areas in the early decades of the nineteenth century spawned a reaction which produced the plethora of Victorian urban parks. In 1833 the Select Committee of Public Walks heralded the Parks Movement by advocating the creation of areas where the urban working classes could partake of fresh air and recreational activities on their Sunday days off. The Victorians thought of walking and open spaces as an antidote to the immorality of narrow alleys and drinking shops (Chadwick, 1966). Apart from the moral imperative, there were other factors involved: "the continuing influence of gardenesque ideas which equated the aesthetics of 'natural' landscapes with urban improvement, the beneficial impact of parks on property values, and the growing interest in the scientific study of nature" (Bunce, 1994). Victoria Park in East London and Birkenhead Park on Merseyside represented the best known examples of urban parks form this tradition.

The Victorian age also saw a growing appreciation of the wild in the cultivation of plants. Middle class Victorians developed a craze for fern cultivation which reached its peak in the 1850s (Thomas, 1983). Ruskin lamented the "pampered and bloated" garden flowers "corrupted by evil communication into speckled and inharmonious colours; torn form the soil which they loved" (Cook & Wedderburn, 1906).

## 4.7 Mountains and Mountaineering

Early attitudes to mountains were couched in apprehension. Normal mortals did not wander into the hills, which were seen as the abode of dragons and "winged serpents, ... the embodiment of satanic evil. On the rock ledge, they were the demonic opposition for holy cave-dwellers, anchorites and hermits" (Schama, 1996).

The first ascent of a mountain for pleasure (or more probably, for curiosity) was recorded by Petrarch who climbed Mont Ventoux in 1336 and became known as the 'father of mountaineering' (Mcdonald & Mcdonald, 1995). But such instances were rare indeed. For the most part, for the vast majority, mountains were to be feared and avoided except by those needing to live or work on them.

Dr Johnson wrote of the Scottish Highlands that "an eye accustomed to flowery pastures and waving harvests is astonished and repelled by this wide extent of hopeless sterility" (Chapman, 1930). This attitude, again influenced by contemporary literature, began to change in the eighteenth century partly through the influence of Sir Walter Scott.

> *Scott's novels, with their romantic tales of the Scottish Highlands, their warlike inhabitants and savage mountains, put forward a new view that was intensely aware of the beauty and appeal of the landscape* (Watson, 1983).

European attitudes to mountains only began to soften significantly towards the end of the eighteenth century as witnessed by the first ascent of Mont Blanc by Dr. Michel Paccard and Jacques Balmat in 1786. Britons, no doubt prepared by the images presented from the Picturesque movement began to seek out spectacular mountain scenery - initially merely to look, later to explore. The Grand Tour brought many wealthy British travellers to the Alps in the latter half of the eighteenth century with Chamonix, its Mer de Glace and Mont Blanc on their itinerary (Bonnington, 1992).

In the mid-nineteenth century, Britons began the recreational pursuit of mountain climbing which they took beyond the shores of their own islands. It was, perhaps, a quest for danger which was becoming more attractive as the middle classes grew in prosperity and comfort in their everyday domestic lives. The Victorians quickly developed a passion for Alpine mountaineering following Albert Smith's ascent of Mont Blanc in 1851 and his highly successful lecture tour which followed (Unsworth, 1993). Alfred Wills' ascent of the Wetterhorn in 1854 is regarded by Bonnington as marking the start of modern mountaineering as a sport, after which Britain entered the 'Golden Age' of Victorian alpinism (Bonnington, 1992).

In Britain, without the spectacular peaks of the Alps, domestic mountaineering also had its origins in the Romantic Movement of the late eighteenth century. Popular guidebooks were published (five to the Lake District alone in the 1770s) and professional guides were to be found for hire in places like Ambleside. Joseph Budworth wrote what was probably Britian's first ramblers guide in 1792, describing his exploits in the Lake District including the ascent of some of its major peaks. (Unsworth, 1993).

## 4.8 Baden-Powell and the Boy Scout Movement

Baden-Powell's scouting movement (started in 1908) had its origins in a complex mixture of late colonial imperialism, social Darwinism, the crisis of masculinity (Oscar Wilde's trial having taken place in 1895), social concerns about the poverty and slum conditions of Britain's cities, new theories of education, and the value of fresh air (MacDonald, 1993). But Baden-Powell was also influenced by the spiritual dimension represented by the countryside and by outdoor living. In his writings, Baden-Powell drew upon and recommended the works of one of the most influential of American outdoor writers, Stewert Edward White whose books, such as *The Forest, The Mountains* and *Camp and Trial* were both practical guides to and appreciation of the wilderness.

Baden-Powell also drew heavily on the ideas of another (adopted) American, Ernest Thompson Seton, who in the 1880s and 1890s began promulgating his vision of the ideal Indian and the Woodcraft tradition. Many of Seton's ideas, such as totemic symbols and the awarding of badges for competitive achievement, were borrowed by Baden-Powell and found their way directly into the British scouting movement which followed (Rosenthal, 1986). Seton and Baden-Powell met in 1906, the beginning of an active (and later acrimonious) relationship which saw co-operation to bring the possibility of the outdoor life before the boys of Great Britain and America. At the same time, in the USA, Daniel Beard was developing the Sons of Daniel Boone – a fore-runner to the American scouting movement. This was established in 1905 with frontier living and woodcraft at the centre of its philosophy.

Behind his philosophy of the appreciation of the wild, Baden-Powell felt that:

> *nature was being driven further and further out of the reach of the majority. With 'the artificial swamping out the natural in life,' he was convinced that only*

*his movement could restore to the children of the industrialised world their birthright of hill, field and forest* (Jeal 1989).

The success of the movement, and Baden-Powell's undoubted achievement in its widespread development drew much admiration, even from those, such as John Hargrave, who became critical of some of his methods.

*Thousands of boys ... made their escape from a dreary, half-dead, commercialised and deadly dull civilization and during the weekends anyhow pretended to be backwoodsmen ... Baden-Powell tapped the primitive urge that is cribb'd, cabin'd and confined by civilized herd-conditioning and convention. He tapped it and unlocked it. And for a while ... it ran free* (Hargrave, undated, quoted in Jeal, 1989).

## 4.9 Amenity and Recreational Appreciation

A key point in the development of the Lake District as a tourist attraction was the publication in 1822 of Wordsworth's *Guide through the District of the Lakes* (Bunce 1994). By the 1830s it was the most popular spot on the summer itinerary of the leisured classes in England (Ousby, 1990) and this was before the advent of the railway opened up the region to an even wider audience.

Even in the early years of industrial urban growth there is evidence of the use of the accessible countryside by factory workers who "craved the openness of the countryside" (Bunce, 1994). However, this represented only a tiny fraction of the rural landscape. It was not until the coming of the railways and the formalisation of half-day Saturday and Bank Holiday breaks in the latter half of the nineteenth century that mass recreation began to descend upon a wider rural environment.

Seaside resorts were originally the main destination for urban recreationalists, but, on summer weekends, excursion trains travelled from the textile towns of Lancashire into the Lake District and from Sheffield into the Derbyshire Peaks (Bunce, 1994). By

the end of the nineteenth century, rambling had become a highly popular and well-organised mass recreational movement.

Pressure for increased access to upland and mountainous areas first came to Parliament in the 1884 Access to Mountains (Scotland) Bill put forward by the Aberdeenshire MP, James Bryce. The Bill failed, as did 12 other similar Bills over Bryce's 27 years in The House of Commons, due to lack of support in a Parliament dominated by landowning interests (Blunden & Curry, 1990). It was not until after the 1939 Access to the Mountains Act, and subsequently the 1949 National Parks and Access to the Countryside Act, came into force that there was any significant development in the amount of legitimate access available in law for countryside recreation. Even so, the 1949 Act was an emasculated version of what was being sought by the Ramblers' Association and other interest groups.

Post war trends in countryside recreation show an ever-increasing demand for this particular recreational environment. The Countryside Commission's survey of 1984 (Countryside Commission, 1985) showed 84% of respondents reported visiting the countryside at least once in the previous year and 38% were 'frequent users', especially during the summer.

Whilst Britain does not possess the extensive Wilderness areas which draw thousands of North Americans every year, the activities of mass membership groups such as the Ramblers Association and the Youth Hostels Association are testament not just to the amount of countryside recreation demanded, but also to its location. It is Britain's uplands which draw the recreationalist as the concentration of locations of Youth Hostels in these areas clearly shows.

## 4.10 Pressure Groups

In no other country, according to Bunce (1994), is there such an institutionalised and persistent campaign for the protection of the countryside. Unlike in North America, Britain's countryside movement has, for the most part, been a generalist movement not confined to narrow geographical areas, nor narrow vested interests or specific concerns. In the case of wild areas, the contrast with the United States is profound. Wilderness preservation in the shape of the Wilderness Society and the Sierra Club have been leading influences in the North American preservation/conservation movement. A British equivalent has not existed either in terms of a specific specialist 'niche interest', nor in terms of magnitude of influence over wild land policy.

The Victorian nature movement, which developed in the mid-nineteenth century, provided a vehicle for the growing appreciation for the natural world among all classes of society. The Society for the Prevention of Cruelty to Animals was formed in 1824 reflecting the changing values pertaining to animals and the decline in the utilitarian hegemony. By the mid-1800s, several hundred local natural history and field clubs had been established, with a total membership of about 100,000 (Lowe & Godyer, 1983). From this base grew the national bodies which continue to influence countryside policy - The Society for the Preservation of Birds (now the RSPB), the Society for the Preservation of the Wild Fauna of the Empire (now the Flora and Fauna Preservation Society), and the National Trust for Places of Historic Interest and Natural Beauty.

Slightly preceding the development of groups concerned with conservation was the movement promoting more access to the countryside. The Commons Preservation Society was founded in 1866 and, along with the many rambling associations which then followed, campaigned for the preservation of, and access to, open areas of the

British countryside. The 1905 formation of the Federation of Rambling Clubs marked the beginnings of this campaign at a national level as well as the promotion of the activity of rambling itself. The Youth Hostels Association, formed in 1930, pursued similar national objectives both politically, in terms of lobbying for wider access to uplands, and in terms of promoting outdoor recreational activities.

The National Trust, founded in 1895, has become the biggest private landowner in England with concentrations of land holdings in the uplands and on the coasts. Through its diversity of property holdings, it has become a most powerful body for the conservation of heritage sites and historic buildings. It has also become a principal agent for the ensuring the public accessibility and preservation of natural and scenic landscapes (Bunce, 1994), and been a leading proponent of the National Parks movement.

The early years of the twentieth century saw the proliferation of special interest groups, some of the most enduring and significant of which included the Society for the Promotion of Nature Reserves in 1912, the Forestry Commission in 1919, the Council for the Preservation (now 'Protection') of Rural England in the mid 1920s, the Standing Committee on National Parks in 1934, the Nature Conservancy and the National Parks Commission in 1949.

In spite of the apparent diverse interests from these and a plethora of other countryside and conservation interest groups, Bunce (1994) maintains that they have developed and maintained a communality of interest in the future of the countryside in general.

> *While it is not possible to speak of a unified movement, it is appropriate to describe it as one which has attained a high level of integration and sense of common purpose* (Bunce, 1994).

## 4.11 Modern Attitudes to Wild Areas in Britain

Prior to the seminal National Parks and Access to the Countryside Act of 1949, a series of reports were commissioned under the growing pressure of countryside recreation groups. It is from this momentum that the National Parks of England and Wales were born along with important statutory bodies such as the National Parks Commission (since 1968 the Countryside Commission) and the Nature Conservancy Council (now English Nature) were born.

One of these key reports was the 1942 Committee on Land Utilisation in Rural Areas, chaired by Lord Justice Scott. The report reinforced the ethos of non-intervention in the existing countryside - essentially a justification for the maintenance of the status quo. The Scott Committee recognised that the landscape characteristics of the countryside were man-made and that it must be farmed if it is to retain those features that give it distinctive charm and character. These recommendations were perhaps understandable in the context of the wartime economy, but they provided the preservationist and non-interventionist inheritance for the countryside in the planning system that we have today (Blunden & Curry, 1990).

One of the main thrusts of Blunden and Curry's 1990 evaluation of the role of the 1949 National Parks and Access to the Countryside Act was that there were (and are) two very definable strands in the development of the legislation and the subsequent management of Britain's Countryside. The dichotomy was between the roles of scientific study and species conservation, as against recreation and public enjoyment of the countryside. These countervailing pressures emerged initially out of the Addison report of 1931 which recommended a two tier system of National and Regional Reserves. The former were to be areas of outstanding scenic and wildlife interest, where the emphasis was on preservation. The latter were to be more

accessible zones where the emphasis was on public recreation (Brown, 1982; Blunden & Curry, 1990). Several reports later, the dichotomy was ever more visible with the role of science and preservation emphasised in the 1947 Huxley Committee, and the roles of planning and management of human activity (including farming and recreation) emerging out of the Hobhouse Committee of the same year.

### 4.12 The British Tradition

America's wilderness is perceived, from a historical point of view, in relatively stark terms. Initially it was to be conquered and overcome; ultimately it is to be safeguarded as a pristine environment (or as near as can possibly be obtained). Certainly this volte face in attitude came slowly and with much conflict, but the standpoints and the contrasts in the landscape ethic are well defined and easily recognisable.

Britain, clearly, had a substantially different starting point. Longer history of human occupation, higher population density, less extreme environmental conditions, and much smaller territorial extent have all made the notion of untrammelled Wilderness of the American model into a mirage.

Whilst the Americans pioneered their wilderness ethic in their own back yard, Britain exported hers to her colonies. Britain's exploration and conquest happened in India, Africa and the far outposts of the Empire. It was in these locations where the spirit of adventure was fostered and this is reflected by much of the dominant literature of the eighteenth and nineteenth century – in the works of Rudyard Kipling, Robert Louis Stevenson and Rider Haggard, to name but three. Nevertheless, we have, in these islands a strong, home-grown tradition of appreciation of wild landscape imbued in

our culture. The objectification of this appreciation is inevitably different to the American, as our cultural and historical landscapes are different. But our traditions value wildness in many and varied forms and we have come to appreciate wild country and our relationship to it. We might not be able to find pristine biological Wilderness areas in these shores, but we can and do value the roles which our wilder landscapes play in our recreational, spiritual and ecological lives.

# CHAPTER 5

# FIELDWORK METHODOLOGY

*Landscape is not synonymous with environment; it is the environment perceived, especially visually perceived (Appleton, 1980).*

## 5.1 Introduction

As a means of establishing the qualities of wild areas in UK landscapes, an understanding of the perceptions of users of wild country is an essential starting point. As wilderness is a perceptual concept as much as it is an ecological one, and in order to establish the extent to which landscapes in Britain were perceived as being wild, research data was required on perceptions of users of wild country. By breaking the landscape down into various components, and by analysing these components (referred to hereafter as 'landscape attributes'), an understanding can be gained of the perceptions of recreationalists towards wild scenery. Further evaluation can reveal which aspects of landscape were important in producing in the recreationalist feelings and responses which, if not unique to wild landscapes or wilderness areas, are at least strongly inspired by them.

Clearly recreationalists are not the only users of wild country nor the only group which values the landscape. It is not the purpose of this study, however, to identify different patterns of perception between different interest groups. The approach taken here is specifically one which investigates recreational perceptions and furthermore, aims to target a particular kind of recreationalist, namely one who is prepared to expend some considerable effort in the attempt to reach wild landscapes.

## 5.2 Methodology

### 5.2.1 Questionnaire on Landscape Attributes

The empirical aspects of this study are based on work by Kliskey and Kearsley (1993) who investigated the perceptions of wilderness users in New Zealand. A key premise of their study (and of this one) is that there are multiple perceptions of landscape, and that wild landscape (or wilderness) has a multiplicity of values ascribed to it. Whilst it is difficult to measure these perceptions generally, it is possible to aggregate perceptual responses to landscape or to aspects of landscape, and through this, to determine whether certain aspects of landscape ('landscape attributes') have different and distinct responses made to them.

Kliskey and Kearsley's (1993) questionnaire (see Appendix One) was used as a model for this study. In this questionnaire, Kliskey and Kearsley recorded the perceptions of users of a New Zealand Wilderness area. Respondents were asked to specify how desirable various aspects of the landscape were perceived to be according to a five point Likert scale (Kliskey & Kearsley, 1993). The same model is used in this study, but with some adaptations to make it more appropriate for British landscapes (see Figure 5.1).

- Kliskey and Kearsley's question on 'hunting' (question g) was changed to 'game shooting' to attempt to widen the meaning and remove the emotive aspects of 'hunting with hounds' which the term often suggests in Britain.
- Kliskey and Kearsley's question on 'logging' (question h) was felt to be an inappropriate term in the British context. 'Conifer plantations' was a more recognisable term and this also covered the most recognisable manifestation of exotic species. The presence of non-native species was itemised as a separate question by Kliskey and Kearsley (question b) but as conifer plantations are the

most clearly recognisable and relatively common example of this in Britain, a separate question was superfluous.

- 'Road access to the wilderness boundary' (Kliskey and Kearsley's question c) was clearly inappropriate for Britain because of the lack of defined wilderness and the difficulty of applying any recognisable external boundary to wild areas. The importance of perceptions towards vehicular travel was covered by questions on motorised travel by visitors and the presence of vehicle tracks (questions n and m respectively in this study).
- 'Maintained tracks' (Kliskey and Kearsley's question e) was felt to be ambiguous in the British context as the word 'track' can give a connotation of vehicular track or footpath. Two questions were substituted in this study, 'maintained footpaths' (question l) and 'vehicle tracks' (question m).
- A question on hydroelectric development, (question k in Kliskey and Kearsley's list) was felt to be too limited and specific in its applicablity to upland areas in general. A question on HEP reservoirs may have been appropriate in some of the locations targeted for responses. Power lines were incorporated with telephone lines in this study as question g.
- 'Commercial mining' (question l in Kliskey and Kearsley's list) was changed to 'quarrying or mining activity' (question i in this study) in order to widen the applicability of the landscape feature.
- Kliskey and Kearsley's question o – 'Free from evidence of obvious human impact' was omitted because all areas of Britain show clear human impact. Recognition of this may well depend more on the ecological education and awareness of the respondent than on the actual level of disturbance present in the environment.

In addition to these amendments, five questions were added to Kliskey and Kearsley's original:

- 'Presence of field boundaries' (question e) – as these are an important and obvious aspect of landscape even in remote parts of Britain. There was, however no differentiation made between types of field boundaries. This may have produced some confusion or ambiguity on the part of respondents.
- 'Visible wind turbines' (question h) are an increasingly visible component of many parts of the British landscape. Allowing a comparison between these and other man-made landscape artefacts was instructive.
- 'Aircraft noise' was included in this study (question o), as many areas of Britain's remoter uplands are used by military aircraft for training purposes.
- Question p, the 'presence of farm livestock' is applicable in much of the British context but, by definition is not to be found in the New Zealand Wilderness areas.
- 'Mountain bikers' (question s) is another potential source of conflict between recreational users which has become very apparent in recent years.

In addition to these changes and additions, the order of questions in this study does not mimic the order of Kliskey and Kearsley. Their questionnaire had 12 questions of negative wilderness attributes at the top and four questions of positive wilderness attributes at the foot of the response sheet. The rationale of the ordering of questions in this study was to break up the positive and negative questions so that boxes could not simply be ticked down a column – hopefully, giving more pause for thought for the respondents.

Discussion and rationale of the other questions in the questionnaire can be found in sections 5.6, 5.7 and 5.8.

# QUESTIONNAIRE

**A. Refer to the following list of items which might possibly be found in wild areas of the UK. Indicate your feelings about how desirable each of these items is. Please answer this question in reference to the areas immediately surrounding where you are now.**

| A | | Strongly Desirable | Desirable | Neutral or Don't Know | Undesirable | Strongly Undesirable |
|---|---|---|---|---|---|---|
| a) | Developed campsites | | | | | |
| b) | Bridges over rivers and streams | | | | | |
| c) | Maintained huts, shelters or bothies | | | | | |
| d) | Game shooting | | | | | |
| e) | Presence of field boundaries | | | | | |
| f) | Evidence of abandoned settlement | | | | | |
| g) | Power lines or telephone lines | | | | | |
| h) | Visible wind turbines | | | | | |
| i) | Quarrying of mining activity | | | | | |
| j) | Big enough to take at least two days to walk across | | | | | |
| k) | Remote form cities and towns | | | | | |
| l) | Maintained footpaths | | | | | |
| m) | Vehicle tracks | | | | | |
| n) | Motorised travel by visitors | | | | | |
| o) | Aircraft noise (at any altitude) | | | | | |
| p) | Presence of farm livestock | | | | | |
| q) | Conifer plantations | | | | | |
| r) | Solitude (not seeing many other people) | | | | | |
| s) | Mountain bikers | | | | | |

**B. Please indicate the total length of your stay in this area. I.e. the total number of nights you have stayed and will be staying away from your vehicle (or use of motorised transport).**
**This will be the number of nights spent whilst you are on foot (or on bike).** ☐ **nights**

**C. Of the nights you will be staying before you re-join your vehicle, how many have been/will be spent**

| Camping | In huts or bothies | In youth hostels | In Bed and Breakfasts | Other Accommodation (please specify) | |
|---|---|---|---|---|---|
| | | | | | |

**D. Please refer to the following list of measures which might possibly be taken to manage wild areas in Britain. Indicate your feelings about how desirable each of these measures is, in a wild setting, in Britain.**

| D | | Strongly Desirable | Desirable | Neutral or Don't Know | Undesirable | Strongly Undesirable |
|---|---|---|---|---|---|---|
| a) | Access is limited by quota to a restricted number of people at any one time to ensure that damage is not done to the environment. | | | | | |
| b) | Access is limited by quota to a restricted number of people at any one time to ensure a remote and isolated experience for those who are allowed in. | | | | | |
| c) | A small charge is made for users of wild areas (with the proceeds spent on management and protection). | | | | | |

**E. Please state your place of residence. Town..... County.....**

**F. (Optional) Please give you name and address. This will allow me to contact you for a more detailed postal questionniare.**

**Name..... Address .....**
**.....**
**.....**

**Figure 5.1 Questionnaire**

5.2.2 Data Collection

The questionnaire used in this study was sent to six locations in Britain in the summer and autumn of 1997 and the spring and summer of 1998. The locations were the five 'walk-in' Youth Hostels in Britain. These were Black Sail in Ennerdale in western part of the Lake District, Skiddaw House in the northern Lake District, Loch Ossian on the edge of Rannoch Moor in Inverness-shire, Glen Affric in Inverness-shire and Craig on the west coast near Torridon in Ross-shire.

**Figure 5.2 Loch Ossian Youth Hostel, Inverness-shire**

In the spring and summer of 1998, Craig and Skiddaw House Youth Hostels were again selected for questionnaires, as low or zero responses had been received the previous year. In addition, questionnaires were left on the neighbouring summits of Cross Fell and Little Dun Fell in the Northern Pennines over August 1998. These were completed by passing recreationalists and collected at the end of the month. Both these fell tops are on the Pennine Way long distance footpath.

Response rates varied considerably, mainly because of the ways the individual hostels and their managers drew attention to the survey. Hostel managers were approached via the central management personnel of the English (YHA) and Scottish (SYHA) Youth Hostel Associations. Questionnaires were sent to the hostel to be displayed and completed along, with a stamped addressed envelope for their return at the end of the season.

Black Sail's managers were highly co-operative and enthusiastic; Skiddaw House, in spite of a personal visit by the researcher and several follow up letters, produced only two completed questionnaires over a two year period, both returned personally by the respondents. In view of this very low response rate, no generalised statements can be made about the Skiddaw House sub-group (see Chapter 6.3). At the Loch Ossian Hostel, the landowners – Rannoch Estates – who lease the hotel building to the SYHA took exception to what they deemed the 'impertinence' of the questionnaire and prohibited its display and distribution. The Craig Hostel provided a zero response in the first year, but a successful response in the second.

In determining the location of asking questions it was decided to target recreationalists *in situ* in remote areas. Walk-in Youth Hostels where there was no vehicular access would ensure that such locations contained only people who would have to have made some considerable effort to get to the location of the questionnaire. Recreational users of wild areas could relatively easily have been accessed by networking through rambling or mountaineering organisations but it was felt that it was important to survey people who were actually in a wild setting.

Responses to the questionnaire which might be obtained from the respondent sitting in an armchair in front of the fire may be significantly different from those obtained by the same group in the field. Kaplan and Kaplan (1989) describe a landscape perception study which tested preference responses to various landscapes before and after a wilderness trip. Whilst most landscape preferences remained the same, the authors noted a significant reduction in the preference scores for boggy or swampy ground. This they attributed to the direct and recent experience of the respondents in traversing swampy areas which "seemed to have bred a certain amount of distaste for such habitats". Respondents, therefore, are likely to perceive aspects of landscapes differently from the luxury of their living room than they would in the wild. This may be particularly the case with landscape attributes such as bridges or paths. From a position of detached comfort these may be perceived more negatively than when in the field, where their utilitarian values may make them more favoured. After a cold, wet and windy day on the British uplands, bushwhacking and wading streams may lose any romantic appeal that they might have held when the expedition was first planned.

By contacting people through Youth Hostels also allowed a large number of people to have access to the questionnaire and was therefore a time and cost-effective way of reaching a large number of outdoor users.

It is recognised, however that this data collection methodology will inevitably produce a sample biased towards a particular kind of recreationalist. Most (but not all) respondents were members of the Youth Hostel Associations who were also staying overnight at the hostels. Thus the highly independent, back-packing or

bivouacking overnighters would not have been targeted. It might be predicted that these people would have an even more highly developed sense of wilderness appreciation than the sample in this study.

## 5.3 Quantifying Responses to the Landscape Attribute Questions

The nineteen questions asked in question A (the main part of the questionnaire) were designed to test the importance of perceptions of various aspects of landscape. Sixteen of the questions asked about perceptions regarding artificial or human-created aspects of landscape, or human activities, which might impinge on people's sense of wilderness. The three other questions, (j, k and r) referred to positive aspects of landscape which would be highly valued in a wilderness context:

question j), Big enough to take at least two days to walk across

question k), Remote from towns and cities

question r), Solitude (not seeing many other people).

For the purposes of comparative and mathematical analysis, the responses to the 19 landscape attribute questions in question A and the four management measures questions in question D were allocated values. This was done in two separate ways according to the purpose to the analysis.

a) Bi-Polar score allocation.

Responses were scaled on a bi-polar response scale as follows:

| | |
|---|---|
| Strongly Desirable | 2 |
| Desirable | 1 |
| Neutral or Don't Know | 0 |
| Undesirable | -1 |
| Strongly Undesirable | -2 |

This method allows for easy interpretation of strength of feeling. The landscape attribute variables and the management measures variables can easily be described and contrasted in terms of the response patterns to them.

b) Likert Scale score allocation

On the Likert response scale a value of 5 was assigned to the strongest pro-wilderness perception and 1 being the least strong pro-wilderness response. Thus, for responses to the sixteen questions identifying artificial aspects of landscapes, the score allocation was as follows:

| | |
|---|---|
| Strongly Desirable | 1 |
| Desirable | 2 |
| Neutral or Don't Know | 3 |
| Undesirable | 4 |
| Strongly Undesirable | 5 |

For example, question 1a) on people's attitude to developed campsites, a *"Strongly Desirable"* response was awarded a score of 1; *"Desirable"* was awarded 2; *"Neutral or Don't Know"* was awarded 3; *"Undesirable"* was awarded 4 and *"Strongly Undesirable"* was awarded 5. So the strongest opposition to an artificial element in the landscape was awarded the highest score reflecting a strong pro-wilderness perception.

On the three questions (j, k and r) where the response was to a desirable wilderness attribute, the scoring reflected the same pattern.

| | |
|---|---|
| Strongly Desirable | 5 |
| Desirable | 4 |
| Neutral or Don't Know | 3 |
| Undesirable | 2 |
| Strongly Undesirable | 1 |

Thus, for responses to question k) on people's attitude to remoteness from cities and towns, a *"Strongly Desirable"* response was awarded a score of 5; *"Desirable"* was awarded 4; *"Neutral or Don't Know"* was awarded 3; *"Undesirable"* was awarded 2 and *"Strongly Undesirable"* was awarded 1. So the strongest opinion in favour of a positive wilderness attribute was awarded the highest score.

The Likert Scale scoring system was needed in order to assess what can be called the 'wilderness sensibilities' of the respondents in order to compare different sample sites and response patterns. Wilderness sensibility is measure of the strength of perceptions in favour of remote, natural and unaltered landscapes. Thus, a response of *strongly undesirable* for all the 16 artificial attributes of landscape in the questionnaire would score maximum 5 scores on the Likert scale and imply strong wilderness sensibility. Responses of *strongly desirable* for the three questions (j, k and r) on size, remoteness and solitude, would likewise score a maximum 5 on the scale. A Likert Scale was also required to attempt a correlation between wilderness sensibilities and willingness to accept the various management measures proposed.

The two different scoring systems were necessary because of the different analyses which needed to be achieved. For the analysis of individual questions from section A on the questionnaire, the bi-polar scale was adequate. However, when establishing the extent to which respondents were pro-wilderness in their perceptions, the Likert Scale system needed to be used to ensure that the artificial landscape attributes and the wilderness attributes were polarised in the scoring outcome.

## 5.4 Categorisation of Landscape Attributes

Kliskey and Kearsley (1993) identify four aspects of landscape which enabled a quantitative comparison to be undertaken. These are:

1. Remoteness
2. Artificialism
3. Naturalness
4. Solitude

The questions posed by Kliskey and Kearsley (see Appendix One) were allocated to one (or more than one of these categories) as a means of separating out aspects of landscape so that quantitative analysis can take place. The categories devised by Kliskey and Kearsley are given in Appendix Two.

There is also a second way to group these questions which reflects wild land characteristics in Britain and which can be applied to the specific questions (as amended from Kliskey and Kearsley's work) used in this study.

| | |
|---|---|
| 1. Inherent locational features | j) Big enough to take at least two days to walk across<br>k) Remote from towns and cities |
| 2. Ecological characteristics | p) Presence of farm livestock<br>q) Conifer plantations |
| 3. Artefacts | a) Developed campsites<br>b) Bridges over rivers and streams<br>c) Maintained huts, shelters or bothies<br>e) Presence of field boundaries<br>f) Evidence of abandoned settlement<br>g) Power lines or telephone lines<br>h) Visible wind turbines<br>i) Quarrying of mining activity<br>l) Maintained footpaths<br>m) Vehicle tracks |
| 4. Human activities | d) Game shooting<br>n) Motorised travel by visitors<br>o) Aircraft noise<br>r) Solitude (not seeing many other people)<br>s) Mountain bikers |

**Figure 5.3 Alternative categorisation system for landscape attributes**

This system involves dividing the questions into the four groups identified in Figure 6.3. From these groupings, patterns of response can be observed to identify the most and least important aspects of landscape to recreational users.

## 5.5 Overnighting Patterns of Respondents

Questions B and C on the questionnaire (see Figure 5.1) were designed to obtain information about the overnighting habits of recreationalists in the areas targeted. The hypothesis here was that overnighting habits might have some impact on the landscape perceptions of recreationalists. In particular, those overnighting under canvas or spending several nights away from vehicles and/or settlement might have a more "pro-wilderness" perception than those enjoying the relative luxury of youth hostels or bed and breakfast accommodation. The hypothesis that overnighting patterns show a relationship with landscape perceptions can therefore be tested.

## 5.6 Perceptions of Management Measures

Question D (see Figure 5.1) allowed respondents to give views on management measures in wild areas. The three questions asked are all formal aspects of wilderness management practice in the USA. Answers for these questions could be correlated with answers to the landscape attribute perceptions (questions A), on the Likert scale, to test whether pro-wilderness perceptions of landscape attributes had any correlation with management sentiments (see Chapter 6.8.3).

## 5.7 Place of Residence of Respondents

Question E (see Figure 5.1) could establish whether patterns of response and perception were different according to place of residence. Analysis was not undertaken, however, as many of the respondents did not specify their home town or area.

# CHAPTER 6

# ANALYSIS OF QUESTIONS

## 6.1 Landscape Attributes (Bi-Polar)

### 6.1.1 Most and Least Desired Aspects of Landscape

Using the bi-polar scale, each landscape attribute question in the questionnaire was ascribed a value according to the wilderness perception of the respondent. Mean, median and modal response patterns for the whole sample were thereby obtained. Standard deviations for each response were also calculated demonstrating the degree of consistency (or otherwise) of the response patterns. These statistics allow a ready comparison between the different questions and the landscape attributes. Table 6.1 shows the 19 questions of the questionnaire listed in order of response strength.

| Mean | Median | Mode | Std. Dev. | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|---|---|
| **STRONGLY DESIRABLE** | | | | **STRONGLY UNDESIRABLE** | | | |
| remote from cities and towns | | | | motorised travel by visitors | | | |
| 1.31 | 2 | 2 | 0.86 | -1.34 | -2 | -2 | 0.86 |
| maintained huts, shelters or bothies | | | | power lines or telephone lines | | | |
| 1.19 | 1 | 1 | 0.83 | -1.31 | -1 | -2 | 0.80 |
| big enough to take at least two days | | | | quarrying or mining activity | | | |
| 1.11 | 1 | 2 | 0.86 | -1.16 | -1 | -2 | 0.91 |
| solitude (not seeing many other people) | | | | game shooting | | | |
| 0.99 | 1 | 2 | 0.98 | -1.10 | -2 | -2 | 1.17 |
| maintained footpaths | | | | aircraft noise (at any altitude) | | | |
| 0.90 | 1 | 1 | 1.02 | -1.06 | -1 | -2 | 0.96 |
| evidence of abandoned settlement | | | | vehicle tracks | | | |
| 0.69 | 1 | 1 | 0.82 | -0.83 | -1 | -1 | 0.90 |
| presence of farm livestock | | | | developed campsites | | | |
| 0.61 | 1 | 1 | 0.88 | -0.75 | -1 | -2 | 1.25 |
| bridges over rivers and streams | | | | visible wind turbines | | | |
| 0.57 | 1 | 1 | 1.07 | -0.70 | -1 | -2 | 1.17 |
| | | | | conifer plantations | | | |
| | | | | -0.44 | 0 | 0 | 1.04 |
| | | | | mountain bikers | | | |
| | | | | -0.43 | 0 | 0 | 1.11 |
| | | | | presence of field boundaries | | | |
| | | | | -0.24 | 0 | 0 | 0.98 |
| **NEUTRAL** | | | | **NEUTRAL** | | | |

**Table 6.1 Summary table of most and least desired aspects of landscape**

### 6.1.2 Analysis of Mean Desirability Scores for Landscape Attributes

The questions in the landscape attribute questionnaire were assessed on a five point bi-polar scale. This was to quantify the desirability ratings of the landscape attributes in the survey. The values assigned to each response were as follows:

| | |
|---|---|
| Strongly Desirable | 2 |
| Desirable | 1 |
| Neutral or Don't Know | 0 |
| Undesirable | -1 |
| Strongly Undesirable | -2 |

The total of responses for each category and for each question was obtained and a total score calculated by summing the bi-polar Desirability Scores for the number of responses. A mean total Desirability Score for each question was then calculated. The results of this analysis are seen in Table 6.2. The landscape attributes which reflect positive wilderness characteristics are printed in **bold type**.

**MEAN DESIRABILITY SCORES FOR LANDSCAPE ATTRIBUTES**

| 2 | 1.5 | 1 | 0.5 | 0 | -0.5 | -1 | -1.5 | -2 |
|---|---|---|---|---|---|---|---|---|
| **Strongly Desirable** | | **Desirable** | | **Neutral or Don't Know** | | **Undesirable** | | **Strongly Undesirable** |

**1.32 Remote from cities and towns**
1.19 Maintained huts, shelters or bothies
**1.11 Big enough to take at least two days to walk across**
**0.99 Solitude (not seeing many other people)**
0.90 Maintained footpaths
0.69 Evidence of abandoned settlement
0.61 Presence of farm livestock
0.57 Bridges over rivers or streams
-0.24 Presence of field boundaries
-0.43 Mountain Bikers
-0.44 Conifer plantations
-0.70 Visible wind turbines
-0.75 Developed campsites
-0.83 Vehicle tracks
-1.06 Aircraft noise (at any altitude)
-1.10 Game shooting
-1.16 Quarrying or mining activity
-1.31 Power lines or telephone lines
-1.34 Motor travel by visitors

**Table 6.2 Mean desirability scores for landscape attributes**

Whilst there were only three questions describing strictly positive attributes of wilderness landscapes, (identified in **bold type** in Table 6.2) the respondents also demonstrated positive perceptions of five others. Positive attitudes to huts, shelters and bothies, to footpaths, and to bridges over rivers and streams are not, perhaps surprising responses given that these are all aspects of recreational infrastructure used by most respondents to the survey.

Positive perception of abandoned settlement may demonstrate a sense of historical appreciation of the landscape and recognition of the value of archaeological remains. The positive perception of farm livestock may indicate an acknowledgement of the important role of agriculture in shaping the British countryside and an appreciation (albeit probably a subliminal one) that the open landscapes so valued by walkers on the uplands are, in no small part, a product of grazing farm animals.

The eleven negative mean perceptions of landscape are all concerned with artificial aspects of the environment or alternatively, undesirable human behaviours and disturbances.

### 6.1.3 Analysis of Median Desirability Scores for Landscape Attributes

As a measure of central tendency, the median may well represent a more accurate measure than the mean, given that it is not distorted by extreme values. The results for the median scores of each landscape attribute question are seen in Table 6.3.

The landscape attributes which reflect positive wilderness characteristics are printed in **bold type**.

**MEDIAN DESIRABILITY SCORES FOR LANDSCAPE ATTRIBUTES**

| 2 | 1.5 | 1 | 0.5 | 0 | -0.5 | -1 | -1.5 | -2 |
|---|---|---|---|---|---|---|---|---|
| **Strongly Desirable** | | **Desirable** | | **Neutral or Don't Know** | | **Undesirable** | | **Strongly Undesirable** |

**2 Remote from cities and towns**

1 Maintained huts, shelters or bothies

**1 Big enough to take at least two days to walk across**

**1 Solitude (not seeing many other people)**

1 Maintained footpaths

1 Evidence of abandoned settlement

1 Presence of farm livestock

1 Bridges over rivers or streams

0 Presence of field boundaries

0 Mountain Bikers

0 Conifer plantations

-1 Visible wind turbines

-1 Developed campsites

-1 Vehicle tracks

-1 Aircraft noise (at any altitude)

-1 Power lines or telephone lines

-1 Quarrying of mining activity

-2 Game shooting

-2 Motor travel by visitors

**Table 6.3 Median desirability scores for landscape attributes**

There was some evidence from the questionnaire returns that some questions were not have been interpreted in the anticipated way. For example, question n) 'Motorised travel by visitors' was intended to refer to the use of motor vehicles *in* the remote uplands particularly by people other than farmers. Use of vehicles in such a way might be expected to be negatively perceived by walkers. It was clear from some responses to this question and from notes added to the questionnaire responses in some cases, that this question had been interpreted as meaning 'motor travel to the edge of the wild area from the respondent's home' rather than the use of vehicles on the hills and uplands themselves. Median values are not distorted by such anomalies.

The median values show much the same pattern as the means albeit in a more polarised way. It is clear from the extremes of the response pattern that remoteness from undesirable influences such as motor vehicles is a key factor in wild landscape appreciation.

### 6.1.4 Analysis of Modal Desirability Scores for Landscape Attributes

As a measure of central tendency, the mode is often seen as the weakest of the three most commonly used measures. Whilst there were none in this study, bi-modal distributions sometimes appear. Some of the questions in this study showed a dramatically dominant modal response pattern e.g. for attitudes towards game shooting (see Figure 6.4). Other questions, however, showed responses with no single dominant response e.g. the mountain biking question has 49 respondents in the modal group and 48 in the next largest group (see Figure 6.19). The landscape attributes which reflect positive wilderness characteristics are printed in **bold type**.

**MODAL DESIRABILITY SCORES FOR LANDSCAPE ATTRIBUTES**

| 2 | 1.5 | 1 | 0.5 | 0 | -0.5 | -1 | -1.5 | -2 |
|---|---|---|---|---|---|---|---|---|
| **Strongly Desirable** | | **Desirable** | | **Neutral or Don't Know** | | **Undesirable** | | **Strongly Undesirable** |

**2 Remote from cities and towns**
**2 Big enough to take at least two days to walk across**
1 Maintained huts, shelters or bothies
**1 Solitude (not seeing many other people)**
1 Maintained footpaths
1 Evidence of abandoned settlement
1 Presence of farm livestock
1 Bridges over rivers or streams
0 Presence of field boundaries
0 Mountain Bikers
0 Conifer plantations
-1 Vehicle tracks
-2 Developed campsites
-2 Visible wind turbines
-2 Aircraft noise (at any altitude)
-2 Power lines or telephone lines
-2 Quarrying of mining activity
-2 Game shooting
-2 Motor travel by visitors

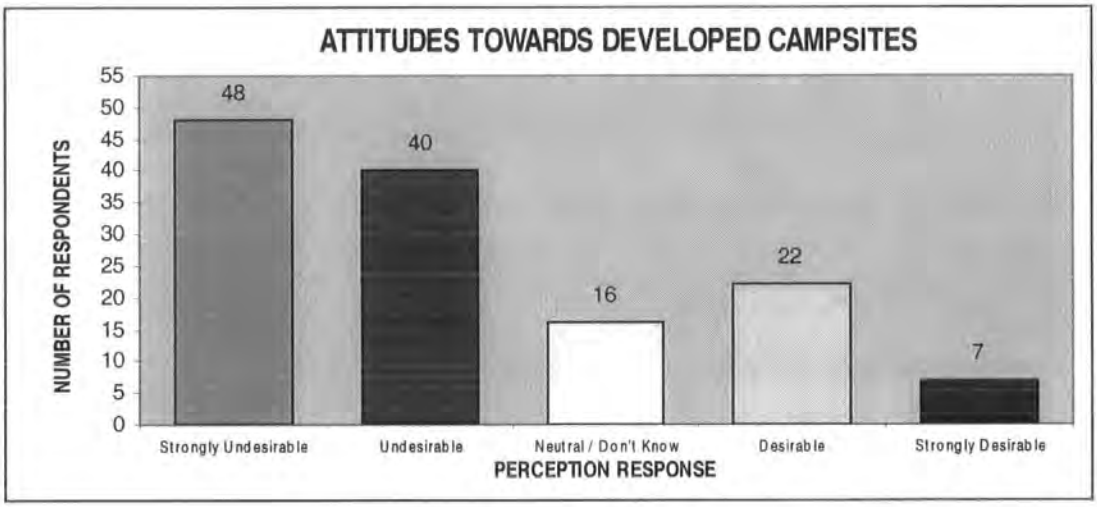
**Table 6.4 Modal desirability scores for landscape attributes**

Modal scores show an even more polarised pattern, especially at the undesirable end of the perception spectrum. It seems to be *activities* which are most disturbing a wild land setting and are most strongly opposed here rather than artefacts or static parts of the landscape, even where such landscape features are clearly artificial.

## 6.2 Analysis of Questions - Landscape Attributes

### 6.2.1 Question a) Attitudes Towards Developed Campsites

This question was designed to assess responses to formal campsites (albeit largely primitive ones) in the uplands.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. a) | Developed campsites | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-0.75** | **-1** | **-2** | **1.25** |
| Black Sail | | -0.75 | -1 | -2 | 1.28 |
| Skiddaw House | | -2.00 | -2 | -2 | 0.00 |
| Glen Affric | | -1.54 | -2 | -2 | 0.66 |
| Craig | | -0.48 | -1 | -1 | 1.31 |
| N. Pennines | | -0.24 | 0 | 1 | 1.24 |

**Figure 6.5 Attitudes towards developed campsites**

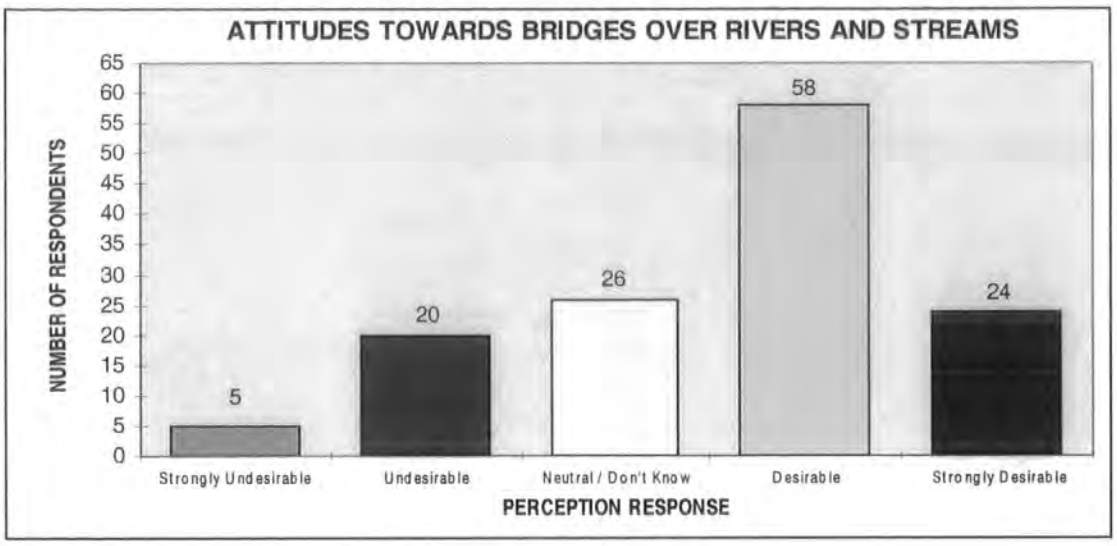
Undesirable perception. Mean attitude to developed campsites is ranked 7th out of 11 undesirable landscape attributes.

In the USA, many Wilderness areas' camp grounds consist of a hole in the ground with a seat over it (for a toilet) and a fire grate. These are formal campgrounds but specially designed to minimise disturbance in a visible, aesthetic sense and to limit the human disturbance to specific locations. The general antipathy toward campsites may reflect an image of such places in terms of large lowland sites with multiple amenities. Such facilities will clearly elicit a different response to smaller, less visible sites such as those described above, which are typical of formal Wilderness areas. One respondent reflected the potential ambiguity of the question by responding in the 'Undesirable' category but added that "simple campsites are good" (Searle-Chatterjee, 1998, pers. com.).

The overnighting patterns of visitors may also explain some of the high variability of response to this question (standard deviation was the highest for any of the 19 landscape attribute questions reflecting highly variable perceptions amongst recreationalists). Recreationalists who were camping as part of their visits scored a mean of –0.48. Non-campers.scored –0.88 showing, unsurprisingly, that campers have a less unfavourable attitude towards camp sites than non-campers.

### 6.2.2 Question b) Attitudes Towards Bridges Over Rivers and Streams

This question was intended to uncover attitudes to (primarily) footbridges, given that the pre-amble to the questionnaire referred specifically to 'wild areas' and to the 'area immediately surrounding where you are now staying'.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. b) | Bridges over rivers and streams | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **0.57** | **1** | **1** | **1.06** |
| Black Sail | | 0.57 | 1 | 1 | 1.05 |
| Skiddaw House | | 0.00 | 0 | N/A | 1.41 |
| Glen Affric | | 0.25 | 0 | 1 | 1.11 |
| Craig | | 0.56 | 1 | 1 | 1.04 |
| N. Pennines | | 0.90 | 1 | 1 | 1.05 |

**Figure 6.6 Attitudes towards bridges over rivers and streams**

Desirable perception. Attitude towards bridges is the 8th most desired aspect of landscape. It has the weakest desirability rating of the eight positive landscape attributes.

Bridges are clearly seen as a positive attribute in the chosen uplands (Figures 6,7 and 6.8). As these are generally small stone or wooden footbridges they have little visible impact on the landscape and certainly make life easier for walkers. It is interesting, however, to compare the response to this question with questions A.a) and A.l) the attitudes towards huts and towards maintained footpaths. The desirability of huts and

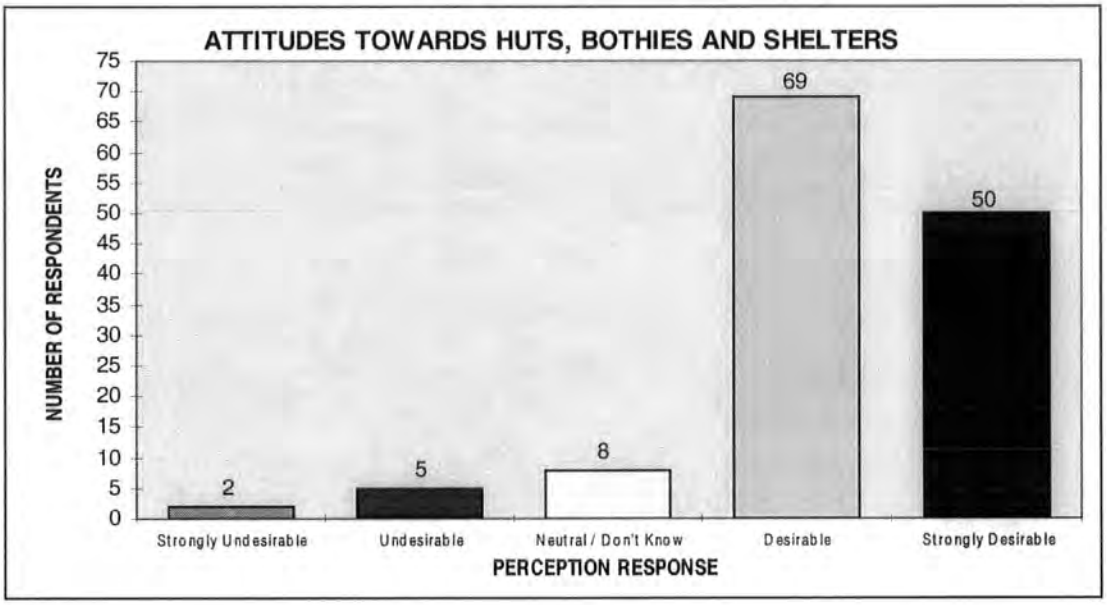
footpaths is perceived much more highly than bridges, yet all three features represent important facilities for walkers. Perhaps the fact that the question did not specify footbridges, (which was the intention) may have led some respondents to envisage vehicular use of such structures, thus lowering the desirability score.

**Figure 6.7 Footbridge over Uisge Labhiar, Inverness-shire, Scotland**

**Figure 6.8 Higher up the Uisge Labhair; no footbridge!**

6.2.3 Question c) Attitudes Towards Maintained Huts, Shelters or Bothies

This question may have produced a strongly distorted response pattern given that the respondents were largely users of primitive Youth Hostels in remote areas. There is, therefore, an understandably positive perception of these facilities. On the summits of Cross Fell and Little Dun Fell, there are roofless dry stone shelters present which serve as effective windbreaks on the exposed summits and are a favoured resting place out of the wind.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. c) | Huts, shelters or bothies | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **1.19** | **1** | **1** | **0.82** |
| Black Sail | | 1.11 | 1 | 1 | 0.92 |
| Skiddaw House | | 1.50 | 1.5 | N/A | 0.71 |
| Glen Affric | | 1.00 | 1 | 1 | 0.83 |
| Craig | | 1.42 | 2 | 2 | 0.78 |
| N. Pennines | | 1.31 | 1 | 1 | 0.66 |

**Figure 6.9 Attitudes towards huts, bothies and shelters**

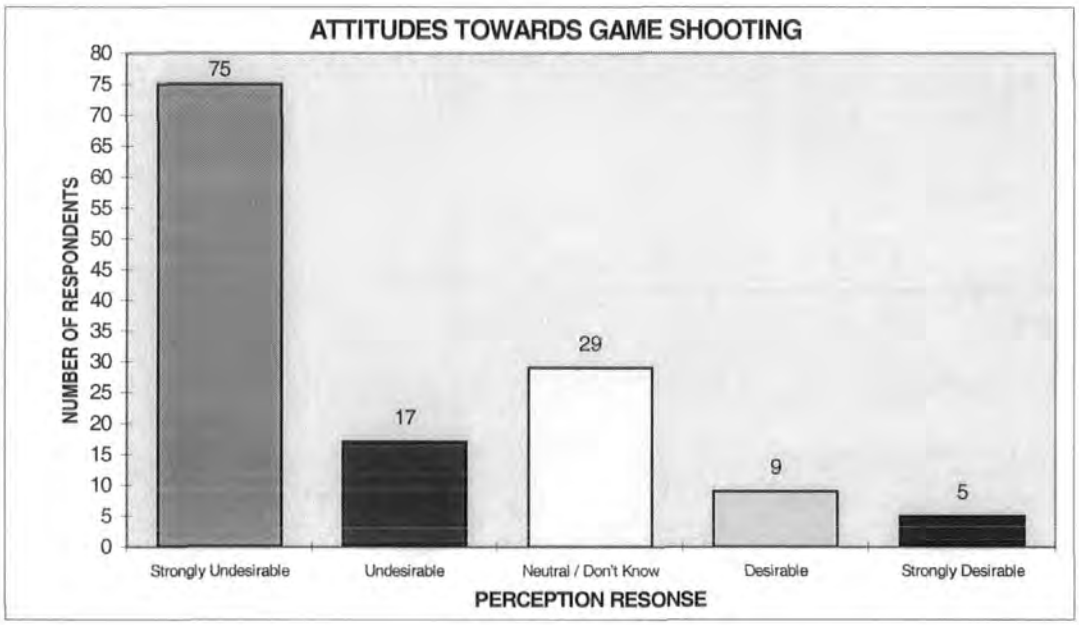
Desirable perception. Attitude towards huts is the 4th most strongly expressed perception and the second most desirable after Remoteness. It also has the 3rd lowest overall standard deviation reflecting a strong consistency of positive perception.

It is not surprising that huts are seen as a positive attribute in the chosen uplands because most respondents were using Youth Hostels (Figure 6.10) and therefore, presumably were favourably disposed to their presence in the landscape. Even for those not using Youth Hostels, huts and shelters are perceived positively in the landscape. The mean response for recreationalists using Youth Hostels or bothies during their trip was 1.13. Ironically, the score for those *not* using these facilities was higher (more desirable) at 1.26.

**Figure 6.10 Black Sail Youth Hostel, Ennerdale, Lake District**

### 6.2.4 Question d) Attitudes Towards Game Shooting

The two main forms of game shooting on the uplands are for grouse and red deer (Figure 6.12). Whilst both are managed activities for sporting purposes (grouse shooting ubiquitously so), the culling of deer is an important conservation activity in many parts of Scotland. Without it, deer numbers would reach unsustainable numbers, vegetation would be degraded and forest regeneration impeded.




| **BI-POLAR SCALE** | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| **Question A. d)** | **Game Shooting** | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-1.10** | **-2** | **-2** | **1.17** |
| Black Sail | | -1.30 | -2 | -2 | 1.05 |
| Skiddaw House | | 0.00 | 0 | 0 | N/A |
| Glen Affric | | -0.70 | -1 | -2 | 1.46 |
| Craig | | -1.17 | -2 | -2 | 1.13 |
| N. Pennines | | -1.03 | -2 | -2 | 1.15 |

**Figure 6.11 Attitudes towards game shooting**

Undesirable perception. Attitude towards game shooting is the 7th most strongly expressed perception and the fourth most undesirable attribute. It has the 3rd highest overall standard deviation, reflecting a variable response.

The overall variability of the response is seen most clearly from Glen Affric respondents. Perhaps the recognition by Scottish recreationalists of the need for selective culling of red deer may lessen the generally antagonistic view of shooting amongst most respondents.

One respondent added to the questionnaire the point that:

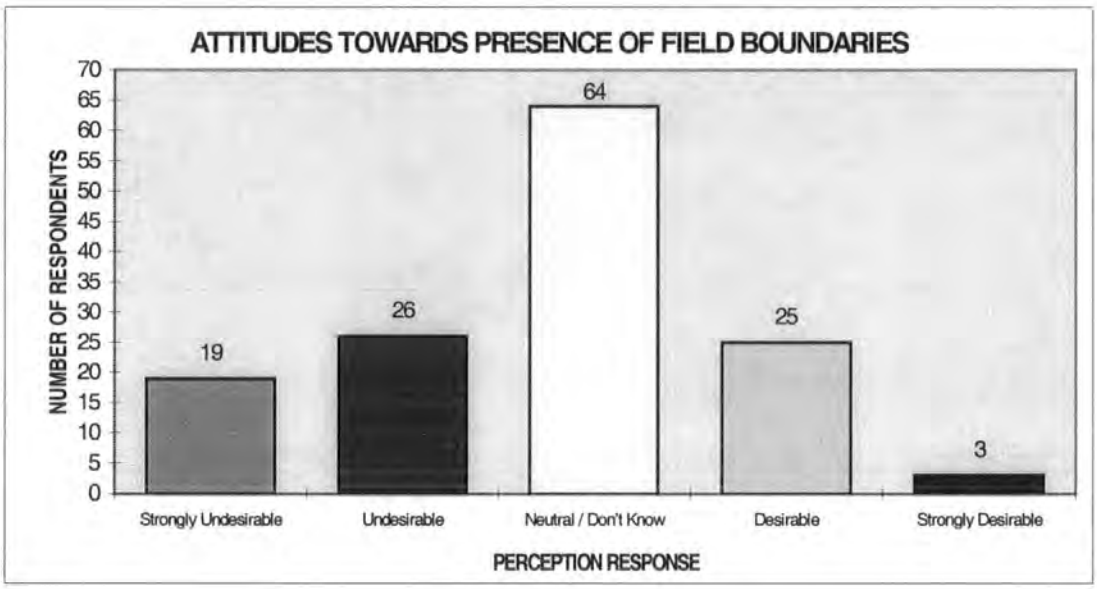
*deer must be controlled humanely* (Searle-Chatterjee, 1998, pers. com.)

whilst otherwise perceiving game shooting to be an 'undesirable' activity.

**Figure 6.12 Red Deer. Loch Ossian, Scotland**

6.2.5 Question e) Attitudes Towards Presence of Field Boundaries

Field boundaries come in several forms. In the north of England dry stone walls are a valued part of many upland landscapes and laid hedges are important habitats in many parts of the lowlands. Both however are increasingly replaced with post-and-wire fencing. In Scotland, high deer fences are the only practicable way of preventing red deer from damaging crops or woodland.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. e) | Field boundaries | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-0.24** | **0** | **0** | **0.98** |
| Black Sail | | -0.11 | 0 | 0 | 0.98 |
| Skiddaw House | | 0.00 | 0 | 0 | 0.00 |
| Glen Affric | | -0.54 | -0.5 | 0 | 1.06 |
| Craig | | -0.68 | 0 | 0 | 0.85 |
| N. Pennines | | 0.10 | 0 | 0 | 0.90 |

**Figure 6.13 Attitudes towards field boundaries**

Neutral perception. Attitude to field boundaries is the most neutral of all the responses with a distribution only slightly skewed towards the undesirable.

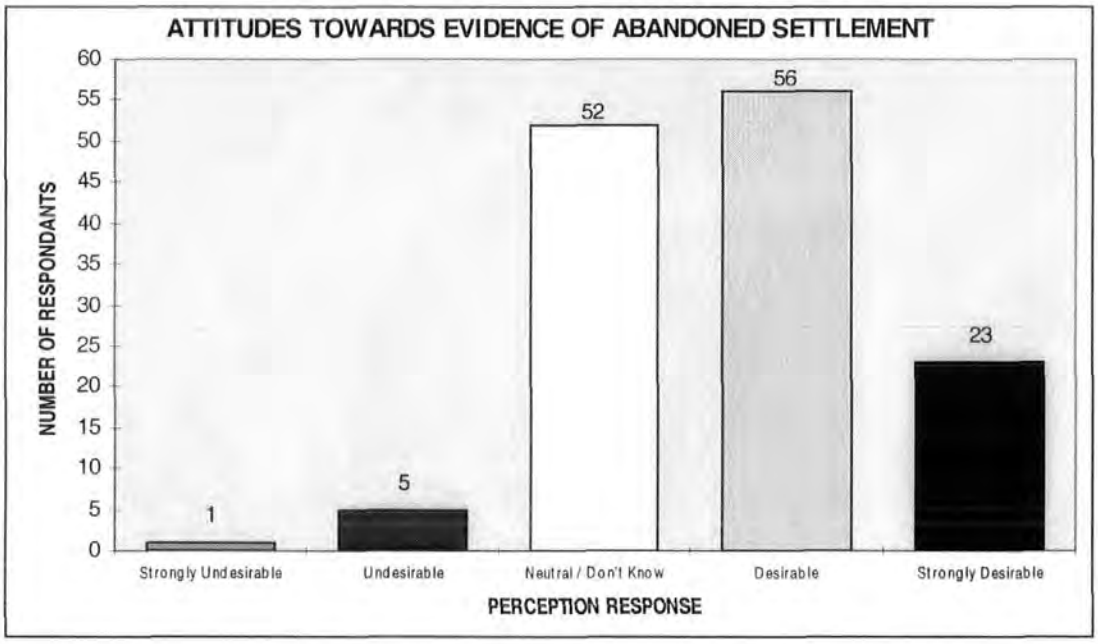
The Scottish perceptions are more hostile than the English ones and the North Pennine responses show a perception just on the positive side of neutral. In England, particularly in the North Pennines and the Lake District, the predominantly dry stone wall field boundaries (Figure 6.14) may be considered by many to be an important part of the cultural landscape. In the Scottish highlands, where field boundaries are more likely to be post and wire deer fences, the attitude is one of greater antipathy.

One respondent from the Craig survey added to the questionnaire that landmarks such as walls and fences can be useful as navigation aids (Patrick, 1998, pers. com.).

**Figure 6.14 Dry Stone Wall, Borrowdale, Lake District**

6.2.6 Question f) Attitudes Towards Evidence of Abandoned Settlement

Abandoned settlement takes many forms in the British uplands. It is seen as abandoned crofts and villages in parts of the Scottish uplands, many of these dating from the clearances of the 18th and 19th century. In the English uplands, it is often seen as old industrial remains, especially of quarrying activity in the North Pennines and the Lake District.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | -2 | -1 | 0 | 1 | 2 |

| Question A. f) | Abandoned settlement | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **0.69** | **1** | **1** | **0.82** |
| Black Sail | | 0.60 | 0 | 0 | 0.80 |
| Skiddaw House | | 0.50 | 0.5 | N/A | 0.71 |
| Glen Affric | | 0.71 | 1 | 1 | 0.86 |
| Craig | | 0.68 | 1 | 1 | 0.95 |
| N. Pennines | | 0.90 | 1 | 1 | 0.72 |

**Figure 6.15 Attitudes towards abandoned settlement**

Weakly desirable perception. Out of the eight desirable qualities listed in the questionnaire, attitude towards abandoned settlement is only the 6th most strongly

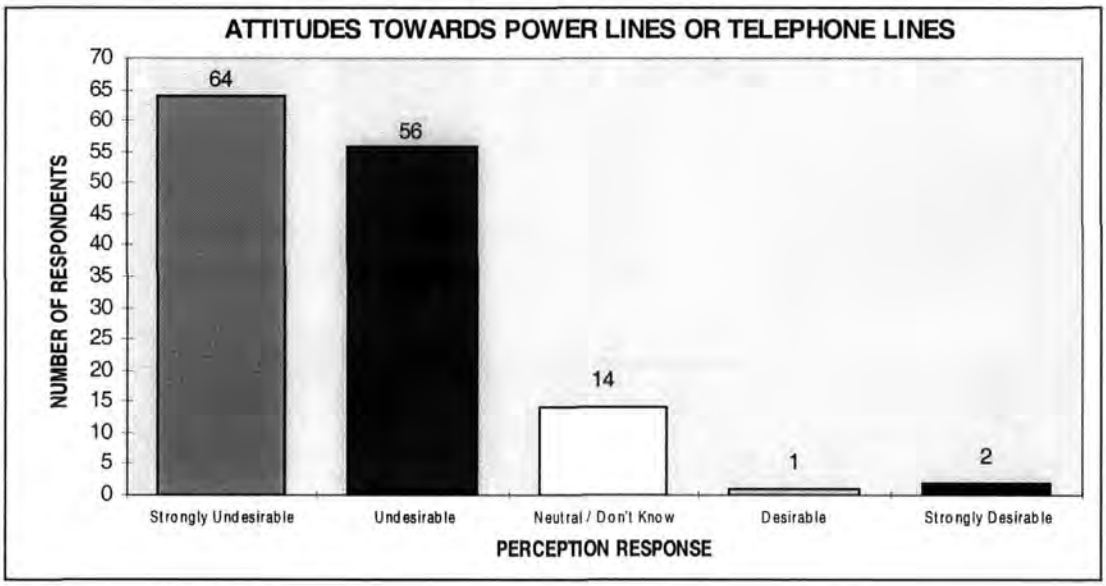
desired perception. It also has the 2nd lowest overall standard deviation reflecting a strong consistency of neutral/positive perception.

With age, abandoned settlement increasingly blends visually and aesthetically with the landscape. Older settlement and structures are also more likely to be positively regarded in terms of historical or archaeological interest. One respondent from Black Sail added to an otherwise neutral perception response that abandoned settlement was "good if old e.g. from Iron Age" (Anon, 1998, pers. com.).

The slightly less favourable reaction to abandoned settlement in the Lake District may reflect the presence of recent quarrying activity - the now re-opened quarry at Honister is not far from Black Sail. Attitudes towards abandoned settlement is one of the few attributes where Scottish perceptions are less wilderness-oriented than the English (in most other respects, Glen Affric perceptions in particular, are more strongly pro-wilderness and anti artificiality than other locations.) This may reflect the strong and poignant historical associations with abandoned settlement dating from the Scottish clearances. Recreationalists may have a political empathy with the victims of the clearances in demanding the reduction in the power and influence of Scottish landowners. The historical and archaeological value of many abandoned settlements, both residential and industrial, also colours British perceptions of abandoned settlement and makes us more favourably disposed to their presence in the landscape. This belief is strongly reflected in the positive attitudes towards the abandoned World War Two bunkers and other buildings which is expressed by Landscape Design Associates (1994) in reference to the wilderness qualities of Orford Ness in Norfolk.

6.2.7 Question g) Attitudes Towards Power Lines or Telephone Lines

Power lines and telephone lines are found at many different scales in remote parts of Britain, often associated with Scottish HEP developments. They are, in places, a clear intrusion into the open landscapes. However, at the locations for the questionnaire surveys, they are not highly visible in the landscape.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. g) | Power lines or telephone lines | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-1.31** | **1** | **2** | **0.80** |
| Black Sail | | -1.51 | 2 | 2 | 0.68 |
| Skiddaw House | | -2.00 | 2 | 2 | 0.00 |
| Glen Affric | | -1.08 | 2 | 2 | 0.97 |
| Craig | | -0.92 | 1 | 1 | 0.95 |
| N. Pennines | | -1.38 | 1 | 1 | 0.56 |

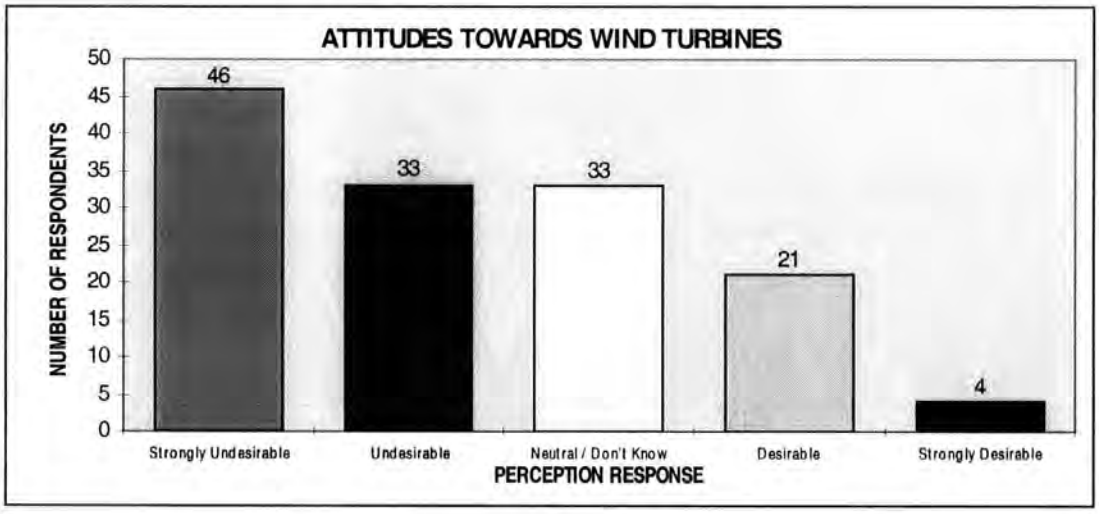
**Figure 6.16 Attitudes towards power lines or telephone lines**

Undesirable to strongly undesirable perception. Power lines are the second most strongly opposed attribute after motorised travel by visitors. Standard deviation is the

lowest of any from the landscape attribute questions reflecting a high consistency of response. Power lines are a highly visible and undesirable intrusion (Figure 6.18).

The surprisingly lower levels of antipathy in Scotland may reflect the fact that power lines and telephone lines are less visible and therefore less intrusive feature of the areas from which questionnaire data was derived. However, in parts of the Highlands, hydroelectric power lines cut across otherwise wild landscapes from the generating stations which are often located in remote areas.

### 6.2.8 Question h) Attitudes Towards Visible Wind Turbines




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. h) | Visible wind turbines | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-0.70** | **-1** | **-2** | **1.17** |
| Black Sail | | -1.11 | -1 | -2 | 1.03 |
| Skiddaw House | | -1.00 | -1 | -1 | 0.00 |
| Glen Affric | | -0.08 | 0 | 0 | 1.10 |
| Craig | | -0.40 | -1 | -1 | 1.22 |
| N. Pennines | | -0.66 | 0 | -2 | 1.23 |

**Figure 6.17 Attitudes towards visible wind turbines**

Undesirable perception. Out of eleven landscapes attributes deemed undesirable, attitudes towards wind turbines were ranked eighth. Standard deviation calculations show that perceptions are highly polarised - only attitudes to camp sites producing a more variable response pattern.

Attitudes towards wind turbines are strongly variable across the population, and this is reflected in the responses. In the Lake District opposition is greater than elsewhere, perhaps reflecting the strong appreciation of a cultural and historical landscape in the National Park as much as a physical one. Wind turbines may be more acceptable in a wild landscape than they are in a historical one.

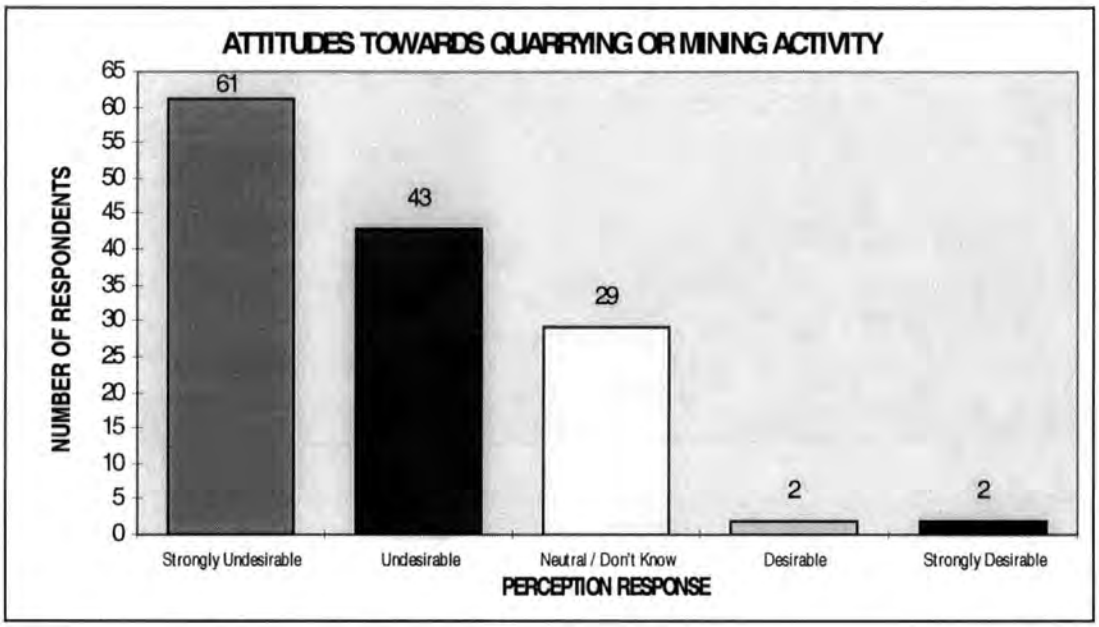
One respondent from the Craig survey added that:

> *Visible wind turbines would be acceptable on a small scale, i.e. to provide free power to a hut or croft. I would not however, like to see turbines on a commercial scale in truly remote areas* (Patrick, 1998, pers. com.).

**Figure 6.18 Abandoned Power Lines, Great Dun Fell, North Pennines**

6.2.9 Question i) Attitudes Towards Quarrying or Mining Activity

This question was designed to suggest current mining or quarrying (hence the term 'activity'). Some respondents may have interpreted the question as meaning 'past mining activity' and perceived it more favourably as a result.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. i) | Quarrying or mining activity | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-1.16** | **-1** | **-2** | **0.91** |
| Black Sail | | -1.21 | -1 | -2 | 0.82 |
| Skiddaw House | | -2.00 | -2 | -2 | 0.00 |
| Glen Affric | | -1.38 | -2 | -2 | 0.77 |
| Craig | | -1.44 | -2 | -2 | 0.77 |
| N. Pennines | | -0.59 | -1 | 0 | 1.08 |

**Figure 6.19 Attitudes towards quarrying or mining activity**

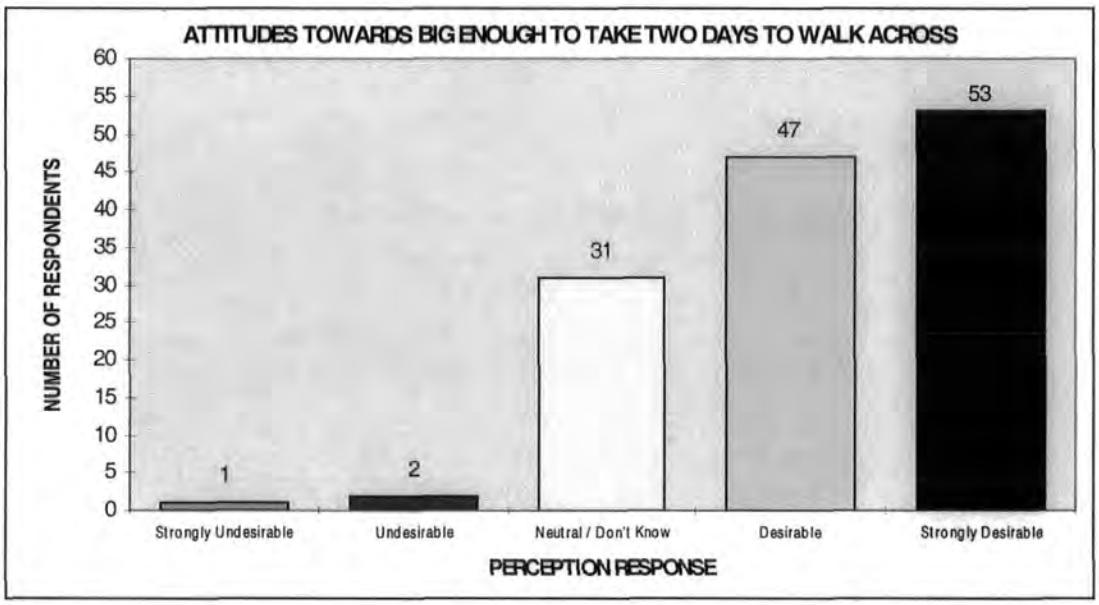
Undesirable perception. Out of 11 landscapes attributes deemed undesirable, quarrying and mining were ranked third.

Attitudes towards quarries and mines were consistently negative except for the North Pennines responses, reflected in a higher standard deviation score. This is perhaps surprising as the summits of Little Dun fell and Cross Fell are within sight of the Silverdale mine on the flanks of Great Dun Fell, which is immediately to the south east. Silverdale produces a large scar on the fell side (Figure 6.20). Existing and abandoned mines are often recognised as part of the cultural landscape in the Pennines and the Lake District. A recognition of the employment produced by mining in an otherwise hostile economic environment may lessen the negative perceptions.

**Figure 6.20 Silverdale Mine, Great Dun Fell, North Pennines**

6.2.10 Question j) Attitudes Towards Big Enough to Take Two Days to Walk Across

The physical extent of an area is an important part of the notion of wilderness. This question my not have been read in a literal sense by respondents, but rather interpreted broadly, in terms of the overall importance of large areas of wild land as opposed to smaller ones.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| **Question 1.j)** | **At least 2 days to walk across** | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **1.11** | **1** | **2** | **0.86** |
| Black Sail | | 1.09 | 1 | 2 | 0.81 |
| Skiddaw House | | 1.00 | 1 | 1 | 0.00 |
| Glen Affric | | 1.33 | 2 | 2 | 0.82 |
| Craig | | 1.20 | 1 | 2 | 0.76 |
| N. Pennines | | 0.90 | 1 | 2 | 1.08 |

**Figure 6.21 Attitudes to big enough to take at least two days to walk across**

Desirable perception. Attitude towards the size of the area is the 3rd most desirable attribute after Remoteness and the presence of Huts, Shelters and Bothies. It also has

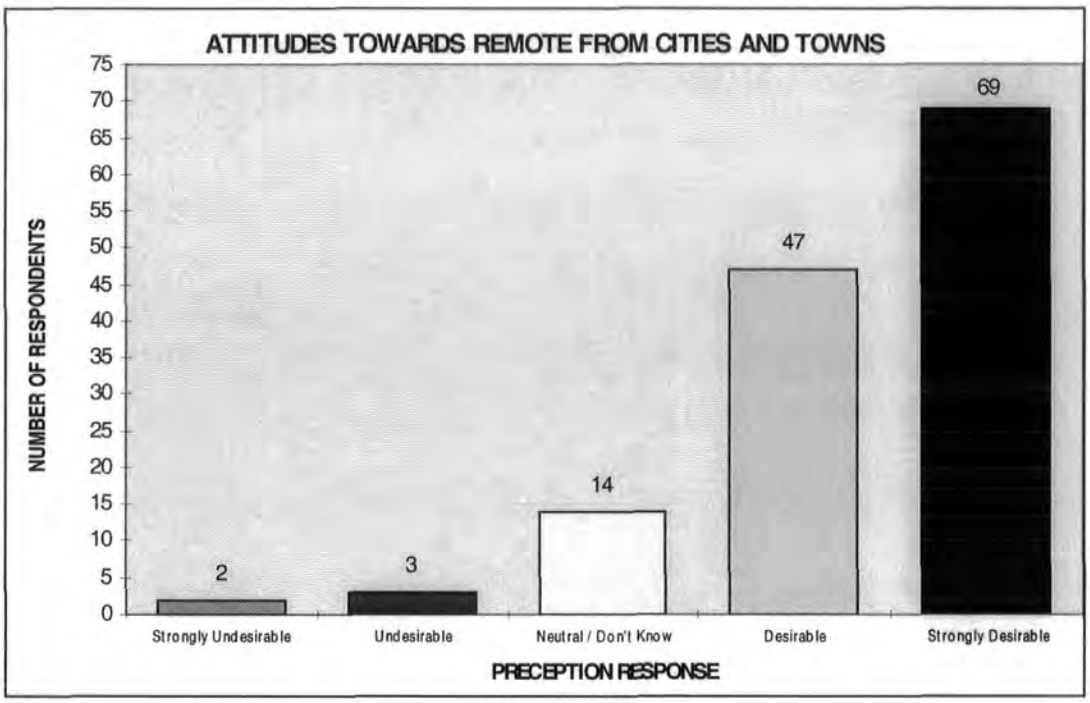
a low overall standard deviation (especially if the North Pennines sample is discounted) reflecting a strong consistency of positive perception.

The Scottish responses are higher than the English, which reflects the size of the surrounding wild areas around the sampling points. Lower overall scores for the North Pennines may be explained by the fact that in other sample sites, overnighting recreationalists were being sampled. These respondents might expect to appreciate the value of areas of land which would take them some while to traverse. Many of the respondents in the North Pennines were day walkers (12 out of 29 respondents) rather than spending the night in Youth Hostels or other accommodation. The mean score for all respondents who were overnighting was 1.16, for those not overnighting was 0.67 (all samples included). If recreationalists spending at least two days away from their vehicles are assessed, the mean desirability score increases to 1.18.

**Figure 6.22 Overnighting walkers, Loch Ossian, Scotland.**

6.2.11 Question k) Attitudes Towards Remote from Cities and Towns

The importance of a sense of isolation and the notion of having to make some effort to gain access to remote areas was being tested in this question.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| **Question A. k)** | **Remote from cities and towns** | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **1.32** | **2** | **2** | **0.86** |
| Black Sail | | 1.31 | 2 | 2 | 0.92 |
| Skiddaw House | | 1.50 | 1.5 | N/A | 0.71 |
| Glen Affric | | 1.54 | 2 | 2 | 0.59 |
| Craig | | 1.32 | 2 | 2 | 0.80 |
| N. Pennines | | 1.14 | 1 | 1 | 0.99 |

**Figure 6.23 Attitudes towards remote from cities and towns**

Desirable to strongly desirable perception. Attitude towards the remoteness of the area is the most desirable attribute obtained. Glen Affric again shows the strongest

pro-wilderness attitudes. Standard Deviations are again low, but the North Pennines shows more variability of response.

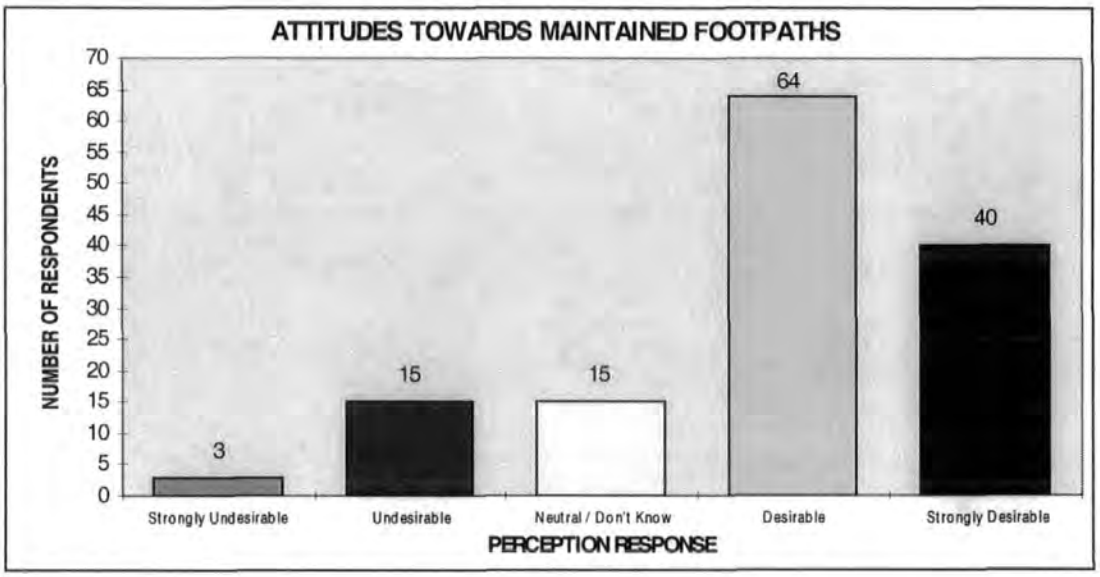
Given that 12 out of the 29 respondents on the North Pennines were not overnighting, it can be assumed that the desirability of relatively easy access from major urban areas is an important factor for this group. Overnighting recreationalists scored a mean 1.36 on this question, whereas non-overnighters scored only 0.92.

Some respondents who had otherwise strongly pro-wilderness responses, demonstrated low scores for this question reflecting their desire for a readily accessible wild area for recreation within reach of their home for a day trip (Figure 6.24).

**Figure 6.24 Cross Fell, North Pennines – an accessible wild area**

6.2.12 Question l) Attitudes Towards Maintained Footpaths

Much effort has been taken, in recent years, to engineer, build and maintain footpaths in order to reduce their visibility on the landscape. Erosion by walkers produces highly visible scars on the landscape and the braiding of paths, particularly over boggy ground is a great problem in many areas of the uplands.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. l) | Maintained footpaths | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **0.90** | **1** | **1** | **1.01** |
| Black Sail | | 0.91 | 1 | 1 | 0.95 |
| Skiddaw House | | 0.00 | 0 | 0 | 0.00 |
| Glen Affric | | 0.71 | 0 | 1 | 1.04 |
| Craig | | 1.08 | 1 | 2 | 1.12 |
| N. Pennines | | 0.93 | 1 | 1 | 1.07 |

**Figure 6.24 Attitudes towards maintained footpaths**

Desirable perception. Attitude towards maintained footpaths is the 5th most desirable perception out of eight.

Maintained paths are clearly seen as a positive attribute in the chosen uplands. On the flanks of Little Dun Fell and Cross Fell, stone flags have been laid in the saddles of the fells and across the boggy approaches to the final climbs. These constructions are very conspicuous but well engineered and certainly make life easier for the walker (and biker). Paths represent an important provision for all but the most enterprising and individual recreationalist. As such, they are seen as an important and valued part of the landscape.

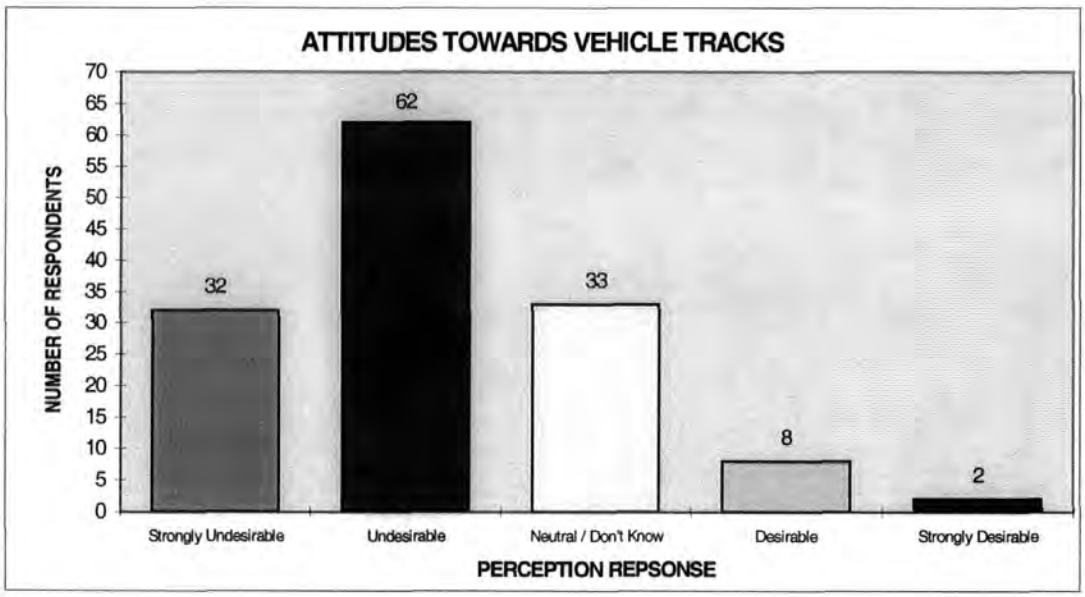
In their consultation on the draft Management Plan 1998, the Lake District National Park Authority questioned 545 respondents to various questions including soliciting opinion on stone pitched paths on the high fells. 66.9% of respondents felt that stone pitched paths are always preferable to the landscape impact of erosion; 20.9% felt that stone pitched paths were not preferable to the impact of erosion in remote locations; 3.1% felt that stone pitched paths are never preferable to the landscape impact of erosion. (Beardmore, 1998, pers. com.)

One respondent to this survey, who felt that maintained paths were strongly desirable, added a comment to her questionnaire response:

> *More maintained paths to keep walkers on one track and prevent damage to vegetation. Some might object to this idea as an interference on their 'freedom to roam' but it seems to work well where I have backpacked in Austria and Germany. People are going to go into the hills regardless nowadays, with cars giving easier access, so make routes safer and then perhaps there will be less people getting into trouble* (Lawson, 1998, pers. com.).

6.2.13 Question m) Attitudes Towards Vehicle Tracks

Many upland route-ways are also used by vehicles (mainly farmers and landowners). The question was designed to ascertain the response of walkers and cyclists to the nature of the track they were using. Even though the active use of these tracks by vehicles may not be common, the evidence of their use, e.g. ruts and tyre tracks, may be of concern to recreationalists.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

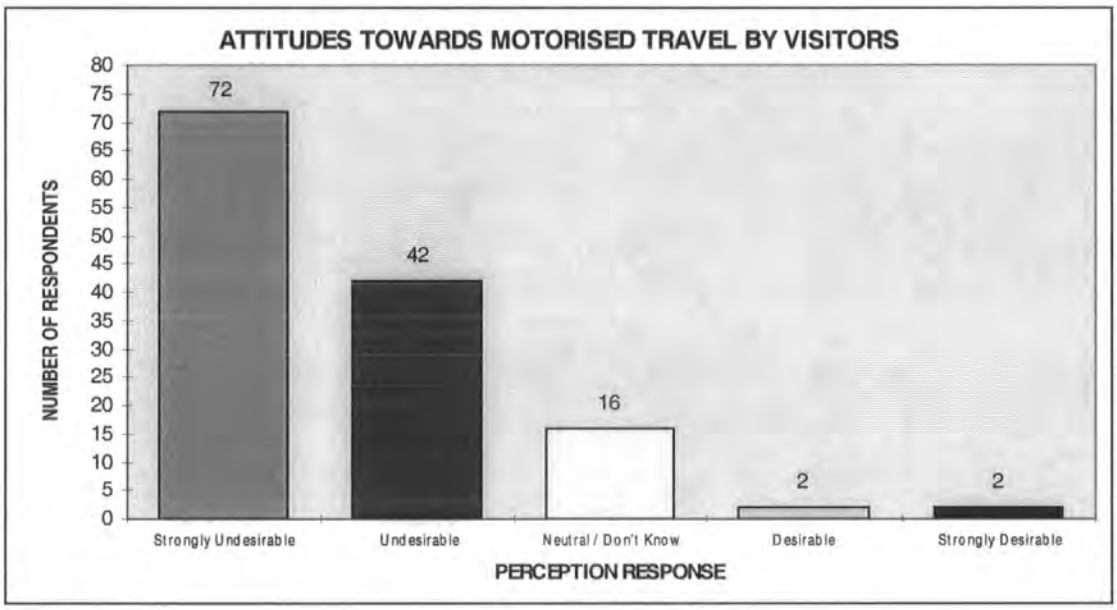
| **Question A. m)** | **Vehicle tracks** | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-0.83** | **-1** | **-1** | **0.90** |
| Black Sail | | -0.89 | -1 | -1 | 0.84 |
| Skiddaw House | | -1.50 | -1.5 | N/A | 0.71 |
| Glen Affric | | -1.00 | -1 | -1 | 0.88 |
| Craig | | -0.64 | -1 | -1 | 1.08 |
| N. Pennines | | -0.69 | -1 | 0 | 0.89 |

**Figure 6.25 Attitudes towards vehicle tracks**

Undesirable perception. Out of eleven landscapes attributes deemed undesirable, vehicle tracks were ranked sixth.

Less antipathy and more variability of response at Craig may reflect the lack of other marked routes in much of the area. There is certainly not the wide choice of foot and bridle paths compared with the Lake District.

6.2.14 Question n) Attitudes Towards Motor Travel by Visitors




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. n) | Motor travel by visitors | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-1.34** | **-2** | **-2** | **0.86** |
| Black Sail | | -1.36 | -2 | -2 | 0.87 |
| Skiddaw House | | -2.00 | -2 | -2 | 0.00 |
| Glen Affric | | -1.67 | -2 | -2 | 0.56 |
| Craig | | -1.29 | -1.5 | -1 | 0.86 |
| N. Pennines | | -1.03 | -1 | -1 | 0.98 |

**Figure 6.26 Attitudes towards motor travel by visitors**

Strongly undesirable perception. Motorised travel by visitors is the landscape attribute most strongly opposed by respondents. Standard deviation is low, reflecting a high consistency of response.

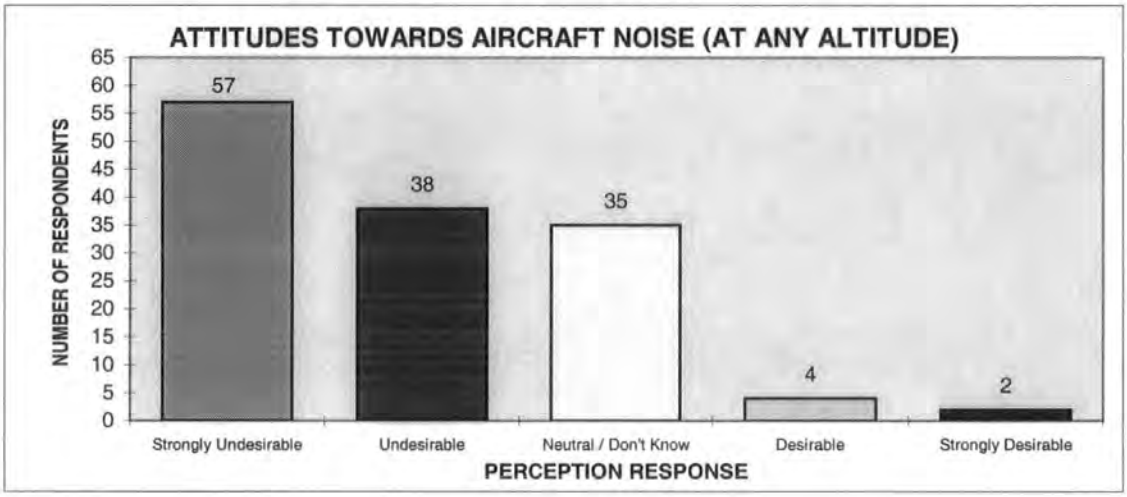
This question was designed to refer to use of vehicles *within* the wild area rather than access to the edge of it (though some respondents may have interpreted it in the latter sense). It was phrased to exclude vehicular use by farmers and landowners which walkers and bikers are likely to find much more acceptable than vehicular use by other recreational users.

The responses show a particularly high and consistent level of antipathy at Glen Affric. In the North Pennines, a metalled road runs all the way to the summit of Great Dun Fell (Figure 6.27), close to the sampling points used. Whilst this is a private road and, strictly speaking, unavailable to recreationalists, it is a commonly used access point and may colour the response of North Pennine recreationalists to this question.

**Figure 6.27 Metalled road and vehicle, Great Dun Fell, North Pennines**

6.2.15 Question o) Attitudes Towards Aircraft Noise (At Any Altitude)

Aircraft noise is an impact which varies enormously with altitude. Low flying military aircraft are clearly much more of a disturbance than commercial aircraft at cruising altitudes. The question may be perceived quite differently by respondents depending on their direct experience.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| **Question A. o)** | **Aircraft noise** | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-1.06** | **-1** | **-2** | **0.96** |
| Black Sail | | -1.23 | -1 | -2 | 0.80 |
| Skiddaw House | | -1.50 | -1.5 | N/A | 0.71 |
| Glen Affric | | -1.26 | -2 | -2 | 0.96 |
| Craig | | -1.00 | -1 | -1 | 0.91 |
| N. Pennines | | -0.59 | 0 | 0 | 1.18 |

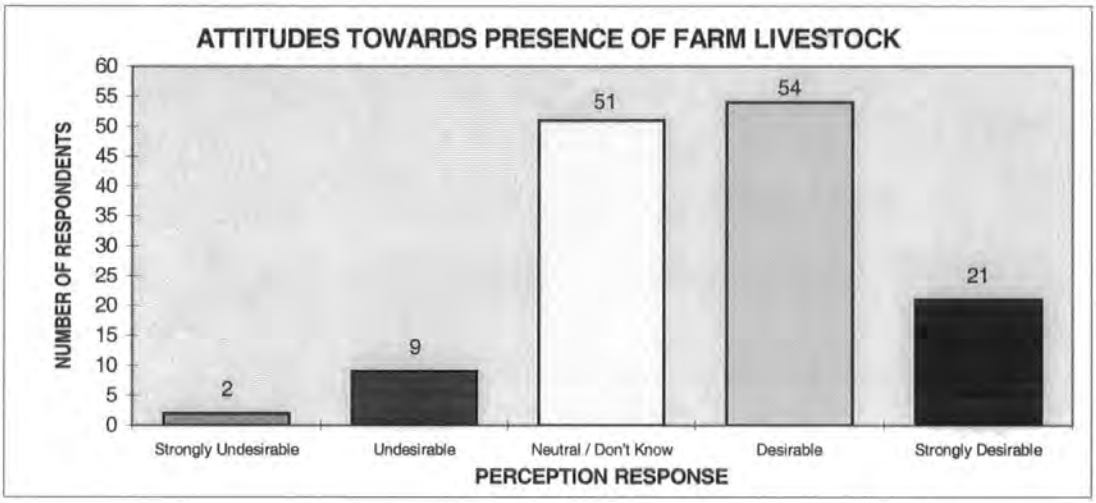
**Figure 6.28 Attitudes towards aircraft noise (at any altitude)**

Undesirable perception. Aircraft noise is the fifth (out of eleven) most strongly opposed attribute. The lower levels of antipathy in the North Pennines may reflect the pattern of military use of aircraft. The disruption to the wilderness experience caused

by low-flying aircraft is certainly a profound one, but if it does not occur, it is unlikely to be perceived as strongly as where it does.

6.2.16 Question p) Attitudes Towards Presence of Farm Livestock

In the uplands, at the questionnaire sample points, sheep are likely to be the only visible farm livestock.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. p) | Farm livestock | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **0.61** | **1** | **1** | **0.87** |
| Black Sail | | 0.72 | 1 | 1 | 0.92 |
| Skiddaw House | | 0.50 | 0.5 | N/A | 0.71 |
| Glen Affric | | 0.17 | 0 | 0 | 0.92 |
| Craig | | 0.52 | 1 | 1 | 0.77 |
| N. Pennines | | 0.83 | 1 | 1 | 0.76 |

**Figure 6.29 Attitudes towards presence of farm livestock**

Weakly desirable perception. Out of the eight desirable qualities listed in the questionnaire, attitude towards livestock is only the seventh most strongly expressed

perception. It also has the third lowest overall standard deviation reflecting a substantial consistency of response.

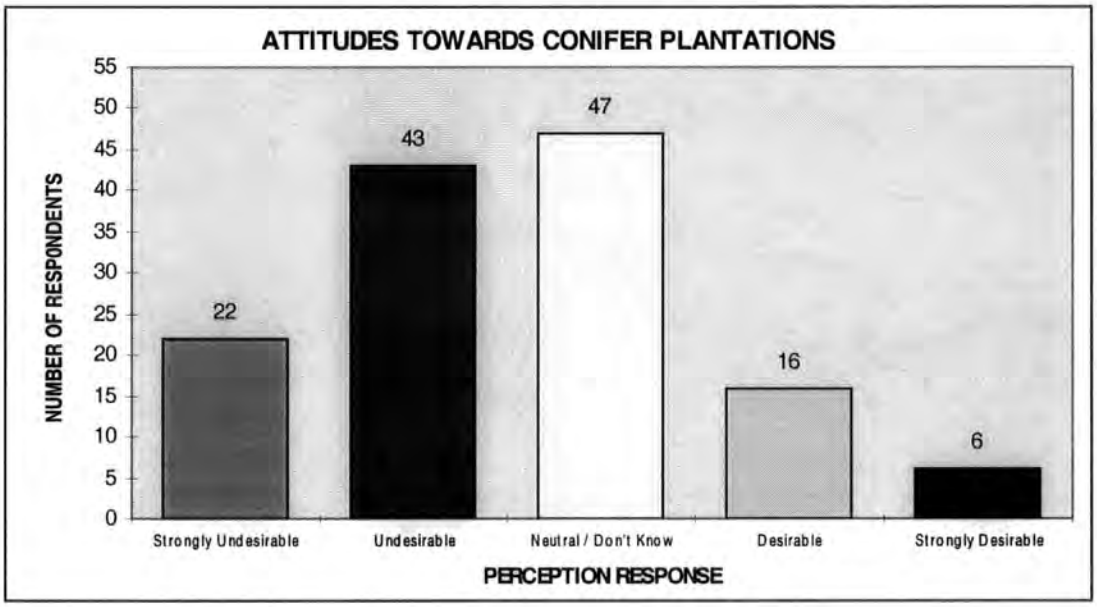
In the North Pennines and Black Sail, livestock is viewed more positively than in Scotland. Perhaps this reflects the attitude that sheep and sheep farming infrastructure form an inherent part of the English upland landscape and that the areas have been shaped in no small part by grazing agricultural systems (Figure 6.30).

Whilst livestock are an artificial presence in the landscape both in themselves and in their effect on vegetation, there may be a positive response to animals in general in the uplands. A landscape populated by farm livestock may be more favourably perceived than one devoid of visible animal life.

**Figure 6.30 Sheep, Moor House NNR, North Pennines**

6.2.17 Question q) Attitudes Towards Conifer Plantations

Most conifer plantations in Britain consist of exotic, non-native species such as Sitka Spruce and Norway Spruce. These are planted at high densities and, until the recent past, were planned with little regard for amenity or visual impact. Recent plantations of Britain's only native conifer, the Scots Pine, have been mainly for conservation and amenity value rather than for commercial purposes.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. q) | Conifer plantations | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-0.44** | **0** | **0** | **1.04** |
| Black Sail | | -0.59 | -1 | -1 | 1.01 |
| Skiddaw House | | 0.00 | 0 | 0 | 0.00 |
| Glen Affric | | -0.42 | -1 | -1 | 1.02 |
| Craig | | -0.39 | 0 | 0 | 1.20 |
| N. Pennines | | -0.24 | 0 | 0 | 1.06 |

**Figure 6.31 Attitudes towards conifer plantations**

Weakly undesirable perception. Out of the eleven undesirable qualities listed in the questionnaire, attitude towards conifers is only the 9th most strongly expressed

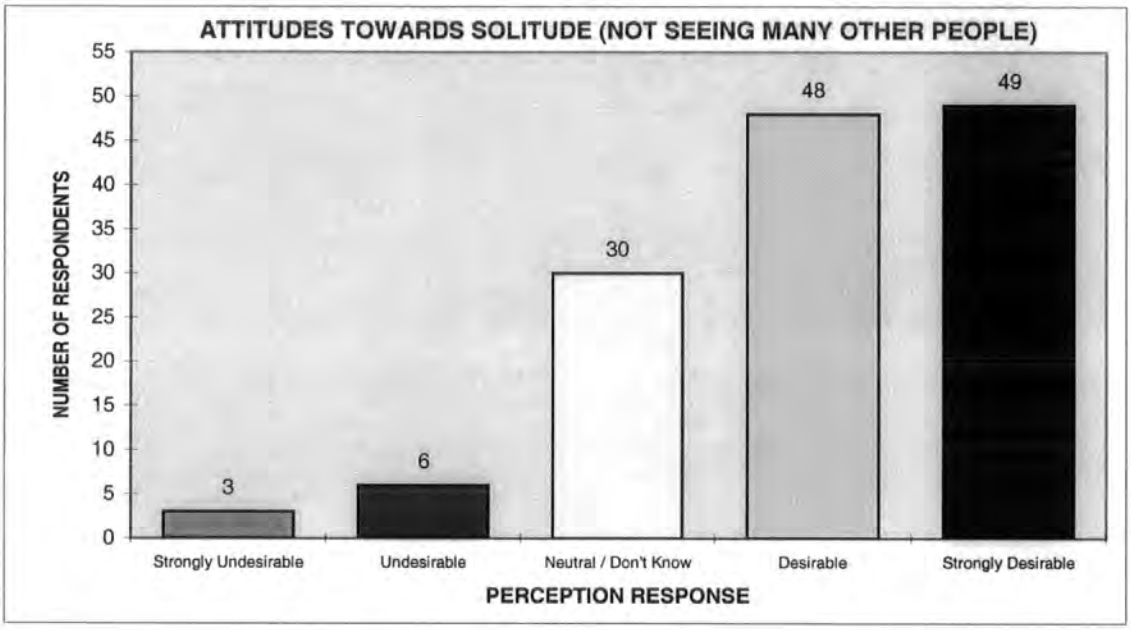
perception. It also has the 6th highest overall standard deviation reflecting a substantial variability of response.

The strongest antipathy to conifers is found amongst respondents at Black Sail whose accommodation is dominated by the afforested valley of Upper Ennerdale. Again, it is perhaps the perception of the Lake District as a cultural and historical landscape which colours perceptions against what might be considered to be modern intrusions. Perceptions of conifers were surprisingly neutral given the poor image which upland forestry has traditionally enjoyed. Perhaps the relatively low levels of antipathy reflect the more amenity oriented planting and landscaping policies which the forestry authorities have recently adopted.

**Figure 6.32 Insensitively planned conifer plantations, Loch Pattack, Scotland**

6.2.18 Question r) Attitudes Towards Solitude (Not Seeing Many Other People)

A sense of space and isolation from others is a key aspect of a wilderness experience. Whilst there will be many different interpretations of 'not seeing many other people', the responses should show the importance of this aspect of recreation in remote areas.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| **Question A. r)** | **Solitude** | Mean | Median | Mode | Std. Dev |
|---|---|---|---|---|---|
| **TOTAL** | | **0.99** | **1** | **1** | **0.98** |
| Black Sail | | 1.02 | 1 | 2 | 1.05 |
| Skiddaw House | | 2.00 | 2 | 2 | 0.00 |
| Glen Affric | | 1.17 | 1 | 1 | 0.96 |
| Craig | | 0.84 | 1 | 1 | 0.80 |
| N. Pennines | | 0.83 | 1 | 1 | 1.00 |

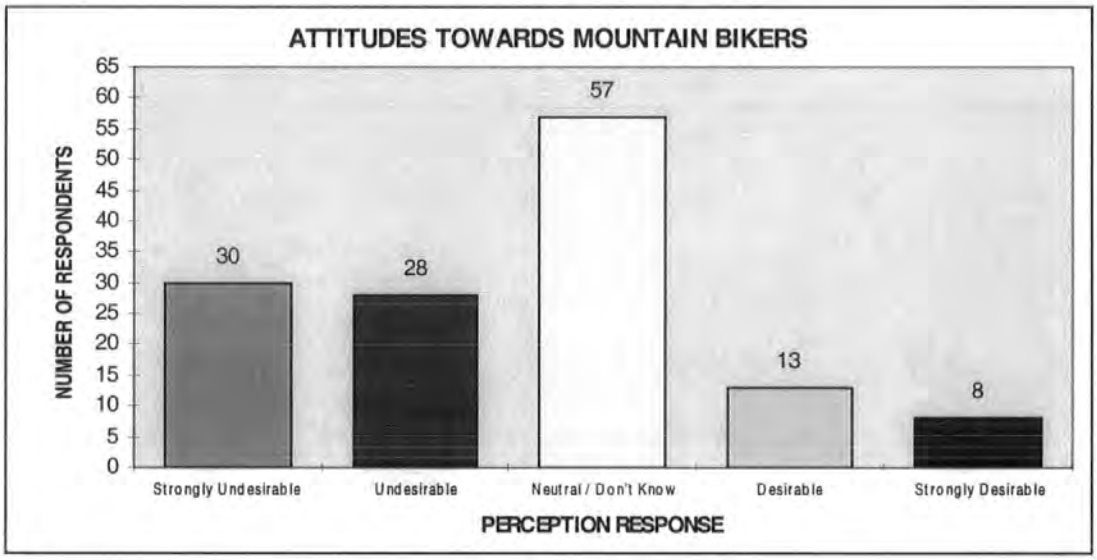
**Figure 6.33 Attitudes towards solitude (not seeing many other people)**

Desirable perception. Attitude towards solitude is the fourth most desirable attribute obtained. Of the three pro-wilderness questions, solitude is the least strongly felt with remoteness and size being more important in respondents' perceptions. The fact of most responses coming from Youth Hostels may colour the perceptions in that there is

inevitability of meeting others in this context. Glen Affric again shows the strongest pro-wilderness attitudes and the North Pennines the least.

6.2.19 Question s) Attitudes Towards Mountain Bikers

Like wind turbines, mountain bikes represent a modern source of potential conflict in remote areas. It was impossible to ascertain from the questionnaire if respondents were mountain bikers. Bikers are less likely to use overnight accommodation than walkers, however, both Black Sail and Skiddaw House are located on popular mountain bike circuits.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question A. s) | Mountain bikers | Mean | Median | Mode | Std. Dev |
|---|---|---|---|---|---|
| **TOTAL** | | **-0.43** | **0** | **0** | **1.11** |
| Black Sail | | -0.51 | 0 | 0 | 1.20 |
| Skiddaw House | | -1.00 | -1 | N/A | 1.41 |
| Glen Affric | | -0.46 | 0 | 0 | 0.98 |
| Craig | | -0.50 | 0 | 0 | 0.83 |
| N. Pennines | | -0.17 | 0 | 0 | 1.26 |

**Figure 6.34 Attitudes towards mountain bikers**

Neutral to weakly undesirable perception. Out of the eleven undesirable qualities listed in the questionnaire, attitude towards mountain bikers was only the 10th most strongly expressed perception. It also has the 4th highest overall standard deviation reflecting a substantial variability of response.

Attitudes towards mountain bikers are, perhaps, unsurprising given the controversy surrounding mountain bikes in the uplands and the conflicts with walkers (Figure 6.35). Some respondents suggested that they were mountain bikers themselves and, unsurprisingly, their perception of the use of such machines was favourable. There were not sufficient numbers of respondents who identified themselves as mountain bikers to undertake a comparative analysis.

**Figure 6.35 Management measures to control mountain bikes, Borrowdale, Lake District**

## 6.3 Total Wilderness Appreciation Scores for the Five Sample Areas

### 6.3.1 Rationale

The total Likert scale scores from each respondent for all five locations were obtained and measures of central tendency and dispersion calculated. Results of this are shown in Table 6.5.

| | TOTAL NO. OF RESPONSES | MEAN | MEDIAN | STANDARD DEVIATION |
|---|---|---|---|---|
| **TOTAL** | **137** | **69.27** | **69.50** | **6.94** |
| BLACK SAIL | 57 | 70.59 | 70.53 | 6.76 |
| SKIDDAW HOUSE | 2 | 75.79 | 75.79 | N/A |
| GLEN AFFRIC | 24 | 71.91 | 73.54 | 6.33 |
| CRAIG | 25 | 68.41 | 66.78 | 6.97 |
| CROSS FELL | 29 | 64.75 | 64.21 | 6.29 |

**Table 6.5 Total wilderness appreciation scores – measures of central tendency and dispersion**

Student's t-Test was used to test whether the samples from the four main response locations were likely to have derived from the same underlying populations that have the same mean. Total Likert scale scores for each respondent from each of the sample sites were compared with the other sites.

Null hypothesis: that all samples were obtained from the same population.

| t-Test | | | **Degrees** | **of** | **Freedom** |
|---|---|---|---|---|---|
| | | Black Sail | Glen Affric | Craig | Cross Fell |
| | Black Sail | | **79** | **80** | **84** |
| t-Test | Glen Affric | 0.4719 | | **47** | **51** |
| scores | Craig | 0.2569 | 0.1166 | | **52** |
| | Cross Fell | 0.0011 | 0.0009 | 0.0864 | |

**Table 6.6 t-Test results comparing the four main sample sites**

### 6.3.2 Analysis

Discounting the two results from Skiddaw House, the strongest wilderness appreciation appears to come from Glen Affric and the weakest from Cross Fell where most of the respondents were not overnight Youth Hostellers. Student's t-Test however, tests whether these differences are statistically significant. To reject the null hypothesis on a two-tailed test beyond the customary 95% acceptance region, it is necessary to obtain a t-Test score of 1.96 or over for all samples. Thus, in all cases, the null hypothesis is to be accepted. The samples can be assumed to derive from the same population. This shows that the respondents in the four main sample areas had largely similar patterns of total wilderness appreciation.

## 6.4 Comparisons of Overnighting and Non-Overnighting Recreationalists

### 6.4.1 Rationale

The Likert scale scoring system for landscape attributes was used here so that the comparison between overnighters and non-overnighters could be made in terms of their wilderness appreciation. Respondents who did not favour man-made aspects of landscape and who valued size, remoteness and solitude scored highly in this test. Respondents who did not object to artificial elements in the landscape scored low overall totals.

Table 6.7 shows the mean responses according to the strength of feeling of respondents on the desirability of landscape attributes.

6.4.2 Analysis of Overnighters Versus Non-Overnighters

| MEAN RESPONSES OF OVERNIGHTING RECREATIONALISTS COMPARED WITH NON OVERNIGHTING RECREATIONALISTS (LIKERT SCALE) | | | |
|---|---|---|---|
| | **LANDSCAPE ATTRIBUTE** | **Over-nighters** | **Non Over-nighters** |
| A | Developed Campsites | 3.80 | 3.25 |
| B | Bridges over rivers or streams | 2.52 | 1.50 |
| C | Maintained huts etc. | 1.82 | 1.67 |
| D | Game shooting | 4.11 | 3.92 |
| E | Field boundaries. | 3.27 | 2.92 |
| F | Abandoned settlement | 2.33 | 2.08 |
| G | Power Lines / telephone lines | 4.32 | 4.17 |
| H | Visible wind turbines | 3.73 | 3.42 |
| I | Quarrying or mining activity | 4.22 | 3.50 |
| J | At least 2 days to walk across | 4.16 | 3.67 |
| K | Remote from cities and towns | 4.36 | 3.92 |
| L | Maintained footpaths | 2.13 | 1.83 |
| M | Vehicle tracks | 3.84 | 3.75 |
| N | Motor travel by visitors. | 4.36 | 4.17 |
| O | Aircraft noise | 4.09 | 3.75 |
| P | Presence of farm livestock | 2.42 | 2.08 |
| Q | Conifer Plantations | 3.47 | 3.17 |
| R | Solitude (not seeing many other people) | 4.01 | 3.75 |
| S | Mountain bikers | 3.47 | 3.08 |
| | | | |
| | **MEAN TOTAL SCORES** | 65.66 | 59.58 |
| | **MEAN SCORES AS % of MAXIMUM** | 69.89 | 62.72 |
| | **Number of respondents** | **125** | **12** |
| | | | |

**Table 6.7 Comparison of landscape desirability scores – overnighters and non-overnighters**

The analysis of the comparison between the two groups is striking: for *every* landscape attribute perception, the wilderness appreciation score is higher for the overnighters. This may mean that people willing to spend a night or more away from 'civilisation' have inherently more favourable attitudes towards wild land characteristics. It may also suggest that the fact of being away from domestic

and/or vehicle comforts creates a greater sense (permanent or temporary) of wilderness appreciation

In Table 6. 8 these mean responses are ranked in order of desirability. The most strongly felt wilderness attributes as perceived by overnighters are ranked 1. The ranking of mean scores by non-overnighting recreationalists is shown for comparison. There are clearly only minor and limited differences between the *relative* importance that each group puts on the various landscape attributes.

| MEAN RESPONSES RANKED IN ORDER OF DESIRABILITY BY OVER NIGHTERS | | | | | |
|---|---|---|---|---|---|
| | **LANDSCAPE ATTRIBUTE** | **Over-nighters** | **Rank Over-nighters** | **Non Over-nighters** | **Rank Non Over-nighters** |
| N | Motor travel by visitors. | 4.36 | 1 | 4.17 | 1 |
| K | Remote from cities and towns | 4.36 | 2 | 3.92 | 3 |
| G | Power Lines / telephone lines | 4.32 | 3 | 4.17 | 1 |
| I | Quarrying or mining activity | 4.22 | 4 | 3.50 | 9 |
| J | At least 2 days to walk across | 4.16 | 5 | 3.67 | 8 |
| D | Game shooting | 4.11 | 6 | 3.92 | 3 |
| O | Aircraft noise | 4.09 | 7 | 3.75 | 5 |
| R | Solitude (not seeing many other people) | 4.01 | 8 | 3.75 | 5 |
| M | Vehicle tracks | 3.84 | 9 | 3.75 | 5 |
| A | Developed Campsites | 3.80 | 10 | 3.25 | 11 |
| H | Visible wind turbines | 3.73 | 11 | 3.42 | 10 |
| S | Mountain bikers | 3.47 | 12 | 3.08 | 13 |
| Q | Conifer Plantations | 3.47 | 13 | 3.17 | 12 |
| E | Field boundaries. | 3.27 | 14 | 2.92 | 14 |
| B | Bridges over rivers or streams | 2.52 | 15 | 1.50 | 19 |
| P | Presence of farm livestock | 2.42 | 16 | 2.08 | 15 |
| F | Abandoned settlement | 2.33 | 17 | 2.08 | 15 |
| L | Maintained footpaths | 2.13 | 18 | 1.83 | 17 |
| C | Maintained huts etc. | 1.82 | 19 | 1.67 | 18 |

**Table 6.8 Ranked comparison of landscape desirability scores – overnighters and non-overnighters**

## 6.5 Analysis Of The Most Pro-Wilderness Respondents

| RANKING OF LANDSCAPE ATTRIBUTE MEAN VALUES | | | | | | |
|---|---|---|---|---|---|---|
| | TOTAL RESPONSES (138 RESPONDENTS) | | | 1ST QUINTILE (TOP 27 WILDERNESS APPRECIATION) | | |
| SCALE | ATTRIBUTE | MEAN | TOP 27 RANK | ATTRIBUTE | MEAN | TOTAL RANK |
| 4.90 | | | | | | |
| 4.85 | | | | Motor t travel by visitors | 4.81 | 1 |
| 4.80 | | | | Remote from cities and towns | 4.81 | 2 |
| 4.75 | | | | Power lines/telephone lines | 4.81 | 3 |
| 4.70 | | | | Quarrying or mining activity | 4.67 | 4 |
| 4.65 | | | | Developed campsites | 4.65 | 9 |
| 4.60 | | | | Game shooting | 4.56 | 6 |
| 4.55 | | | | Aircraft noise | 4.56 | 7 |
| 4.50 | | | | Solitude (not seeing other people) | 4.52 | 8 |
| 4.45 | | | | At least 2 days to walk across | 4.50 | 5 |
| 4.40 | Motor t travel by visitors | 4.34 | 1= | | | |
| 4.35 | Remote from cities and towns | 4.32 | 1= | Vehicle tracks | 4.30 | 10 |
| 4.30 | Power lines/telephone lines | 4.31 | 1= | Visible wind turbines | 4.30 | 11 |
| 4.25 | | | | | | |
| 4.20 | Quarrying or mining activity | 4.16 | 4 | | | |
| 4.15 | At least 2 days to walk across | 4.11 | 9 | | | |
| 4.10 | Game shooting | 4.10 | 6= | | | |
| 4.05 | Aircraft noise | 4.06 | 6= | Conifer plantations | 4.04 | 12 |
| 4.00 | Solitude (not seeing other people) | 3.99 | 8 | Mountain bikers | 4.00 | 13 |
| 3.95 | Developed campsites | 4.00 | 5 | | | |
| 3.90 | | | | | | |
| 3.85 | Vehicle tracks | 3.83 | 10= | | | |
| 3.80 | | | | | | |
| 3.75 | | | | Field boundaries | 3.74 | 14 |
| 3.70 | Visible wind turbines | 3.70 | 10= | | | |
| 3.65 | | | | | | |
| 3.60 | | | | | | |
| 3.55 | | | | | | |
| 3.50 | | | | | | |
| 3.45 | Conifer plantations | 3.44 | 12 | Bridges over rivers and streams | 3.46 | 15 |
| 3.40 | Mountain bikers | 3.43 | 13 | | | |
| 3.35 | | | | | | |
| 3.30 | | | | | | |
| 3.25 | Field boundaries | 3.24 | 14 | | | |
| 3.20 | | | | | | |
| 3.15 | | | | | | |
| 3.10 | | | | | | |
| 3.05 | | | | | | |
| 3.00 | | | | | | |
| 2.95 | | | | | | |
| 2.90 | | | | | | |
| 2.85 | | | | Presence of farm livestock | 2.85 | 16 |
| 2.80 | | | | | | |
| 2.75 | | | | | | |
| 2.70 | | | | | | |
| 2.65 | | | | Abandoned settlement | 2.63 | 17 |
| 2.60 | | | | | | |
| 2.55 | | | | | | |
| 2.50 | | | | Maintained footpaths | 2.52 | 18 |
| 2.45 | Bridges over rivers and streams | 2.43 | 15 | Maintained huts, shelters etc. | 2.48 | 19 |
| 2.40 | Presence of farm livestock | 2.39 | 16 | | | |
| 2.35 | | | | | | |
| 2.30 | Abandoned settlement | 2.31 | 17 | | | |
| 2.25 | | | | | | |
| 2.20 | | | | | | |
| 2.15 | | | | | | |
| 2.10 | Maintained footpaths | 2.10 | 18 | | | |
| 2.05 | | | | | | |
| 2.00 | | | | | | |
| 1.95 | | | | | | |
| 1.90 | | | | | | |
| 1.85 | | | | | | |
| 1.80 | Maintained huts, shelters etc. | 1.81 | 19 | | | |

**Table 6.9 Comparison of the most pro-wilderness respondents compared with the total response pattern**

Table 6.9 shows a comparison between the Likert scale mean response patterns for all respondents and the mean response for the top quintile of respondents according to their total wilderness appreciation score. These 27 individuals had the highest Likert scale total scores and could, therefore, be assumed to have the highest degree of wilderness appreciation. The comparison between this group and the total cohort allows us to ascertain the extent to which the perceptions of those most appreciative of wilderness attributes differ from the others.

The comparison clearly shows that in respect of all the landscape attributes the 'high wilderness appreciation group' scores more highly than the total group. However, there is very little difference in the rankings of the attributes between the two groups. For most landscape attributes there is a difference of around 0.5 to 0.6 between the mean scores for the total cohort compared with the top quintile. For 'Bridges over rivers and streams' however, the difference is 1.0.

The conclusion to this comparison is, therefore, that some groups (the high wilderness appreciation group) express a stronger preference for wilderness qualities in general, but that both groups perceived the same order of preference in landscape attributes.

This is a significant finding as it suggests thet all recreationalists, whatever their overall sensitivities to wilderness qualities, perceive a broadly similar pattern of desirable and undesirable attributes in the landscape.

## 6.6 Category Response Findings

The mean values for the landscape attribute questions are tabulated in Table 6.10 according to the categories identified in Chapter 5.4 according to a bi-polar scale.

Thus: High (positive) values = strongly desirable attribute

Low (negative) values = strongly undesirable attribute

| | | | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|---|
| **Inherent locational features** | j) | Big enough to take at least two days to walk across | 1.11 | 1 | 2 | 0.86 |
| | k) | Remote from cities and towns | 1.32 | 2 | 2 | 0.86 |
| | | | | | | |
| **Ecological characteristics** | p) | Presence of farm livestock | 0.61 | 1 | 1 | 0.87 |
| | q) | Conifer plantations | -0.44 | 0 | 0 | 1.04 |
| | | | | | | |
| **Artificialism** | a) | Developed campsites | -0.75 | -1 | -2 | 1.25 |
| | b) | Bridges over rivers and streams | 0.57 | 1 | 1 | 1.06 |
| | c) | Maintained huts, shelters or bothies | 1.19 | 1 | 1 | 0.82 |
| | e) | Presence of field boundaries | -0.24 | 0 | 0 | 0.98 |
| | f) | Evidence of abandoned settlement | 0.69 | 1 | 1 | 0.82 |
| | g) | Power lines or telephone lines | -1.31 | -1 | -2 | 0.80 |
| | h) | Visible wind turbines | -0.70 | -1 | -2 | 1.17 |
| | i) | Quarrying or mining activity | -1.16 | -1 | -2 | 0.91 |
| | l) | Maintained footpaths | 0.90 | 1 | 1 | 1.01 |
| | m) | Vehicle tracks | -0.83 | -1 | -1 | 0.90 |
| | | | | | | |
| **Human Activities** | d) | Game shooting | -1.10 | -2 | -2 | 1.17 |
| | n) | Motorised travel by visitors | -1.34 | -2 | -2 | 0.86 |
| | o) | Aircraft noise (at any altitude) | -1.06 | -1 | -2 | 0.96 |
| | r) | Solitude (not seeing many other people) | 0.99 | 1 | 1 | 0.98 |
| | s) | Mountain bikers | -0.43 | 0 | 0 | 1.11 |
| | | | | | | |

**Table 6.10 Categorised bi-polar landscape attribute responses**

In assessing the response of recreationalists to the landscape attribute questions, certain definite patterns can be seen to emerge.

1) Those inherent aspects of wild landscape concerned with **size** and **remoteness** are clearly valued very highly. Even those people using wild areas for recreation on a daily basis (rather than overnighting) appreciate these characteristics of wild and remote locations.

2) Artificial structures and man-made elements of landscape show a greatly variable pattern of response. Some, such as **footpaths** and **huts** are highly regarded (presumably because they serve the needs of recreationalists); **abandoned settlement** too is perceived to be a desirable aspect of landscape. Other features such as **power lines, vehicle tracks** and **quarries** have a strongly negative perception. Modern artefacts in the landscape which have little or no connection with active recreation are negatively perceived.

3) In terms of natural or ecological aspects of landscape attitudes are somewhat ambivalent. **Conifers** are opposed but not strongly so; and the **presence of farm livestock** is favoured (though again, not strongly).

4) Human activity which (presumably) disturbs recreationalists is regarded very unfavourably. The objection to **motor travel by visitors** is the strongest response in the whole survey. The majority of respondents also oppose **game shooting, aircraft noise, mountain biking** (and, by inference from the Artificialism category, **camping**). On the other hand, **solitude** is highly regarded.

## 6.7 Management Measures Responses

### 6.7.1 Rationale

In addition to ascertaining landscape perceptions from recreationalists at the five locations, opinions of various hypothetical management measures were also sought (Figure 6.30).

**D. Please refer to the following list of measures which might possibly be taken to manage wild areas in Britain. Indicate your feelings about how desirable each of these measures is, in a wild setting, in Britain.**

| D | | Strongly Desirable | Desirable | Neutral or Don't Know | Undesirable | Strongly Undesirable |
|---|---|---|---|---|---|---|
| a) | Access is limited by quota to a restricted number of people at any one time to ensure that damage is not done to the environment. | | | | | |
| b) | Access is limited by quota to a restricted number of people at any one time to ensure a remote and isolated experience for those who are allowed in. | | | | | |
| c) | A small charge is made for users of wild areas (with the proceeds spent on management and protection). | | | | | |

**Figure 6.30 Management questions from the questionnaire**

### 6.7.2 Mean Desirability Score for Management Measures

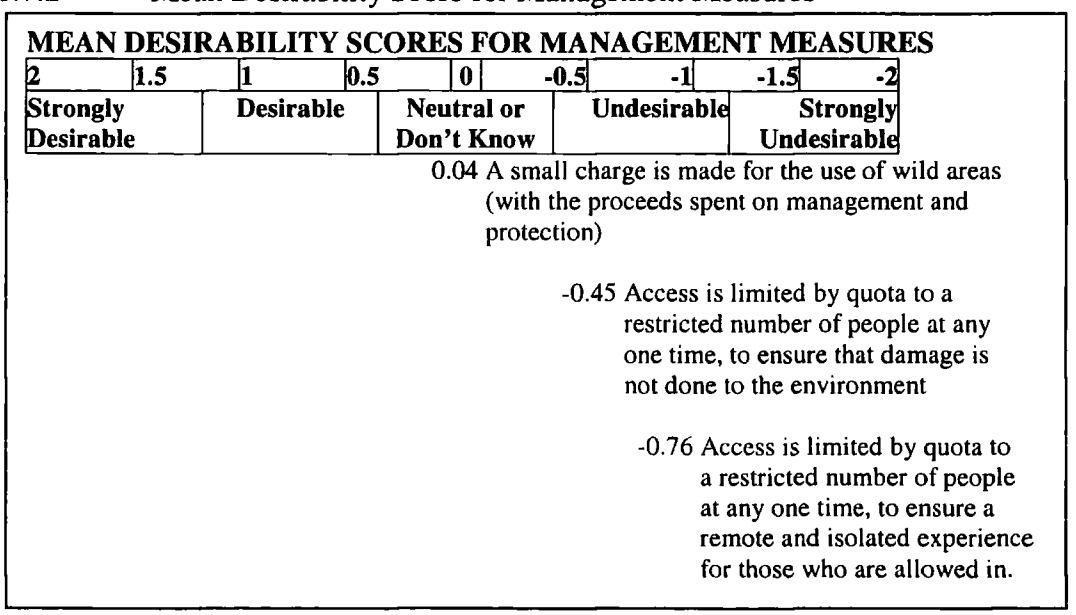



**Figure 6.31 Mean desirability scores for management measures**

6.7.3 Median Desirability Score for Management Measures

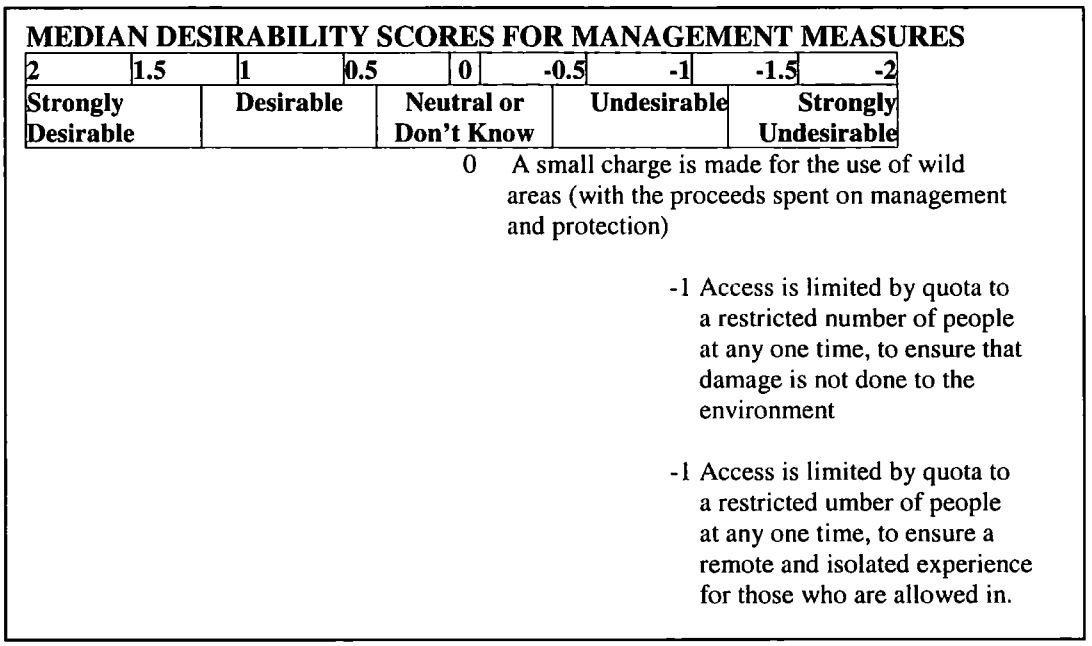



**Figure 6.32 Median desirability scores for management measures**

6.7.4 Modal Desirability Score for Management Measures

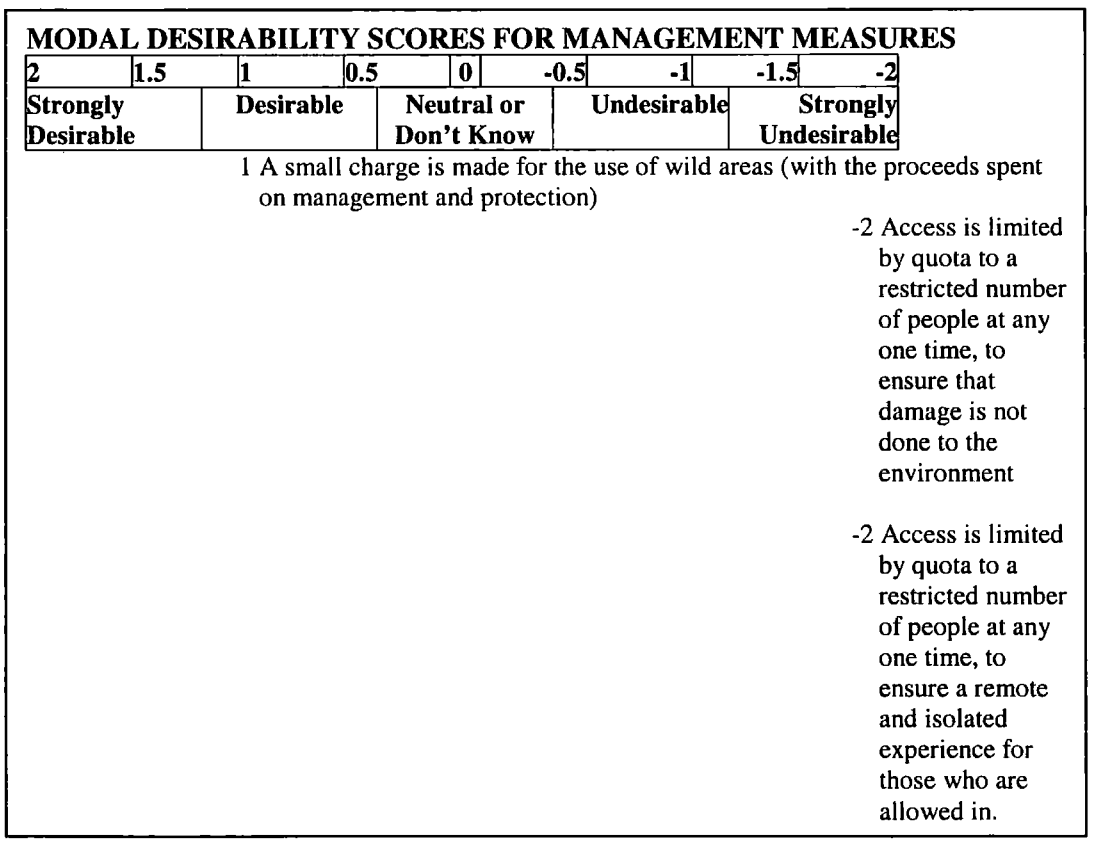



**Figure 6.33 Modal desirability scores for management measures**

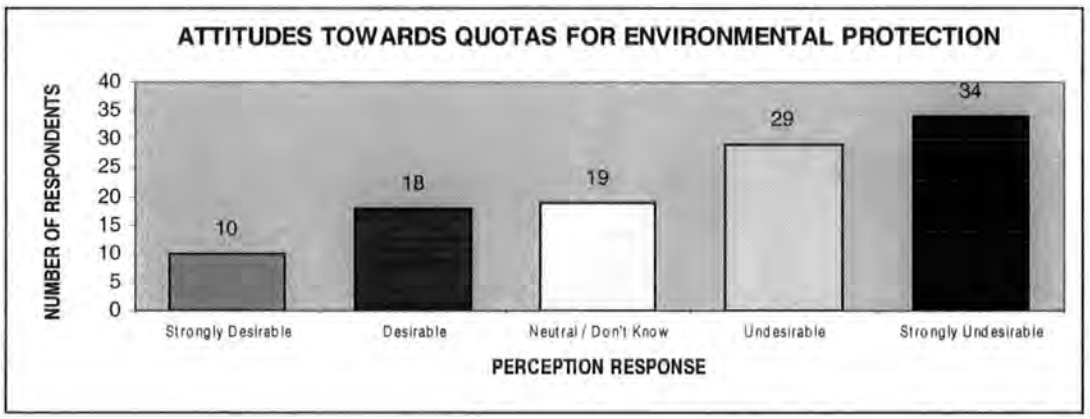
6.7.5 Analysis of Response Scores for Management Measures

There is clearly a strong antipathy among respondents to any form of restriction of access, even where the protection of the physical environment is required. Quotas to ensure more solitude were strongly opposed by most respondents. Many respondents were, however, prepared to pay for access to their recreational areas. The responses to these questions are analysed individually in Chapter 6.8.

## 6.8 Management Measures (Question D) Findings

6.8.1 Access Limited For Ecological Benefit

Question D. a) Access is limited by quota to a restricted number of people at any one time to ensure that damage is not done to the environment.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question D. a) | Quotas for environmental protection | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-0.45** | **-1** | **-2** | **1.33** |
| Black Sail | | -0.65 | -1 | -1 | 1.16 |
| Skiddaw House | | 2.00 | 2 | 2 | 0.00 |
| Glen Affric | | -0.46 | -1 | -2 | 1.59 |
| Craig | | -0.13 | 0 | 1 | 1.26 |
| N. Pennines | | -0.46 | -1 | -1 | 1.37 |

**Figure 6.33 Attitudes to quotas to ensure that damage is not done to the environment**

Undesirable perception. Many respondents were passionately opposed to any form of quotas and wrote to such effect on the questionnaires. The Total Modal score of -2 ('strongly undesirable') reflects the strong feelings held by many. However, the standard deviation is also very large (larger than any of the standard deviations for the landscape attribute questions) reflecting a very polarised response pattern as is evidenced by the histogram.

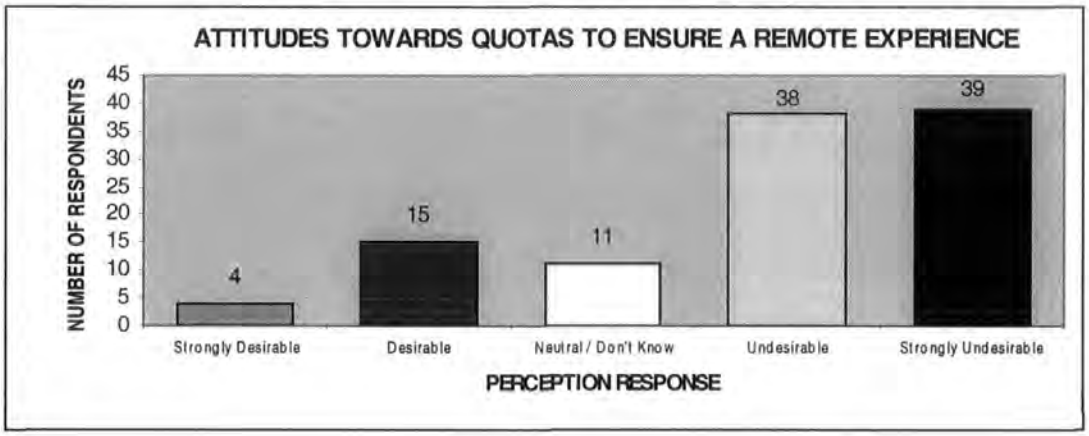
One respondent from the Little Dun Fell survey added to the questionnaire commenting that quotas were desirable but the Cumbrians should have access et all times (Anon., 1998, pers. com.). Whilst this is an extreme parochial attitude, it is also reflected in the results of the Lake District National Park Authority consultation exercise (Beardmore, 1998, pers. com.). The LDNPA found distinctly less liberal attitudes for the notion of unrestricted access to the fells on the part of National Park residents compared with the response from the wider public (see Chapter 9.6.1).

In respopnse to questions on quotas, one respondent (from Glen Affric) added to the questionnaire:

> *The Scottish weather, and the midgie, will always keep away lots and lots of potential visitors, so I don't think we Scots have much to worry about that our "wild areas" will be "invaded with tourists"* (Lawson, 1997, pers. com.).

6.8.2 Access Limited for Recreational Benefit

Question D. b) Access is limited by quota to a restricted number of people at any one time to ensure a remote and isolated experience for those who are allowed in.




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question D. b) | Quotas for the experience | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **-0.76** | **-1** | **-2** | **1.21** |
| Black Sail | | -0.91 | -1 | -1 | 1.10 |
| Skiddaw House | | 1.5 | 1.5 | N/A | 0.71 |
| Glen Affric | | -0.96 | -1 | -2 | 1.27 |
| Craig | | -0.39 | 0 | 0 | 1.24 |
| N. Pennines | | -0.77 | -1 | -2 | 1.21 |

**Figure 6.34 Attitudes to quotas to ensure a remote and isolated experience for those who are allowed in**

Undesirable perception. Respondents were less prepared to consider quotas for the maintenance of the wild experience than for the purposes of environmental protection. Whilst Craig respondents were the least hostile to the idea, they remained neutral on balance. The standard deviation is again high (higher than for all but one of the landscape attribute statistics).

Many respondents clearly felt that their visit to wild areas was a right and could and should not be restricted:

> *Access should be free in accordance with the working-class movements which have protected rights of access and freedom to roam. Quota systems are wrong – because, again they will be more easily accessed by those people who can use institutional systems effectively* (Taylor, 1998, pers. com.).

Another respondent, in answer to both questions which mentioned quotas, wrote:

> *What an English idea! Simply transferring the "rights" of ownership from landowner to quango! The land is the people's* (Anderson, 1997, pers. com.).

Another added:

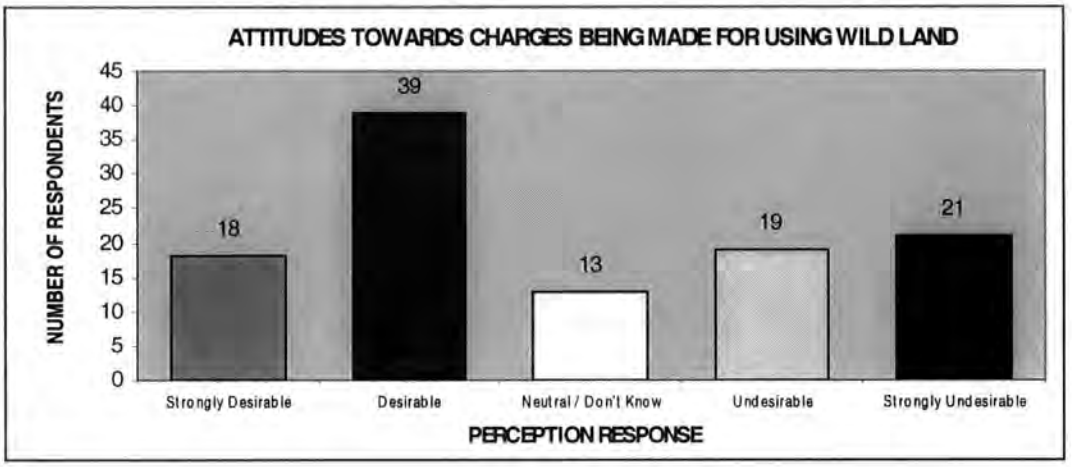
> *I strongly oppose any form of charge or permit system for access to wild areas. I would rather meet a few like-minded people during a trip than risk having access refused. Besides, how can it be managed? What would stop people from sneaking in and out of areas? It would be impossible to police on foot* (Patrick, 1998, pers. com.).

This same point was also made by Lawson (1997, pers. com.).

A statistical analysis was undertaken to test the correlation between total wilderness appreciation scores and attitudes towards restrictions. It might be hypothesised that wilderness recreationalists with high positive wilderness perception scores might be more favourably inclined towards management measures which preserve the inherent characteristics of wild areas. Such a group, therefore might be more supportive of the idea of quotas. There was no correlation found, however.

6.8.3 Charge Made for Access

Question D. c) A small charge is made for the users of wild areas (with the proceeds spent on management).




| BI-POLAR SCALE | Strongly Undesirable | Undesirable | Neutral / Don't Know | Desirable | Strongly Desirable |
|---|---|---|---|---|---|
| | **-2** | **-1** | **0** | **1** | **2** |

| Question D. c) | Small charge made | Mean | Median | Mode | Std. Dev. |
|---|---|---|---|---|---|
| **TOTAL** | | **0.04** | **0** | **1** | **1.38** |
| Black Sail | | 0.02 | 0 | 1 | 1.18 |
| Skiddaw House | | 1.50 | 1.5 | N/A | 0.71 |
| Glen Affric | | -0.04 | 0 | -1 | 1.40 |
| Craig | | -0.43 | 0 | 0 | 1.21 |
| N. Pennines | | 0.46 | 1 | 1 | 1.45 |

**Figure 6.35 Attitudes to a small charge made for users of wild areas (with the proceeds spent on management and protection)**

Neutral overall perception. Respondents were more prepared to consider charges than they were to consider restrictions on access. Respondents in Scotland were distinctly less favourable to the idea of charges than those in England. This may reflect a recognition that Scottish land is mainly privately owned and not primarily managed for recreation, amenity or environment, whereas much land in the Lake District and North Pennines is owned by the National Trust or other land-owning

bodies dedicated to these goals. The standard deviation is the highest for all the questions asked. The histogram shows a distinct lack of consensus.

## 6.9 Discussion of Management Response Findings

In their answers to questions on how recreational use of wild land might be managed, patterns of response were mixed.

1) The **limitation of access** is clearly seen by most respondents as undesirable, even where clear justifications for such an approach are suggested.

2) There was a very mixed response to the question of **payment** for use of remote areas. Many respondents felt that access was particularly important to them and that they would be prepared to pay for it; others clearly expect free access to the uplands.

3) Responses to the questions on attitudes to management measures were much more variable than responses to questions on landscape attributes, (established through standard deviation scores for each question). Views on management measures were, therefore, highly polarised.

# CHAPTER 7

# TOWARDS A BRITISH WILDERNESS (THE NEED FOR AND IDENTIFICATION OF WILDERNESS IN BRITAIN)

*We may ... be denying ourselves the possibility to enjoy rich wilder landscapes as a result of what at times seems to be a national obsession with neatness and tidiness and a need to make productive use of every last scrap of land* (Council for National Parks, 1997).

## 7.1 Why Does Britain Need Wilderness?

Why does Britain need Wilderness?

- Because wilderness classification, by definition, demands a level of environmental protection which is not an integral part of any other land.
- Because Britain should be able to achieve a re-creation (as far as is possible) of landscapes and ecosystems which pre-date modern, technological human impacts. This will add to Britain's biodiversity.
- Because, with countryside recreation growing rapidly (mainly due to information and access) there need to be areas where a remote experience is achievable for recreationalists.

According to the theory of the 'wilderness continuum' (Lesslie et al. 1988), wilderness is located close to one pole on a scale which starts at the profoundly altered urban environment and ends at pure, unmodified ecosystems (if they exist). The spectrum of environments ranges from the "paved to the primeval" (Nash, 1973). Wilderness occupies a tranch of the scale at and near to its primeval end. But variation undoubtedly exists within defined Wilderness areas. The 1964 US Wilderness Act allowed for the designation of lands as Wilderness even though they had been grazed or logged. Within the Boundary Water Canoe Area Wilderness, in

Minnesota, the US Forest Service (who mange the area) have designated what they call 'Primitive Management Areas' *within* the Wilderness zones. These are more inaccessible parts of the reserve where even the primitive campgrounds have been removed from the lakeshores and portages are not maintained by the Forest Service (Four Seasons Adventures, undated).

The concept of the wilderness continuum, is no less valid in Britain, even if the identification of areas along the continuum will be very different in the Old World as compared with the New. In Britain, we have to accept that we start the process of wilderness identification and habitat protection somewhat further down the continuum (towards the 'paved' end) than land managers in the New World have been able to do. But we must not be distracted by an obsession with searching for only the most pristine (or primeval) end of the continuum. Even in the most remote American areas, no one can ever again have the experience of the first pioneers or the native Americans. The best that can be hoped for is a chance to be "in a beautiful and relatively natural country, away from roads, relatively alone, and dependent, in the short run, on one's own resources for comfort and survival" (Hendee et al., 1978).

American wilderness legislation and policy recognises that areas which have been logged, grazed, undergone mineral extraction and even permanently settled can be *restored* to wilderness conditions given appropriate ecological circumstance and management regimes. Even in the USA, however, with its mature policies and wild spaces there is a recognition that most of today's wildernesses are not as they were thousands of years ago; and not even as they were before the arrival of the European settlers. In many cases, top carnivores - wolves, grizzly bears and pumas are not

present. In this respect, then, any proposed British wilderness would mirror the American example. The wolf, bear and lynx having been removed from the British fauna at least several hundred years ago. As Hendee et al. (1978) recognise:

> *the passage of time, coupled with a restriction on further disturbance would eventually lead to a re-establishment of primitive, naturally occurring conditions - although perhaps without some component of the original ecosystem such as a particular plant or animal species.*

The implication is clear; there is a need to *aspire to* a goal of unmodified natural systems, but even if we knew what that was (and we don't), there is no necessity to achieve it in order to produce a valid designation with tangible benefits for both wildlife and recreational needs.

Shoard (1982) is not alone in accepting that Britain has little or no true wilderness with our wildest landscapes - the moorland uplands - a much managed habitat through fire and grazing. But, argues Shoard (1982), "pedigree ... is not what makes 'wilderness' in this county at least." She goes on to support the acceptance of the wilderness concept from a recreational-spiritual perspective.

> *Those attracted to a wilderness landscape seem to be seeking a context for the pursuit of their individual identity away form the herd. To do this, they need to get away from the environment their fellow men have created for the group to a place as devoid as possible of what is obviously human handiwork. (It apparently does not matter if the landscape is in fact man-made - like a grouse moor - so long as it looks 'natural'.) ... What is sought is a blank canvas on which individuals can commune with themselves or their Maker.*

## 7.2 The Recreational Need for British Wilderness

Adventure Tourism is one of the fastest growing parts of the tourism/recreation industry in the late twentieth century. Increasing numbers of people, young and old, are spending large sums of money in order to obtain experiences of wild landscapes.

Many now are prepared to partake in wilderness (or near-wilderness) experiences, hiking, trekking, canoeing in remote parts of the world. It seems then that we are satisfying our desire for wilderness experiences by travelling to other (often less developed) countries. Is there a need for some import substitution? Could we not satisfy some of this increasing demand for wilderness experiences in Britain? The contention here is that we can and should.

In discussing recreation and its importance to people, Leopold (1966) argued that:

> *recreation is valuable in proportion to the intensity of its experiences, and to the degree to which it* differs from *and* contrasts with *workaday life.*

Forty years after Leopold wrote these words, our 'workaday lives' have changed still more, moved further away from nature (probably more than Leopold could have ever imagined). How much more important is it now, therefore that we preserve a foil for our increasingly urbanised, technological lives - a place where primitive, contemplative recreation can still be enjoyed?

The way we view our wilder landscapes seems to reflect a desire to reawaken our intimacy with the purely physical aspects of the environment, yet in developing Britain from the wilderness which had reclaimed the ice-ravaged land ten to fifteen thousand years ago, we seem to have lost our intimate relationship with Nature. For many of us in Britain today, our contact with nature is diminished in both quantity and quality. Even where technology allows us dramatic new experiences (the TV camera in the badger's set), our experience is passive and distant: in wilderness it was (and is) active and intimate.

Adams (1996) argues passionately that our estrangement from the natural world needs to be urgently addressed. "If we do not tackle the issue of our cultural distance from nature, no amount of tinkering with protected systems will be of much use" (Adams, (1996). The high values put on the qualities of solitude, remoteness and freedom from human disturbance by respondents in this study, demonstrate the strong sentiments amongst British recreationalists for the wilderness experience. Certainly for some, there is little or no cultural distance but there is a difficulty in finding and accessing suitable recreational areas.

## 7.3 The Ecological Need for British Wilderness

In Britain, we tend to view our wilder landscapes in a purely physical sense. This is partly as a result of ignorance - the vast majority of Britain's population are not aware of the extent of the human impact on our landscapes. But even for those that do have a recognition of the human role, we have a desire to experience landscapes from a physical point of view. It is not the vegetation community (a product of deforestation, fire or grazing) which dominates our human responses in the uplands, it is much more likely to be the larger view, the sky, the wind, the distant crags, the summits and the absence of human artefacts and noise. These are real aspects of the environment, but no more real than the sheep, the patchwork of regenerating areas of burnt heather, or the absence of birch woodland.

In Britain, we create Nature, both in a direct ecological sense and in a wider cultural sense (Uzzell, 1982; Adams, 1996). Several thousand years of human management of nature has left its mark in almost every square kilometre of Britain's islands. Our

environmental heritage has been used to develop our societies, to establish our culture and to build our economy. The nature of our landscapes is therefore determined by a complex interaction of physical and human processes. In short, Nature is socially, culturally and economically constructed. Our perception and interpretation of these environments is strongly influenced by the same cultural, economic and social forces.

The body of ecological knowledge is ever-changing and ever-growing (Adams, 1996). This coupled with the importance ascribed in Britain to cultural landscapes means that British reserve areas are, inevitably, a function of past ideas and knowledge rather than being able to respond to contemporary ecological concerns.

Britain's history of reserve and protected area designation is complex. The plethora of preservation and protection criteria, the multitude of reserve / protected area designations, and the many bodies which manage and administer it, all make life very difficult to appreciate the full extent of the British protection system (See Appendix Three). Adams, (1996) characterises the UK conservation movement as having:

> *grown up without a coherent philosophy, a cultural and scientific rag-bag of passion, insight and good intentions. Thinking about conservation has also...developed with a set of practical concerns (rare species, characteristic habitats, beautiful landscapes) and a set of recognised and institutional activities (particularly the complex pattern of British protected areas). However, underneath this established pattern, conservation floats on a maelstrom of diverse ideas.*

Given this complexity, the designation of a new criterion, that of Wilderness, may run the risk of complicating the already difficult management systems still further. There are, however, convincing reasons why Britain needs areas specifically to allow natural processes to proceed unhindered.

Britain has no land which is classified under categories I or II according to the IUCN Protected Areas classification (IUCN, 1994a) (see Figure 7.1).

| | |
|---|---|
| CATEGORY Ia: | Strict Nature Reserve: protected area managed mainly for science. |
| CATEGORY Ib: | Wilderness Area: protected area managed mainly for wilderness protection. |
| CATEGORY II: | National Park: protected area managed mainly for ecosystem protection. |
| CATEGORY III: | Natural Monument: protected area managed mainly for conservation of specific natural features. |
| CATEGORY IV: | Habitat/Species Management Area: protected area managed mainly for conservation through management intervention. |
| CATEGORY V: | Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation. |
| CATEGORY VI: | Managed Resource protected Area: protected area managed mainly for the sustainable use of natural resources. |
| To this list are sometimes added a further four categories: | |
| CATEGORY VII | Natural Biotic Area / Anthropological Reserve |
| CATEGORY VIII | Multiple Use Management Area / Managed Resource Area |
| CATEGORY IX | Biosphere Reserve |
| CATEGORY X | World Heritage Site (natural) |

**Figure 7.1 World Conservation Monitoring Centre – Definitions of Protected Areas.**

Within this classification system, Britain's protected areas mainly fall into the categories IV and V. Wilderness designation would help Britain to fill those voids in the representation of reserve areas. In order to obtain such classifications, land use planners and managers in Britain need to restore the more unblemished environments to an even more pristine state and allow vegetation succession back to climax.

Adams (1996) explores the ideas of the "ecology of chaos" - that there is no climatic climax but "patches within patches". Ecosystems are constantly dynamic both with and without human interference in the equation. This dynamism is, perhaps, most visibly observed with the warming of global and local climates. Changing climates mean that species are put under stress and may become extinct (at least locally). Under conditions of such rapid environmental change, species can either evolve to adapt to the new environmental conditions (which is an unlikely scenario given that the speed of global warming is probably faster than the ability of most species to evolve) or they can move. Such migrations of species require many and various reserves, close enough together to allow species to move and reach suitable habitats. In particular, reserve areas need to be big and to have diverse climatic zones (i.e. altitude) to allow the migrations to take place (Adams, 1996).

The re-introduction of species formerly extinct in Britain has been successfully achieved with the sea eagle in the Inner Hebrides (Love, 1983). Scottish Natural Heritage are also consulting on the re-introduction of the European beaver, *Castor fiber* (McKie, 1999). The Highland Wolf Fund, established in 1994, is now campaigning for a re-introduction of the species to Scotland (European Wolf Newsletter, 1995). Whilst such re-introductions do not necessarily depend upon the existence of designated Wilderness conditions, they will certainly favour as pristine an environment as is possible. Moreover, they will definitely help to re-establish wilderness as both an ecological and experiential condition.

## 7.4 The Problem of Reconciling the Recreational and Ecological Demands

In Britain, the areas which enjoy statutory protection are many and diverse (see Appendix Three). However, National Parks dominate the recreational landscape in England and Wales and many people (perhaps erroneously) look to National Parks when it comes to the search for wild landscapes. National Parks are both large in spatial extent and high on the scale of public awareness. They act as attractions for all kinds of recreational demands. National Parks have a variety of goals, but (perhaps) inevitably they show their most 'commercial' face to the world - the honeypot areas. Do we not need park spaces dedicated to 'reflective recreation' with no conflicting goal or presentation?

National Parks were set up with two main objectives - conservation of the landscape, and the promotion of recreation. The conflict between the key goals of recreation and conservation appears to become ever more acute. As attractive environments for recreation, National Parks and other upland areas continue to grow in popularity; but it is to National Parks that we look for wild nature and for a strong conservation ethic. Indeed the 1981 Wildlife and Countryside Act confined itself largely to National Parks and uplands as far as landscape protection was concerned (Shoard, 1982).

Given the pressure from both the recreational and the conservation interests, we have to ask the questions as to whether the instruments of land designation and management are adequate to reconcile the conflict or protect the vulnerable. Do we need another set of designation objectives which puts conservation (or more properly preservation) at the pinnacle of the objectives, allows some limited and low-to-zero impact recreation, and excludes permanent communities from the designated areas?

A call for a super-designation in Britain is not new. In 1979, the Government's think-tank The Countryside Review Committee, came up with a solution to the dilemma of preservation of the best along with access and recreation. Their publication *Conservation and the Countryside Heritage,* proposed the lifting of 'Landscape Key Areas' out of the hearts of our present National Parks. These areas would represent the best of our landscape and natural heritage; many would already be owned by bodies such as the National Trust or the (then) Nature Conservancy Council, but privately owned land would be included too. Management agreements would be used to maintain the beauty of these areas as a national asset with finance coming from central government. These most valued areas would be preserved for quiet recreation for the privileged few who could take the time and trouble to get there. The remaining areas, not in this top tier (which would presumably include areas such as Windermere, Malham and other 'honeypots' - but no names were mentioned) would be added to the existing AsONB to act as buffer zones to the top tier and cater for the recreation of the majority of visitors (Brown, 1982).

The debate was carried forward by the Edwards Committee - the panel appointed by the Countryside Commission in 1991 to review the National Parks of England and Wales. The Edwards Committee (1991) recommended the general encouragement of semi-natural habitats. These are, according to the Council for National Parks (1997), areas which may appear natural but are, in fact, influenced by management for agriculture of forestry; for example heather moorland maintained by burning and grazing. In addition, however, the Edwards Committee (1991) proposed that:

> *A number of experimental schemes on a limited scale should be set up in the National Parks, where farming is withdrawn entirely and the natural succession of vegetation is allowed to take its course.*

Inevitably, Wilderness allocation issues are inherently political (Hendee et al., 1978). In Britain and Europe, the potential conflict between strict nature conservation and the preservation of the cultural landscape is a significant management dilemma. Based on their research of the Hohe Tauern National Park in Austria, Stadel, Slupetzky and Kremser argue that this conflict can be resolved by:

> *providing the necessary social and economic pre-requisites for sustainable living space for the local population. Therefore, a complete renunciation of all forms of human resource utilisation within the total realm of the ... parks appears unrealistic, and politically untenable* (Stadel, Slupetzky & Kremser 1996).

In Austria, in order to overcome this dilemma, alpine National Parks have only been established where potential for conflict was relatively low. And within these parks, strict zonation has formalised the divisions.

Britain's high density population and the accessibility of its wild areas make conflicting demands on such areas inevitable. If the values of wilderness (outlined in Chapter Two) are to be enabled, it is essential that Wilderness Areas are not created in inappropriate locations. Recreationalists have a wide and diverse taste for outdoor activities, even those carried out off-road. Wilderness is not an appropriate environment for off-road motor vehicles or commercial shooting. These are activities more appropriately carried out elsewhere.

> *The overriding goals of wilderness preservation are not enhanced by classification of areas that cannot be successfully managed as wilderness* (Hendee et al., 1978).

## 7.5 Wilderness Identification Methodology

Several models for identification of Wilderness areas have been proposed. Under the US Multiple Use-Sustained Yield Act of 1960. three criteria for wilderness

identification were specified; these were Suitability, Availability and Need. These refer to the size and quality of an area in ecological terms and the opportunities for appropriate recreation which it offers. The costs of designation in recognition of commercial economic opportunities and resource exploitation foregone are also put into the equation. Using a range of techniques, these conditions were investigated and quantified (see Appendix Four) to establish whether a Wilderness designation was viable and desirable.

This identification methodology, though sophisticated, has been criticised (Hendee et al., 1978) as being unduly rigid in its quantitative approach. Whilst many of the objectives sought from a Wilderness area are helpful, applying it to the British scene, especially with limited space and complex patterns of land ownership, would be extremely difficult.

Shoard (1982) developed seven primary conditions for wilderness.

1. Wildness.

This, she maintained is the antithesis of domestication. The more rugged the terrain the better. It is wildness which reflects importance aspects of our heritage and the symbolic meanings we apply to the landscape through influences such as the moorlands described by Emily Bronte in *Wuthering Heights* and Arthur Conan Doyle's *Hound of the Baskervilles.*

2. Openness

This is the attribute that makes a landscape big and emphasises the dominance of

the sky. It is this characteristic which give the landscape its capacity for developing a spiritual quality in the visitor.

3 and 4. Asymmetry and Homogeneity

These apparently tautological qualities emphasis that landscapes should show no obvious pattern. They are simple environments where biological diversity is not important. (Elsewhere in her essay Shoard, somewhat bizarrely, states that "a variety of other living things is unhelpful" in engendering a feeling of wilderness.)

5. Height

The physical activity and exertion in gaining access to an environment is an important quality for the landscape. It helps the visitor feel apart from the man-made world.

> *The moor-lovers climb to the wilderness establishes an aloofness from his fellow men below, which helps foster the sense of individuality he seems to seek* (Shoard 1982).

6. Freedom to Wander

This is the sense that one can roam unrestricted by physical, man-made obstacles (if not legally by ownership). Trackless moorland is the best environment.

7. Absence of Human Handiwork

Shoard accepts the reality of human interference in the landscape but argues that it the apparent naturalness, rather than the real, which is important.

> *Devotees of wilderness may well be aware that the naturalness they admire is spurious because the landscape is the product of human activity. But it's the appearance that counts* (Shoard, 1982).

Shoard also provide several secondary conditions or wilderness (Shoard, 1982)

- the possession of relics of ancient man
- undulation
- wind
- the absence of human beings not fully appreciative of the role of 'wilderness'

yet without the presence of the seven main prerequisites, these conditions are not adequate to engender a feeling of wilderness.

Shoard's discussion, however, is based upon her interviews with only five individuals, so, inevitably, she comes to a subjective conclusion. Her emphasis on openness limits the applicability of her ideas to afforested wilderness (which is, after all, the climax condition of most of Britain). Shoard's identification of height as an important component is another distinctly limiting factor, excluding many wetlands, and coastal areas from any wilderness identification.

Landscape Associates (1994) take a different view to that of Shoard (1982) on the subject of animals. They maintain that the "presence of freely roaming animals or flocks of wildfowl contribute to the landscape's wilderness qualities". By deliberately not specifying 'wild' animals and in referring to the New Forest and Dartmoor in particular, the authors clearly have feral horses and domesticated sheep in mind as well as wild bird species.

Zunino's (1983) proposal for a definition of European Wilderness areas(Figure 7.2) is sufficiently flexible to accommodate many of the difficulties European reserves have in reconciling the natural and cultural landscapes. Italy has a similar population total

and density to Britain and a rather longer history of urbanisation. Nevertheless, in 1985 the Italian Wilderness Society (AIW) was formed largely through the activities of Franco Zunino. The AIW used the American definition of wilderness as its model but adapted the concept to fit the reality of a land which has "ancient human improvements, as old as the millennium, a land where human tracks are everywhere" (Zunino, 1995). Given the historical and geographical reality of the Italian landscape, a controlled use of wilderness areas was accepted into their designation. Sustainable wood cutting, pasturage and hunting are allowed but only with traditional methods of transport - pack mules and horses rather than motor vehicles. The first Wilderness designation in Italy took place in 1988. By 1995, seven wilderness areas had been declared.

**Proposal for the Definition of a European Wilderness Area**

To be classified as 'Wilderness', a natural environment area should have the following qualifications:

1. It must be uninhabited, with a wild and natural look. Generally speaking, its landscape and morphology should be uninjured. However, areas degraded by human interference could also be included provided they can restore themselves in the future.

2. It should not have any lasting or unalterable modern human structures; neither should it be crossed by roads unless these are unpaved and closed to car traffic, or due to be dismantled.

3. It must be large enough to give visitors a feeling of solitude, but its extent may change according to its morphology and environment.

4. It must generally conceal from the sight and hearing of visitors every sign and sound of human activities.

5. While previous conservation measures related to the area would be helpful, these would not strictly be necessary for its classification and protection as a Wilderness area.

**Figure. 7.2 Zunino's definition of European Wilderness Areas**

Kliskey and Kearsley(1993) were able to designate the 'remoteness/wildness' of areas in New Zealand. This they did with reference to access routes and visitor numbers, which, respectively, assessed the qualities of 'remoteness' and 'solitude'. This technique allows recognition of the fact that users of wild areas will, to a certain extent, be able to designate their own wilderness areas in terms of their own use patterns. In other words, those recreationalists deliberately seeking a wilderness experience at the wild-remote-primitive end of the spectrum, will by their choice of sites and routes, deliberately choose recreational areas where they will not be faced with human artefacts or many other people.

This principle leads us to three possible approaches to wilderness designation.

- Designate wilderness according to objective criteria (ecosystem purity, absence of human features etc.).
- Designate wilderness according to known patterns of visitor impact and recreational use.
- Some combination of both 1) and 2).

Lesslie, Mackey and Preece (1988) have developed a computer-based system of wilderness evaluation. They defined 'wilderness quality' as "the extent to which land is remote from, and undisturbed by, the influence of modern technological society." Four wilderness quality indicators were used in their study:

- Remoteness from Settlement - remoteness from settled (cleared) land or, within natural areas, remoteness from points of permanent occupation.
- Remoteness from Access - remoteness from vehicle-constructed access routes

- Aesthetic Naturalness - the degree to which the landscape is free from the presence of permanent structures of modern technological society.
- Biophysical Naturalness - the degree to which the natural environment is free from biophysical disturbance due to the influence of modern technological society.

Assessing each of these criteria applied to a spatial grid point network produces a 'total wilderness quality index' which can be mapped using Geographical Information Systems (see Chapter 10.3 for discussion of this).

## 7.6 Suggested Wilderness Areas in Britain

The closest that Britain gets to pure wilderness is certainly found in Scotland. Knoydart, the Cuillins of Skye, NW Sutherland, Glen Affric, the Cairngorms, St Kilda, and Rum are all worthy of serious consideration, as are many of the protected areas over 2000 hectares listed in Appendix Five.

The National Parks of England and Wales represent some of our most wild and unspoiled landscapes. They were identified, at the time, on account of their landscape and sparsity of population. Dower (1945) in the influential *Report on National Parks in England and Wales*, defined a national park as being "an extensive area of beautiful and relatively wild country".

However, whilst the National Parks may contain much of Britain's wildest or most interesting scenery, they do no contain it all. Jane Brown asserts that the Areas of

Outstanding Natural Beauty are not really second class landscapes though they have a second class designation. "It was just not practicable to give them any money ... they represent some of the loveliest landscapes in Britain" (Brown, 1982). Certainly the North Pennines and the Wash represent landscapes every bit as wild as in any National Park but without the designation, the financial support, (and mercifully too, without the visitor pressure) of the National Parks.

Landscape Associates (1994) describe four areas of true wilderness remnants in England - the montane heaths, fragments of ancient woodland, coastal cliffs and some inter-tidal areas. Other areas, which have seen some human management are described as 'psuedo-wilderness'- these include most of England's moorlands.

Of the coastal areas mentioned, Landscape Associates (1994) identify Orford Ness in Norfolk as a good potential Wilderness site. Orford Ness is the largest vegetated shingle spit in Europe and has considerable geomorphological and ecological interest. Like many of Britain's other wild landscapes (Dartmoor, Otterburn in Northumberland, Salisbury Plain for example) it has been used by the Ministry of Defence for training purposes. According to Landscape Associates (1994):

> *the psychological concept of the areas being wilderness is perhaps helped by the existence of military remains. The air of mystery and secrecy which shrouds the site is a strong part of its appeal. The strange stark concrete structures add to this feeling of melancholy. The sense of abandonment, and of nature taking over, is a powerful and evocative addition to human sensibilities of the area* (Landscape Associates, 1994).

Other aspects of the wilderness experience are reflected in the site and its management. It is little visited, partly because it is only accessible after a four mile trek. The National Trust, who own the site, recognise the value in allowing the visitor

to roam at will over much of the area and management proposals emphasise the need for information to be given to visitors in order to give them personal choice in their selection of areas to explore. Finally, a wilderness strategy is possible in this area because of the single land ownership of the National Trust.

Landscape Associates (1994) also identify other areas as 'Extensive Wild Landscapes' which, whilst the result of a long history of human activity in clearing, burning and grazing the land, can still evoke and inspire an wilderness experience in the visitor. The upland moorlands of the Pennines and areas of the granite uplands in south-west England fall into this category.

> *From an ecological point of view (these) are far from natural in terms of vegetation, for most people they represent nature in the raw. A sense of space, the lack of shelter, the proximity of the sky, the vastness of scale and the smallness of the individual, all combine to create a strong sense of wilderness* (Landscape Associates, 1994).

Upper Teesdale (see Figure 7.3) may well reflect the closest that England comes to an upland wilderness. According to pollen analysis, no trees have been found to have grown above 760 metres (2500 feet). This is considerably below the height of the tops of the highest North Pennine fells such as Cross Fell (893 metres) and Mickle Fell (788 metres). Below this height, woodland would have been thin and sparse, especially near the fell tops. These upper limits were recorded from 6000 to 8000 years ago when temperatures were thought to be up to $2^{o}$ warmer than today (Turner 1978). This would make today's theoretical upper limit around 150 metres lower than the post- glacial optimum. This calculation is confirmed by Pigott (1978) who maintains that a combination of low temperatures (especially a short growing season) and high wind speeds, limit tree growth to 600 metres today. The presence of woodland declined after about 1000 BC due to cutting and grazing and with a

deteriorating climate (Turner, 1978). Today's landscape, at the higher altitudes of the North Pennines, is probably little different to that of the post-glacial era and represents the kind of environment which Shoard (1982) was seeking in her identification of wilderness areas.

**Figure 7.3 Upper Teesdale – England's last wilderness?**

Mudflats and saltmarshes of England's more isolated estuaries such as the Wash and Solway Firth are described as "desolate, expansive wilderness, maintained by the constant ebb and flow of the tide" (Landscape Associates, 1994). And "lowland marshes and bogs, with their mixture of open bog, reed beds and scrubby woodland, exhibit a real sense of wilderness, separated from the world outside".

Landscape Associates (1994) also identify psuedo-wilderness in the chalk downland of Dorset, where, mainly by deliberate neglect from the Ministry of Defence, a "wild landscape character" has been encouraged. The abandoned village of Tyneham on the Isle of Purbeck is characterised as a "particularly poignant lowland wilderness."

The ancient forests such as the Forest of Dean and the New Forest also have some claim for providing a wilderness experience. Whilst these areas are carefully managed they can often give "an impression of how the original primeval forest must have seemed. ... The landscape often resembles an extensive, seemingly random maze with an evocative sense of mystery" (Landscape Associates, 1994).

Clearly there is a well-established appreciation of managed landscapes in England. These areas are not only important from an aesthetic point of view but also because of their profound historical, cultural and ecological values. Landscape Associates (1994,) argue that though these areas may provide some feelings of the wilderness experience to the visitor, they are not reconcilable with designated Wilderness areas, except, perhaps as a buffer zone.

Landscape Associates assert that there is no scope for a piecemeal approach to wilderness designation and emphasise that the importance of scale needs to retained if the qualities of wilderness environments and experience are to be maintained or established anew. Yet, given land ownership and management patterns in today's Britain it is probable that (at least initially) a piecemeal approach is the best that we are likely to get.

One of the problems of formal Wilderness definition and designation, particularly in a legislative context, is that of differing perceptions of what constitutes wilderness. To some, a wilderness is:

> *an area where there is absolutely no sign of human presence: no traffic can be heard (including aircraft); no roads, structures, or litter can be seen. To others, sleeping in a van or camper in a 400-site campground in Yellowstone National Park is a 'wilderness experience'* (Gorte, 1994).

In perceptions of landscapes, the meanings given to the environment by Americans are biased towards notions of "pioneer and wilderness romanticism, and with a reverence for giantism both in natural and man-made scenes" (Goodey, 1973). The British perception, on the other hand, is more influenced by ideas of variety and openness and is heavily weighted with the important role of 'amenity' in the landscape (Lowenthal and Prince, 1964).

Within Britain, if the concept of wilderness is to be promoted, and if formal Wilderness areas are ever to be designated, then strict physical definitions of wilderness are, at best, unhelpful. The personal, informal, intrinsic definitions of wilderness are more likely to be of use in designation and management.

> *While the environments in which wilderness might be found have an objective economic reality, and usually one that largely excludes human modification, what makes that reality specifically 'wilderness' rests very much with the individual, and his or her personal cognition, emotions, values and experiences. Indeed, as Stankey and Schreyer (1987) point out, the natural world does not so much 'give' a wilderness experience of itself as act as a catalyst for the expression of fundamental and inherent emotional states. Thus wilderness has both an ecological and a human perceptual meaning* (Kliskey & Kearsley, 1993).

# CHAPTER 8

# WILDERNESS MANAGEMENT

*In today's world, preservation of wilderness areas can be achieved* only *by deliberate management to minimize man's influence* (Hendee et al., 1978).

## 8.1 Environmental Management

### 8.1.1 Biological Management

Though it might initially seem to be illogical, Wilderness management is not a contradiction in terms. In Britain we are used to having our ecosystems heavily managed - in no small part because many of our most valuable habitats (chalk grassland and coppice woodland for example) are a product of many years of vegetation management and alteration. Wildlife has adapted (if not evolved) in conjunction with the patterns of human activity. These activities (such as low intensity grazing, to continue the chalk grassland example) are now maintained in order to protect the (artificial) habitats and ecological relationships which have been created.

In Wilderness there is no need to manage vegetation, indeed, the whole purpose is to allow natural process to proceed unaffected by human impact. Clearly there is a debate here regarding the extent to which humans do affect ecosystems. Such human impacts include acidification of rainfall, climatic change, long term disruption to the food chain for example by removing the wolf from its position at the top of the food chain in upland Britain and thus allowing grazing species - notably red deer - to increase in population and thereby impact (Simmons, 1977). These are issues which can and do need management. Few would support the acidification of lakes and the subsequent biological sterilisation of the lake

ecosystem if management measures can be taken to prevent this (for example by liming). Similarly, there is little dissension that Scotland's red deer population needs to be controlled, if not by a top carnivore predator, then by culling, if substantial regeneration of the Caledonian Forest is to proceed.

But Wilderness management practice dictates that biological processes be allowed to proceed unmolested. Wild fires are allowed to burn; pest invasions are not controlled; hydrosere succession is allowed to take place, even where important habitat variation may be lost. In Yosemite National Park in California during the early 1990s, Mirror Lake - a small valley bottom lake - was allowed to silt up after many years of dredging and management which had retained an open water habitat. The valley bottom lost its only significant open body of water with a resulting loss of habitat and biodiversity. The National Park allowed this, however, as it represented a natural (and for many years repressed) secondary succession in the hydrosere.

This is an important principle for British conservation. In much of Britain's reserve management practice the emphasis has been on 'conservation' - the creation and maintenance of habitat and species *variety*, rather than 'preservation' where natural changes are allowed to proceed.

Apart from a continuation of that restoration process, Wilderness management requires the adoption of the principle of non-degradation (Hendee et al., 1978) whereby the obligation is to prevent any further environmental damage to individual areas (for example by over-use of footpaths) and to seek rehabilitation

of any areas at or below minimum standards. This is the American approach which, at least to begin with, will need to be reappraised with the British scene in mind.

> *Wilderness managers are, in effect guardians and not gardeners. ... Managers should not mould nature to suit people. Rather they should manage human use and influence so that natural processes are not altered* (Hendee et al., 1978).

Given the need for some sort of 'gardening' in the UK context, in order to re-establish woodland ecosystems in particular, the British Wilderness management approach needs to begin from a different starting point. Within Britain, with its long history of human occupation, deforestation and grazing, there is much to be done, over a long period of time, to restore even our remote environments to some form of wilderness. Nevertheless, this process has already started, for example with the work of the John Muir Trust in Skye and Knoydart and Scottish Natural Heritage in (amongst other locations) the Creag Meagiadh National Nature Reserve (Ramsay, 1996).

In Snowdonia, a group of committed local residents are seeking to create a core wilderness of up to 12,000 hectares along with mixed farms. A principal of this proposal is the idea of open forest grazing, at a level of intensity that would allow natural regeneration to take place (Council for National Parks, 1997).

In Scotland, large areas of the 12,795 hectare Abernethy Estate are managed on a minimal intervention approach with the goal of restoring natural upland hydrology and allowing the extension of the ancient woodland. This management strategy has encouraged visitors and provided employment in the monitoring and management of the estate as well as visitor education and interpretation. Whilst

considerable numbers are attracted, the wilderness qualities of most of the large estate are unaffected (Council for National Parks, 1997).

A near natural area has been recreated in Oostvaardersplassen in the Netherlands where unwanted reclaimed land in South Flevoland was allowed to revert to nature. To prevent a uniform succession to woodland, selective introductions of herbivores - Konik horses, red deer and Heck cattle - were made. These preserve the inherent dynamism of the area providing changing grazing densities over time in different places and allowing a large variety of habitats to develop and redevelop. The importance of large herbivores to a wild land ecosystem is, perhaps, not fully acknowledged in Britain (Simmons, 1997).

Landscape Associates (1994) argue that the idea of "allowing extensive areas of England's extensive wild landscapes to revert to unmanaged wilderness may result in scrub regeneration and ultimately, low or open woodland, possibly threatening both scarce heather moorland habitats and their wildlife." Because such areas are often highly valued for rare flora and fauna, such a management approach is not necessarily the preferred option from the nature conservation point of view. Nevertheless, the most effective means of controlling invasive bracken may be by allowing scrub regeneration to shade it out (Landscape Associates, 1994).

Whilst the process of restoration of some ecosystems to something approaching climatic climax wilderness has begun in Britain, it clearly has a long way to go before large areas can be observed in any 'natural' or primeval state. Nonetheless, even if vegetation change has started on the long path of secondary succession, the

areas can still be managed as Wilderness from a recreational point of view. Indeed, if recreational users are to gain the optimum wilderness experience, management is essential to control numbers, impacts and a sense of remoteness.

### 8.1.2 Preservation Versus Conservation

In Britain the understanding of conservation derives from individual perceptions. Some see the countryside as a factory where food is produced in an environment where the degree of control is rather less than under most industrial conditions (Blunden & Curry, 1985). For these individuals, conservation is about the maintenance of a productive agricultural industry. Under such circumstances change is seen as a desirable - almost inevitable result of man's mastery over nature. The appeal of the land is a result of its productivity and will remain so as long as the land remains fertile and 'in good heart'.

Others see countryside for the aesthetic experiences it offers and aspire to the wilderness ideal with minimum human impact. Ranged between these two polarities there is a whole series of positions "which see both utilitarian and aesthetic benefits as being maximised as some intermediate, harmonious level of exploitation" (Blunden & Curry 1985).

British reports use the term 'conservation' even when referring to wilderness areas. This is, perhaps, a reflection that management needs to take place in order to restore sites to some king of naturalness, but it may also be a long-standing reluctance to letting nature go and do its own thing.

In Britain, preservation is often seen as motivated by aesthetic, ethical, even mystical feelings which few have the courage, or ability to express (Blunden & Curry, 1985). For land managers and policy makers, this attitude is not convincing in the face of utilitarian benefits. It is almost that 'preservation' has become almost a dirty word.

Green (1981) puts forward five distinct purposes for conservation. Firstly, ethical values provide a justification for an obligation towards the stewardship of the rural environment. These values may be diverse but all suggest that "there is some kind of obligation to protect nature for its own sake" (Blunden & Curry, 1990). Secondly, aesthetic values hope to preserve the enjoyment and amenity of the landscape and its flora and fauna. Because these values are, in our culture, enhanced by rarity and diversity over small areas, we tend to value more greatly those areas where we can find unusual landscapes, rare species, or and abundance of variety. Thirdly, cultural and scientific values are motivations for keeping an important laboratory of natural and historic information intact. Fourthly, there are material benefits - products which can be obtained from nature (e.g. coppicing products, or grouse). This also includes the reservoir of bio-genetic material which may be found to be useful into the future. Fifth and finally, there is the holistic notion of ecological balance and the inter-relationships between different living organisms. Ecosystem processes need to be preserved and the natural value of protected areas was one of the main motivations in providing the legislation of the 1949 *National Parks and Access to the Countryside Act* (Blunden, & Curry, 1990).

In all of these purposes, however, there is the notion, explicit or otherwise, of intervention to prevent natural change if that change means the loss of something valued. This is an axiom of British land management which needs to be cast aside if a wilderness ideal is to materialise.

Bellamy (1990) sees conservation as meaning more than preservation.

> *Preservation is often a primary aim; but natural communities are in a state of dynamic equilibrium, and it is not enough to fence them off and leave it at that. The animal and plant communities which it is wished to protect have to be managed in such a way as to prevent them from disappearing or changing into a different set of communities.*

This statement clearly represents the difference between much British and North American feeling with a distinct discomfort and unwillingness on the part of British managers and commentators to let nature go and do her own thing.

## 8.2 People Management

### 8.2.1 Management for Local Communities

Whilst the incorporation of permanent settlement within Wilderness areas is usually seen as a contradiction in terms, the role of local communities is often vital in managing and safeguarding the environment. The town of Ely, Minnesota, owes most of its existence and prosperity to the role it plays outfitting wilderness visitors to the Boundary Waters Canoe Area Wilderness. Not only do many of the local residents derive their livelihood from those using the wilderness, but the outfitting businesses are also charged with ensuring that wilderness users are equipped with the required permits and travel authorisation.

Reflective recreation, however, is cheap (Sax, 1980). Low impact recreationalists are not likely to be people who expect high standards of service and elaborate markets. By definition, some local services are not much used (or demanded). Therefore, such recreation patterns have less economic impact compared with, for example the Lake District with its hotels, pubs, tea rooms, restaurants and shops. The positive economic impact on communities close to Wilderness areas is bound to be less than if recreation was of a more commercial and developed nature. However, this is not to diminish the contribution the wild land recreation can make. Highlands and Islands Enterprise (1996) estimate that the direct expenditure of mountaineers in the topographic Highland region of Scotland amounted to £145 million in 1994, which is equivalent to 24% of total tourist spending the area.

> *The pattern of mountaineering visits throughout the year is markedly different from that of general tourism; effectively lengthening the season, underpinning and expanding the area's tourism infrastructure.*

In Britain, as Adams (1996) observes, "protected areas are not only isolated physically, they are also isolated institutionally, cut off from local people and local economic interests". Adams pleads for the re-integration of conservation into the local economy in which he echoes the 1992 World Parks Congress in Caracas where the effective linkage of protected areas with the development of the local economies and communities was a central theme.

The IUCN action plan *Parks for Life: Action for Protected Areas in Europe* (IUCN 1994b) also recognises the vital role which local people can and must play in the protection of valued natural assets. Whilst settlement is, *de facto*, excluded from designations of wilderness, local peoples will inevitably have a role in safeguarding the area and in providing important services for wilderness visitors.

The IUCN see protected area designation and management as offering clear benefits to local people. Income and employment levels should be raised. In addition, the Action Plan recommends a strengthening of the links between local communities and the management bodies for protected areas with the eventual aim of 'joint management' (IUCN 1994b). Clearly, if any form of Wilderness designation is to be applied to Britain, these measures would need to apply to the neighbouring communities to support both the Wilderness designation and to serve the tourism needs of wilderness visitors.

### 8.2.2 Tourism Management

The Parks for Life Action Plan of the IUCN (1994b) makes several recommendations for the management of tourism in protected areas. Measures include:

- Transforming existing non-sustainable developments into more sustainable forms;
- Setting sustainability standards for new developments, especially in sensitive environments;
- Based on the carrying capacity of protected areas, designating zones for various degrees of tourism penetration, including sanctuary and quiet zones suited to different levels of tourist use and development;
- Reducing pollution and congestion form holiday traffic;
- Avoiding excessive tourism and recreation in protected areas;
- Ensuring that local communities benefit from tourism
- Providing incentives and resources for early implementation;

- Training protected area managers in sustainable tourism.

(IUCN 1994b)

The empirical findings of this study support many of these principals. In particular, the need to manage traffic more effectively and the need to ensure that inappropriate and disturbing uses of wild land do not detract from the quiet enjoyment sought by wild land recreationalists are key and recurring themes.

### 8.2.3 Zonation of Reserve Areas

Wilderness Areas represent a biological or environmental ideal in terms of their ecological state, but they are clearly still influenced by processes from outside as well as inside the wilderness boundary. Whilst processes active from within are likely to be perceived to be benign and therefore allowed to operate unmolested, external forces may not be so welcome. Impacts can clearly move from non-wilderness areas into wilderness ones and vice-versa. The relationship between wilderness areas and their adjacent lands is therefore a complex and controversial issue. A proposed solution is offered by Hendee et al. (1978):

> *One suggested possibility is creating a buffer zone - a band of land around the periphery of wilderness that would absorb impacts and help avert conflicts. Some managers and commodity-resource users oppose this as a solution, however, arguing that any needed buffer should be included within the wilderness boundary.*

The principal of zonation within reserve areas is now well established. UNESCO's Man and the Biosphere Programme, launched in 1971 proposed an ideal of a three-fold zonation:

- Strictly protected core areas of natural or minimally disturbed ecosystems.

- A surrounding intermediate buffer zone where activities may take place if they are compatible with the protection of the core area.
- An outer transition zone where sustainable resource development may take place.

(Solecki, 1994 )

Under the Habitats Directive of the European Union, the British government have powers to enforce protection. But the UK government has chosen to use the 1981 Wildlife and Countryside Act as their instrument. This Act only applies to SSSIs, so many valuable areas (in particular, many areas which could be restored to much higher levels of environmental quality - an important recognition of the Habitats Directive) are specifically excluded form the most powerful instruments of government control and protection.

As a way forward for Britain, O'Riordan (1983) suggests re-packaging existing protected areas in Britain under three broad classifications. These would be Heritage Sites which would be areas with "special and irreplaceable nature conservation qualities (of wild or semi-natural vegetation), and/or significant natural beauty." These Heritage Areas would enjoy the "strongest possible safeguards against undesirable alteration". They would include SSSIs, parts of National Parks and equivalent areas and Heritage Coasts and some AsONB covering some 10% of Britain's land area. The second category, Conservation Zones, would enjoy less protection but serve to enclose or to link Heritage Sites. At the centre of such a designation would be the emphasis on environmentally benign land use and the maintenance of the local economy. In the third category -

Agricultural and Forestry Landscapes - economic activities would predominate but in an environment of a conservation ethos and practice (Adams, 1996).

This zonation pattern obeys the ideal of UNESCO's Biosphere Reserve Programme. This involves the identification and management of a strictly protected core, a surrounding buffer zone and an outer transition zone (Chaffey, 1996). A similar model has been successfully followed in the Hohe Tauern National Park in Austria. Zoning was introduced to "foster relationships and interactions between wilderness areas and adjacent semi-natural cultural landscapes" (Stadel, Slupetzky, & Kremser, 1996 ).

Three formal zones were designated in Hohe Tauern:

- A core area ('Kernzone') where rigid ecosystem and landscape protection measures are in play.
- An outer zone ('Aussenzone') which consists of traditional living space and cultural landscapes.
- A special protection zone ('Sonderschutzgebiete') for ecologically significant sites.

In addition to these zones, a fourth area was also recognised:

- An adjacent zone ('Vorfeldregion') outside the Park boundary but adjacent and closely linked.

The Hohe Tauern Park authorities recognised the vital role that local communities had to play as guardians of the wider park environment. Accommodation was

actively sought with local people and their initial hostility to the Park was reversed through what the authors describe as an "eco-realism compromise".

In Kakadu National Park in Australia's Northern Territory, a careful relationship between zones within the national park and recreational activities has been designed (Figure 8.1).

| ACTIVITY | ZONE 1 INTENSIVE MANAGEMENT | ZONE 2 INTERMEDIATE MANAGEMENT | ZONE 3 MINIMUM MANAGEMENT | ZONE 4 WILDERNESS | ZONE 5 SCIENTIFIC RESEARCH |
|---|---|---|---|---|---|
| Driving | Scenic driving (easy on good roads) | Scenic driving (sealed roads of graded gravel roads) | Regulated 4WD touring | Inappropriate | Inappropriate |
| Walking | Short distance easy walking on formed or cleared tracks | Walking on formed or cleared tracks | Walking on existing tracks or bushwalking | Bushwalking | Inappropriate |
| Nature Studies | Nature interpretation (exhibits and displays) | Nature trails (interpretative) | Nature studies (discovery or self-directed) | Nature studies (discovery or self-directed) | Intensive nature studies (research) |
| Camping | Camping (tent, caravan), hut or hotel accommodation in designated areas with hot and cold water, flushing toilets | Bush camping. Car-based camping in designated areas, toilets | Bush camping, permit required | Bush camping, permit required | Inappropriate (camping by research personnel only) |
| Picnicking | Picnicking with facilities in close proximity to vehicles | Picnicking with facilities provided in popular areas | Picnicking with minimal facilities | Bush picnicking | Inappropriate |
| Cycling | Cycling on existing roads | Cycling on existing roads | Cycling on existing roads | Inappropriate | Inappropriate |

(Chaffey, 1996)

**Figure 8.1 Wilderness management in Kakadu National Park, N. Australia.**

At a local scale, within any designated area, zoning may prove to be a necessary management strategy in order to limit damage. Different areas of the reserve may require distinct tolerance thresholds and user behaviours may have to vary in different places. For example, in Glacier Peak Wilderness in Washington, campfires are permitted in the coniferous forest areas because of abundant fallen wood and a long growing season. On the higher sub-alpine parts, however, campfires are not permitted (Hendee et al., 1978).

Zonation within and British wild landscapes has been suggested by Landscape Associates (1994). The authors propose allowing natural regeneration on the periphery of wild areas and encouraging "gentle natural transitions from one type of landscape to another. This strategy would give core wilderness areas some protection from surrounding pollutants, allowing existing fragmented wilderness areas to increase in extent and increasing nature conservation value generally."

This theme is taken up by the Council for National Parks (1997) who recognise the need for a "whole unit approach". Without this, any value in re-wilding the uplands may be lost if commercial land managers simply intensify the land use practices on neighbouring lowlands to compensate for the loss of other areas.

### 8.2.4 The Need to Manage Numbers Using Wilderness Areas

Part of the official thinking behind the 1968 Countryside Act, which offered grant aid for the creation of Country Parks, was the realisation of the increasing recreational pressures on the National Parks. The sacred landscapes of the National Parks were under threat from greater access by private motor car and one of the purposes of the 1968 Act was to find ways to encourage recreational users away from these precious areas.

The principals of invasion, succession and displacement used in plant ecology, can also be applied to the recreational use of wild areas (Hendee et al., 1978). If a particular area, used by recreationalists seeking a remote experience, becomes subject to pressure from other users, 'hard-core', allocentric (Plog, 1974)

wilderness users will seek out even more remote sites and areas, and a new wave of invasion and succession may begin. The ultimate outcome of this continued process may lead to excessive visitation and impact if numbers are not controlled. Remote, core areas may act as a magnet to hard-core users devaluing the solitude of these locations, whilst the more accessible areas may become indistinguishable from non-wilderness areas.

In its definition of 'Wilderness', the 1964 US Wilderness Act cites the importance of "outstanding opportunities for solitude or a primitive and unconfined type of recreation." By definition, 'solitude' will be compromised if too many people are using an area at any one time. As a result, management of numbers of users is an important principle of existing wilderness management. In the USA, Canada and elsewhere the numbers of people using some Wilderness areas are limited by quota and permits need to be obtained before entry is allowed.

The justification of this approach is easy to see in an environmental sense whereby too many visitors may damage footpaths and disturb wildlife. Recognition of this impact was first observed in a Wilderness context by Sumner (1942). He called it the "recreational saturation point" which he defined as "the maximum degree of the highest type of recreational use which a wilderness can receive, consistent with its long-term preservation." This idea is now more familiar in the terms of 'carrying capacity'. In this physical sense, 'carrying capacity' is described by Hendee et al. (1978) as having:

> *physical and biological dimensions (which) describe the amount and kind of use an ecosystem can sustain without undue evidence of unnatural impact. Campsite deterioration, and expanding impact resulting from soil compaction, the denuding and proliferation of paths near locations of concentrated human*

*use, exposed and protruding tree roots, the appearance of multiple trails across meadows, and unnatural behavior and distribution of wildlife are some signs that can reflect unnatural change from the physical impact of use.*

In the human sense, too, a perceptual carrying capacity (sometimes called a social or psychological carrying capacity) can be reached. Walkers meet other recreationalists and may begin to feel crowded and consequently less satisfied (Prosser, 1994).

*Social or psychological dimensions refer to the levels and concentrations of human use an area can accommodate before the kind of solitude which helps define wilderness experiences is diminished* (Hendee et al., 1978).

Hendee et al., (1978) note that there is an inverse relationship between numbers of users and individual freedom. Too many people in an area and the choice of camp spots not shared with others becomes limited. As individual freedom is an important component of the psychological benefit of wilderness experience, it needs to be protected. Hendee et al., (1978) note that the more demand use is made of wilderness areas, the more regulation and restriction needs to be imposed by managers in order that physical impacts are minimised. Such restrictions, however, detract from the wilderness experience and lower the threshold of the perceptual carrying capacity.

The usefulness of the notion of carrying capacity is well summed-up by Hendee et al. (1978).

*Carrying capacity is ultimately a judgmental determination rather than the product of some absolute and measurable characteristic of the environment. In specifying carrying capacity, we are prescribing the use configuration consistent with the social and ecological conditions we wish to prevail at a location.*

In Britain, Wilderness recreationalists are likely (one hopes) to be searching for

something different from that which can be obtained in most areas of our increasingly congested National Parks. Legitimate users of Wilderness might be expected to be prepared to seek and obtain permits, to put themselves out in order to gain the wilderness experience and thereby to obtain their sense of solitude. However, the limitation, by quota, of access to remote areas in Britain, as this study clearly shows, will come an anathema to many who believe we should be extending the rights of access across many more areas of the country.

A powerful justification of numbers limitation is proposed by Hendee et al., (1978) in their tennis court analogy (see figure 8.2). This powerful justification of a quota system for wilderness entry is endorsed by Sax (1980) who see the management practice of limiting numbers as "a willingness to trade quantity for quality of experience." Limiting numbers has a further value, according to Sax.

> *The visitor's sense of anticipation is heightened, and entry to the place made more dramatic by "rationing". In all these devices there is equality in the right of access, but a reduction in the total quantum at access to exalt quality over quantity of experience* (Sax, 1980).

THE TENNIS COURT ANALOGY

Tennis players would obviously prefer to play when they wish, for as long as they wish. But the popularity of the game does not permit this luxury except on private courts which can be compared to the game reserves of medieval nobility. On public, tax-supported courts (comparable to publicly supported wilderness areas) demand frequently exceeds available space. Hence management devices are instituted such a sign-up sheets, time and frequency limitations, and rules regarding accepting waiting players in doubles games. Court monitors enforce the regulations.

Of course and alternative response to the tennis problem would be to have no management. Everyone who wished could squeeze onto a court. "Triples" would be common on the popular courts and, in peak-demand periods, a kind of volleyball-with-rackets with as many as 25 on a side could be played.

Acceptance, indeed preference, for management or self-restraint is understandable. Players recognize that tennis is a game that is played by two or four persons. So, out of respect for the integrity of the game, and with their own self-interest in mind, players support management. They sign up, wait their turn, and vacate the court at the appointed hour.

**Figure 8.2 The Tennis Court analogy; after Hendee et al., 1978**

Chapter Six of this study demonstrates, however that there is no pressure from recreationalists to develop quota systems what ever the justification. Traditions of free access are well established in our recreational culture and in law. The pressure, if anything, is to increase access rights through the 1999 Right to Roam Bill.

The debate concerning payment for entry into 'natural areas' is a long and on-gong one. In many US National Parks and Wilderness Areas, the payment of fees for access is seen as normal and acceptable (for example in the Boundary Waters Canoe Area Wilderness). In other areas, however, there is no such tradition of fees or permits, and attempts by Wilderness Area managers to introduce them have been met with hostility.

Quotas and restrictions of access can be justified as an ecological preservation measure, in order to minimise environmental impact and ensure that environmental carrying capacity is not exceeded. But another justification is to limit numbers so that the nature of the wilderness recreational experience is preserved. Sax (1980) justifies an attitude towards wild places which could be argued is exclusionist and elitist. National Parks (in the US), he sees as symbols of positive, preservationist attitudes. He asks the rhetorical question:

> *should the national parks basically be treated as recreational commodities, responding to the demands for development and urban comforts that visitors conventionally bring to them; or should they be reserved as temples of nature worship, admitting only the faithful?* (Sax, 1980).

The question is answered thereafter by Sax, in favour of the recreational purist and against the further encroachment of urbanised recreation.

*The popularity of the wilderness experience means that controlling access to true wilderness is of crucial importance. Given the vulnerability and significance of true wilderness in ecological terms, the more managed, extensive and wild landscapes, which can also evoke a strong sense of wilderness, may be more appropriate for many forms of recreation and in particular all noisy sporting activities or those involving groups of people. There is a strong case for strictly limiting public access to some true wilderness landscapes so that these areas can be conserved. Nevertheless, such protected areas of true wilderness might be located within the viewshed of popular vantage points so that their aesthetic qualities can be appreciated. Views to offshore islands would be one such example.*

People management, by providing a hierarchy of routes and even eliminating routes in some instances, to maximise opportunities for personal choice and by specifically reducing accessibility in some areas, would heighten wilderness experience. Both Orford Ness and the Lake District provide good examples, including the sensitive design of footpaths and signage. Education could also play an important role. For instance, the availability of information guiding the public as to when and where to visit would be a significant factor. Policies for promoting wilderness would have to operate in tandem with strategies for educating the public about its principles and benefits." (Landscape Associates, 1994, p 69).

### 8.2.5 Management of Artefacts in Wilderness Areas

Most people see wilderness as "natural, beautiful, unspoilt, remote, wild, roadless" (Kliskey & Kearsley, 1993) but some people want paths, huts and bridges. A key lesson learned very early in the history of Wilderness management in the USA was that the presence of facilities in Wilderness Areas, attracted people. This was evident even with primitive features such as fire grates, or designated camp grounds. Hendee et al. (1978) point to evidence of the wider dispersal of people once the centralised, formal camp 'improvements' had been removed. Wilderness

users, like any other rural recreationalists, are attracted to honeypots. In a British wilderness setting, bothies might be identified in this role.

### 8.2.6 Managing Recreational Activity in Wilderness Areas

With the demand for off-road motorised pleasure vehicles increasing dramatically following the trend set in the United States, the pressures on the countryside as potential or actual locations for motorised recreational activity seem bound to increase. Whilst zonation and restrictions do exist in terms of rights of way legislation and land owners imposing their own restrictions, conflicts still exist. The pressures on old 'green roads' in Britain's uplands have recently come to light following the technological developments which allow four wheel drive vehicles access along previously impassable routes.

Some recreational activities have the ability to inflict great physical and ecological damage on wild environments. Shooting and off-road vehicle driving are but two examples of such activities. Furthermore, if wilderness is to hold the beneficial spiritual and therapeutic attributes mentioned in Chapter Three, the nature of activities allowed within a wilderness setting must be prescribed. Certain forms of recreational activity are not compatible with Wilderness designation.

> *Unlike some ordinary tourist activity (a picnic or a volleyball game) which are simply different from reflective recreation, power-based recreation is antithetical to it. The fly-fishermen, for example simplifies his tools in order to reduce power over his experience. The consumer-recreationalist does precisely the opposite* (Sax, 1980).

Where potential or actual conflicts between wilderness users exist, managers in the USA use the 'principle of dependency' as guidance. (Hendee et al., (1978). This

calls for favouring activities which depend upon a wilderness setting for their successful outcome over activities which are not dependent on such a setting (though they might be enhanced by it). Thus, scientific study of a species particularly vulnerable to disturbance would have precedence over hiking. In turn hiking (due to its quiet recreational benefits) would have precedence over shooting. If such conflicts are able to be resolved, it necessitates a supply of non-wilderness recreational land able to support the levels of activity demanded by displaced users.

Whilst management in wilderness areas is essential, it must not be conspicuous and should be selectively targeted. Hendee et al. (1978) propose that:

> *to minimize excessive environmental and socio-psychological impacts, restrictions should be selective - aimed at times, places and users having the greatest potential for damage, rather than enforcing wholesale restrictions.*

# CHAPTER 9

# THE LAKE DISTRICT

*I do not know any tract of country in which, within so narrow a compass, may be found an equal variety in the influence of light and shadow upon the sublime or beautiful features of the landscape* (Wordsworth, 1822).

## 9.1 Potential for Re-Wilding

In the 1995 Environment Act, the Government proposed that, within National Parks,

> *Particular emphasis should be placed on identifying those qualities associated with their wide open spaces, and the wildness and tranquillity which are found within them ... it is of particular importance that those experiences which are unique to National Parks should be protected and fostered.*

As the area of England's highest upland peaks, along with its designation as a National Park, The Lake District is an obvious candidate for the investigation of its wild landscape attributes. Given that many of the questionnaire responses in this study were obtained from recreational users of the National Park, it is logical to consider the Lake District landscape in respect of its wild qualities.

The Lake District has both positive and negative qualities for the allocation of wilderness attributes. Spectacular scenery and a well-developed tourism infrastructure provide the opportunities for many visitors to visit the Park. Many of these visitors take part in the kinds of active and contemplative recreational activity associated with wilderness areas. There is certainly a (captive) market for recreationalists to appreciate a 're-wilded' landscape.

In its ecological attributes, parts of the area are well towards to wild end of any English version of the Wilderness Continuum. On the tops of the highest fells in the montane zone (above 600m) near arctic conditions can prevail. Here, Lichen heath,

and arctic alpine communities can be found; they, represent some of the most natural and undisturbed habitats in the UK. The montane zone also includes the only English localities for the mountain ringlet butterfly, the only truly montane butterfly in the UK (LDNPA, 1998b).

In terms of land ownership, too, the Lake District is, in one respect, well favoured, with 25% of its land either owned by or leased to the National Trust. Substantial areas are also owned by other organisations with a positive regard for conservation and access such as the Lake District National Park Authority (LDNPA), North West Water and other parts by Conservation organisations and pressure groups such as the RSPB and Friends of the Lake District. However, these different landowners have differing agendas for land use management and policy. Much of the land is patently unsuited for re-wilding, because of its location and/or because of economic activity (usually sheep farming) which is engaged on it. In addition, other substantial amounts of the land in the National Park are either privately owned for commercial purposes or common land where effective management has proven notoriously difficult in the past.

However, some landowners and managers are becoming increasingly conscious of wild land issues and are considering policies (and in a few cases acting on them) to enhance the wild nature of the lands under their control. In many respects, the land managers are struggling to prevent the ever-increasing recreational pressures from causing damage to the landscape – there are few resources, both in terms of time and money, to devote to re-wilding. Nevertheless, the management measures which are being undertaken deserve some comment.

The same groups of categories are used here as were used in the questionnaire analysis.

## 9.2 Inherent Location Features

### 9.2.1 Size

The US wilderness Act (1964) proposed a minimum reserve size of 5000 acres (2040 ha). IUCN (1994a) recommendations for the establishment of protected areas suggest a minimum size of 1,000 hectares for viable non-island reserves. In the Lake District, despite the long-standing human influence and the relatively developed infrastructure, such large areas do exist, remote from settlement and vehicular roads. These areas include the main mountain massifs of the Park – Skiddaw, Helvellyn, High Street, Scafell, Grassmoor and also some lesser known areas such as the Shap Fells. In these areas there are substantial tracts of land where the sense of wildness can be appreciated, though field boundaries and well-worn footpaths are also to be found.

### 9.2.2 Remoteness

No part of the Lake District National Park is further than a few hours walk from the nearest road or settlement. The remoteness of any area cannot therefore be increased. Restricting vehicular access to the points of entry into a 'wild' area is, legalistically, highly problematic.

The sense of size and isolation of wild areas is, as has been asserted, one of the

most important perceptual aspects sought by recreationalists. Management to preserve these qualities is complex as they are affected by the numbers of other recreationalists, by the nature of their activities and also by developments and threats on the edges of the wild land. Whilst encroaching development is very strictly controlled given the nature of National Park planning restrictions, there are more subtle ways in which the sense of wilderness can be compromised.

Street lighting in settlements is one such interference and the LDNPA acknowledge the difficulty of reconciling the needs of the residents of the Park with the demands for unspoilt and unpolluted night skies.

Noise pollution from vehicles penetrating the wild areas remains a significant problem, especially as use of four wheel drive vehicles increases. But controls on speed limits of boats on Ullswater (in 1983) and on Windermere (since 1992) have reduced the noise impact on the surrounding areas as well as reducing the direct conflict and damage to the lakes and shores.

## 9.3 Ecological Characteristics

### 9.3.1 Presence of Farm Livestock and Farming Practices

Most of the Lake District National Park has been given the status of an Environmentally Sensitive Area (ESA) the purpose of which is to provide economic support to farmers at the same time as encouraging the conservation of wildlife and landscape. Under the first stage of ESA operation, most farmers who took part contracted only to the first tier of ESA provision where farmers were paid

to maintain landscape. Tier 2 is a higher level of funding requiring farmers to enhance and improve certain types of land including heather moorland and wetlands. The low uptake of the Tier 2 option means that whilst the visual appearance of many farms has been improved through the repair of walls and farm buildings in the vernacular style, habitat and nature conservation improvements have not been achieved on the same scale (Friends of the Lake District, Autumn 1996).

Whilst farming has created the open landscape of the Park and has contributed to maintaining diversity of wildlife, these positive attributes are being jeopardised by over-stocking and habitats are beginning to suffer. The reduction of stocking densities would certainly help in the restoration of valuable habitats such as dwarf-shrub heath and lichen/moss heath (LDNPA, 1998b). The problem of overgrazing may be implicated in the degradation of the existing landscape through soil erosion.

### 9.3.2 Conifer Plantations and Woodland Management

The role of woodland in the Lake District landscape is recognised as being of central importance to the quality of the environment. Some of the early conifer plantations were clearly not planned with amenity in mind but current policy and practice is very much more sensitive to landscape and ecological needs. The Woodland Grants Scheme (WGS) is a fund providing grant aid for the establishment and management of new and existing woodlands with the visual amenity and conservation value of the plantations strongly in mind.

The New Native Woodlands scheme was set up as a result of a 1995 agreement between the LDNPA and the Forestry Authority to create more new native woodlands in the National Park The National Park Authority itself owns 500 Ha of woodland – predominantly semi-natural broadleaved. Management practices range form active coppicing to minimum intervention on the least accessible sites. The Biodiversity Action Plan aims to expand the area of upland oak woodland by 10% by 2005, but most of this expansion is envisaged on former conifer plantation sites and where rhododendron has invaded. The LDNPA (1998b) supports this:

> *where expansion of oakwoods can be achieved without losing sites of existing high ecological or scenic value.*

Here again, re-wilding is not a priority.

Policies on woodland involve both the creation of new woods and the extension and regeneration of existing ones. There is also a recognition of the "case to manage some areas as wild wood – that is to allow some individual woods to develop through a natural life span, allowing, as far as possible, ecological processes to determine their future" (LDNPA, 1998b).

Mechanisms for deer control are being sought rather than the use of fencing, and the LDNPA is resistant to the planting of conifers and other exotic species "where this is seen to have a detrimental impact on the character of the landscape or on nature conservation interests" (LDNPA, 1998b).

A survey of the broadleaved woodlands of the Lake District carried out in 1978 showed that since the late 1940s at least 1300 hectares of broadleaved woodland in the National Park had been lost to conifers. As many of these plantations are now

nearing maturity, the opportunity arises to restore some of the upland oak woods which they replaced. (LDNPA, 1998b) As well as their role in restoration of native ecosystems, the presence of woodlands also enables large numbers of recreationalists to be absorbed.

In the draft of its recent management plan, the LDNPA listed the "identification of the most desirable changes" over the next ten years. "More native woodland" was one of the most frequently mentioned desirable changes to improve wildlife, landscape and cultural heritage in the public responses to consultations over the plan (LDNPA, 1998a).

In partnership with English Nature, the LDNPA proposes to carry out work to restore populations of arctic alpine species on the eastern crags of Helvellyn through seed collection and propagation.

The LDNPA is also conscious of the threats to native plant species by the invasion of japanese knotweed, himalayan balsam and giant hogweed. Assistance is available for the control of these species and for the regeneration of hydrosere ecosystems (LDNPA, 1998b).

### 9.3.3 Whole Fell Management Approach

In February 1997 the LDNPA produced the Helvellyn Management Plan, followed in April of the same year by the Skiddaw Massif Management Plan. (LDNPA, 1997a & 1997b). The purpose of the Helvellyn Plan was to

> *conserve and enhance the Helvellyn area without reducing the viability of the agricultural holdings.*

The Skiddaw Massif was

> *noted for its 'feeling of wilderness and openness'. (The) Management Plan seeks to identify practical policies and objectives for conserving this character by reconciling recreation, conservation and farming management.*

Both management plans seek to co-ordinate land management policies amongst landowners, the Park Authority, English Nature and NGOs with interests in the areas.

The Helvellyn plan is mainly concerned with the regeneration and re-establishment of vegetation species including broadleaved woodland in the valley bottoms and sides, juniper woodland on Whelpside Common, the rare downy willow and summit moss/heath communities. Proposals to achieve these aims usually involve temporary or permanent fencing to be erected (LDNPA, 1997a).

The Skiddaw Massif is identified as a 'Quieter Area' by the LDNPA, befitting its wild qualities, relative lack of visitors (compared to Helvellyn) and importance as an SSSI of 10,256 hectares. As with Helvellyn, the regeneration of valuable species is deemed important and the "exclusion of grazing and recreational pressures through he use of temporary enclosures and experimental path diversions" is proposed. There is also a "presumption against new fencing on the open fell, however the use of fencing to control grazing and trampling to encourage or maintain existing habitats, or the development of new habitats will be considered" (LDNPA, 1997b).

Both whole fell management plans highlight the need to regenerate native and rare species and the associated prerequisite of controlling overgrazing. The necessity

for temporary fencing is clear in order to achieve the regeneration goals. Greater involvement in the ESA schemes available in these area is a key priority if over-stocking and its associated problems are to be controlled (LDNPA, 1997a, & 1997b).

### 9.3.4 Re-Wilding

The LDNPA sees the creation of new habitats as part of the overall strategy to maintain and enhance biodiversity in the National Park. "Whilst in some cases this might be on a small scale, in others it may involve quite significant change effecting the balance of semi-natural habitats eg the natural regeneration of woodland up a fellside" (LDNPA, 1998b).

For the first time in its 1998 Management Plan, the LDNPA proposed the establishment of 'Experimental Wild Areas.' This would involve the removal of farm grazing stock and allowing nature to take its course in determining the type of vegetation that became established. This may allow oak woodland ultimately to develop on the lower slopes, with birch scrub and dwarf shrubs above. Lichen moss heaths could develop on the fell tops. The New Native Woodland initiative may be an instrument for the development of this kind of area (LDNPA, 1998b). Clearly, if public access is to be limited or excluded to allow a natural regeneration to take place, then it is likely that this kind of proposal would need to take place on privately owned land. The likelihood is, therefore, that this would only be undertaken by a conservation or amenity body for whom deriving economic

benefit from the land was not a priority. The National Park Authority do not have any particular area in mind for such a development.

The idea in the 1998 Management Plan was, however, only a proposal rather than a firm plan. English Nature, in responding to the draft, believes that the idea lacks conviction and should be more clearly stated (LDNPA, 1998a).

Questionnaire responses to the proposal in the draft plan carried out by the LDNPA showed that 59.1% of those questioned felt wild areas are appropriate and should include public access; 25% felt that wild area are appropriate and should exclude public access; only 7.5% felt that wild areas are not appropriate (Beardmore, 1998, pers. com.).

## 9.4 Artefacts

### 9.4 1 The General Problem

The LDNPA accepts that the absence of artificial features on the higher land is an important element of the Lake District scene and intrusions must be avoided (LDNPA, 1998b).

> *Anyone taking the time to explore the fells will discover the wildness, openness, tranquillity and contrast with urban life which they provide. This experience is largely the result of the fells being an open landscape, free of modern development. However increased pressure for fencing, access tracks, communications masts etc, threaten these special qualities. The fells are fragile and sensitive to change. If the fells are to continue to give spiritual refreshment and escape from modern life... change, including the development of any kind on the fells needs to be strictly controlled* (LDNPA, 1998b).

### 9.4.2 Camping

Planning restrictions prohibit the development of even primitive camp sites on the open fells, nevertheless substantial amounts of wild camping does take place. Most landowners are tolerant of such activity and the LDNPA accepts that camping on un-enclosed fell land, remote from roads "should be permissible if undertaken responsibly by small numbers of people" (LDNPA 1998b). 'Small numbers' is not defined so subjective judgements and landowners' discretion are important here (Beardmore, 1998, pers. com.).

### 9.4.3 Bridges over Rivers and Streams

As Chapter Six of this study clearly shows, footbridges are a highly valued landscape attribute to most recreationalists. In the Lake District many are of stone construction being originally pack horse bridges. Most more modern structures are wooden and blend in well with the landscape.

### 9.4.4 Maintained huts, bothies and shelters

Chapter Six demonstrated that huts were a valued part of the landscape in the Lake District. Few such structures exist away from the main valleys or on un-enclosed land. These feature do not represent a substantial intrusion anywhere in the Park.

### 9.4.5 Field Boundaries

As part of the desire to keep the open aspect of the fells, the LDNPA promotes

upland farming practices which avoid the need to subdivide the fells by fencing and are based on a whole fell approach to management. Fences not only reduce the feeling of freedom and openness, but also, by allowing different grazing levels, they can result in sharp vegetation changes. As a result of these considerations, any applications for new fences are generally resisted by the LDNPA (LDNPA, 1998b).

In addition to the restrictions on new fencing, the Planning Authority have a long-standing commitment to removing redundant wire fencing from the fells as "it can be visually intrusive as well as a hazard for stock, visitors and managers" (LDNPA, 1997b).

Stone walls as boundaries are regarded differently however, in spite of their producing more of a sense of visual intrusion as regards openness. The difficulty of reconciling historic and cultural landscapes with a wilderness experience is very apparent here. In consultations towards the draft National Park Management Plan respondents were invited to prioritise resources for conserving features of the farming landscape. The feature which the largest number of individuals felt should receive conservation funding was drystone walls (40%), well ahead of the next largest response in favour of wildlife habitats (29%) (LDNPA, 1998a).

### 9.4.6 Abandoned Settlement

The rich archaeological heritage in the Lake District adds much to the interest of recreationalists. According to Landscape Associates (1994) historic remains add to

the sense of abandonment and the wilderness condition. This survey (Chapter Six) also found much appreciation for the evidence of past settlement. Conflicts may arise in respect of public safety where areas of danger may be fenced off thus compromising the "sense of exploration and discovery" (LDNPA 1998b). The LDNPA also note the problem of visitor pressure and mineral collection in degrading the value of some of the sites.

### 9.4.7 Power Lines or Telephone Lines

As these are confined to the lowland parts of the National Park, they are not of significant impact in much of the area. The nature of the topography and the relatively low population density of the Park ensure that there is little demand for large scale developments. In the settlements, current planning policy and practice is highly sensitive to the intrusion causes by such lines.

Outside the boundary of the National Park, near Cockermouth, a phone mast has been installed designed to resemble a tree (albeit an American one) (Friends of the Lake District, Spring 1997). This dramatically reduces the visual intrusion of such an object

### 9.4.8 Wind Turbines

The Government's statutory landscape advisors, the Countryside Commission, in their policy statement of April 1994 (Countryside Commission Advice: Wind Energy, April 1994) state that "there should be a presumption against wind farms

in proximity to designated areas where their prominence would adversely affect the quality, setting and enjoyment of landscapes of national importance."

Unsurprisingly therefore, there have been no wind turbine developments on the fells of the Lake District but a good deal of activity in seeking planning permission for sites around the edge of the Park and on the Cumbrian coast. (Friends of the Lake District, Spring 1998). Some substantial developments have already been made such as Haverigg and Kirkby Moor in south Cumbria and close to Workington on the west coast.

In reporting his recommendations following the public enquiry into the development of wind turbines at Gunson Height in Furness, Cumbria, the inspector, Mr. K. Smith concluded that:

> *beyond 3-5km from the appeal site the visual impact of the proposed WTGs (Wind Turbine Generators) ... is diminished by the presence of intervening features, the sheer scale and variety of the landscape and the effects ... of weather, light and shade. ... The critical assessment of visual impact, in my view, falls within a 3km radius of the appeal site* (quoted in Friends of the Lake District, Spring 1998).

### 9.4.9 Quarrying or Mining

Mines and quarries form an important historic, cultural and ecological aspect to the Lake District. The high value paid by respondents to the questionnaire survey in this report to abandoned settlement indicates how much we value historic remains. There is clearly a substantial difference between the regard of recreationalists to existing and large scale mining and quarrying activities compared with their views on archaeological sites of past activity. The efforts made by the National Trust, the

LDNPA and English Heritage to monitor and preserve these sites is a clear reflection of the wider value ascribed to these remains.

### 9.4.10 Maintained Footpaths

It is clear, that the many feet of walkers are having a profound impact on the surfaces. Despite the work of four full time National Trust footpath maintenance gangs and one from the LDNPA, the number of seriously eroded footpaths has not diminished over the last ten years (LDNPA, 1998b).

A partnership between the LDNPA, the National Trust and English Nature has been set up to provide guidelines for the appropriate management of degraded footpaths. In some circumstances, however, it is deemed that erosion may be less intrusive or less ecologically damaging than any maintenance or reconstruction work, particularly in sensitive montane habitats (LDNPA, 1998b).

When footpath maintenance or reconstruction is deemed necessary, consideration is taken of the environment in which the path is situated. The more remote the path, the more stringent the criteria for path repairs which are applied and the less desirable an obviously engineered path is deemed to be. In all cases and locations, uniformity of construction is to be avoided (LDNPA, 1998b).

### 9.4.11 Vehicle Tracks

Many vehicle tracks on the upland parts of the National Park are the result of

agricultural activity and, as such are not negatively perceived by recreationalists. The increasing problem of motor vehicles, both four-wheel drive and trail bikes, on the uplands is perceived as a substantial and growing problem (LDNPA 1998a).

### 9.4.12 Signage and Waymarking

Maintaining the image of the National Park as a relatively wild and challenging environment requires that everything is not signposted, labelled or interpreted on site. Care needs to be taken in the quieter areas in particular to maintain a sense of exploration and discovery.

> *A sensible balance has to be struck between the promotion of... safety, ... and the need to avoid an oppressive or over-protective attitude which would impinge on the public's enjoyment of the National Park and result in an unsightly plethora of signs* (LDNPA, 1998b).

The National Park Authority has a statutory obligation to sign public rights of way where they leave the public highway. Other than this, the LDNPA considers that waymarks should be provided only at those places where inadvertent trespass is likely to occur. On the fells, waymarking is not generally thought to be appropriate except:

> *where signs are deemed appropriate it is the policy of the Park Authority that they be: of the minimum size and number; as unobtrusive as possible whilst still achieving their purpose; and constructed of local materials where practical* (LDNPA, 1998b).

### 9.4.13 Cairns

Cairns are a major landscape feature of the uplands and can provide a useful guide to walkers. However, numerous scattered cairns are to be found all over the fells

which serve no useful function and can create confusion when navigating (LDNPA, 1998b). The building of new cairns is discouraged through articles in the outdoor press and voluntary wardens are encouraged to remove unnecessary cairns (Beardmore, pers. com. 1998).

The LDNPA specifically discourages the building of any structures on the fells and will refuse requests for memorial seats and plaques.

## 9.5. Human Activities

### 9.5.1 Game Shooting

There is very little grouse, or other formal game shooting practised in the Lake District National Park. The area around Skiddaw in the North is the main location of grouse management and shooting activity. Regular burning takes place which prevents the secondary succession of heather to birch woodland. The Skiddaw Massif Management Plan (LDNPA, 1997b) describes the area:

> *a mosaic of management burns is gradually developing which enhances the visual appeal.*

This is hardly a pro-wilderness view.

### 9.5.2 Motorised Travel by Visitors

A key principle underlying the LDNPA's involvement in traffic and transport issues is that the impacts of the car on the environment must be reduced (LDNPA, 1998b). From this principle is derived the desire to provide alternative means of travel to the private car.

An increasing problem is apparent with the growth in popularity of four-wheel drive vehicles. This has meant an increasing protrusion of vehicles into otherwise inaccessible (by vehicle) locations. Green Lanes, un-metalled by-ways and some bridleways have seen increasing amounts of use. The LDNPA is generally opposed to vehicles being used on unclassified county roads and by-ways which cross the open fell. Actively discouraging this use, however, is highly problematic. The LDNPA have produced a code of conduct in association with the Land Access and Recreation Association (LARA), an umbrella body for four wheel drive users, but the extent to which voluntary agreements will be successful in halting or reversing the growth of this use remains to be seen. In policy terms, to prevent the use of vehicles requires a Traffic Regulation Order (TRO). This generally means a public inquiry which is very expensive and not considered lightly by the LDNPA. There are no examples of TROs being made on the basis of quiet enjoyment (Beardmore, pers. com. 1998).

Friends of the Lake District are concerned that the policy of designating a hierarchy of trial routes (undertaken by the LDNPA and LARA) will have the opposite effect to that intended. Instead of providing recommendations of suitable and unsuitable routes it will simply publicise the more remote and/or challenging routes with substantial subsequent damage (Friends of the Lake District, Autumn 1996).

The LDNPA are reluctant to add or allow the addition of more car parking facilities, especially in the designated 'Quieter Areas' of the park. However, the problem of car parking is a thorny one. There is some debate as to whether the

addition of more car parking simply encourages car use or by trying to manage demand by restricting parking merely encourages visitors to park on verges, commons or in villages (LDNPA, 1997b).

Kempe (1994) supports the idea of 'the long walk-in' to reach wild areas both as a means of restricting numbers through the inherent difficulty of such an endeavour and also as a way to enhance the value of what is ultimately reached. The Mountaineering Council of Scotland (1991) opposes any easing of access to mountainous areas. "The long walk-in / walk-out is the best method of protecting the mountain resource."

### 9.5.3 Aircraft Noise

There is little apparent concern about aircraft noise disturbance in the Lake District National Park, but that is not to say that pressure will not arise from future recreational demands. In Skye, the John Muir Trust has opposed a planning application for the use of local airstrips for the purpose of operating helicopter flights over the Cuillin. The Trust believe that this would be "an unacceptable intrusion and detract from the qualities of wildness and tranquillity which make this area so outstanding" (John Muir Trust, July 1997).

### 9.5.4 Solitude (not seeing many other people)

Overcrowding in the National Park in general is a commonly expressed problem (83% of respondents to the LDNPA's 1997 consultation exercise stated this). This

is not, however, confined to the roads and the honeypot locations – 15% of respondents also referred to overcrowding on the fells (LDNPA 1998a).

The 'Quieter Areas' policy and designation is a specific attempt by the LDNPA to try to limit the expansion in recreational pressure by deliberately not developing the infrastructure (for example car parks) to cater for peak demand. Larger regional, and even national policies are needed to manage and disperse the increasing demands for the use of wild country over the long term (LDNPA 1998a).

### 9.5.5 Mountain Biking

The use of mountain bikes is permitted on bridle ways but the potential and actual conflict with walkers is accepted. Whilst erosion is not confined to bikers (walkers and horse-riders also being responsible) it is clearly a growing problem. Bridleway repair methods need to be adjusted to provide the capability of taking more and varied pressure (LDNPA, 1997b).

Management of mountain bike usage is currently achieved through education and promotion of appropriate routes and behaviour, but it seems likely that the conflicts will increase rather than diminish. In some locations, the speed of bikes causes particular conflict with other recreational users and methods are being investigated by which mountain bike speed can be reduced in locations where there is multi activity use (LDNPA, 1997b).

### 9.5.6 Quiet Enjoyment

The maintenance and encouragement of 'quiet enjoyment' is a key tenet of the whole National Park management policy. The LDNPA use the expression repeatedly in their most recent management plan (1998) and stress that "particular emphasis must be placed on the preservation and enhancement of the quieter and wilder areas in which arguably the greatest opportunities for spiritual refreshment and escape from the pressures of modern life are to be found" (LDNPA, 1998b). Whilst the notion of 'quiet enjoyment' is one which receives support from many bodies (such as Friends of the Lake District, the National Trust, the British Mountaineering Council and English Nature) it is objected to by other organisations (such as the British Holiday Homes and Parks Association, Cumbria Tourist Board and the English Sports Council) on the grounds that the resulting policies are too restrictive (LDNPA, 1998a). In responses to the draft management plan, "fewer noisy pursuits / more quiet recreation" was the most frequently mentioned desirable change to improve individuals' enjoyment of the National Park (LDNPA, 1998a).

Quiet enjoyment is a feature of the area upon which it is often difficult to legislate but the LDNPA have proposed some practical measures such as the 10 mph speed limit on Lake Windermere (LDNPA, 1998a).

In respect the policy of maintaining quiet enjoyment, the LDNPA has designated some parts of the National Park as "quieter areas" where developments which might add to visitor pressure are strictly discouraged. These impacts would be identified by:

- an increase in traffic; or
- a material increase in the level of recreational use; or
- visual intrusion, noise or other forms of disturbance.

This is, however, essentially a development control policy affecting settled parts of the Park. There is little that can be done actively to limit the demand of visitors to particular areas.

Conflicts clearly already exist with regard to activities which are irreconcilable to the notion of 'quiet enjoyment'. Pursuits such as speed boating, war games, car rallying, motor cycle trials, trail riding, and all-terrain vehicle use, by their very nature conflict with quiet enjoyment. If allowed, they need to be restricted, preferably by agreement, to times and places where the harm done to other people's enjoyment or interests will be minimised (LDNPA 1998a).

In its "view of the future", the LDNPA (1998b) asserts that "the opportunities for quiet recreation will expand", though whether the Park Authority and major landowners have the instrumental powers to achieve this in the face of ever growing demands for more, and more noisy, kinds of tourism and recreation remains to be seen.

### 9.5.7 Sense of Freedom and Discovery

An important aspect of the opportunity for quiet enjoyment must be the freedom for people to explore, to discover things for themselves and to test their limits in a

challenging environment (LDNPA, 1998a). The LDNPA specifically seeks not to produce interpretation services nor to encourage the production of leaflets for everything, thereby allowing visitors to make their own judgements and their own discoveries. (Beardmore, pers. com. 1998). This is an important aspect of the wilderness experience.

In the questionnaire response of their consultation process, the LDNPA found that, of the 291 people responding to a question on the appropriate location of information points, 183 felt that panels were inappropriate in locations away from main tourism spots in the lowlands. Part of the attraction of the Lake District is to be able to wander at will on the fells without restraint or hindrance. A sense of discovery is thereby available to individuals and groups (LDNPA, 1998b).

The Park Authority also recognises the demands of some visitors who wish to be physically challenged in the hills. Whilst these are a minority of visitors, their recreational wishes deserve consideration. This means that management, even of safety considerations, is such that the visitor experience is not impaired by a "too intrusive and over protective attitude" (LDNPA, 1998b).

## 9.6 Management

### 9.6.1 Restrictions of Access to Protect Sites

It is not the purpose of any of the public bodies concerned with recreational activities in the Lake District actively to limit the number of visitors. Nevertheless control and management of the increasing pressure are becoming an ever more

important role. The LDNPA is more able exert its influence on types of recreational activities (particularly new ones) than it is on reducing numbers of participants. The LDNPA recognises "it may be that restrictions will have to be introduced" but that "visitor management – and even control in extreme cases – will remain a difficult policy area" (LDNPA, 1998b).

The Lake District has a long tradition of access to the open fells (backed by statute in some areas). The land-owning pattern of the Park (particularly the large amounts owned by the National Trust, Forestry Enterprise and North West Water) has allowed and encouraged substantial unrestricted access for informal recreation on foot to all but their enclosed farmland (LDNPA, 1998b). The Environmentally Sensitive Area scheme and the Woodland Grant Scheme also both provide incentives to allow access.

Where long distance routes are proposed, the LDNPA does not give them any special priority in the belief that these paths serve to concentrate walkers and hence the disturbance and erosion they cause (LDNPA, 1998b). Access is denied, however, to protect important sites. At Chapel Head Scar, climbing is restricted by byelaws to prevent seasonal disturbance to peregrine falcons.

In questionnaire responses to its Management Plan consultation, the LDNPA found that 56% of respondents support the principle of right of access over the whole of unenclosed fell areas (31.7% against). It is significant to note that for residents of the National Park, the response rates were 49.3% and 39.7% respectively (.Beardmore, pers. com. 1998)

### 9.6.2 Restrictions of Access to Ensure Remote Experiences

Consultation on the 1998 draft Management Plan revealed that watersports (44% of respondents) and land based motorsports (37% of respondents) were identified as being inappropriate activities in the National Park (LDNPA, 1998a). Whilst some instruments exist in order to limit the impacts of these activities (e.g. the speed limits on Windermere), there are no powers available to control quiet recreational activity on the fells.

### 9.6.3 Access Payments

Whilst the history of free access to many parts of the area is established and sacrosanct, the LDNPA accepts that "payment for access may... arise in relation to new access or the use of land for organised recreational pursuits" (LDNPA, 1998b). In particular, it recognises that landowners have the right to charge fees for the use of land in respect of "time spent on liaison, moving stock, ... providing car parking ... and for any consequential loss, rather than for the access itself."

In response to the draft Management Plan, the Country Landowners Association and the National Trust both felt that policies on access payments were their prerogative and it was not for the National Park Authority to provide policy (LDNPA, 1998a).

# CHAPTER 10

# CONCLUSIONS AND EVALUATION

*Many of the tenets of nature conservation particularly in Europe, are based on economic, scientific and cultural needs of the present generation. But the Wilderness Concept calls upon us to look further than this, to our spiritual needs which are durable and immutable. The need for peace and solitude in wild and free spaces is as old as civilisation itself* (Zunino, 1983).

## 10.1 Conclusions

### 10.1.1 Why Does Britain Need Wilderness?

Wilderness is needed (though it should not be called such) because of our need to develop a system of land appreciation and management which is not found (at least not in an integrated, large-scale form) in Britain. It should be sought and designated in order to establish a values system, both for ecosystem development and for recreation, which seeks to establish new appreciations of wild nature.

It will allow ecological processes to proceed with very low to zero levels of human influence. It will encourage a hands off approach to nature conservation and, in doing so generate new ecosystem processes and outcomes. It may involve the loss of what are currently deemed to be valued landscapes. But in evolving new landscapes it will also help widen our attitudes to landscape appreciation.

Wilderness designation should engender an attitude of sensitivity and sustainability amongst recreational users. This would involve codes of conduct being introduced which limit the impact of visitors and heighten their awareness of the area.

Preservation is a matter of personal taste – there is no objective reality as to what makes a beautiful landscape, or a wild area. Scientific criteria – species rarity or

habitat vulnerability – are more tangible ideas and, perhaps, better levers with which to extract funding. Such funding criteria need to be extended to value more than just rarity or recreational opportunity.

### 10.1.2 Appropriate Designation Terminology

The appellation 'wilderness' is not one which is easily applied to the UK and there are distinct problems concerning any use of it in a defined or statutory context. In England and Wales, the use of the word to describe wild areas runs the severe risk of attracting many extra visitors to locations which are not particularly remote or inaccessible. The word 'wilderness' is frequently used in tourism advertising and this is, presumably, *not* designed to discourage visitors. By using the term the risk is run that the very attraction being described will be damaged or destroyed, if not in an ecological sense, then in a recreational and spiritual sense.

In Scotland with its larger, remoter and more inaccessible wild areas such problems are lessened, but here the term 'wilderness' is overlain with too many connotations of the Clearances and denotes a negative and politically unacceptable attitude to the land.

> *The wilderness areas of Scotland, with the exception of the Cairngorms plateau, are not as nature left them but have been substantially deforested and otherwise altered by human beings. In the minds of most Highlanders today these are not among the nation's lost treasures as wildlands. Rather they are lost lands, the lands of their forefathers. In some essential and fundamental way, they are their lands, and need some day to be reclaimed and made productive again. In an area with few jobs and high unemployment, this seems a more attractive prospect than making them into 'designated wilderness areas', since such people equate the word wilderness with wasted land, the graves of their forefathers and former communities. Politically, this is a major factor for any 'wilderness movement' in Scotland* (Watson, 1983).

### 10.1.3 Management Implications

The New World (and indeed the Scandinavian) models of Wilderness designation and management have developed out of a different tradition, culture and population density. It is more appropriate that we look within our own traditions and learn from south and west European reserve management systems (for example from Italy) to derive appropriate models.

Landscape Associates (1994) look to the historic and archaeological aspects of landscapes in providing a "reassuring sense of permanence and a link with prehistory". The authors maintain that historic and cultural artefacts make an important contribution to the wilderness qualities in an area. "The presence of field enclosures, drainage systems, farms, lanes and so on are all part of the strong sense of cultural heritage and form a significant part of the identity, quality and character of these landscapes" (Landscape Associates, 1994).

The human print on the land is immensely valued in Britain (possibly more so than anywhere else in the world). This clearly colours our perceptions of what is wild and indeed what is desirable. Many artificial or man-made components of landscape are desired, especially archaeological and historic elements of the rural economic infrastructure. However, features which do not have a long historical tradition, mechanical artefacts and their infrastructure requirements are less favourably viewed.

An absence of inappropriate human activity is a key feature sought by recreational users of wild land. This means that there is likely to be a continued momentum

towards policy instruments more effectively to control inappropriate forms of recreation.

Integrated regional and national policies need to be considered to ensure that recreational demands are met in appropriate locations. Non-appropriate recreational demands must be catered for outside any designated wild areas.

Because quotas are an anathema and restrictions are only likely to be tolerated to protect well-recognised sites of scientific importance and vulnerability, the only effective way to limit impact is to reduce the ease of access. The cultural unwillingness and legalistic inability to deny access to upland and remote locations represents a growing threat to the survival of the wilderness experience in many locations. One possible solution is to reduce or restrict the right to use vehicles (certainly private vehicles) to approach the outer boundaries of wilderness areas. This means a strong appreciation of the concept of 'the long walk in' and to limit numbers by making access physically more demanding for recreational users of the land.

### 10.1.4 Wilderness Identification and Location

In Britain, the wilderness concept defies an easy definition or identity.

> *Defining wilderness in strict and unidimensional terms might well be self-defeating and, because there appears to be a variety of acceptable wilderness states, based on individual perceptions, a variety of 'wildernesses' could be defined and managed in such a way as to minimise environmental impact while maximizing visitor satisfaction* (Kliskey & Kearsley, 1993).

This is a view which can be readily taken forward in the British context. There is no need endlessly to struggle to create strict ecological definitions of wilderness (which are likely to be unobtainable anyway!). The concept must be recognised and appreciated for its variety. The British landscape tradition recognises the power and beauty of modified landscapes, but that traditional view of our natural heritage should not prevent an indigenous wilderness ethic from taking root.

The location of areas for re-wilding will need to be carefully considered with regard for existing ecosystems, potential for regeneration, land ownership, access and neighbouring land uses. Such areas need to be sought on a scale which will allow the concepts of remoteness and solitude to be a key recreational outcome.

A database of existing landscape attributes may be a useful starting point for identifying such areas. Map or aerial photographic data can be put onto databases to identify areas of distance from settlement, roads, field boundaries, conifer plantations etc. An example of such a database can be seen in Appendix Six. These attributes can then be mapped using Geographical Information Systems.

### 10.1.5 An integrated approach

The John Muir Trust has a primary aim of bringing "Britain's finest wild landscapes into stable long term conservation ownership" (1996). Amongst the ideals of the organisation are stated:

> *A prime aim of management is to retain, and where possible restore, natural processes and indigenous populations of plants and animals. The Trust will therefore promote sustainable management practices and the repair where necessary of physical damage that has resulted in declines in biodiversity and deterioration of soils and landscape.*

*The core recreational values of wild land relate to a sense of mental and physical well-being, especially the spiritual values of tranquillity, solitude and freedom. Therefore, access for visitors to unenclosed land is not promoted or facilitated, but informal access is open to all who out of their natural inclination which to visit for quiet recreation or study, subject only to minimised, explained limitations to safeguard conservation interests or for essential management.* (John Muir Trust, 1996).

As the leading 'wilderness' organisation in the country, and a significant landowner in parts of Scotland, the John Muir Trust have much experience of the philosophical and practical aspects of managing wild land. Their ethos is strongly inclusive, involving local people in management and decision-making. The needs of local communities (in difficult physical and economic conditions), recreationalists and the natural environment are balanced, with, so far, much success.

## 10.2 Evaluation

This study has attempted to bring together three themes:

- the historical and philosophical meaning of the wilderness ethic,
- the British historical relationship with wild nature,
- perceptions of recreationalists in remote parts of Britain.

The historical and philosophical parts have, perhaps inevitably, focussed on the US experience and body of literature. This is appropriate given the influence that US policy has had on environmental philosophy and land management at a global scale. Influences from other areas, especially Australia, New Zealand, South Africa, Norway and Finland have been, in comparison, under-represented.

The British relationship with wild nature is an immensely long and complex historical journey and has only been touched on in a very superficial way. In particular the immense body of work reflecting the relationship between literature and environment and between art and environment has been almost entirely neglected. Instead, more direct (though not necessarily more profound) influences have been considered with the focus on *wild* nature rather than nature in general.

The methodology of the empirical parts of this survey suffered from a lack of response from some of the targeted areas. Given the logistics of data gathering, only summer recreationalists were surveyed and most were overnighting in Youth Hostels rather than wild camping. The surveys were obtained remotely and so the opportunity for further (perhaps anecdotal) information was limited to those respondents who were kind or committed enough to put their thoughts to paper. The original intention of pursuing follow-up interview or questionnaires was not achieved. Thus potentially important supplementary information was not forthcoming.

Some of the questionnaire questions asked were clearly ambiguous to some respondents or open to a variety of interpretations according to the perceptions of the respondent. Questions a, (Developed Campsites) and n, (Motorised travel by visitors) were clearly perceived in a variety of different ways. Question i, (Quarrying or mining activity) which was designed to refer only to current, on-going activity, may have been interpreted in a historical sense by some. Question e, (Presence of field boundaries) did not specify fences (presumed to be a negative feature of the uplands) or dry stone walls (presumed to be positively regarded).

Questions could have been asked on age, gender, recreational habits, group size and weather conditions – all of which would have yielded interesting comparative data. However, the need for simplicity in a remote survey precluded an overly complex data gathering methodology.

## 10.3 The Way Forward

In order to pursue the findings of this study further information is needed from recreationalists in the field. A more detailed questionnaire, completed by a researcher, could yield useful data on matters not covered in this survey. Respondents' attitudes to open landscapes as opposed to wooded ones; deciduous as opposed to coniferous woodlands; post and wire fences as opposed to dry stone walls; the presence of cairns; aspects of people's behaviour which disturbs the experience of 'quiet recreation' and any artefacts which are or are not valued in the landscape, could be explored. This would be much more achievable with a researcher completed questionnaire in an interview encounter. This approach would also allow more open questions to be asked which would elicit more detailed answers and more anecdotal evidence.

A database of landscape attributes could be devised and developed along the lines of the Lake District survey illustrated in Appendix Six. This would allow initial targeted investigations into particular areas of high wilderness quality. Further inquiry would be needed to establish land ownership. Evaluations, on the ground, of ecological characteristics and purity could follow. This is the first stage in identifying defined areas for re-wilding or some form of wilderness designation.

# CHAPTER 11

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# APPENDIX ONE

# QUESTIONNAIRE (After Kliskey and Kearsley, 1993)

## Wilderness Purism Scale

Please refer to the following list of items which might possibly be found in wilderness areas. Indicate how desirable you feel each item is in what you consider to be a wilderness setting.

| | Strongly desirable | Desirable | Neutral | Undesirable | Strongly undesirable |
|---|---|---|---|---|---|
| a) Developed campsites | | | | | |
| b) Stocking of species not originally native to New Zealand | | | | | |
| c) Road access to the wilderness boundary | | | | | |
| d) Commercial recreation e) (e.g. guided tours) | | | | | |
| f) Maintained tracks | | | | | |
| g) Bridges/walkwires over rivers or streams | | | | | |
| h) Hunting | | | | | |
| i) Logging | | | | | |
| j) Motorized travel by visitors (use of powered vehicles, boats etc.) | | | | | |
| k) Maintained huts, shelters | | | | | |
| l) Hydroelectric development m) (e.g. dams, powerlines) | | | | | |
| n) Commercial mining | | | | | |
| o) Solitude (not seeing many other groups of people) | | | | | |
| p) Remote from cities or towns | | | | | |
| q) Free from evidence of obvious human impact | | | | | |
| r) Big enough to take at least two days to walk across | | | | | |

# APPENDIX TWO

## RESPONSE CATEGORIES FOR QUESTIONNAIRES
**(after Kliskey and Kearsley, 1993)**

Kliskey and Kearsley (1993) identify four aspects of landscape which enabled a quantitative comparison to be undertaken. These are:

1. Remoteness
2. Artificialism
3. Naturalness
4. Solitude

The quality of remoteness is identified by looking at access. Thus questions regarding ease of access by different modes of transport come under this heading. The size of area is also closely associated with this idea, as a larger site will have the ability to absorb larger numbers of visitors without impairing the wilderness experience.
In this study, items k), and n) would fall into this category:

k) Remote from towns or cities.
n) Motorised travel by visitors.

Artificialism is identified through human structures which impose upon the otherwise 'natural' landscape. Some of these structures are used by recreationalists in order to allow or facilitate their activity, others are simply present in the landscape because of historic or commercial reasons.
Items a), b), c), e), f), g), h), i), l), m), p), and q) would fall into this category:

a) Developed campsites.
b) Bridges over rivers and streams.
c) Maintained huts, shelters or bothies.
e) Presence of field boundaries.
f) Evidence of abandoned settlement.
g) Power lines or visible telephone lines.
h) Visible wind turbines.
i) Quarrying or mining activity.
j) Maintained footpaths.
m) Vehicle Tracks

Naturalness is a quality of vegetation and habitat.
Items d), p) and q) would fall into this category:

d) Game Shooting.
p) Presence of farm livestock.
q) Conifer plantations.

Solitude is a function of the amount of use an area receives and the extent to which other human uses of the environment are perceptible.
Items o), r) and s) would fall into this category:

o) Aircraft noise (at any altitude).
r) Solitude
s) Mountain bikers.

The questions can be ascribed to the four categories of landscape qualities identified above. A further category, that of size, can been added to this list. This category could also be included along with the qualities identified in the Remoteness category.
Item j) would fall into this category:

j) Big enough to take at least two days to walk across.

This categorisation system is represented by the figure below.

| | | |
|---|---|---|
| Remoteness | k) | remote from cities and towns |
| | n) | motorised travel by visitors |
| Artificialism | a) | developed campsites |
| | b) | bridges over rivers and streams |
| | c) | maintained huts, shelters or bothies |
| | e) | presence of field boundaries |
| | f) | evidence of abandoned settlement |
| | g) | power lines or telephone lines |
| | h) | visible wind turbines |
| | i) | quarrying or mining activity |
| | l) | maintained footpaths |
| | m) | vehicle tracks |
| Naturalness | d) | game shooting |
| | p) | presence of farm livestock |
| | q) | conifer plantations |
| Solitude | r) | solitude (not seeing many other people) |
| | s) | mountain bikers |
| | o) | aircraft noise (at any altitude) |
| Size | j) | big enough to take at least two days to walk across |

**Figure 1. Categorisation system for landscape attributes**

It is not necessarily easy to fit these questions neatly into one category or another. The question on game shooting, for example may explore aspects of perception to do with naturalness, solitude and artificiality. Kliskey and Kearsley (1993) locate their question on maintained tracks in both the artificialism and the remoteness category.

**APPENDIX THREE**

**BRITAIN'S RESERVE AREAS ACCORDING TO IUCN CLASSIFICATION**

| | |
|---|---|
| CATEGORY Ia: | Strict Nature Reserve: protected area managed mainly for science. |
| CATEGORY Ib: | Wilderness Area: protected area managed mainly for wilderness protection. |
| CATEGORY II: | National Park: protected area managed mainly for ecosystem protection. |
| CATEGORY III: | Natural Monument: protected area managed mainly for conservation of specific natural features. |
| CATEGORY IV: | Habitat/Species Management Area: protected area managed mainly for conservation through management intervention. |
| CATEGORY V: | Protected Landscape/Seascape: protected area managed mainly for landscape/seascape conservation and recreation. |
| CATEGORY VI: | Managed Resource protected Area: protected area managed mainly for the sustainable use of natural resources. |
| To this list are sometimes added a further four categories: | |
| CATEGORY VII | Natural Biotic Area / Anthropological Reserve |
| CATEGORY VIII | Multiple Use Management Area / Managed Resource Area |
| CATEGORY IX | Biosphere Reserve |
| CATEGORY X | World Heritage Site (natural) |

**Figure 1. World Conservation Monitoring Centre - Definitions of Protected Areas.**

**Reserve areas in the UK**

National Nature Reserves, of which the UK has 377, are designated into category IV; these range from 1 Hectare in size (Belshaw's Quarry, Bohill, Portrush, Swan Island), to 67,200 hectares (Cairngorm Mountains). Britain has 3 Marine Nature Reserves, also in category IV; the smallest is Skomer at 1,500 hectares, the largest is Strangford Lough at 18,647 hectares.

National Parks, Areas of Outstanding Natural Beauty, National Scenic Areas, Regional Parks, Heritage Coasts and some other designations are in category V. England and Wales have 11 National Parks - the smallest, the Pembrokeshire Coast is 55,400 hectares, the largest, the Lake District is 229,200 hectares. The nearest Scottish equivalent is National Scenic Areas of which Scotland has 40; these range from St. Kilda at 900 hectares to Wester Ross at 145,000 hectares. There are 41 AsONB ranging from 1,600 hectares (Isles of Scilly) to 203,800 hectares (Cotswolds). The four Scottish Regional Parks are classified as category V; these include Fife at 6,500 hectares and Loch Lomond at 44,200 hectares. Heritage Coasts are included in category V and there are 50 such areas. Some other designations are also classified as IUCN category V; these include Herma Ness, the smallest at 1,300 hectares and the New Forest at 37,500 hectares.

Marine Consultation Areas, of which Britain has 23 are classified under category VIII of the IUCN classification. In the UK these range form 20 hectares (Swinister Voe and the Houb of Ford Ness, in Shetland) to 11,390 hectares (St. Kilda). Areas of Special Scientific Interest - a designation which applies only to Northern Ireland - are not classified under IUCN criteria. Neither, in this respect are Forest Parks of which the Forest of Dean and the Galloway Forest parks are perhaps the best known. Local nature reserves are not IUCN classified either, except where they also fall into another category such as within a National Park. Nor, finally, are Sites of Special Scientific Interest.

The UK has no designations I, II or III according to IUCN criteria. Part of the reason for this may be to do with the size of designated areas within the United Kingdom. According to the IUCN (Guidelines for Protected Area Management Categories, 1994, IUCN, p 11) a category I area should be large enough "to ensure the integrity of the area to accomplish the management objective of strict protection, either as a baseline area or research site, or for wilderness protection." In the case of a Category II area "the boundaries should be drawn sufficiently widely that they contain one, or more, entire ecosystems which are not subject to material modification by human exploitation or occupation".

## APPENDIX FOUR

## US WILDERNESS IDENTIFICATION METHODOLOGY

Under the US Multiple Use-Sustained Yield Act of 1960. three criteria for wilderness identification were specified; these were: (1) Suitability, (2) Availability and (3) Need.

The US Forest Service manual specified characteristics of these as follows in Figure 1.

**Suitability**

*1. Land Use Factors - The area should be free of present or foreseeable nonconforming uses or activities that might damage the resource.*
*2. Environment - The area should possess a wide range of subjective values, such as the potential for helping man discover freedom and spiritual renewal.*
*3. Challenge - The area should possess outstanding opportunities for users to experience challenge, excitement, and self-reliance.*
*4. Primitive Recreation - The area should offer a variety of opportunities for primitive and unconfined types of recreation such as camping, skitouring and hiking.*
*5. Wildlife - The area should include abundant and varied wildlife.*
*6 Scientific Study - The area should possess opportunities for formal and informal education and scientific study.*

**Availability**

*Wilderness designation must represent the highest and best use of the land over a long period of time.*

**Need**

*Wilderness identification required clear evidence of current and future public need for additional, formally designated wilderness.*

*Need was to be determined through a consideration of the location, size, type, and capacity of other wildernesses in the general vicinity, by local and national patterns and trends in wilderness use, and by the extent to which nonwilderness lands were available to-provide dispersed recreation opportunities not necessarily linked to wilderness.*

(Hendee et al., 1978)

**Figure 1. Criteria for US Wilderness identification**

Once identified, these roadless areas became subject to the next stage of analysis which was the 'Roadless Area Review and Evaluation' (RARE). The principal objectives were:

1. To obtain as much wilderness as possible relative to the cost and value of foregone opportunities.
2. To disperse future wilderness as widely as possible over the country.
3. To represent as many ecosystems as possible.
4. To obtain wilderness with the least relative impact on timber production.
5. To locate new wilderness areas as close as possible to densely populated areas.

(After Hendee et al., 1978)

To evaluate underdeveloped areas using the RARE technique, a number of quantitative and judgmental measures were obtained for each area. They included the following:

1. The total gross acres of roadless area. Size of area was judged to be an approximate indicator of capacity.

2. A quality index. Field personnel rated each area on three factors, using a 0 to 20 scale. The factors included:

- Scenic quality (S),
- Isolation and likely dispersion of visitors within an area (I),
- Variety of wilderness experiences and activities available (V).

Each of these factors was weighted and used to calculate the quality index (QI) by the following formula:

3. $QI = 4(S) + 3(I) = 3(V)$ (Maximum score equals 200)

4. An effectiveness index - Gross Area multiplied by Quality Index score.

5. Total Opportunity Costs. This index was composed of the sum of the following:

    1. Budget costs for studies, establishment, operation and maintenance.
    2. Cost, if any, of acquiring private land.
    3. Cost of replacing special-use improvements.
    4. Mineral values.
    5. Potential water development values.
    6. Timber values.

(After Hendee et al., 1978)

# APPENDIX FIVE

# POTENTIAL UK WILDERNESS SITES

## UK NATIONAL NATURE RESERVES OVER 2000 HA.

| NAME | SIZE (HA.) |
|---|---|
| Beinn Eighe | 4758 |
| Ben Lawers | 4060 |
| Ben Lui | 2104 |
| Ben Wyvis | 5673 |
| Berwyn | 9455 |
| Blar Nam Faoileag | 2126 |
| Bridgewate Bay | 2559 |
| Caerlaverock | 7706 |
| Cairngorms | 67200 |
| Creag Meagaidh | 3948 |
| Dengie | 2366 |
| Dyfi | 2295 |
| Glen Tanar | 4185 |
| Gualin | 2522 |
| Holkham | 3851 |
| Inverpolly | 10857 |
| Lindisfarne | 3541 |
| Moor House | 3894 |
| Ribble Estuary | 4581 |
| Ribble Marshes | 2302 |
| Rum | 10684 |
| Strathfarrar | 2189 |
| Upper Teesdale | 3493 |
| Wash | 9899 |

## UK SITES OF SPECIAL SCIENTIFIC INTEREST OVER 2000 HA

| | |
|---|---|
| A Mhoine | 6,009 |
| Abernethy (inc Dell Woods) | 5,796 |
| Affric Cannich Hills | 17,073 |
| Afon Arthog | 2,800 |
| Afon Dyfrdwy (rhewl Section) | 3,490 |
| Alde-ore Estuary | 2,554 |
| An Teallach | 5,240 |
| Appleby Fells | 10,687 |
| Ardlair - Letterewe | 9,298 |
| Ardmeanach | 3,257 |
| Ardnamurchan | 3,871 |
| Armboth Fells | 2,348 |
| Arran Northern Mountains | 12,307 |
| Ashdown Forest | 3,146 |
| Axmouth To Lyme Regis | 7,968 |
| Bad Na Gallaig | 4,708 |
| Beauly Firth | 2,062 |
| Beddmanarch-cymyran | 9,110 |
| Beinn A Ghlo | 7,933 |

| NAME | SIZE (HA.) |
|---|---|
| Beinn Bhan | 4,235 |
| Beinn Dearg | 13,715 |
| Beinn Eighe | 4,758 |
| Ben Alder and Aonach Beag | 6,769 |
| Ben Griams | 7,538 |
| Ben Heasgarnich | 4,064 |
| Ben Hope | 3,002 |
| Ben Hutig | 2,680 |
| Ben Klibreck | 8,569 |
| Ben Lawers | 5,943 |
| Ben Lomond | 2,363 |
| Ben Loyal | 4,431 |
| Ben Lui | 2,982 |
| Ben More - Scarisdale | 4,123 |
| Ben More - Stob Binnein | 3,886 |
| Ben More Assynt | 9,119 |
| Ben Nevis | 9,617 |
| Ben Wyvis | 5,472 |
| Benfleet and Southend Marshes | 2,370 |
| Berwyn | 159,910 |
| Black Mountains | 67,440 |
| Black Mountains (England Side Only) | 7,949 |
| Blackpill, Swansea | 4,674 |
| Blackwater Estuary | 5,738 |
| Blaenau Nedd and Mellte | 18,810 |
| Blar Nam Faoileag | 2,875 |
| Blorenge | 10,110 |
| Bodmin Moor, North | 4,893 |
| Bollihope, Pikestone, Eggleston and Woodland Fells | 7,949 |
| Bowes Moor | 4,492 |
| Bowland Fells | 16,001 |
| Brecon Beacons | 61,130 |
| Bridgwater Bay | 6,257 |
| Broadwater | 2,630 |
| Broomhill Burrows | 2,011 |
| Burry Inlet and Loughor Estuary | 58,977 |
| Buttermere Fells | 6,142 |
| Cadair Idris | 35,475 |
| Caenlochan | 5,044 |
| Cairngorms | 29,162 |
| Cairnsmore Of Fleet | 3,559 |
| Carew and Cresswell Rivers | 2,830 |
| Carn Gafallt | 3,850 |
| Carn Nan Tri Tighearnan | 4,106 |
| Carneddau | 81,900 |
| Castlemartin Cliffs and Dunes | 7,562 |
| Cefn Bryn Common | 7,920 |
| Cheviot | 3,486 |
| Chichester Harbour | 3,727 |
| Cnoc An Alaskie | 3,734 |
| Coedydd A Cheunant Rheidol (Rheidol Woods & Gorge) | 2,339 |
| Coire Na Beinne Mires | 3,514 |
| Colne Estuary | 2,973 |
| Cors Caron | 8,720 |
| Cors Erddreiniog | 2,890 |

| NAME | SIZE (HA.) |
|---|---|
| Cotherstone Moor | 2,449 |
| Creag Meagaidh | 6,984 |
| Cromarty Firth | 3,585 |
| Crymlyn Bog | 2,439 |
| Crymlyn Burrows | 2,435 |
| Cuillins | 10,916 |
| Culbin Sands,forest and Findhorn Bay | 4,916 |
| Cwm Doethie - Mynydd Mallaen | 61,870 |
| Cwm Dwythwch | 3,850 |
| Dark Peak | 29,463 |
| Daugleddau | 6,720 |
| Dee Estuary | 79,207 |
| Dee Estuary (England Side Only) | 13,135 |
| Dengie | 3,127 |
| Dornoch Firth | 3,577 |
| Druim Nam Bad | 3,107 |
| Drumochter Hills | 9,690 |
| Duddon Estuary | 6,815 |
| Dunbeath Peatlands | 6,431 |
| Dungeness | 3,241 |
| Dyfi | 37,868 |
| East Dartmoor | 2,110 |
| East Nidderdale Moors (Flamstone Pin - High Ruckle) | 10,776 |
| Eastern Cairngorms | 16,441 |
| Elenydd | 227,700 |
| Exe Estuary | 2,136 |
| Fairwood, Pengwern and Welshmoor Commons | 6,266 |
| Fannich Hills | 10,894 |
| Fenn's Whixall, Bettisfield, Wem and Cadney Mosses | 6,907 |
| Foinaven | 14,905 |
| Foryd Bay | 2,830 |
| Foulness | 10,927 |
| Glannau Aberdaron | 3,580 |
| Glannau Ynys Gybi: Holy Island Coast | 3,507 |
| Glascwm and Gladestry Hills | 24,261 |
| Glen Affric | 2,229 |
| Glen Strathfarrar | 4,031 |
| Glen Tanar | 4,185 |
| Glencoe | 3,176 |
| Glydeiriau and Cwm Idwal | 27,800 |
| Gower Coast: Rhossili To Porteynon | 3,640 |
| Graig Fawr, Pontardulais | 3,920 |
| Great Orme's Head | 3,206 |
| Gronant Dunes and Talacre Warren | 4,701 |
| Grudie Peatlands | 4,786 |
| Gruinart Flats | 3,170 |
| Gwent Levels - Magor and Undy | 5,866 |
| Gwent Levels - Nash and Goldcliff | 9,540 |
| Gwent Levels - Redwick and Llandevenny | 9,400 |
| Gwent Levels - Rumney and Peterstone | 9,725 |
| Gwent Levels - St. Brides | 13,220 |
| Gwent Levels - Whitson | 9,374 |
| Gweunydd Dryslwyn (Dryslwyn Meadows) | 2,420 |
| Hamford Water | 2,179 |
| Haworth Moor | 4,570 |

| NAME | SIZE (HA.) |
|---|---|
| Helvellyn & Fairfield | 2,487 |
| Hoy | 8,186 |
| Humber Flats and Marshes Spurnhead To Salt Flat End | 5,456 |
| Humber Flats and Marshes Upper Humber | 4,729 |
| Ingleborough | 5,205 |
| Inner Tay Estuary | 5,400 |
| Inverpolly | 11,938 |
| Kenfig Pool and Dunes | 6,274 |
| Kielder Mires | 4,818 |
| Kielderhead and Emblehope Moors | 8,452 |
| Knockfin Heights | 5,205 |
| Lampert Mosses | 12,465 |
| Langholm - Newcastleton Hills | 7,679 |
| Langstone Harbour | 4,163 |
| Laugharne and Pendine Burrows | 15,810 |
| Laughenghie & Airie Hills | 2,309 |
| Leek Moors | 3,960 |
| Lindisfarne | 3,980 |
| Llandegfedd Resevoir | 2,307 |
| Llandegla Moor | 5,760 |
| Llandeilo, Rhulen and Llanbedr Hills | 14,369 |
| Llyn Alaw | 3,600 |
| Llyn Syfaddan (Llangorse Lake) | 2,145 |
| Llyn Tegid | 4,840 |
| Loch An Duin | 3,606 |
| Loch Maree | 3,100 |
| Loch Meadie Peatlands | 6,221 |
| Loch Morar | 3,032 |
| Loch Scadavay | 4,178 |
| Loch Shiel | 3,374 |
| Lochan Buidhe Mires | 4,130 |
| Lon A'chuil | 3,730 |
| Long Mynd | 2,719 |
| Lovely Seat - Stainton Moor | 10,237 |
| Lune Estuary | 7,733 |
| Maelienydd | 3,500 |
| Malham - Arncliffe | 4,978 |
| Mallerstang-Swaledale Head | 6,232 |
| Malltraeth Marsh/Cors Ddyga | 13,656 |
| Marcheini Uplands, Gilfach Farm & Gamallt | 8,100 |
| Meall Na Samhna | 2,960 |
| Medway Estuary and Marshes | 4,742 |
| Merrick Kells | 8,925 |
| Mersey Estuary | 6,706 |
| Merthyr Mawr Warren | 3,439 |
| Migneint | 41,081 |
| Minsmere/Walberswick Heaths & Marshes | 2,325 |
| Moel Hebog | 6,970 |
| Moffat Hills | 2,858 |
| Monadhliath | 10,696 |
| Monar Forest | 5,420 |
| Moor House and Cross Fell | 13,803 |
| Moorfoot Hills | 8,723 |
| Morecambe Bay | 25,975 |
| Morfa Bychan | 3,463 |

| NAME | SIZE (HA.) |
|---|---|
| Morfa Dyffryn | 5,060 |
| Morfa Harlech | 15,360 |
| Morrich More | 2,975 |
| Morven & Mullachdubh | 2,657 |
| Morven and Scaraben | 3,380 |
| Muir Of Dinnet | 2,287 |
| Mynydd Du (black Mountain) | 67,390 |
| Mynydd Hiraethog | 63,210 |
| Mynydd Llangatwg (Mynydd Llangattock) | 17,270 |
| Mynydd Preseli | 26,979 |
| Mynydd Ty-isaf, Rhondda | 3,220 |
| Newborough Forest | 7,020 |
| Newborough Warren - Ynys Llanddwyn | 22,690 |
| North Dartmoor | 13,591 |
| North East Coll Lochs and Moors | 2,301 |
| North Exmoor | 12,021 |
| North Harris | 12,921 |
| North Lincolnshire Coast | 3,458 |
| North Norfolk Coast | 7,886 |
| North Wirral Foreshore | 2,110 |
| Northern Corries, Cairngorms | 2,034 |
| Ogof Ffynnon Ddu | 3,969 |
| Ogof Ffynnon Ddu-pant Mawr | 11,419 |
| Ouse Washes | 2,478 |
| Oxwich Bay | 4,272 |
| Parallel Roads Of Lochaber | 14,650 |
| Pembrey Coast | 31,800 |
| Pembroke River and Pwllcrochan Flats | 3,600 |
| Pencreigiau'r Llan | 2,335 |
| Pevensey Levels | 3,597 |
| Poole Harbour | 2,221 |
| Porth Ceiriad | 2,055 |
| Prescelly Summits & Carningli Common | 3,780 |
| Pumlumon (Plynlimon) | 38,480 |
| Radnor Forest | 8,410 |
| Ramsey | 2,770 |
| Rannoch Moor | 10,232 |
| Rhinog | 26,810 |
| Rhossili Down | 3,342 |
| Ribble Estuary | 9,327 |
| Rinns Of Islay | 8,312 |
| River Dee (holt To Worthenbury) | 5,667 |
| Ronas Hill - North Roe | 4,907 |
| Rousay | 2,313 |
| Ruabon/Llantysilio Mountains and Minera | 47,950 |
| Rum | 10,794 |
| Rumsdale Peatlands | 6,110 |
| Salisbury Plain | 19,688 |
| Severn Estuary | 159,500 |
| Severn Estuary | 17,872 |
| Shap Fells | 2,146 |
| Shielton Peatlands | 5,593 |
| Simonside Hills | 2,082 |
| Skelpick Peatlands | 2,047 |
| Skiddaw Group | 10,402 |

| NAME | SIZE (HA.) |
|---|---|
| Skinsdale Peatlands | 7,069 |
| Skomer Island & Middleholm | 3,160 |
| Slethill Peatlands | 2,185 |
| South Dartmoor | 7,119 |
| South Pennine Moors | 21,049 |
| South Thames Estuary and Marshes | 5,355 |
| South Walney and Piel Channel Flats | 2,484 |
| Southern Parphe | 5,314 |
| St.David's Peninsula Coast | 6,546 |
| Stackpole | 3,154 |
| Stanford Training Area | 4,655 |
| Stour Estuary | 2,154 |
| Strathmore Peatlands | 7,295 |
| Stroupster Peatlands | 2,813 |
| Strumble Head - Llechdafad Cliffs | 2,040 |
| Syre Peatlands | 3,170 |
| Tenby Cliffs | 4,010 |
| The New Forest | 28,083 |
| The Quantocks | 2,472 |
| The Swale | 6,553 |
| The Wash | 62,214 |
| Torridon Forest | 5,873 |
| Torrs Warren - Luce Sands | 2,409 |
| Traeth Lafan | 27,000 |
| Trotternish Ridge (Storr To Quirang) | 3,697 |
| Tweedsmuir Hills | 8,848 |
| Tywyn Aberffraw | 3,635 |
| Upper Solway Flats and Marshes | 29,951 |
| Upper Teesdale | 14,370 |
| West Borgie | 2,212 |
| West Halladale | 8,822 |
| West Mainland Moorlands | 2,523 |
| West Strathnaver | 2,713 |
| Whernside | 3,853 |
| Whiteford Burrows - Landimore Marsh | 8,420 |
| Y Wyddfa | 27,399 |
| Ynys Enlli: Bardsey Island | 2,014 |
| Yr Eifl | 4,232 |

**Source: WCMC, Cambridge (pers.com. 1998)**

# PPENDIX SIX

# ATABASE METHODOLOGY – LANDSCAPE ATTRIBUTES

is database may be used as the basis for Wilderness investigation and identification based on landscape ributes derived from individual one kilometre grid squares of 1:25,000 Ordnance Survey maps.

e database codes are as follows:

| | | |
|---|---|---|
| | Number identification | Unique number |
| R | Grid Reference | Four figure reference |
| ad | Presence of metalled road | Yes or No answer |
| ttlement | Presence of any housing or buildings | Yes or No answer |
| mp Sites | Presence of official camp sites | Yes or No answer |
| ot Brig | Presence of foot bridges | Yes or No answer |
| ts | Presence of huts or bothies | Yes or No answer |
| ld Bound | Length of marked field boundaries | Total length in metres. 8000 = enclosed land |
| nd Stmt | Presence of abandoned settlement | Yes or No answer |
| w Lin | Length of power lines | Total length in metres |
| nd Turb | Presence of wind turbines | Yes or No answer |
| a | Presence of quarrying or mining activity | Yes or No answer |
| h | Length of footpath and bridleways | Total length in metres |
| a | Length of un-metalled vehicle track | Total length in metres |
| n | Area of conifer plantations | Total area in hectares |
| en Fell | Does the area entirely consist of open fell | Yes or No answer |
| ner | Are there any other features e.g. cairns | Features named |
| cation | Name of settlement or feature in grid square, and civil parish. | |

| GR | ROAD | SETTL -MENT | CAMP SITES | FOOT BRIG | HUTS | FIELD BOUN | ABND STMT | POW LIN | WIND TURB | QUA | PATH | TRA | CON | OPEN FELL | OTH | LOCATION |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0804 | Yes | Yes | No | No | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | | SOWERMYRR, GOSFORTH |
| 0904 | Yes | Yes | No | No | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | | HAWKBARROW FARM, GOSFORTH |
| 1004 | Yes | Yes | No | No | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | | PEAGILL, GOSFORTH |
| 1104 | Yes | Yes | No | No | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | | BENGARTH, GOSFORTH |
| 1204 | Yes | Yes | Yes | No | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | | NETHER WASDALE, NETHER WASDALE |
| 1304 | Yes | Yes | No | No | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | | WOODHOW, NETHER WASDALE |
| 1404 | Yes | Yes | No | No | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | | WASDALE HALL, NETHER WASDALE |
| 1504 | No | No | No | No | No | 0 | No | 0 | No | No | 700 | 0 | 0 | Yes | | THE SCREES, ESKDALE |
| 1604 | No | No | No | No | No | 0 | No | 0 | No | No | 1200 | 0 | 0 | Yes | | ILLGILL HEAD, ESKDALE |
| 1704 | No | No | No | No | No | 0 | No | 0 | No | No | 2000 | 0 | 0 | Yes | | BURNMOOR TARN, ESKDALE |
| 1804 | No | No | No | Yes | Yes | 200 | No | 0 | No | No | 4000 | 0 | 0 | Yes | | BURNMOOR LODGE, ESKDALE |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 911904 | No | No | No | No | No | 0 | No | 0 | No | No | 1000 | 0 | 0 | Yes | | RAVEN CRAG, ESKDALE |
| 922004 | No | No | No | No | No | 0 | No | 0 | No | No | 1000 | 0 | 0 | Yes | | QUAGRIGG MOSS, ESKDALE |
| 932104 | No | No | No | No | No | 0 | No | 0 | No | No | 700 | 0 | 0 | Yes | | HORN CRAG, ESKDALE |
| 942204 | No | No | No | No | No | 0 | No | 0 | No | No | 3500 | 0 | 0 | Yes | | GREEN CRAG, ESKDALE |
| 952304 | No | No | No | No | No | 0 | No | 0 | No | No | 3500 | 0 | 0 | Yes | | PIANET KNOTT |
| 962404 | No | No | No | No | No | 0 | No | 0 | No | No | 1000 | 0 | 0 | Yes | | LONG TOP, ESKDALE |
| 972504 | No | No | No | No | No | 0 | No | 0 | No | No | 2000 | 0 | 0 | Yes | | GREAT KNOTT, LAKES |
| 982604 | No | No | No | No | No | 0 | No | 0 | No | No | 1800 | 0 | 0 | Yes | | MARKEENS, LAKES |
| 992704 | No | No | No | No | No | 0 | No | 0 | No | No | 1000 | 0 | 0 | Yes | | PIKE OF BLISCO, LAKES |
| 002804 | No | No | No | No | No | 1600 | No | 0 | No | No | 1500 | 0 | 0 | No | | BLEABERRY KNOTT, LAKES |
| 012904 | Yes | Yes | No | Yes | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | CAR PARK | BLEATARN HOUSE, LAKES |
| 023004 | No | No | No | No | No | 3000 | Yes | 0 | No | No | 1200 | 0 | 0 | No | | LINGMOOR FELL, LAKES |
| 033104 | No | Yes | No | No | No | 8000 | No | 0 | No | No | 0 | 1800 | 0 | No | | BAYSBROWN, LAKES |
| 043204 | Yes | Yes | No | No | No | 8000 | No | 0 | No | No | 0 | 0 | 0 | No | | ELTERWATER, LAKES |

is is part of a database of the whole Lake District National Park created by the author for the rpose of identifying potential suitable areas for Wilderness creation and/or management.

is information can then be used by Geographical Information Systems (GIS) techniques to ntify any and all grid squares which show particular attributes. Thus, for example, all grid ares containing settlement, roads and enclosed land could be excluded as a first step to ntifying open land. If a near-wilderness environment was being sought, then all artificial uctures would be excluded and only open fell identified. Using GIS techniques, maps can be wn using a variety of different identification criteria and areas of particular sets of landscape ributes identified.

a more sophisticated level, all map attributes can be digitised and used for the creation of GIS rived maps of particular areas. Digitisation would enable cartographic techniques which would ow particular tolerance distances from artificial landscape features to be incorporated into the pping. The database illustrated above works only on the basis of presence or absence within one kilometre grid framework.