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## The call of different wilds: the importance of definition and perception in protecting and managing Scottish wild landscapes

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Concepts of wild land have recreational, ecological and cultural dimensions, and place varying emphasis on physical landscape attributes and the perceptions of users. In Scotland, national and NGO policies show reasonable consistency in interpreting and defining 'wild land', emphasising the (perception of) lack of current human influence as a key criterion. This research used semi-structured interviews with key individuals and a questionnaire survey of land managers to evaluate concepts and perceptions of wild land in Scotland. Recognising that the conceptual and spatial definition of wild land is a key issue, a new typology is proposed. Weaknesses in the policy framework, as well as key potential threats to, and opportunities associated with, wild landscapes are identified. Management initiatives are fitted to the typology and divided into four management themes. Key recommendations are: (i) that national policy for wild landscapes needs to incorporate criteria, which recognise the multiple values deriving from such areas; and (ii) that future research should combine user group preferences with physical attribute information in determining what constitutes wild landscapes.

### Introduction

The enduring appeal of Jack London's 'The Call of the Wild' (London 1903) is a testimony to the cultural power of wilderness, wildlife and wild landscapes in the popular imaginary. Wild nature has long been a staple of art, literature and tourist imagery, and the desire to preserve wilderness has been a primary motivation for the conservation movement from its earliest days. The concepts have broad appeal, and a belief that wild places are valuable is near universal. However, widely differing attitudes to wild nature have been adopted through history and across different cultures (Glacken 1967, Oelschlaeger 1991, Callicott and Nelson 1998, Nash 2001, Warren 2008), and pinning down the contested and overlapping meanings of these concepts is a complex challenge. Although 'nature' and 'wilderness' are terms which retain their currency and potency both in popular discourse and in the formation of conservation policy, a rich vein of critical re-evaluation has concluded that they are culturally constructed concepts with many layers of evolving meaning (Cronon 1996, Harvey 1996, Castree and Braun 1998, 2001, Whatmore and Thorne 1998, Whatmore 2002, Castree 2005). The persistence of these terms in the face of sustained critical onslaught not only demonstrates the difficulty of moving beyond familiar discursive terrains but also serves as a reminder that conceptual foundations frequently remain unexamined (Warren 2007). 'Landscape' is also a broad and complex

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term, incorporating both perceptual elements and the physical fabric of the land itself (Greider and Garkovich 1994, Bell 1999), while 'wild landscape' conjures up many diverse images and associations for different people.

This paper explores the meanings and uses of the term 'wild land' in the Scottish context. While little, if any, of the Scottish landscape is wholly unmodified by the long history of human occupation, contemporary discourses about wild places have considerable popular and political resonance in Scotland. In this context, the key objectives of the work described in this paper are:

- (1) to review relevant concepts and terminology;
- (2) to propose a typology for Scotland's wilder landscapes;
- (3) to identify key issues in the legislative and policy context for Scotland's wilder landscapes;
- (4) to evaluate existing, emerging and potential projects/initiatives for the safeguarding, enhancement and management of Scotland's wilder landscapes;
- (5) to provide recommendations for improving the status of wild landscapes in Scotland.

Following this introduction, the paper begins with a review of concepts. It continues with the presentation of the research methodologies, through which wildness is investigated through a review of relevant policy documents and surveys of key stakeholders in upland Scotland. The results are then presented, including a typology of wild areas combining both the quantitative and qualitative elements that give these places their distinctive character. The paper concludes by discussing the findings of the surveys in the light of the conceptual review, and presenting recommendations.

### **Review of concepts**

The conception of 'wild landscapes' incorporates a spectrum of landscapes with varying degrees of 'wildness.' To provide a basis for understanding what is meant by a 'wild landscape', this section begins by exploring the related concepts of wilderness and wild land. Wild land and wild landscapes are not interchangeable concepts; as discussed below, while all areas of Scottish wild land are wild landscapes, this broader term can also apply to other areas.

### ***Wilderness and wild land***

As a concept, wilderness eludes simple interpretation or definition. No universally accepted definition exists; both ecological and sociological definitions are differentiated (Fritz *et al.* 2000). Leopold (1921, p. 719) exemplifies the more attribute-based, ecology-centred approach, describing wilderness as: "a continuous stretch of country preserved in its natural state, open to lawful hunting and fishing, big enough to absorb a two weeks pack trip, devoid of roads, artificial trails, cottages and other works of man".

In contrast, Nash (2001) points out that given the complexities of the concept, a sociological definition may offer greater potential. Nash (2001, p. 5) argues that it may be appropriate to: "accept as wilderness those places people call wilderness", with an emphasis "not so much on what wilderness is but what men think it is". This highlights the importance of the user's perceptions and previous environmental experiences with regard to what is perceived as wild. Wilderness as a concept can therefore be seen as a complex combination of both environmental elements and social factors – specifically the preconceptions of the user.

Most formal wilderness definitions stress the importance of the natural state of the environment, the absence of human habitation and the lack of other human-related influences and impacts (Carver *et al.* 2002). The passage of the Wilderness Act in the USA in 1964 was pivotal in the development and exploration of the concept, both within the USA and internationally. The Act gives specific areas the legal status of wilderness, defined as: “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain” (US Wilderness Act, 1964, Sec. 2c).

The Eastern Wilderness Act, which followed in 1985, included changes to these criteria to facilitate the inclusion of both smaller areas and previously damaged land in the more densely populated eastern USA (Thorndike 1999). The issue of what constitutes wilderness remains contentious in the USA, despite a history of legislation and the creation of the Wilderness Preservation System (Powell *et al.* 2005). At the global level, IUCN – The World Conservation Union (1994) has also defined wilderness as: “a large area of unmodified or slightly modified land, and/or sea, retaining its natural character and influence, without permanent or significant habitation, which is protected and managed so as to preserve its natural condition”.

The requirement for minimal or no human impact at a large scale, evident in these definitions, has led to the wilderness concept being largely excluded from formal policies in European countries, mainly as a result of the absence of equivalent large-scale areas of unmodified land in Europe. However, 12 ‘wilderness reserves’ have been designated in Finland to preserve wilderness character and protect the Sami culture, the term ‘Inngrepsfrie naturområder’ (undisturbed nature) is used in Norway to describe areas with ‘wilderness-like’ qualities (Powell *et al.* 2005), and equivalent terms also exist elsewhere in Europe (e.g. ‘Wildnis’ in German: Hoechtl *et al.* 2005). Equally, areas identified in various ways as ‘wilderness’ are a focus for non-governmental organisations (NGOs) such as Mountain Wilderness (see [www.mountainwilderness.org](http://www.mountainwilderness.org)) and the World Wildlife Fund (WWF), which established the Protected Area Network (PAN) Parks initiative in partnership with a Dutch leisure company (see [www.panparks.org/Introduction/History](http://www.panparks.org/Introduction/History)) to both improve the management of large protected ‘wilderness’ areas and promote their use for sustainable tourism.

In general, however, these fundamental differences of spatial scale and relative human influence between North America and Europe have led to the development and use of a range of somewhat different terminology in Europe, such as ‘wild land’ and ‘natural areas’, to describe areas with wilderness-like qualities. Scotland is no exception, with the term ‘wild land’ being increasingly adopted since the 1970s to describe Scotland’s remote wilder areas. Aitken *et al.* (1992) point out that this shift away from the term wilderness also most probably reflects the recognition on the part of wild land proponents that wilderness in a Scottish context “retains a pejorative connotation as a waste or desert place” (p. 15).

### **Wild land in Scotland**

The appreciation of wild landscape may be considered part of the national psyche in Scotland. The foundations for current attitudes to landscape were established by Scottish writers, such as James MacPherson, during the romantic revolution of the late eighteenth century (Olwig 1984, Aitken *et al.* 1992), and this appreciation was further evidenced by the growth in walking and climbing in wilder areas from the late nineteenth century. However, early campaigns concerned with the conservation of mountain scenery did not generally incorporate the idea of wild land values (e.g. remoteness) as distinct from wider landscape quality (Aitken *et al.* 1992). One exception was the establishment of management principles by the National Trust for Scotland (NTS), following instructions

in 1937 from Percy Unna, a key financial supporter. The 'Unna Principles' are based on the maintenance of the 'primitive' nature of the land, being centred around prohibiting the development of infrastructure such as accommodation and way marking (NTS 2002). In 1982, the Lurcher's Gully inquiry, focusing on the expansion of the Cairngorm ski area, was pivotal in the creation of the Scottish Wild Land Group (SWLG), which continues to work to 'protect and conserve wild land throughout Scotland' ([www.swlg.org.uk/about.htm](http://www.swlg.org.uk/about.htm)). A year later, the John Muir Trust (JMT) was established "to safeguard the future of wild lands against development and to promote awareness and recognition of the value of such places" (<http://www.jmt.org/about-the-john-muir-trust.asp>), primarily in response to the sale of the Knoydart estate and anxieties about the management style of the NTS (Aitken *et al.* 1992).

As with the wilderness concept in the USA, definition of the concept of wild land in Scotland remains contentious. Aitken (1999) identified the prime issues facing the wilder areas of Scotland as: The development of the concept of wild land in Scotland; the definition of this landscape resource; and its future conservation. The issue of definition remains a key constraint to the Scottish wild land agenda, as discussed below, despite the inclusion and definition of wild land in National Policy and Planning Guideline (NPPG) 14 (Scottish Executive 1999), and the release of a policy statement (including detailed criteria for Scottish wild land) by Scottish Natural Heritage (SNH) on 'Wildness in Scotland's Countryside' (SNH 2002).

Nevertheless, the basic interpretation of the concept at the organisational level in Scotland is quite consistent (Table 1). The four organisations with formal definitions in their policies – both governmental and non-governmental – emphasise the importance of limited impacts from 'human activity' or limited evidence of 'human artefacts' in defining wild land. Therefore, it appears that there is general agreement at the organisational level that the lack of human influence – or at least the perception of this – is a fundamental wild land attribute. The NTS definition also includes the requirement for high-quality recreational opportunities, i.e. emphasising the experiential properties of wild land. It is important to note that, while agreement on a fundamental attribute (lack of apparent human influence) of Scottish wild land is apparent at the organisational level, wild land

Table 1. Wild land definitions in governmental and NGO policies.

Scottish Office Development Department: NPPG14 Natural Heritage (Scottish Executive 1999)	"Uninhabited and often relatively inaccessible countryside where the influence of human activity on the character and quality of the environment has been minimal".
Scottish Natural Heritage: Wildness in Scotland's countryside (2002, p. 2)	"The term 'wild land' is . . . best reserved for those limited core areas of mountain and moorland and remote coast, which mostly lie beyond contemporary human artefacts such as roads or other development".
National Trust for Scotland: Wild land policy (2002, p. 4)	"Wild land in Scotland is relatively remote and inaccessible, not noticeably affected by contemporary human activity, and offers high quality opportunities to escape from the pressures of everyday living and to find physical and spiritual refreshment".
John Muir Trust: Wild land policy (2004, Sec. 2.4)	"Uninhabited land containing minimal evidence of human activity".



has yet to be defined, in a locational sense, at the statutory level. The issue of definition, whether in policy or more generally, is not simply academic, and has implications for the conservation of wild land, as the planning system cannot protect an ill-defined category without the development of detailed criteria at the national level (Royal Town and Planning Institute 2001).

### *The relative importance of ecological, perceptual and cultural dimensions of wild land*

As with wilderness, wild land as a concept exhibits both perceptual and attribute-based frames of reference. SNH (2002), for example, suggests a range of both objective physical attributes (such as remoteness and density of human artefacts) and subjective human perceptual responses (such as experiencing a degree of risk) to assist in defining Scottish wild land. Similarly, Higham (1998) notes the existence of both physical attribute-based wilderness and 'sociological' (i.e. perceptual) wilderness in New Zealand. He shows that, while the former is confined to fixed locations where the imprint of human interference is substantially unnoticeable, perceptual wilderness and wilderness experiences are by no means confined to these locations. The key implication is that, for many, a wilderness experience can occur outside designated or legislatively defined wilderness areas (Higham 1998).

Any perspective on wilderness or wild land which emphasises the importance of human perceptions has implications for the relative importance of biodiversity and ecosystem functions within the concept. In Scotland, for example, the prescriptions of the NTS for wild land management include access management and fencing removal, but not deer control (Johnson 2002). This is not to say that the NTS does not control deer, but simply that this is treated as an issue separate from wild land and more related to nature conservation. The key point is that, from the recreational perspective, the effects of overgrazing are, at most, a secondary impact in terms of wild land experience relative to, for example, the presence of human artefacts. The biophysical attributes of an ecosystem, in this regard, are of importance only as far as they influence a user's experience through his or her perceptions of naturalness.

However, this apparent demotion of the importance of ecological attributes within the recreational perspective to the concepts of wilderness and wild land is somewhat at odds with previously stated definitions which emphasise the importance of ecological attributes and 'naturalness'. For instance, the US Wilderness Act (Section 2c) states that "a wilderness is ... recognised as an area where the earth and its community are untrammelled by man..."; and Cole and Landres (1996) state that a key purpose of wilderness designation in the USA is the protection of natural ecosystems, which would appear to suggest that the presence of undisturbed ecosystems is central to the concept. This view of wild nature or undisturbed ecosystems as a fundamental component of wilderness is not restricted to large areas of designated American wilderness. Fenton (1996, p. 15), for example, states that wild land in Scotland is "land that is ecologically wild – where domestic species take second place to wild species and natural processes take precedence over artificial processes". Following this view, only the highest-value ecosystems would qualify for wild land status (Powell *et al.* 2005).

In contrast, SNH (2002, p. 4) states that some areas that would qualify as wild land in Scotland according to SNH criteria are not of the highest conservation value and have a "relatively uniform and uninteresting vegetation" and that, while some areas of wild land may be ecologically degraded, their prime value for nature lies more in the extent of their near- or semi-natural habitats. Thus, any future vision for Scotland's wild places should include the aim of enhancing the diversity and quality of their vegetation and wildlife

(SNH 2002). The issue of restoration of such areas presents a further quandary for wild land managers, particularly from the ecological viewpoint, in which minimal intervention and an emphasis on natural processes are basic tenets of management (Powell *et al.* 2005). Restoration projects of an overtly visible or 'disturbing' nature could actually have the potential to reduce a site's overall wild character, at least in the short term. However, "many wild land areas could have a more diverse, and in some cases, wooded land cover if managed differently" (SNH 2002, p. 4). The key issue in this respect is perhaps not whether restoration should occur on wild land, but rather that it should be implemented in a fashion sensitive to the other characteristics of the resource.

Restoration is a human activity, and thus the issue of management for restoration links to the cultural components of the wild land concept. Wigan (1991), for example, argues that the Highland sporting estate and associated sporting land management have been major forces in the conservation of nature and wild land. SNH (2002) also recognises that the degree of wildness in many areas derives from past and present management by the landowner, and acknowledges that extensive range grazing (domestic stock) and sporting uses of the land are often present without severely compromising an area's wild land quality. In this context, it is worth noting that the specific lobby group for wild land, the SWLG, states that "it is in favour of sensitive development of rural areas where it is sustainable and takes accounts of the interests of local communities" ([www.swlg.org.uk/about.htm](http://www.swlg.org.uk/about.htm)). Carver and Fritz (1998) note, in this regard, that the Scottish Highlands have been subject to a long history of extensive settlement; only the Clearances of the early nineteenth century erased the traditional crofting communities and re-instated a sort of secondary wilderness. As a result of this long history of widespread human-landscape interaction, both Fritz *et al.* (2000) and Carver and Fritz (1998) argue that, for most parts of Europe – including Scotland – a sociological and more flexible definition of wilderness is both more appropriate and more useful. Indeed, the recognition that wild land can encompass an endogenous cultural dimension deriving from those who live on or use this land, is not restricted to Scotland or Europe. For example, in the Circumpolar North, strong and meaningful relationships are evident between indigenous inhabitants and their externally defined 'wilderness' environment (Watson *et al.* 2003); these indigenous people do not think of nature as wilderness, but as home, and fail to even recognise the idea of nature existing independently of humans (Pierotti and Wildcat 2000). Turner *et al.* (2000) make similar points with regard to native people in Canada.

Although the Scottish situation is clearly rather different, these examples do demonstrate that basing the concept of wild land or wilderness purely on the degree of human influence or level of solitude can lead to the exclusion of a broader range of values dependent upon wilderness systems – such as the development of progressive human-ecosystem relationships. McIntosh (2001), for example, highlights how the distinctive sustainability of traditional crofting communities on the Isle of Harris developed as a result of the intricate relationship between these communities and their (often considerably 'wild') environment. Mackenzie (2006) also argues that the recent creation of community trusts as large-scale landowners in Scotland has the potential for altering relationships between communities and their environments, leading to a more sustainable future for these landscapes.

Therefore, it is apparent that both wilderness and wild land can have multiple dimensions – including recreational, ecological and cultural – with varying emphasis on the relative importance of physical attributes of the land and the users' perceptions within these dimensions. Attempts to define the wild land resource in Scotland spatially have, to a certain extent, revolved around the physical attribute frame of reference, using quantifiable criteria (Aitken 1977) and analysis with geographic information systems



(GIS) (Carver and Wrightham 2003). As Brown and Alessa (2005) note, the mapping and definition of American wilderness also emphasises physical attributes, particularly because of the difficulty of integrating multiple variable perceptions. However, research both in the UK (Fritz *et al.* 2000, Carver *et al.* 2002) and globally (Kearsley 1990, Higham 1998, Kliskey and Kearsley 1993) has increasingly attempted to consider the perceptual elements of wilderness and wild land.

Crucially, in a Scottish context, SNH, the NTS and the JMT all differentiate between the two concepts of 'wildness' and 'wild land' (SNH 2002, JMT 2004, NTS 2002), with wildness being the quality experienced (through such values as solitude) and wild land being described as "extensive areas where wildness (the quality) is best expressed" (SNH 2002, p. 2). The implications are that wildness can be experienced outside of wild land areas and that, even within the SNH criteria, areas with different degrees of management and 'natural condition' qualify as wild land in Scotland. Carver *et al.* (2002) have attempted to account for this variation in wildness through the development of a wilderness continuum for the UK, generating maps of relative wildness based on physical attributes and public perceptions of the relative importance of different wilderness criteria.

The research presented below approaches these issues from two alternative and complementary perspectives: first, those of policy advisors and representatives of lobbying and landowning NGOs concerned with wild land; and second, those of managers of wild landscapes. Specifically, a typology of 'wild landscapes' is developed through discussions with both groups, and is applied to a number of Scottish sites using the results of a questionnaire survey. The concept of 'wild landscapes' is proposed, including both areas of wild land and areas of lesser wild character where the quality of wildness can still be experienced. The concept, incorporating a range of detailed wild landscape criteria, aims to be inclusive rather than exclusive, and can be applied to a broad range of sites across Scotland. This typology and its application utilise both quantifiable landscape attributes (such as remoteness) and the more subjective criteria of perceived naturalness as perceived by land managers. A more detailed presentation of the research is available in McMorran *et al.* (2006).

### **Research methodology**

To address the second and third objectives, 16 key individuals were interviewed by telephone: 10 from NGOs or lobby groups and six from government organisations. Respondents were largely in relatively senior posts and had considerable relevant experience. A semi-structured interview format with a flexible list of discussion themes was employed to ensure that respondents could explore topics of direct relevance to their area of expertise. The key theme of all interviews was the identification of opportunities and constraints in relation to the policy, planning and legislative context for Scotland's wilder landscapes and the exploration of the concepts of wildness and wild land. Interviews varied in duration from 25–45 minutes and were carried out in October and November 2005. Both electronic recording and note taking were used. Interview analysis involved coding interviewee responses according to certain themes or discussion points, with the data from each interview being separated according to these themes.

Most interviewees viewed the definition of both the wild land concept and the area of the resource itself as crucially important. As a result, the development and presentation of a typology for wild landscapes draws on these interviews to some extent, while most of the resulting findings are presented in the second and third subsections in the Results section. To address the fourth objective, a questionnaire survey of the managers of 22 wild land sites was undertaken after pre-testing on the managers of three sites that were not included in the

eventual analysis. In 18 cases, the questionnaire was either completed during a telephone conversation with the manager; in four cases, managers completed the questionnaire and returned it by email. The questions related to: site characteristics including wild character; management objectives and techniques; and project costs and benefits.

## Results

### *Wild landscapes criteria and a typology of Scottish wild landscapes*

This section proposes a typology for Scottish landscapes of wild character which incorporates both physical attributes and experiential and perceptual frames of reference. The term 'perceived naturalness' has been used as one of the four axes, to represent the viewer's perception of the relative naturalness of the vegetation. The remaining three axes are concerned with attributes which directly influence a user's perceptions and experience: scale (in terms of areal extent and topographic features); remoteness; and presence of human artefacts. The criteria shown in Table 2 were developed through both discussions with interviewees and review of NGO and SNH policy, and attempt to adequately account for the multiple dimensions of wild landscapes.

One key issue that emerged from interviews, and has been explored above, was the relative importance of the ecological dimension within the wild landscapes concept. Some respondents strongly emphasised the importance of this dimension, noting that truly 'wild' land should be unaffected by humans. However, it was more generally recognised that such areas do not exist in Scotland and that, while ecological criteria should be recognised

Table 2. Axes and criteria for a proposed typology of Scottish landscapes of wild character.

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#### *Axis 1 – Remoteness*

- Distance from settlements and public roads (3, 5 and 8 km categories)
- Limited accessibility (by lack of roads, scale or difficulty in passage)

#### *Axis 2 – Perceived naturalness – of vegetation, land use and wildlife*

- Vegetation cover mainly composed of functioning semi-natural or near-natural habitats
- Presence of ecotonal habitats and habitats undergoing natural succession, and natural treelines
- Habitat management/ecological restoration work could also be seen as a short term detractor depending on intensity (e.g. extensive tree planting)
- Intensive land use (improved grassland/crops etc.) should not be present. Plantation forestry should either not be present or be of limited impact
- Range grazing, field sports and public recreation can occur without being significant detractors – but could act as detractors dependent on intensity (e.g. severe footpath erosion, large areas of visible overgrazing)
- Presence of domestic stock considered a mild detractor; presence of large raptors as an enhancer

#### *Axis 3 – Degree of human artefacts*

- Density and number of built developments (buildings/telecommunications)
- Visible deer fencing and bulldozed roads
- Impact from outside the area (windfarms, visual, noise and light pollution)
- Level of path erosion visible in the area

#### *Axis 4 – Scale*

- An area sufficient to provide visitors with physical challenge and engender a sense of remoteness
  - Striking topographic features or rugged terrain seen as an enhancer
  - Areas of prime wild landscape should be at least 2000 ha+
  - Landscapes of wild character (not wild land) can occur at a smaller scale to a minimum of 250 ha
-

as important components in what makes a landscape wild, other factors were of equal if not greater importance. One respondent also warned against the danger of over-emphasising the importance of the ecological component of wild character:

an over-emphasis on ecology could mean that people start to see wild land as meaning excluding people and well . . . any form of land use other than nature conservation . . . culture and management must feature [in any wild land definition] if we are to combat the view that wild land is a product of the clearances and implies land emptied of people . . .

Most respondents felt that the wild land concept was primarily linked with experience, and therefore that the key attributes were those that contributed to a user's wild land experience. In this respect, low-intensity sporting or agricultural land uses and even traditional agricultural dwellings (crofts) were not perceived as automatically detracting from an area's wild character.

The term 'landscapes of wild character' does not equate directly with wild land as defined by SNH; hence, the landscape types proposed in Table 3 are divided into: wild

Table 3. Proposed typology of Scottish landscapes of wild character.

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*Category 1A – Prime core wild landscapes (high in all four axes)*

- Minimum area 2000 ha+, 5–8 km from public roads, limited accessibility
- Landscape generally exhibiting striking topography and often rugged terrain
- Large areas of semi-natural/near-natural vegetation (often mixed with woodland, representing an apparent successional climax)
- Domestic stock absent
- Little or no plantation forestry
- Human artefacts absent or in low numbers/density and unobtrusive, no roads
- Limited visible effects of fieldsports (e.g. muirburn) may be present

*Category 1B – Compromised core wild landscapes (remote, compromised naturalness or may have some human artefacts)*

- Minimum area 2000 ha+, 5–8 km from nearest public road
- Landscape generally exhibiting striking topography and often rugged terrain
- Low to moderate density of human artefacts may be present
- Some extensive range grazing by domestic stock may be present
- Some tracks and other human artefacts may be evident but with limited impacts; possibly some small areas of plantation forestry and evidence of sporting land use (e.g. muirburn) – combined impact of land uses must not heavily compromise wild character

*Category 2A – Landscapes with wild character (wild character compromised in one or more likely two axes, can be <2000 ha)*

- Few or no areas more than 4–5 km from public roads: qualified remoteness
- Human artefacts may be present and intrusive on some sites
- Currently some or all of land in use for one or all of: extensive agriculture; sporting (muirburn); ecological restoration (e.g. re-forestation scheme, could in the long term potentially increase wild character)
- Tracks (bulldozed) or other artefacts likely to be present and sometimes very visible
- Domestic stock may be present

*Category 2B – Landscapes with wild character (landscapes with wild character compromised in at least two axes)*

- Often smaller-scale landscapes than 1A, 1B and 2A
  - No areas more than 2–3 km from public road
  - Remoteness compromised by access roads and visible bulldozed tracks
  - Naturalness compromised by land uses e.g. plantation forestry, visible overgrazing, clearly visible restoration work
  - Edge effects likely from intensive agriculture, visible windfarms etc.
  - Visible human artefacts outside and within site
-

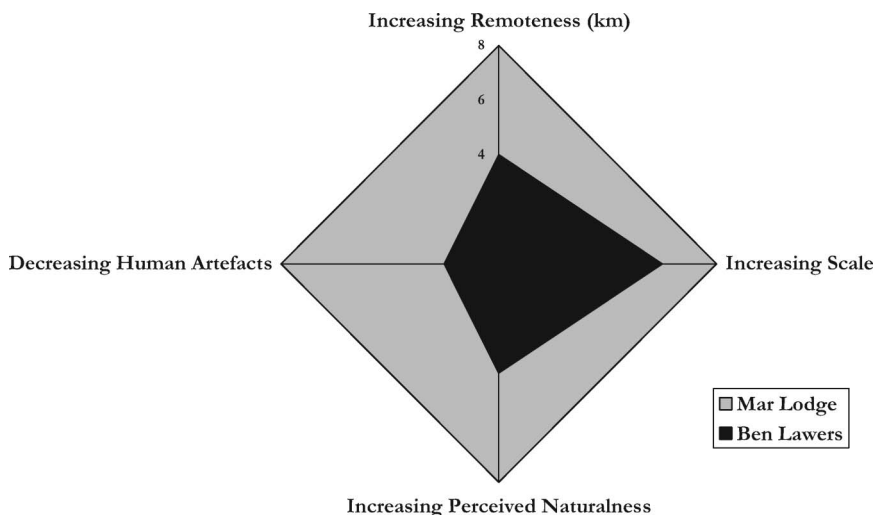


Figure 1. Theoretical positioning of two landscapes (Mar Lodge Estate and Ben Lawers National Nature Reserve) on a proposed grid of wild character. The remoteness criterion is adapted from SNH (2002); the values shown are minimum linear distance from a public road.

landscapes (1A and B) which constitute areas of wild land; and landscapes with wild character (2A and B). Category 1A could perhaps be termed the wild land 'ideal'; but category 1B is also wild land – and such landscapes are likely to offer potential for restoration. Figure 1 shows a visual representation of the four axes of wild character proposed in Table 2, using two key Scottish wild landscapes to illustrate differences in wild land parameters.

### *Landscapes of wild character – the key threats and opportunities*

Broadly, the key issue facing wild landscapes is gradual attrition and loss (Carver *et al.* 2002, SNH 2002). The key threats relate to all four axes of wild character and have been detailed elsewhere (Aitken *et al.* 1992, Powell *et al.* 2005, SNH 2002). Both key threats and opportunities for Scottish wild landscapes identified by interviewees are presented in Table 4. One issue that does not appear, but was recognised by respondents as an important indirect threat, is that of under-valuation. A number of respondents noted that although wild landscapes are one of the main reasons that tourists visit Scotland, this value is not directly reflected in market prices for land. However, these prices do, to some extent, reflect the possibility for owners to enjoy privileged access to large areas of land, especially for hunting; the capital value of land is linked particularly to the number of red deer stags on it (Smout 2000). This factor is recognised as having been influential in the slow development of protection for such areas.

### *Key constraints and opportunities for wild landscapes from a policy, planning and legislative context*

The need to clarify what constitutes wild land or a wild landscape arose continually throughout the interviews as a fundamental issue for further development of protective and supportive measures. For some, this lack of clear definition – both conceptual and spatial – has clear negative consequences for the resource itself: “developers have

Table 4. Key threats and opportunities for Scottish wild landscapes.

Key threats	Key opportunities
<p><i>Infrastructural development</i> Road and tracks; electricity pylons and telecommunication masts; renewable energy developments. Particular concern regarding potential impacts of large-scale wind turbine developments</p> <p><i>Tourism and recreation intensity</i> Potential for higher future visitor numbers to damage path networks and affect solitude. Ski developments a minor future threat. Greater emphasis on off-road vehicle usage, impacts related to large events (e.g. mountain marathons), potential for insensitively located tourism developments</p> <p><i>Forestry</i> Large-scale plantations remaining in sensitive landscapes; and roads/tracks related to harvesting</p> <p><i>Agriculture and sporting land use</i> Land use intensity more critical than land use per se; sporting and extensive agricultural land uses can occur on all types of wild landscapes without being significant detractors. Overgrazing a potential detractor</p> <p><i>Other threats</i> Expansion of fish farming in remote locations; use of upland areas for military activities; traffic noise; helicopter tourism; light pollution; localised impacts from mineral extraction</p>	<p><i>Non-viability of other land uses</i> The uncertain economic future for farming, forestry and sporting (low timber prices, declining grouse numbers, heavy deer culls, gradual removal of subsidies), so that large areas of land may become available for restoration and management for wildness values</p> <p><i>Increased funding potential</i> The removal of production-based support for agriculture could increase availability of European Commission funds for wild land initiatives. A proactive and strategic approach to wild landscapes is essential to benefit from subsidies</p> <p><i>Economic – market development</i> New markets for activities related to the economic and social benefits of wild landscapes, especially through ecotourism, provide key opportunities for their development and promotion</p> <p><i>Counter threats from other land uses</i> A focus on management of land for wild values would imply avoiding unfavourable developments in sensitive areas (e.g. large-scale wind turbines). The development of new wild areas could decrease recreational pressure in existing wild landscapes</p> <p><i>Environmental</i> The protection of existing and creation of new habitats, enhancing biodiversity, mitigating flood impacts, contributing to carbon sequestration, alleviating soil and water pollution. Large-scale wild landscape conservation initiatives would have potential as a framework for ecosystem management, cross-boundary landscape conservation and national-level ‘ecological corridor’ restoration and conservation initiatives</p> <p><i>Social benefit opportunities</i> The benefits of exercise in the presence of nature, the potential use of wilder areas in confidence building for youth at risk, use of outdoor activities in wild landscapes to alleviate stress and promote team building</p>

exploited this difficulty [in defining wild land] through rapid development now before it's more clearly understood . . . I mean, how can we protect something when we're not sure what, or where, it is".

Most respondents also felt that, in parallel with statutory definition of the resource, there should be greater recognition of wildness and wild landscapes within policy

generally; some supported the idea of a Scottish Wild Landscapes Strategy. However, despite a general perception that wild landscapes were not adequately protected, the idea of a new designation directly related to wildness was not generally supported; most respondents preferred to advocate improvements to general planning legislation and supportive measures for wild landscapes management. Some also raised the possibility of developing a set of clear management principles for wild landscapes and placing a greater 'duty of care' on landowners and organisations to protect wild landscapes and wildness as a landscape attribute. Table 5 provides a summary of the more detailed recommendations for policy, planning and legislative development in relation to wild landscapes which developed through discussions with respondents. These represent an overview of potential

Table 5. Key constraints and opportunities for wild landscapes from policy, planning and legislative perspectives.

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#### International

*Constraint:* No direct policy for wild land/wilderness currently exists at a European or international level.

*Opportunities:* Develop requirements of the European Landscape Convention (ELC), particularly awareness raising in relation to wild landscape values. Explore possibility of creating a Pan Park in Scotland.

#### National

##### 1. Scottish Planning Legislation

###### a. National Policy and Planning Guidelines (NPPGs)

*Constraint:* The lack of identification and clear definition of wild areas is a major weakness in implementing NPPG 14.

*Opportunities:* Clarification in government guidance of key criteria for wild land/wild landscapes to assist planning authorities at the regional and local level in implementing NPPG 14. Maintain recognition of wild character in future NPPG 14 reviews and introduce to other NPPGs.

###### b. General Permitted Development Orders (GPDOs)

*Opportunity:* Scope may exist for removal of GPDOs in designated or pre-defined wild areas, and also nationally, to combat unregulated developments e.g. farm buildings and bulldozed tracks.

*Constraint:* Withdrawal of GPDOs could lead to loss of flexibility within the agricultural sector to respond to changes in agricultural policy; forestry currently suffers from a heavy regulatory burden.

###### c. National Planning Framework (NPF)

*Constraint:* The NPF provides no right of appeal for individuals or community groups in relation to top tier (Scottish Executive) developments.

*Opportunity:* The development of a community right of appeal as well as a public inquiry process for top tier developments to ensure that opportunity for objection exists outside the Scottish Parliament.

###### d. National Scenic Area (NSA) Designation

*Opportunity:* The creation of new NSAs to encompass all core wild land areas.

*Constraint:* NSAs were developed to protect scenic beauty – which was generally perceived as a related but broader and even more elusive concept than wildness. Any attempts to protect wildness through NSAs will have no impact on wildness outside NSA boundaries.

###### e. National Parks (NPs)

*Opportunity:* Develop recognition of wildness as a landscape attribute in NP policy. Develop NPs as exemplars of wild landscape management in terms of defining, developing and protecting wild character.

*Constraints:* Wild landscape protection through NPs would be localised and limited as there are no plans to create new terrestrial Scottish NPs. NPs also contain some of the most heavily designated land in Scotland implying already high bureaucratic complexity in terms of land-use planning.

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(continued)



Table 5. (Continued).

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## 2. Renewable energy

*Opportunity:* The development of strategic locational guidance for wind farms at the *statutory* level, incorporating the recognition of wild land areas within the most sensitive zone. The development of support mechanisms which favour both alternative renewable energy sources (over large-scale onshore wind farms) and smaller wind farms in less sensitive locations.

*Constraints:* The Scottish Executive's Renewable Obligation (requiring power companies to purchase a set amount from renewable sources) has encouraged rapid development of large wind farms. The large number of current wind farm planning applications has created a high workload for lobbying groups and made assessing and objecting to such developments increasingly difficult.

## 3. Biodiversity/nature conservation

*Opportunity:* Further explore possibilities 1) for biodiversity conservation through large-scale collaborative initiatives such as habitat networks; 2) of linking the biodiversity and wild landscape agendas to increase the scale of biodiversity initiatives and developing opportunities for increased funding, particularly in relation to the naturalness facets of wild landscapes.

*Constraint:* Low-intensity farming can be crucial for the delivery of biodiversity targets so, for any integration of the two concepts to occur, the cultural facet of wild landscapes, incorporating low-intensity agriculture, would need to be further recognised to ensure that the idea of wild landscapes did not automatically alienate farmers.

## 4. Agriculture and forestry

*Opportunity:* Marginal agriculture and traditional forestry are declining due to changes in the Scottish rural economy, world markets and the CAP. This has necessitated diversification in these sectors, thus increasing opportunities for re-wilding initiatives, forest habitat networks and encouraging natural processes. Land Management Contracts (LMCs) may also provide opportunities for greater support for non-traditional farm based practices and landscape-oriented initiatives.

*Constraints:* Even if new grants are available, farmers may be reluctant to engage in 'non-productive' land management due to ingrained traditions and lack of confidence in non-income based activities. The requirement of recent CAP reforms to maintain agricultural land in 'Good Agricultural and Environmental Condition', by avoiding vegetation encroachment, could also negate the potential positive effects (habitat creation) of decreased grazing levels resulting from subsidy removal.

## 5. Deer

*Opportunities:* High deer numbers are a major issue for wild landscapes. Recommendations include: development of a higher-quality stag market with stalking in mixed habitats and a lower estate deer population; increasing the rates and availability of deer control grants; de-coupling estate property values from deer numbers; exploration of the removal or shortening of the closed season.

*Constraints:* Limited grants for deer control. Considerable opposition to deer population reductions among private landowners due to traditional attitudes or concerns over the resulting loss of income and jobs. Movement of deer between estates can confound efforts to reduce deer numbers on any one estate.

## 6. Tourism and recreation

*Constraints:* The tourism sector is a key user of (and developer in) wild landscapes but is not very involved with the debate as to how to manage wild areas, though increasing tourist numbers could lead to greater environmental impacts. The sector may also be criticised for its lack of diversification of service provision despite increases in the number of people seeking alternative experiences.

*Opportunities:* Three key areas with potential to enhance the relationship between tourism and wild landscapes: encouragement of diversification within the tourist sector, especially wildlife and activity holidays and standards of good environmental practice; fostering greater awareness among tourism marketing personnel that their activities can impact beyond the level of economics; further development of low key 'non-controlling' visitor management techniques based on awareness raising.

## 7. Health and social policy

*Opportunities:* The promotion of wild landscapes through health policies has considerable potential for improving the nation's health.

*Constraints:* Promotion of healthy activities through policies is usually targeted at the less healthy or physically able. Activities in genuinely wild landscapes may be inappropriate for most of this target group.

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opportunities within this broader framework to further protect and enhance wild landscapes, along with possible constraints on implementation.

### ***Wild landscapes management review***

#### *Site characteristics and expansion potential*

Projects selected for this survey varied considerably in ownership and size, and were distributed across Scotland (Table 6). Most are relatively recent: 15 of the 22 have existed for less than 25 years.

Five distinct ownership types were represented (Figure 2), with a high proportion of NGO ownership relative to private and community-owned initiatives. These proportions

Table 6. Wild landscapes management initiatives surveyed.

Title/area	Location	Year of acquisition	Landowner/ manager	Size (ha)	Remoteness level
Loch Katrine	Loch Lomond NP	2005	Forestry Commission Scotland	9600	3 km+
Assynt	N.W. Highlands	2005	Assynt Community Trust	18,000	5 km+
Alladale Estate	Sutherland	2003	Private – Paul Lister	11,000	8 km+
Ben Nevis Estate	Southern Highlands	2000	JMT	1700	3 km+
Carrifran	Dumfries and Galloway	2000	Borders Forest Trust Environmental group	660	5 km+
Knoydart Estate	Knoydart Peninsula	1999	Knoydart Foundation	16,000	8 km+
Cashel Forest	Loch Lomond NP	1998	Royal Scottish Forestry Society	1238	8 km+
Mar Lodge	Central Cairngorms	1995	NTS	29,430	8 km+
Forsinard reserve	Sutherland	1995	RSPB	15,800	8 km+
Sandwood Estate	N.W. Highlands	1993	JMT	4600	5 km+
JMT Skye Estates (3 contiguous estates)	Isle of Skye	1991	JMT	12,125	8 km+
Li and Coire Dhorrcail	Western Highlands	1987	JMT	1255	3 km+
Creag Meagaidh NNR	Cairngorms	1985	SNH	3940	5 km+
Glentana Estate NNR	Deeside, Cairngorms	est. 1979	Private – Michael Bruce	4186	8 km+
Abernethy Reserve	Cairngorms	1975	RSPB	13,714	8 km+
Torridon Estate	N.W. Highlands	1968	NTS	6500	5 km+

(continued)

Table 6. (Continued).

Title/area	Location	Year of acquisition	Landowner/manager	Size (ha)	Remoteness level
Glen Affric	Western Highlands	1961	Forestry Commission Scotland	14,736	8 km+
Goatfell	Isle of Arran	1958	NTS	2283	5 km+
Ben Lawers NNR	Southern Highlands	1950	NTS	4442	5 km+
Kintail and Morvich	Western Highlands	1944	NTS	7413	8 km+
Glencoe	Central Highlands	1935	NTS	5800	3 km+
Atholl Estate	Highland Perthshire	1700s	Private – Estate Trustees	50,000	8 km+

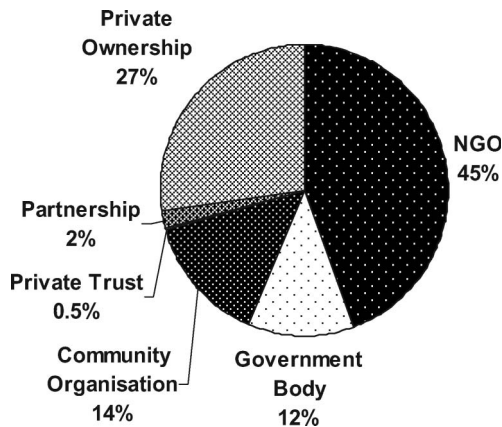


Figure 2. Percentage of surveyed sites across ownership categories.

are not representative of the Scottish situation as a whole: NGO-owned initiatives are over-represented, and private initiatives are under-represented. The distribution in this sample is due to both time constraints and the comparative ease of obtaining information from NGO-owned initiatives.

The spatial scale of the initiatives also varies considerably. When asked about possible expansion of the scale of management, most respondents stated that potential existed for the development of objectives, on neighbouring land, which would be sympathetic with those of their own site, particularly when NGO landowners were adjacent. However, six respondents stated that this would be 'very unlikely' or 'impossible' without further acquisition of land due to: the lack of interest on the part of adjacent private owners; the lack of available funding for such management; and the poor degree of communication and liaison with surrounding landowners in general.

#### *Project resource description and wild character assessment*

Most respondents perceived the sites under their management as wild landscapes, although most also noted that the degree of wildness varied greatly across their sites. Most

sites were relatively remote, with 18 having areas over 5 km from public roads, although if private roads were taken into account the proportion would decrease considerably. Three categories of 'distance from public roads', adapted from categories developed in the SNH policy statement 'Wildness in Scotland's Countryside' (SNH 2002), were used across surveyed sites to give an indication of a site's relative remoteness (Table 6).

Most respondents felt that the degree of present-day human artefacts on their site was minimal and that many of these, such as scattered crofts and bothies, had no or very limited impact on a site's wild character. However, some respondents noted that certain artefacts on their sites did have the capacity to significantly impact on wild character, especially hydro-electricity developments, water treatment works, severely overgrazed areas, bulldozed roads and eroded footpaths.

Habitat types varied across sites, with dry and wet heath being most common. Views on the quality of habitats were mixed. A total of 13 respondents stated that habitat quality across their sites was improving, primarily due to the reduction of grazing pressure and direct habitat restoration, including the removal of alien species. However, six respondents felt that habitat quality on their sites was generally decreasing, mainly due to continued overgrazing – related specifically to crofting tenures on three of the six sites. Extensive domestic grazing was occurring on eight sites; in four cases related to crofting tenures. Most respondents stated that the primary land uses on their sites were nature conservation and recreation; sporting land uses occurred on 10 sites. They rarely felt that sporting or domestic grazing were detrimental to an area's wild character per se, although all agreed that the intensity of these land uses was key to their potential impact, and that intensive

Table 7. Ranking of wild character criteria for wild landscape sites and site categorisation using wild landscapes typology.

Project name	Remoteness	Scale	Perceived naturalness	Lack of human artefacts	Wild landscape category
Mar Lodge	****	****	****	****	1A
Abernethy	****	****	****	****	1A
Glen Affric	****	****	***	**	1B
Kintail	****	****	***	***	1B
Creag Meagaidh	***	**	****	****	1B
Knoydart	****	****	**	**	1B
Torrison	**	**	**	**	1B
Glentinar NNR	****	**	**	**	1B
Atholl (wildland area)	****	**	**	**	1B
Alladale Estate	****	**	**	**	1B
Assynt	**	****	**	**	1B
Skye	****	****	*	*	1B
Ben Nevis	*	**	**	**	1B/2A
Goatfell	*	**	**	**	1B/2A
Forsinard Reserve	**	*	**	**	2A
Sandwood	*	*	**	**	2A
Glencoe	*	**	**	**	2A
Li and Coire Dhorrcail	*	*	**	**	2A
Loch Katrine	*	**	*	*	2A
Ben Lawers NNR	*	**	*	*	2B
Cashel Forest	*	*	*	*	2B
Carrifran	*	*	*	*	2B

Notes: \*Low-moderate; \*\*Moderate; \*\*\*Moderate-High; \*\*\*\*High.

grazing, in particular, was the primary reason for losses in habitat quality. Plantation forestry occurred on seven sites and was generally stated to be detrimental to wild character.

In relation to the degree of perceived naturalness of vegetation on their sites, 14 respondents stated that this was high; others stated that it was, at best, low (4) or moderate (4). As with perceptions relating to habitat quality and the impact of human artefacts, these comments must be regarded as subjective, although there was a high degree of consistency among respondents as to what they identified as enhancing and detracting from perceived naturalness of vegetation. In particular, respondents generally perceived the presence of dense non-native conifer blocks, visible overgrazing and, to a lesser extent, highly visible muirburn as detractors; and the presence of large raptors, visible woodland regeneration and visible ecotonal habitats as enhancers.

Table 7 presents a summary, in which each site has been classified using the typology in Table 3. The ranking of wild landscape criteria is a subjective judgement based on the application of criteria to each site as outlined in broad terms above and following discussion with site managers. This is also true for the measure of remoteness; even though this is measured in terms of distance 'as the crow flies' from the nearest road, such a distance, though easily incorporated into a GIS, may have little meaning in an area of complex topography. One key observation is that some sites, such as Assynt, Skye and Glencoe, rate high on certain criteria and distinctly low in others. Glencoe provides a good example of how one criterion can significantly reduce the overall wildness rating. In this case, a public road running through the site has led to a low overall remoteness rating, even though Glencoe is often perceived as one of Scotland's most iconic wild landscapes.

### *Themes of management*

Four key 'themes of management' or approaches were evident across the 22 sites (Table 8). While some initiatives conform to a number of themes to some extent – and most had some aspects of sustainable management – sites are assigned in Table 9 to the most appropriate category, to assist in describing and further exploring the subtle differences in management emphasis. The sustainable management theme was generally more evident in the objectives of private, community and partnership-owned sites, while the natural processes theme was restricted to sites owned by NGOs and government agencies.

Table 8. Themes of management for wild landscapes.

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1. *Large-scale woodland/habitat mosaic restoration.* Emphasis on large-scale habitat restoration, particularly woodland, through natural regeneration and tree planting. Restoration based on expansion of existing semi-natural habitats or attempted creation of habitat mosaics and woodlands without core semi-natural habitats.
  2. *Conservation and access.* Management based on conservation or improvement of *in situ* habitats rather than large-scale habitat restoration or species re-introductions. Promotion of recreational access usually important.
  3. *Natural processes/non-interference.* Emphasis on non-interference and large-scale restoration of natural processes in areas of high habitat quality. Development of interpretative facilities and/or promotion of access usually of low importance. Deer fencing and tree planting usually not used.
  4. *Sustainable management.* Strong emphasis on management for 'local community benefit' or maintenance of traditional land uses at low intensities. Emphasis on cultural components of wild landscapes, as well as ecological and recreational.
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Table 9. Wild landscape sites categorised by wild landscape type and principal theme of management.

Project name/ownership	Wild landscape type	Management theme
Mar Lodge (NTS)	1A	Natural processes
Abernethy (RSPB)	1A	Natural processes
Glen Affric (FCS)	1B	Natural processes/habitat restoration
Kintail (NTS)	1B	Conservation and access
Creag Meagaidh (SNH)	1B	Natural processes
Knoydart (Community)	1B	Sustainable management
Torrison (NTS)	1B	Natural processes
Glentinar NNR	1B	Sustainable management
Atholl Estate (Private)	1B	Sustainable management
Alladale Estate (Private)	1B	Sustainable management
Assynt (Community)	1B	Sustainable management
Skye (JMT)	1B	Conservation and access
Ben Nevis (JMT)	1B/2A	Conservation and access
Goatfell (NTS)	1B/2A	Conservation and access
Forsinard Reserve (RSPB)	2A	Large-scale habitat restoration
Sandwood (JMT)	2A	Sustainable management
Glencoe (NTS)	2A	Conservation and access
Li and Coire Dhorraic (JMT)	2A	Natural processes
Loch Katrine (FCS)	2A	Large-scale habitat restoration
Ben Lawers NNR (NTS)	2B	Conservation and access
Cashel Forest (RSFS)	2B	Habitat restoration/sustainable management
Carrifran	2B	Large-scale habitat restoration

### Discussion and conclusions

Wildness is a concept that has powerful resonance in Western society generally and in conservation thinking specifically, conjuring up evocative notions of naturalness. As Whatmore (2002, p. 9) observes, “the treatment of the wild as a pristine exterior, the touchstone of an original nature, sets the parameters of contemporary environmental politics”. This is certainly the case in Scotland where there is a strong ‘constituency for the wild’, both popularly and politically. This advocacy persists despite the existence of two strongly countervailing realities: first, the fact that wildness and naturalness are complex, contested concepts which have been under intense critical fire for some time (Cronon 1996, Castree 2005) and, second, the fact that no part of the country is wild in the sense of being entirely unmodified by human activity. All Scottish landscapes are cultural landscapes, the product of thousands of years of interaction between human society and the biophysical environment, making “true wilderness ... a matter of the remote past” (Smout 1993, p. xv). These realities notwithstanding, it is nevertheless the case that a *sense* of wildness – a perception of ‘nature in charge’ – can still be experienced in large tracts of Scotland’s countryside, and it is perhaps the preservation of this elusive quality which is a prime motivation for the preservation of the places where it can best be encountered.

Wild land is not defined spatially in Scotland at the statutory level, and current definitions of wild land in policy and planning guidelines lack clear criteria and detail. Carver *et al.* (2002), through the use of GIS-based wilderness mapping techniques, also show that a significant proportion of the wildest areas in Scotland are not subject to any conservation designation. The criteria for wild landscapes outlined above provide a clear framework that could be used as the basis for developing detailed statutory criteria, not



only for wild land, but for the broader concept of wild landscapes. This could allow for greater clarity in relation to the protection of wildness as a landscape attribute. The process of developing a typology of wild landscapes has re-emphasised the fact that the concepts of wildness and wild landscapes are complex, consisting of an intricate mix of distinct criteria. It should be noted that, to a considerable extent, the criteria used in the typology coincide with those developed by Lesslie (1993) for the Australian Wilderness Inventory. The principal difference is that Lesslie (1993) included two measures of naturalness ('apparent' and 'biophysical'), while the criteria developed in this study include only one naturalness criterion, but also a scale criterion. This underlines the reality that any typology or set of criteria is culturally specific, reflecting the particularities of a given geographic and social context.

A fundamental consideration in the development of any statutory criteria would be the sensitive treatment of traditional land uses within the concepts of wild land and wild landscapes. Many wild landscape managers do not perceive traditional land uses such as sporting, extensive range grazing and even sustainable forestry as necessarily detrimental to a site's wild character. However, the relative intensity of such land uses is of key importance and is directly related to their impacts on a site's wild character. The recognition that traditional land uses and wild character may be able to occur together may seem paradoxical. However, as Watson *et al.* (2003) point out, an over-emphasis on certain attributes of wilderness, such as the potential for solitude experiences, can lead to the exclusion of a broader range of frequently complementary values. In the case of Scottish wild landscapes, these could include the potential for sporting experiences, the maintenance of traditional agricultural activities and crofting settlements, the practice of long-term sustainable forestry, and the potential for sensitively developed eco-tourism.

The inclusion of sensitively managed low-intensity land uses within the concept of wild landscapes could lead to greater support for the concept from private landowning and farming communities, and to greater potential for collaborative management. As shown by the policy review above, an over-emphasis on ecological criteria and the exclusion of humans from the concept is likely to result in the alienation of these communities and general lack of support for it. The results of the management review highlight the greater emphasis (at least in terms of objectives) on sustainable management among private, community and partnership owners. This may reflect both necessity on the part of private and community initiatives – which lack outside sources of income relative to NGOs and government agencies – and greater appreciation of a wider range of wild landscape values among collaborative initiatives such as community and partnership ownerships.

The policy context for wild landscapes is broad, and many respondents to the policy review recognised that land-use policy for Scotland, in particular, is in a state of considerable flux. This uncertainty and potential for change represents a clear opportunity for those concerned with wild land to capitalise on changes in land-use funding. In parallel with these policy changes, the potential for a diverse range of wild landscape-oriented initiatives is currently being recognised and developed (Taylor 2005). These include scoping studies for the creation of large-scale 'wildwoods' across the UK (Worrell *et al.* 2002), the strategies of the Royal Society for the Protection of Birds (RSPB) for various large-scale habitat restoration projects (RSPB 2001), and the Forestry Commission's plans to restore large areas of native woodland across Scotland (Peterken and Stevenson 2004).

Carver (2005) describes how GIS mapping techniques can be used to systematically identify areas offering high potential for restoration or 're-wilding' given their proximity to core wild land areas and their potential to act as wild corridors between these. The wild

character grid (Figure 1) also offers potential for use as a tool to assess and monitor changes in the wild character of specific landscapes; future development of this methodology could incorporate a more extensive and detailed list of indicators than those shown in Table 2, and the grid could also be refined by incorporating rings at different distances from the centre to correspond to degrees of wild character for any given landscape. Thus, it could be used as a management tool to help highlight which wild character parameters score low for a particular area and hence to identify potential for improvement through sensitive management. Comparably, Landres *et al.* (2005) propose the use of a grid to monitor changes in specific biophysical indicators of wilderness in the USA, pointing out that the values of such indicators vary from one area to another.

The wild landscapes typology (Table 3) also recognises that wild character is evident outside wild land areas. Higham (1998), among others, has shown that people may have wilderness experiences outside wilderness areas. In this context, Taylor (2005) proposes that core wild land areas may be bordered by buffer zones in which a higher level of recreation (than in core areas) and low-intensity land uses could be encouraged. The grading of landscapes according to the typology, combined with identification of which wild character parameters score highest, could assist in zoning landscapes to minimise recreational and land-use impacts on core wild land and promote the delivery of wild land experiences in areas with lower wild land character. Research to identify user preferences and perceptions of wilderness experiences in Scotland could assist considerably in identifying recreational preferences in this regard.

As noted above, private estates were under-represented within the sample group for the management survey. Furthermore, a number of respondents noted that wildness varied considerably across their sites. For example, while the Mar Lodge estate achieves the highest ranking in Table 7, some parts of the estate closer to roads and other infrastructure are more similar to the 1B or 2A categories. This suggests that the future application of the typology (potentially within a GIS framework) would require a degree of zoning, to differentiate between different categories of wild landscape at a regional scale. Wild landscapes generally do not stop or start at an ownership boundary, and relatively 'wild' estates often share common boundaries. Consequently, assessment of the wild character of specific landownership units has serious limitations; the assessment and delineation of wild landscapes may therefore be more appropriately carried out at the landscape (rather than the ownership boundary) scale by focusing on previously recognised remote areas.

Nevertheless, analysis based on ownership can lead to a greater understanding of variation in both management approaches and wild character in relation to ownership type. Finally, while the evaluation of wild character through a survey of managers was also based on a primarily qualitative approach, there was a high degree of consistency among respondents in terms of what constitutes wild character and of the primary threats leading to its actual or potential loss.

In conclusion, it must be recognised that the definition of the resource itself is central to the wild landscapes agenda in Scotland. The development of detailed criteria for wild landscapes in planning and policy guidelines is a key concern, as is statutory definition of core wild landscapes, so that they can be spatially located. Spatial definition or designation could help to protect key areas in the long term. Nevertheless, wildness can be experienced in a variety of settings, and future protective measures must take this into account in attempting to conserve the quality of wildness throughout Scotland – not just in core wild land locations. Two factors need particularly careful consideration in relation to criterion development and the protection and management of Scottish wild landscapes: first, that wild landscapes exhibit a range of values, and that land uses other

then recreation may be compatible with the concept of wild landscapes – albeit when carried out at low intensities and in a sensitive fashion; second, that there are various perceptions of wild landscapes, so that identifying the preferences of different user groups in relation to what is considered wild is an important component in determining suitable future management and policy development for these landscapes. Finally, the ongoing major changes in land use policy at both the European and national level present key opportunities for those concerned with wild landscapes to capitalise on potential new sources of funding, and to influence what may be significant and imminent land-use change across Scotland.

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