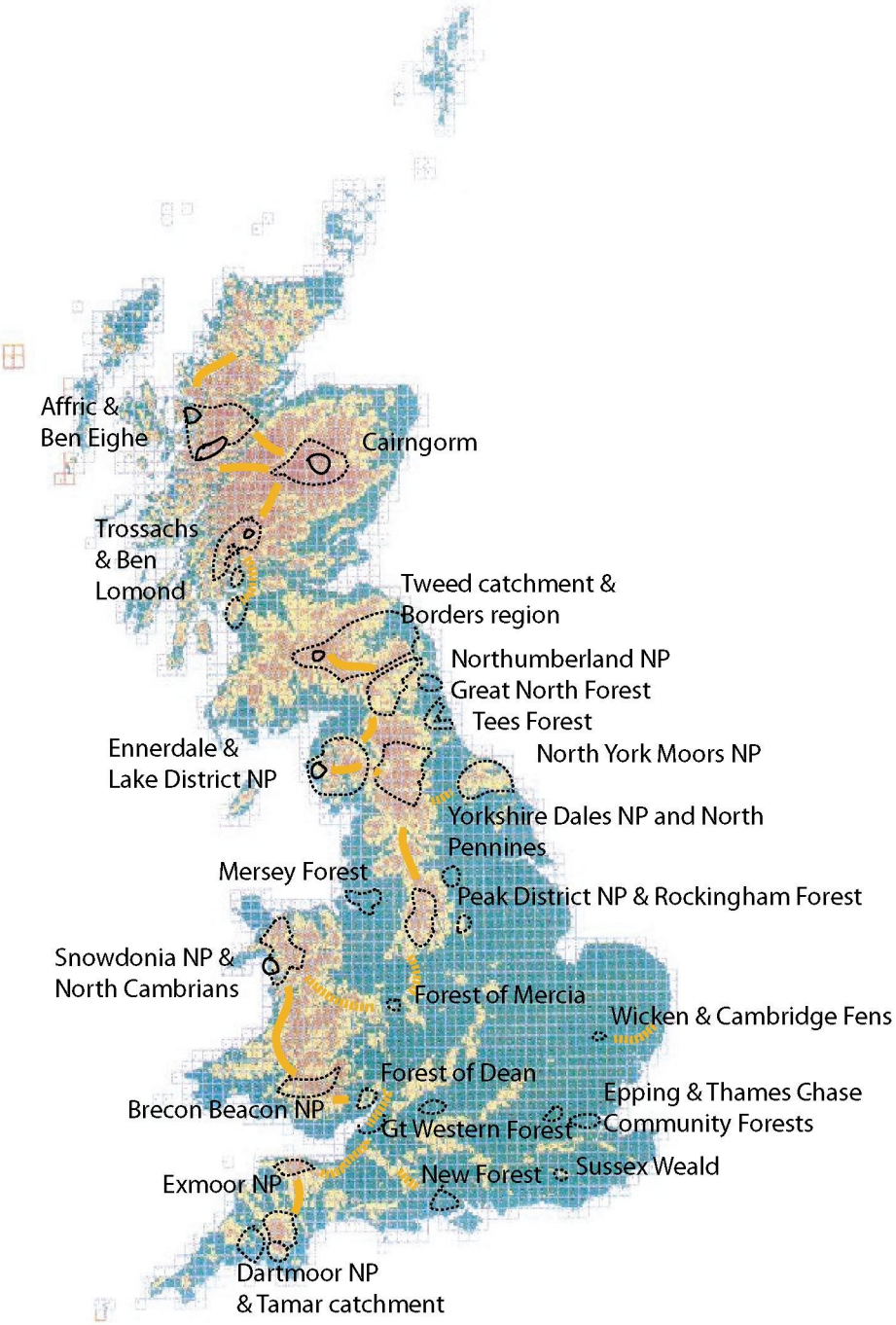
Cores and Connectivity: A Wildlands Manifesto for Britain



Carnivores, cores and connectivity: toward a wildland strategy

The essence of wildland is that it should be a large area sufficiently free from human dominance that natural processes can operate, in particular the natural succession of vegetation and its recovery from storm and fire damage, wild grazing regimes and top predators. Such a policy has many advocates and differing justifications, ranging from the biological imperatives of robustness in the face of climate change, to diversity of habitats and species; as well as the cultural and philosophic elements of natural sanctuary, wholeness, spiritual and recreational amenity, and the potential economic benefits of ecotourism. A wildland programme in Britain would encompass these objectives and go 'beyond conservation' into the large scale re-wilding of marginal agricultural and forest lands, rivers and coastlines.

In the USA a wildlands movement has developed that espouses three goals – cores, corridors and carnivores, with the last being central to the concept of a truly wild land designation, and although the situation in the UK has developed in relation to much smaller areas, it embraces much the same strategy.

There are already many schemes in operation, from a few hundred hectares to ambitiously large landscape-scale projects of several hundred square kilometres. This Wildland Manifesto puts forward a coordinated approach through targeted habitat creation with full use of the support schemes available for environmentally sound agriculture, native woodland and river restoration schemes coupled with the cooperation and strategic purchase of land by voluntary bodies and other consortia.

Cores and Connectivity in the British conservation heritage

Although fully protected conservation sites in the form of National Nature Reserves (NNRs) and other designations, such as Special Areas of Conservation (SACs), Woodland Trust and RSPB sites are relatively small in extent, there are extensive wildlands within National Parks, Forestry Commission and National Trust holdings that have some degree of protection for their wild character. Added to these are large areas owned by water companies, and in Scotland, many large estates dedicated to deer-stalking, grouse-shooting and fishing. There are also relatively new Community Forest initiatives close to and at times inter-penetrating major conurbations. These wildlands have great potential for an integration programme of cores and interlinking corridors.

Core areas:

The large-area *wildland* initiatives in Britain range from pilot schemes of 1000 ha, to habitat networks involving areas of 100-2000 km^2. Whilst the ethos of these schemes relates to a general *re-wilding* ethic involving space, tranquillity, natural processes and restored vegetation in the form of regenerated ancient forest [1], many of the ecologists involved appreciate that a functional forest consists of a native herbivore guild and the large carnivores it would support, and that larger core areas must also have links to other areas via wildland corridors. [2,3,4,5]

Carnivores:

Britain's large carnivores and the more dangerous of the grazing herbivores were exterminated by hunting and forest clearance: the bear and lynx in Roman times, and the wolf by the beginning of the 18th Century; wild cattle disappeared in the immediate post-Roman era, wild boar and beaver in medieval times, elk and wild horse in the pre-Roman era. In the last decade conservationists have begun seriously to consider the potential for re-introductions. It is widely accepted that wolf and lynx could be introduced without significant ecological barriers in Scotland, where there is suitable habitat and prey, whereas we require further understanding of the habitat requirements of bear. There are areas in England and Wales that could potentially support lynx. The main barrier to the return of large carnivores is the perceived economic risks to established land uses in sheep farming, deer stalking and grouse shooting, as well as public phobia about dangerous 'beasts'.

Eurasian lynx

European wolves

Wild herbivores are less problematic but require large core areas to be established, following the example of Dutch conservationists in their lowland reserves where deer, wild horse and wild cattle have been introduced.

Exmoor wild horse

British wild Chillingham cattle

Initial thinking on carnivores has involved relatively broad assessments related to available habitat and prey. Yalden, for example, suggested limiting the first re-introductions to the island of Rhum, a National Nature Reserve with no agricultural use and few inhabitants. However, recent thinking has been part of a more general move to restore degraded upland environments to more natural conditions and to establish a greater degree of forest cover. It is now government policy in England (with 8% woodland) to double the area of forest and for the greater part of new planting to be 'native' species in a multi-functional forestry that enhances biodiversity and public amenity. In Wales, forest cover is greater with 30% in Snowdonia (almost entirely plantations of short-rotation pulp-wood), and it is government policy to double the proportion of semi-natural woodland. Even in relatively well-forested Scotland, the proportion of native-species is low, and there are wide-ranging initiatives to regenerate the ancient forests of Caledonian pine (*Pinus sylvestris*).

Large scale Forest Habitat Networks

These reforesting initiatives present opportunities for the re-creation of larger scale *forest habitat networks* – a concept developed in order to integrate new woodland with other conservation objectives, such as the preservation of secondary associations of *Calluna* heath, upland grassland, and blanket bog, as well as maintaining the upland farming communities which manage these secondary habitats.

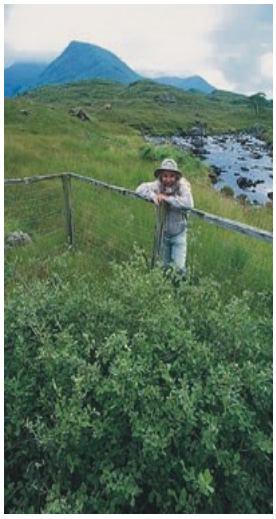
In addition to these larger scale government-agency initiatives, there are several important and pioneering voluntary-sector projects aimed at the complete restoration of ecosystems to wildland. One of the main problems with reforesting programmes is that they are largely focussed upon trees – whether for timber or amenity, and any large scale land-use changes must also serve social and economic criteria relating to maintenance of rural life. Wildland projects relating to the 'wilderness' ethic of limited human intervention, natural processes and small scale ecotourism are more problematic, and although a major government review of the UK's National Park's policies [6] recommended 'core areas' of truly wild land, no government commitment ensued. Only the National Trust has taken the initiative in the purchase of contiguous areas and cooperative work with government forestry agencies[7].

The 'core area' initiatives

In the mid 1990s several conservationists determined to further the concept of core areas. Alan Watson Featherstone in Scotland, Peter Taylor in Wales and Adam Griffin

in England had each developed core area proposals, and this small group began the long process of education and lobbying for change.

Scotland: Glen Affric



Alan Watson Featherstone's award-winning group, *Trees for Life,* has been the most successful, having drawn support from government forestry agencies and a major landowner – The National Trust for Scotland, and now working to restore native Caledonian Forest in a large area centred upon Glen Affric [7]. In 2007 TfL were able to purchase 10,000 acres of an adjoining estate which should enable them to consider re-introductions. If this work is successfully expanded with corridors across to the west coast where there are several large National Nature Reserves, an area of almost 2000 km^2 can be transformed into a mosaic of pine forest, montane scrub and grassland. At present the area contains red deer *Cervus elaphus* and roe deer *Capreolus capreolus* at population densities that severely limit natural regeneration of the forest. The main work has involved fencing to encourage natural regrowth and planting of native seedlings in areas distant from seed trees.

It has always been part of the *Trees for Life* vision that the full spectrum of animals be restored to a 'living forest'. This includes the return of extinguished large herbivores and the predator guild. Thus, moose *Alces alces* (extinct ca 3000 BP), tarpan *Equus ferus* (ca 6000 BP), and aurochs (3000 BP) – the latter two making use of primitive Exmoor ponies and either reconstituted Heck cattle, White Park cattle or the Highland breed of hardy horned animals, could all be considered, as well as wild boar *Sus scrofa* of which there are two recently established feral groups of escaped wild-type farmed stock now colonising southern England. TfL have already set up experimental enclosures with wild boar in Glen Affric to carry out research on their impact in pinewoods. One enhancement that is sought in the short-term is the return of beaver *Castor fiber* and with this in mind, in 1992 a small group of committed conservationists began a campaign for re-introduction of the beaver as a keystone species, by visiting re-introduction sites in Brittany. After 16 years, government has

agreed a programme of limited re-introduction for Scotland, and Kent Wildlife Trust have introduced penned animals as 'management tools' on their Ham wetland reserve.

The Glen Affric area could readily support wolf and lynx given the abundance of deer (there are about 300,000 red deer in Scotland) and paucity of farming in the region. However, the vegetation has suffered almost two millennia of degradation, and further research would be needed with regard to the suitability of the region to support bears.

Outside of Glen Affric, Scotland has a number of rewilding projects, with all the major conservation bodies engaged, often in cooperative ventures, to restore natural forest lands – the RSPB and National Trust for Scotland are active in the Cairngorm Mountains, the Woodland Trust around Loch Lomond, and there is a pioneering wildland project at Carrifran in the southern uplands in an area almost devoid of trees but close to the great network of forests on the Scottish borders [8]. This project bought 1000 acres by public subscription. In addition, a private initiative on the Alladale estate of Paul Lister in Easter Ross, aims to fence off a large part of the glen and re-introduce boar, elk, lynx, bear and wolf. In 2008, elk were imported from Sweden to begin a breeding project in one of the pens, and wild boar were also introduced to experimental enclosures.

Carrifran in the Southern Uplands

Wales: Coed Eryri and the Cambrian Mountains

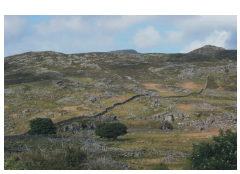
A Welsh group was formed in 1990 to further the idea of large area restoration and wildland in Snowdonia (Eryri) [9]. In contrast to Scotland, the potential core areas in Welsh National Parks are all heavily grazed by domestic stock and rural life is dominated by the infrastructure that supports hill livestock farming. Attempts by government to control grazing and encourage natural regeneration of native Atlantic oakwoods have been of limited success, barely securing the status quo, with only 1% of the National Park having anything approaching natural vegetation status. Valley woods are over-grazed and there are large areas of grazed upland heath and grassland that would naturally be oak-birch forest or montane willow-juniper scrub.

Snowdonia is also heavily used for recreation, sport, drinking water and hydro-electric supplies, with concomitant tourist infra-structure, as well as containing long-established Welsh-speaking communities in small towns developed during a major industrial past connected to slate mining.

This makes an unpromising ground for core areas – but one candidate area of the order of 200 km^2 does exist within the 2130 km^2 of the National Park. The geological

area of the Harlech Dome – the *Rhinogydd* has a core of extremely rocky ground, remnant oakwoods, remote upland heath and grassland, with no through roads. To the east it is connected to other remote areas of the Park, though bisected by a major road, and on all other sides by estuaries to the north and south and coastal areas to the west.

The Rhinogydd



The North Cambrians

Parts of the proposed core area of the *Rhinogydd* are owned by the National Trust and government forestry bodies as well as private forest companies. There is a patchwork of land-uses involving plantation of conifers, sheep and cattle grazing. There are no native large herbivores left, though one forest block contains fallow deer *Dama dama* and there is a small population of ancient feral goats that are of some conservation value.

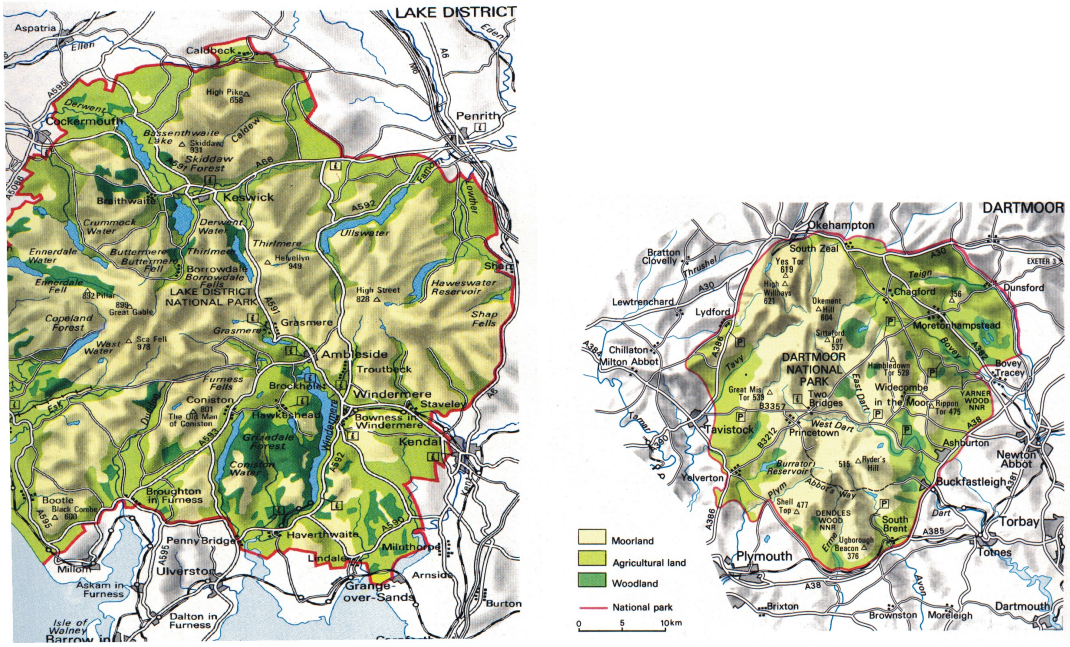
Proposals for a wildland initiative in this area, which is surrounded by sheep farms and small tourist towns, are necessarily complex and of a different kind to Glen Affric. They involve the slow process of education, government policies aimed at restoring biodiversity to farmland, restructuring of former single-purpose forestry plantations, strategic purchase of land for minimum intervention management, and eventually, proposals to limit vehicular access and military overflights.

Once sufficient of the core area is under minimum-intervention management and restoration of native forest cover, consideration can be given to restoring the native herbivore guild – wild cattle, tarpan, red and roe deer, boar and beaver. On ecological criteria, the area is probably too small to support wolf and bear without a major change of land use in contiguous areas of the Park, but we believe lynx could be supported once deer numbers were restored.

Ultimately, any core area will require connectivity to other wild areas for its viability and in this, major problems are presented by transport infrastructure and upland land use. In this respect, with fewer large urban areas of motorways, Wales is better served than England. We can envisage wildlife-friendly corridors devoted primarily to forestry (in a mosaic of habitats) that would link the *Rhinogydd* to the main Cambrian Mountain chain, an area of species-poor upland grassland and conifer plantation with small remnants of Atlantic oakwood. The government's Land Use Policy Group is working on issues of corridors and forest habitat networks ('New Wildwoods' [10]), with some potential for success in the northern part of the Cambrian mountains.

England: Lake District fells, Cambridge fens and Dartmoor

There are a few potential wildland areas in England despite the very high urban populations close to all the National Parks[11]. The wildest areas are in the North Pennines, Lake District and borders region of Northumberland. However, the North Pennines consist of sparsely wooded upland zones of acid grassland and blanket bog (with high nature conservation value ascribed to the secondary habitats), the Lake District is heavily used by the tourist industry and for upland sheep production, and the Northumberland borders region contains some of the most extensive planted conifer forest in Western Europe. Any of these areas could offer candidate sites of several hundred square kilometres, with similar challenges to the Welsh project – and one such area managed by two major landowners – the government's Forest Enterprise and the National Trust at Ennerdale in the western part of the Lake District is subject to minimal intervention and relatively mild programme of 'rewilding' that seeks to balance all of the competing interests. Lowland potential in other parts of England is limited but the National Trust plans to restore 10,000 ha of fenland near Cambridge over a 50 year period.



Dartmoor

In respect of the competing interests of farming, tourism and game shooting conservationists are ill-advised to draw lines on maps and start planning ecological restoration programmes! The best way forward is for local community initiatives to begin the long and laborious process of education and cooperative endeavour. In this respect, only Dartmoor holds such potential, with a well-established group, community programmes, lectures and conferences to communicate with a plethora of stakeholders in agriculture and the National Park.

Dartmoor has a small population of red and roe deer, and a large population of feral horses of mixed provenance (nearby Exmoor National Park holds a wild population of primitive tarpan-like ponies that are often used for conservation management of wild land elsewhere). The Moor is also heavily used for sheep and cattle rearing. Although the National Park, like Snowdonia, is relatively large, at 953 km^2, land uses present major problems in the north (military training zones), the south-east (ancient 'common' grazing rights, and areas of high conservation value for plants, insects and birds associated with unimproved pasture land). Only in the south-western 200 km^2 is there a promising wildland zone, with the National Trust owning significant land.

Opportunities for carnivores are more limited than the other sites, but lynx would be possible. Dartmoor and the neighbouring Exmoor National Park already have a reputation for supporting feral big cats, including recent reports of breeding puma *Puma concolor*![12]

Economic change in the upland regions

The potential for realising these large-area schemes outside of Scotland depends very largely upon government policy relating to livestock husbandry in the uplands. Virtually all UK upland farms have been uneconomic and subsidy dependent for the past 10-15 years. This production-support policy has led to overstocking and

degradation of semi-natural areas. Hill-sheep range over unfenced upland heath and bog converting rich floristic associations to large expanses of species-poor acid grassland. With pressure mounting through global trade agreements to limit such subsidies, agricultural reform is underway. In Wales there are schemes to reward upland farmers for better practice and there has been a shift away from 'headage' payments toward payment for environmental improvements. However, such schemes cannot be expected to arrest the economic decline, and this has motivated government to assess the feasibility of land-use changes toward forest habitat networks. In addition, carbon sequestration in mitigation of climate change under the Kyoto Protocol is being given more serious consideration than a decade ago.

These economic changes, together with a generally declining market for meat, following BSE and the Foot and Mouth epidemic, which severely dented both farmers' confidence as well as consumers, lead us to believe that new policy initiatives will receive a steadily more favourable hearing in government.

Research agendas

The development of a generalised *wildland* ethic that would return large areas to be subject to natural processes rather than intensive conservation management is a major aim of this initiative. This means re-establishing native herbivore grazing regimes, with predators, in a semi-natural forest environment (accepting that totally natural ecosystems cannot be re-created in Britain). In this endeavour there is a shortage of research, at least in Britain, on the dynamic relationship between native herbivores, especially browsers, and the forest vegetation, as well as predator-prey interactions. There is also a requirement for economic and social research on wildland programmes with tourist and educational sector potential.

The British environment has its unique elements in the wildland debate, not the least of which is the proximity of large urban populations to wild areas, intensive agriculture and a fragmented natural environment, and it is perhaps from similar areas in Europe, that we have most to learn. There are now ongoing contacts with the Dutch initiatives.

References

1. Council for National Parks (1997) Wild by Design, CNP, London.
2. Stephen Harris (2001), Return of the Natives, *BBC Wildlife* May, p62-64.
3. Derek Yalden, (1999) A history of British Mammals, Poyser, London.
4. Peter Taylor (1995) Whole ecosystem restoration: recreating wilderness? *ECOS* 16(2); - (2005) Beyond Conservation: a wildland strategy. Earthscan, London.
5. Alan Featherstone (1997) The wild heart of the Highlands *ECOS* 18 (2) .
6. Edwards R. (1991) Fit for the future. Report of the National Parks Review Panel. Countryside Commission. HMSO, London.
7. see www.treesforlife.org.uk for details of the Glen Affric project.
8. see www.carrifran.org.uk for details of this project in the Borders region.
9. Peter Taylor (1995) Coed Eryri *Reforesting Scotland* 13, p10-13. See also Eric Maddern's www.caemabon.co.uk for cultural ecology project.
7. Land Use Policy Group (2002). New Wildwoods. LUPG, Joint Nature Conservation Committee, Peterborough, England.
8. John Harvey (2001) The role of large areas in nature conservation, *ECOS* 22 (1).
9. Peter Taylor (2002) Big cats in Britain *ECOS* 23 (3/4).