Extracts from

A Pot-Pourri of Nature
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by

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Wild Land or Wilderness – Is There a Difference?

What do conservation groups mean by wilderness and wild land?

How many times have you read recently, particularly in the outdoor press, that such-and-such a place is the Last Great Wilderness (LGW)? How many LGWs do you know? Should LGW become an official landscape designation? Seriously, though, this label does imply that wildernesses are seen as important, indeed attractive, to people. In nature conservation circles there is also much talk of allowing nature reserves and other protected areas to manage themselves by letting them 'go wild'.

However, at a recent seminar on wild lands and wilderness in Scotland,[1] there was little agreement as to what constituted a 'wild area' or 'wilderness', and there appeared also to be a wide range of possible 'wilderness experiences.' One main conclusion was that 'wilderness is a culturally-derived concept'. But, what concept is not culturally-derived?

Core concepts of wilderness

In Scotland people wanting to conserve the environment are afraid to use the term 'wilderness' at all, preferring the term 'wild land'. Wilderness has a bad press (as it nearly always has had – Anthony Smith tells us that the word wilderness is used in the Bible 300 times and all its uses are derogatory[2]; however, did not Christ's 40 days and 40 nights in the wilderness strengthen him for his later mission?). The argument in Scotland goes that, because there were once people living in what are now lands empty of people, indeed often cleared of people in the Clearances, these empty lands are not a true wilderness for there should be people living there; and a wilderness cannot have people living in it.

In addition, the Highland landscapes themselves have been

largely modified by human activity – they are not 'natural' landscapes – the implication being that wildernesses should be natural.[3]

However, this does introduce two of what everyone agrees are core concepts of wilderness – emptiness (of people) and naturalness. The two are, of course, related: an area of land empty of people, and especially one having had no historical occupation, is likely to be natural *(i.e.* not influenced by man and his activities). And even once-occupied areas can in many cases revert to natural vegetation. Conversely, a natural area is likely to be one with minimum human intervention, *i.e.* unoccupied.

But wildernesses are not wastelands. A wasteland is a place that has been ecologically devastated by human activity. A wilderness can be rich in life.

Arguments against the wilderness concept

The concepts of naturalness and emptiness can be pushed too far, and can lead to sterile arguments about the nature of wilderness. One such argument is that, because we are part of nature (which of course we are), then all our activities are natural, thus making the whole concept of naturalness irrelevant, and undermining the idea of wilderness. However, following this reasoning, if you argue that everything is natural, then the word 'natural' loses its meaning completely: such a word only has meaning in relation to its opposite – artificial. And 'artificial' is a useful concept: to separate our creations (whether a table, a car or a designed landscape) from 'natural' creations does help us make sense of the world.

Another argument against the wilderness concept is that mankind has been modifying the surface of the world almost ever since we evolved: we have made, for example, the woolly mammoth extinct over most of the northern hemisphere, as well as many other large mammals, which will have modified the overall grazing patterns in these areas, and so affected the vegetation cover. Similar extinctions have been caused by aboriginal populations the world

over, *e.g.* in New Zealand and Australia. There never has been a Golden Age of man in harmony with nature.[4] There have also been very few areas of the world without indigenous human populations – only Antarctica, Svalbard, and a few remote oceanic islands come to mind.

Nowadays even previously unpopulated areas such as Antarctica have had their ecosystems changed through our activities, whether destruction of the great whales causing a changed food chain *(e.g.* more penguins), or human-induced climate change affecting the whole globe. Hence, there is nowhere left on earth that is completely 'natural' and therefore no such thing as true wilderness anymore.

Strictly speaking, I suppose, the above argument is correct. However, there are degrees of wilderness. Maybe there is no true wilderness left on earth, but there are still some pretty good approximations. And perhaps the more recent concept of wildernesses being places where 'natural processes' are to the fore, rather than being natural *per se* is more useful.

Wild land *versus* wilderness

And there is also the question of scale; do wildernesses have to be large? If 'natural processes' is a more useful concept than 'natural', then there are numerous small areas where natural processes predominate, where mankind is not in charge, where nature is taking its course – mini-wildlands if you like. For example, what goes on underwater in a small pond, or even a gutter – the complex of food chains and food webs – is totally outwith our control. Similarly, the nettle patch at the bottom of your garden or the overgrown urban gap-site is a wild area that is generally unplanned.

However, I think it is useful to introduce a distinction between 'wild land' and 'wilderness'. A good definition of wild land would be "an area where natural ecological processes are paramount."

Wilderness is more than just wild land: it is an area where there is a lack of obvious human activity, and which is remote from

civilisation – a place where you can abstract yourself, hermit-like, from society. This makes wildernesses necessarily larger than the minimum for wild land. Natural processes can be predominant in an area any size (although if we want to conserve some of the larger species on this planet, we do need large areas of wild land for them to roam about in). However, it is difficult to feel remote in a small area.

Human artefacts detract from wilderness. Nature's creatures and plants, on the other hand, care not a whit whether human artefacts are present, or care not how big the area is as long as they can live out their natural lives. They are quite capable in themselves of reverting a previous civilised area to a wild, natural area.

Attributes of wilderness

It is in fact more difficult to define wilderness than wild land, for wilderness has more attributes. The attributes of wilderness are listed in Table 1.

Table 1. Basic attributes of wilderness

OBJECTIVE REALITY	***SUBJECTIVE REALITY***
VEGETATION TYPE	Perceived naturalness
ANIMALS	Perceived naturalness Fear
SIZE	Feeling of remoteness Feeling of isolation
ARTEFACTS	Perceived non-naturalness (Visibility)
CLIMATE	Comfort/Discomfort
↓ WILDERNESS AREA	↓ WILDERNESS EXPERIENCE

It is useful to separate out the objective aspects of wilderness, which relate to objectively measurable traits on the ground, from the

subjective experience of these traits. Obviously the subjective experience will differ from individual to individual while the objective traits remain constant.

Table 2. Subdivision of attributes that add to or detract from wilderness

OBJECTIVE REALITY	*SUBJECTIVE REALITY*
VEGETATION TYPE	
– Natural/Semi-natural (biblical "barrenness", uncultivated, natural processes, indigenous)	Perceived naturalness
– Artificial (cultivated, plantation, non-indigenous)	
ANIMALS	
– Domestic	Perceived naturalness
– Wild	
– Extinct (human-caused)	
– Large carnivores (man-eating)	Fear
SIZE	
– Geographic size	Feeling of remoteness
– Distance from inhabited areas	Feeling of isolation
– Crowdedness	
ARTEFACTS	
– Vegetated (indistinct)	Perceived non-naturalness
– Unvegetated (distinct)	Visibility
– Modern	
– "Archaeological"	
CLIMATE	
– Equable	Comfort
– Extreme	Discomfort

In practice this means that a given area of land can result in different wilderness experiences for different people: for example, a person who believes he or she is in a natural landscape will have more of a wilderness experience than a person who realises that the landscape is artificial, or at least semi-natural. You may enjoy a wilderness experience in, say, a Sitka spruce forest in Britain if you

did not realise you were in a plantation of non-indigenous trees. Similarly, you may enjoy viewing a sycamore tree as part of the natural landscape in Britain if you did not realise it was an alien species and so not part of the natural landscape.[5] As your awareness increases, so does your perception of landscape character.

Not everyone who enters a wilderness will necessarily have a 'wilderness experience': to some extent you have to be receptive and have to have a feeling for the land.[6]

The basic attributes of wilderness as listed in Table 1 can be subdivided as shown in Table 2, with some of the attributes contributing positively to wilderness and some negatively. These attributes can also be used to characterise different types of wilderness (Table 3). As already discussed, ecologically wild land (Table 3.1) may or may not be a wilderness, but a true wilderness is necessarily ecologically wild (Table 3.2).

A true or primary wilderness can thus be defined as an area with the full range of its natural (indigenous) flora and fauna, large in area, and possessing no people or artefacts. A secondary wilderness is less pristine but shares the characteristics of primary wilderness in being an area little affected by current civilisation, where nature and natural processes are in charge, and where people can isolate themselves.[7]

It will be seen in the tables that climate is also given as an attribute of wilderness (although it is not relevant in defining ecologically wild land), and a true primary wilderness is shown as possessing an extreme climate. It maybe debatable as to whether climate should be an attribute. However, it would appear that experiencing an extreme climate increases a 'wilderness experience': this is probably because it increases the 'beyond human control' element of the experience. It is harder to envisage a wilderness experience in a warm, sunny equable climate.

An attribute that is missing, because it is not deemed to be relevant, is the shape of the land. For example, mountainous areas are often the source of wilderness experiences. But it is not the

Table 3.1. Variations on wilderness: Wild Land
(Showing the attributes that define different wilderness types)

Necessary elements of "Wild Land"
↓ (Ecologically Wild Land)

VEGETATION TYPE	Artificial	Semi-natural	Natural
ANIMALS	Domestic	Wild	Large carnivores*
SIZE	Small Crowded	Medium Uncrowded	Large No people
ARTEFACTS	Many visible	Some visible	None visible
CLIMATE	Equable	(Variable)	Extreme

*if indigenous

mountains *per se* that result in the experience, but the attributes here listed in the tables: it just happens mat mountains are ecologically more difficult to cultivate and tame than other areas, so they tend to contain more of the attributes of wilderness. Wilderness experiences can be had in flat areas such as the Sahara desert or an Arctic tundra.

Primary and secondary wilderness

Of course there is not much primary wilderness left in the world, although much secondary wilderness can approach true wilderness (Table 3.2). And there is no reason why wilderness areas could not be re-created in certain areas, with currently cultivated areas reverting through secondary wilderness to primary wilderness. This will often need human intervention, whether in the removal of artefacts or in the reintroduction of species. There may be some

Table 3.2. Variations on wilderness: necessary elements of Primary & Secondary Wilderness

VEGETATION TYPE	Artificial	Semi-natural	Natural
ANIMALS	Domestic	Wild	Large carnivores
SIZE	Small Crowded	Medium Uncrowded	Large No people
ARTEFACTS	Many visible	Some visible	None visible
CLIMATE	Equable	(Variable)	Extreme
		↓	↓
		SECONDARY WILDERNESS	PRIMARY (TRUE) WILDERNESS

philosophical discussion whether, because a wilderness area is consciously re-created, it itself becomes an artefact, but most people would argue that the predominance of natural processes (out of human control once the starting conditions have been initiated) does make it natural rather than artificial.[8]

There are as many kinds of secondary wilderness as there are shades of grey. Table 3.3 shows some of them, comparing, for example, the core mountainous areas of the English Lake District with those of the Scottish Highlands.

However, because there are so many shades of grey, it should not be attempted to too rigorously squeeze the different types of wilderness into this relatively simplistic classification system. This

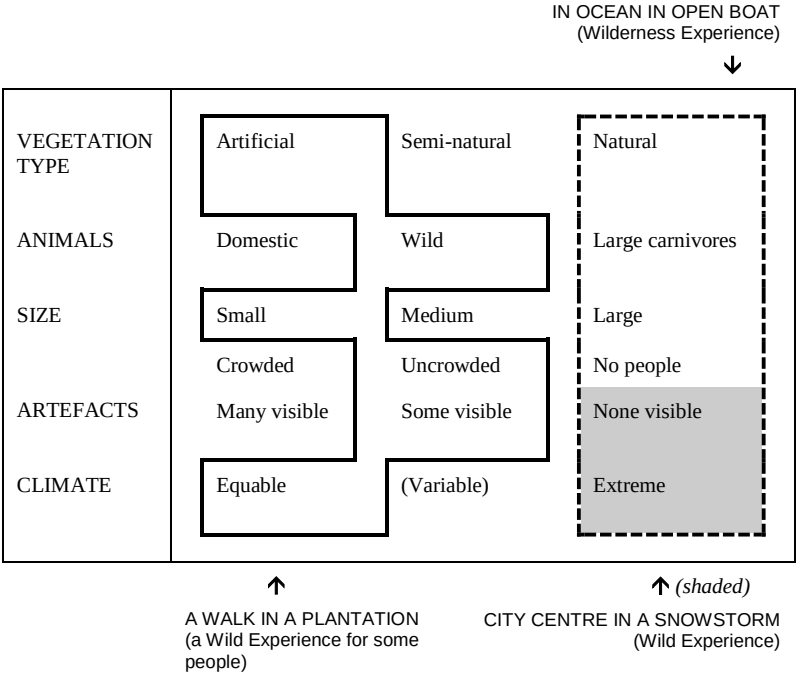
Table 3.3a. Variations on wilderness:
UK Wildernesses – Lake District

VEGETATION TYPE	Artificial	Semi-natural	Natural
ANIMALS	Domestic	Wild	Large carnivores
SIZE	Small	Medium	Large
	Crowded	Uncrowded	No people
ARTEFACTS	Many visible	Some visible	None visible
CLIMATE	Equable	(Variable)	Extreme

Table 3.3b. Variations on wilderness:
UK Wildernesses – Scottish Highlands

VEGETATION TYPE	Artificial	Semi-natural	Natural
ANIMALS	Domestic	Wild	Large carnivores
SIZE	Small	Medium	Large
	Crowded	Uncrowded	No people
ARTEFACTS	Many visible	Some visible	None visible
CLIMATE	Equable	(Variable)	Extreme

Table 3.4 Variations on wilderness: Marine & Other Experiences



system is merely a useful aid to understanding the wilderness concept.

Wild *versus* wilderness experiences

It is useful to distinguish 'wild experiences' from 'wilderness experiences' (Table 3.4). A wilderness experience is one that occurs in a wilderness. A wild experience could potentially occur anywhere. For example, fighting your way through a blizzard is a pretty wild experience, and can be experienced both in the remote Arctic or in a city centre. In the Arctic, the remoteness from civilisation makes it a wilderness experience as well, whereas in the

city centre it is merely a wild experience as shelter is always nearby. Climbing a remote cliff face would be part of a wilderness experience, whereas climbing a block of flats would be merely a wild experience.

It will be noted that the term 'wild' has here been used in two different contexts – as in 'wild land' and in 'wild experience', although ultimately their meaning is the same: wild equals not tame (not domestic). Hence, 'wild land' is here used to mean land that is ecologically wild – where domestic species take second place to wild species, and natural processes take precedence over artificial processes. And a 'wild experience' is here used to mean an experience that is not tame and domestic: one that is brought about by exposure to natural forces, which may or may not occur in wild land or a wilderness.

Wild experiences can be had at sea (especially in areas which could not be called wilderness – in the Thames estuary, for example). However, being in the open ocean in an open boat could here be defined as a wilderness experience.

Concluding remarks

In conclusion, the attributes here ascribed to wilderness attempt to provide a distinction between wildernesses and merely wild areas; they do help differentiate between wilderness areas themselves and the experience of wilderness; and they show that there is a difference between a wilderness experience and a merely wild experience.

There is a great need to protect the remaining wildernesses on this planet, as well as the need to re-create wild land.[9] We in Europe cannot argue for the retention of large areas of wilderness and wild land in other parts of the world if we are not prepared to put aside some ourselves (and this also means leaving room for our large carnivores which we so want other parts of the world to do). And we cannot really set aside wild land and wilderness areas if we do not understand what they are!

Summary of definitions

WILD LAND: An area where natural ecological processes are paramount (can be of any size).

WILDERNESS: An area little affected by current civilisation, where nature and natural processes are in charge, and where people can isolate themselves from other people.

PRIMARY WILDERNESS: An area with the full range of Its natural (indigenous) flora and fauna, large in area and possessing no people or artefacts.

SECONDARY WILDERNESS: An area of semi-natural vegetation where wild animals predominate over domestic stock, medium to large in area and possessing few people or artefacts.

WILD EXPERIENCE: An experience brought about by exposure to natural forces (which may or may not be in a wilderness).

WILDERNESS EXPERIENCE: The experience of being in a wilderness area.

Notes and references

1. This essay was written after attending a Forum on the Environment seminar at Battleby (Perth) in January 1996 on 'Wild Lands in Scotland'. I wish to thank the participants for helping me to crystallize my thoughts.

2. The role of wilderness in society is discussed in Fenton. J (1984) 'Even More about the Purpose of Nature Conservation.' *ECOS* **5**(4), 39-41.

3. These themes are developed in Hunter, J (1995) *On the Other Side of Sorrow: Nature and People in the Scottish Highlands.* Mainstream, Edinburgh.

4. This theme is developed in Diamond, J (1991) The *Rise and Fall of the Third Chimpanzee.* Radius, London. A summary, and its relevance to conservation in Britain is given in Fenton, J (1992) 'Man's Relation to Nature.' *John Muir Trust Conference Proceedings*.

5. See Fenton, J (1986) 'Alien or native?' *ECOS* **7**(2), 20-23. For a philosophical analysis see Foster, C. (1992) 'Aesthetic disillusionment: environment, ethics, art.' *Environmental Values* **1**(3). 205-215.

6. Levels of receptiveness to the environment are discussed in Fenton, J (1987) 'The ecology of environmentalism: some ideas for discussion'. ECOS **8**(4), 28-33.

7. Peter Taylor provides an alternative classification of wilderness in 'Whole ecosystem restoration: re-creating wilderness?' *ECOS* **16(**2), 22-28. The term 'primary wilderness' here would to some extent relate to his 'Wilderness of nature', secondary wilderness to his 'Wilderness as the wasteland' and 'Wilderness of the elements', and wild land to his 'Wild garden.'

8. The difference between artefacts and nature is discussed in Ratz, E (1993) 'Artefacts and functions: a note on the value of nature'. *Environmental Values* **2**(3*)*, 223-32.

9. It is not the intention of this paper to justify why we need wilderness. There is a huge literature on this subject, and a good introduction to is given in Devall, B and Sessions, G (1985) *Deep Ecology:* Chapter *7* 'Why Wilderness in a Nuclear Age'. Gibbs M Smith, Utah.

[Author's note 2007. Arguments about the differences between 'wild land' and 'wilderness' perhaps only apply to Scotland, where there are particular sensitivities; however this essay does discuss issues relating to wilderness generally. There is often much confusion in debates about wildness because two separate concepts are involved:

1. *Ecologically wild land (i.e. nature in charge, area can be any size);*
2. *Remote land (i.e. distant from artefacts and people)*

I was also influenced at this time by Jared Diamond's book The Rise and Fall of the Third Chimpanzee, *which suggests that there has never been a Golden Age when mankind was in tune with nature – we have been making species extinct ever since we evolved!]*

From ECOS 20(2) 1999, pp.67-69

Scotland: Reviving the Wild

Scotland has always, simplistically, been two countries, the Celtic, Gaelic-speaking Highlands and the Anglo-Saxon, Scots-speaking lowlands. Perhaps really three countries, if you include the Norse-influenced Orkney and Shetland where people still talk about 'going to Scotland.' I will, though, keep to the simplistic Highland/Lowland divide for it is here that the main tensions arise.

Our gameplan for the lowlands

Perhaps I should go back a bit, and start by welcoming the broad acceptance of nature conservation in land-use circles, so much so that some agricultural grants can now be dependent on which National Vegetation Classification communities you have on your land. To have agricultural advisers arguing over the niceties of plant community classification would have been unthinkable only a few years ago! And it is not only farmers, but estate owners as well who have accepted conservation – if only as an excuse to restrict access, or control birds of prey (no, I know that's not fair!).

It is the lowlands, the intensively farmed-landscape, that needs nature conservation most, simply because there are no natural habitats left. We should not be surprised if common birds, bees, butterflies and buttercups have disappeared as there is nowhere for them to live. Gardens have the potential to be refuges for some of this wildlife, but if you see the amount of chemical hardware available in garden centres, it would appear that the amateur gardener needs as big a cultural shift in their attitude to wildlife as the arable cereal-baron.

However, there is now the knowledge to improve lowland habitats, from conservation headlands to new woodland planting; and some of this is happening. Perhaps if a lot more of it happens, combined with areas free of insecticides, herbicides and fungicides,

then there is hope for our lowlands. A particularly insidious modern chemical, though, both in the lowlands and uplands, is the anti-worm Ivermectin. This sterilises animal droppings with a knock-on effect to a host of other species, and an environmentally-friendly alternative is desperately needed.

Upland landscapes – the competing claims

However, I think we know how to improve the lowlands, and all we need to do to achieve this is to make all agricultural grants dependent on there being minimal areas of habitat created or maintained on each farm.

In converse, I would argue that we have not a clue as to what we should be doing to our uplands – but in spite of this we are doing it! I get very depressed when driving round the Highlands these days, as the amount of 'management', of landscape change, that has taken place in my lifetime is probably as great as since the last Ice Age. The worthy principle of intervention management to achieve desired conservation targets in the lowlands – this is being applied to the Highlands – we want to do something, to take on board the message of conservation, and go out there and save the planet!

However, I subscribe to the rather unfashionable view that much of the Highlands does not need 'saving', indeed that by 'saving it' we are reducing its overall value, and I largely, and possibly unfairly, put it down to Frank Fraser-Darling for starting the rot by calling the Highlands 'a wet-desert' and 'a degraded landscape'. Though I say it myself, recent work by Stirling University on woodland history in the Highlands supports my contentious view that much of the Highlands, but not all, are treeless through natural climatic and edaphic factors.[1] In other words, the Great Wood of Caledon is largely a myth, at least in the last few thousand years, and does not need putting back! The Highlands, indeed all of Scotland, are of course very heterogeneous, so I am making gross generalisations.

The 'designer uplands'? No thanks

Some large-scale new native woodland schemes are being put in place as I write, in some of the most sensitive landscapes in Britain, but I am afraid I greet all these schemes with horror. At the heart of my concern lies the fact that these upland landscapes, although they have been used (in that humans have modified the natural factors of grazing and burning), they have never been *designed* (although I am possibly excluding here some of the eastern grouse moors). No-one has ever consciously sat down and said, "we want wet heath there, a flush here, grassland here, and a woodland over there," and such undesigned landscapes are becoming increasing rare in Europe, if not the world. By planting trees, even in an ecologically sound manner, we are, in effect, converting a wild landscape into a designed one. And this concerns me, although it is a hard argument to justify in a rational world.

In fact the issue of wild land is coming more to the fore in the Highlands,[2] but probably too late to save large tracts of land from management. Even I, for example, can remember a time when you could travel large tracts of Scotland without ever seeing a fence. To some extent, though, it is neither here nor there whether the landscape is naturally or artificially deforested, whether it is a natural or cultural landscape – and we are going to hear a lot more about whether we are aiming for natural or cultural landscapes in the coming millennium. What we are losing is *wild land,* a unique landscape.

I do find the single-minded obsession with trees that is stalking the country very worrying. I might go so far to as to say that tree-obsessed people are imposing an alien culture on the people of the Highlands for, unlike much of England, there has not been much woodland in Scotland, lowland or upland, for hundreds or even thousands of years. Did not Samuel Johnson get excited by the one tree he saw between Edinburgh and Aberdeen at the beginning of the eighteenth century? No, our culture, upland and lowland, at least until the widespread advent of coal, has been peat and stone-based.

The once vast lowland peatbogs of Scotland have long since gone, and as they cannot be put back, we may as well plant trees as a creative conservation effort in the lowlands. But our uplands? We should certainly give any existing woodlands a chance to regenerate if they want to, but not be too concerned if they do not. We should value the wild, semi-natural, at least, wide-open moorland of wet and dry heaths, grassland and peat bog, which is the world headquarters, the core global area, for such species as *Calluna*, cross-leaved heath and bog asphodel. As for pine and birch – they are amongst the commonest species in the northern hemisphere!

References

1. Fenton, J (1997). Native woods in the Highlands: Thoughts and observations. *Scottish Forestry* **51** (3).
2. Fenton, J (1996). Wild land or wilderness – is there a difference? *ECOS* **17** (2).

[Author's note 2007. I would probably now add that the eutrophication of lowland Britain can make conservation here very difficult.]

From ECOS 25(1) 2004, pp.2-5

A New Paradigm for the Uplands

The Oostvaadersplassen in Holland, where large herbivores are left to roam free, is widely accepted as visionary conservation thinking, and we in Britain are actively discussing how to create our own 'Oostvaadersplassens'. But maybe, without realising it, we have them already in the uplands – and are now losing them owing to 'conservation action' arising from the mindset that grazing is a bad thing and the climax vegetation should be woodland.

'Wild' – the Dutch or English models?

As part of a recent conservation conference at Lancaster University, we went on a field trip to the Pennines where staff of English Nature proudly showed us an experiment in the 'wilding' of the eastern flanks of Ingleborough. To them being 'wild' meant removing all grazing and planting some trees. The next day we were back at the University to hear inspirational thinking from Frans Vera about returning wild nature to Holland – at the Oostvaadersplassen – and we heard even grander plans to create large-scale wildlife corridors from there to Germany and France.

The essence of these Dutch schemes is the reintroduction of wild herbivores. Being 'wild' in Holland does not mean excluding *grazing*, but the introduction of a range of large herbivores, in this case wild cattle, horses and red deer, and seeing what happens. These animals, of course, have a major impact on the vegetation pattern, the only constraint on their numbers being the amount of forage available in winter.

Is woodland the climax vegetation of the UK uplands?

Frans Vera argues convincingly in his book *Grazing Ecology and Forest History*[2] that large herbivores have always been part of the natural ecosystems of Europe, with the result that the natural

vegetation of temperate lowland Europe would not have been closed high forest but a mosaic of forest, parkland, scrub and grassland: grazing prevents woodland from regenerating under its own canopy, which thereafter cycles to grassland and thence to thorny scrub. Trees can only regenerate in this thorny scrub, which subsequently reverts to woodland. This theory is fine for fertile, lowland Europe, but what happens if you apply the same principles to the infertile uplands of north and west Britain, where the thorny scrub species of hawthorn and sloe are rare or absent? What is there to protect the trees from grazing?

Another recent book *A Highland Deer Herd and its Habitat*[3], which looks at the impact of deer on the Letterewe Estate in Wester Ross, argues that there is no such thing as 'overgrazing' where wild herbivores such as red deer are concerned, because grazing levels are naturally constrained by the winter availability of forage. Likewise, on St Kilda, where there have been feral Soay sheep for centuries, if not millennia, sheep populations go through a four-year cycle, with high mortality when numbers exceed winter food supply.

Although there are pockets of native woodland, upland Britain is largely treeless, and the general mindset to date has been that, as woodland is the climax vegetation, the uplands must have become treeless through human activity, and remain largely treeless through 'overgrazing'. Hence a lot of current conservation effort in the uplands is devoted to reducing grazing levels and planting trees. In the Scottish Highlands, for example, it is argued that a grazing level of four red deer per square kilometre is needed in order to achieve natural regeneration of woodland, although this low figure is considerably less than that which the vegetation can support.

Is moorland the climax vegetation?

If, on the other hand, it is a general principle that the number of herbivores is limited to what the vegetation can support, then perhaps, in upland Britain, we need to remodel our whole mental landscape: we need to get away from the 'woodland as climax'

model. Maybe our upland landscape is relatively natural in terms of vegetation pattern, albeit natural grazing by red deer having been replaced by domestic sheep in many places?[4] And lack of winter feed will still have limited the number of domestic stock on the hill (as did the presence of wolves in the past).

Hence there is a possibility that the current vegetation pattern of the unenclosed areas of upland Britain is within the range of possible natural variation.[5] Pollen analysis indicates that there were more trees in upland Britain in the distant past, but natural soil deterioration over the past few thousand years (leaching, iron pans, lack of worms, mor soils, etc.) has perhaps made conditions less suitable for tree regeneration, so that even a relatively low grazing pressure will keep the landscape open.

Woodland can still be a component of upland vegetation, particularly on crags and in gullies where soils are better and grazing less. Likewise, Wistman's Wood on Dartmoor and Keskadale Wood in the Lake District, and a much greater range of examples in Scotland, indicate that woodland can regenerate in the presence of grazing; and, in any complex upland landscape, grazing will vary temporally and spatially, giving some opportunities for localised woodland. For example, in some areas of the Lake District oak can be seen regenerating in bracken, and, in Scotland, rowan and birch can be seen regenerating in gorse and oak and birch on slopes of deep heather. Hence, even with heavy grazing, trees will persist in at least some upland landscapes, but perhaps our mistake is to expect lots of them!

If there has been anthropogenic woodland loss, it is most likely to have taken place on the steeper, well-drained valley sides, but even here can we be certain that any anthropogenic loss has changed the natural endpoint of a mostly treeless landscape? As peatland and mor soils spread over much of the flatter ground, herbivores tend to become restricted to the remaining better soils, resulting in a direct competition between woodland and animals. In other words, if, instead of a 'woodland as the climatic climax model', the 'natural

decline' model fits the facts better, humans may only have locally accelerated an existing trend.[5]

Are the uplands our ' Oostvaadersplassens'?

At the conference referred to above, there was much talk of how to create our own Oostvaadersplassens in Britain. But maybe in much of upland Scotland at least, we have had our Oostvaadersplassens all along – large tracts of land with significant numbers of indigenous herbivores, resulting in a relatively natural vegetation pattern. Maybe, we have them throughout upland Britain, the only difference being that sheep have replaced red deer. It is a common observation in Scotland, that, if sheep are taken off a hill, red deer come in – perhaps confirming the perfectly reasonable theory that forage availability determines grazing levels.

However, if we already have our upland Oostvaadersplassens, we're also in very real danger of losing them, as the demand from conservationists is to reduce *grazing* to very low levels, and large-scale native woodland planting schemes have been created that fragment the predominantly open landscape.

At the Oostvaadersplassen there are wild cattle and horses in addition to deer. However, what is not certain is the range of natural herbivores upland Britain would naturally support, for the Oostvaadersplassen has very fertile soil whereas much of upland Britain is infertile and may not be able to hold such a range of species. Likewise, it is hard to say whether, in general, carnivores keep herbivore numbers down to below the vegetation's carrying capacity. In Yellowstone Park, for example, both wolf and red deer numbers are going up simultaneously![6] There were wolves in upland Scotland until 300 years ago, and the landscape has been largely treeless since way before then, which suggests that the presence predators has not kept the grazing to a low enough level to allow woodland to be the dominant vegetation.

Norway is often given as a model of what the UK uplands 'should be', but that country has a complex landscape and a

different ecology; for example, unlike oceanic climates, the presence of winter snow-cover both protects vegetation from grazing and keeps herbivore numbers down.

A new paradigm for the UK uplands?

Moving away from the idea that woodland is necessarily the climax vegetation on our unenclosed hills opens up whole avenues of new thinking. It also means we would have to rethink our conservation action: if the vegetation pattern of our hills is relatively natural, then maybe there is little short-term conservation action that is needed – other than ensuring that grazing continues and burning is within the bounds of natural variation; long-term there are possibilities of reintroductions of native large mammals, although we need to be careful that the ecological conditions are right.

There may be some areas where grazing is obviously way above the natural ecological carrying capacity (*e.g.* parts of Wales or western Ireland), but on the whole perhaps we should let our uplands be wild, and let the vegetation pattern develop under the influence of grazing, and concentrate our action on areas that really need more wildlife and are fertile enough to take it – the lowlands. And the current large-scale plans for Wicken Fen and Epping Forest give us cause to hope that the lowlands of Britain can be made wild.

For the uplands, though, we need to stand back and rethink their whole ecology, so as to ensure that well-intentioned 'restoration' does not end up making them less wild and turn them into designed landscapes. Letting our hills be wild means having no predefined outcomes, but letting nature decide the vegetation pattern – under the influence of grazing which is ideally from indigenous herbivores, but in their absence maybe sheep are as good a species as any.

References

1. See, for example, Special issue "Grazing and Grazing Animals". Vakblad NATUURBEHEER, 41 jarrgang, May 2002.

2. Milner, JM, Alexander, JS, Griffin, AM (2002). A Highland Deer Herd and its Habitat. Red Lion House, 2002.
3. Vera, FWM (2000). Grazing Ecology and Forest History. CABI Publishing.
4. See, for example, Fenton J (1997). Native Woods in the Highland: Thoughts and Observations, Scottish Forestry Vol. 51. And Fenton, J (2001). Native Woods in the Highlands: Doubts and Certainties. Scottish Woodland History Discussion Group: Notes VI, 2001.
Fenton. J (2003). Deciding on the Balance Between Moorland and Woodland in the Scottish Uplands: an overview at the landscape Scale. La Cañada No 17.
5. Levy, S (2002). Top Dogs. New Scientist 2 Nov 2002.

This essay was one of three in ECOS 25(1) 2004 on the theme of *Wild Thoughts.*

The other two were:

Self-Willed Land: Can nature ever be free?

by Mark Fisher (pp.6-11)

To Wild or Not To Wild: the perils of 'either-or'

by Peter Taylor (pp.12-17)

The same issue then had a follow up discussion, of which James Fenton's contribution is given below. Mark Fisher's can be found in the same issue, pp.21-22, and Peter Taylor's pp.23-24.

From ECOS 25(1) 2004, pp.18-19

Wild Thoughts Followed Up

I agree with Peter Taylor[1] that palaeoecological studies are essential in understanding the nature we have today: Jared Diamond in *The Rise and Fall of the Third Chimpanzee* argues that there never was a Golden Age when humans were 'in balance' with nature, citing the extinctions of large animals that took place when humans colonised new areas. Thus, as Peter argues, we can never return to a pre-human complement of species, or distribution of vegetation.

The argument of what is 'natural' is basically a semantic one: humans have coined the word 'natural' as a contradistinction to 'artificial' – it is a useful way of looking at the world to separate that which is given a *priori* and of which humans are not in charge (*i.e.* nature), and artefacts. If the world 'natural' is used to include humans, then everything we do is, by definition, natural – even making species extinct – and no consistent rationale for conservation will be possible (this is not to deny that we have not evolved from nature, and there will have to an arbitrary cutoff point as to when humans became a species). I find it a very useful word, as it helps us make sense of the world: before humans existed, everything was natural – now there is a mix! And, of course, it is rarely black or white: I might create a pond, for example, *i.e.* an artefact, but its ecosystem could be natural (*i.e.* is identical to a natural analogue). If the word 'nature' is dodgy, as Peter states, then all of us involved in nature conservation might as well give up and go home!

Additionally, one needs to be very careful with the word 'natural processes': nutrient cycling and chemical pathways, for example, are natural processes, although the origins of the chemicals can be anthropogenic; *e.g.* loss of species by adding fertiliser (eutrophication) is a 'natural process', as is global warming from increased anthropogenic CO_2 emission. On analysis, what is meant

by ‘natural processes’ becomes synonymous with ‘processes with no human involvement’, which, in my view, becomes synonymous with ‘wild’ – letting nature be in charge’.

If we are to let nature be in charge in certain areas, *i.e.* be wild, we have to mean what we say, and get rid of our preconceptions of how the system should operate: we must have ‘undefined outcomes’ with respect to habitat and species composition. As indicated above, we cannot return to an earlier ‘natural pattern’. This is not to say, though, that we should not be seeking an understanding of natural systems, so we can get an idea of how natural systems operate: I was arguing that such an understanding leads to the perfectly reasonable hypothesis that, in the infertile uplands, natural successional trends (in the presence of grazing) lend greater credence to ‘the natural decline’ woodland model, than the alternative models of ‘woodland as climax’ or Frans Vera’s ‘cyclical model’ (although all will have validity at a given location). Lee Klinger, for example, has argued that peat bogs are often the endpoint of succession as they are more self-buffered against environmental change (although there is evidence that blanket peat itself has a limited life time).

I would thus argue, in contradiction to Mark[2] and Peter[1], that much of upland Britain, particularly in the far north and west, are the ‘wildernesses’ that they say we do not have in this country (albeit lacking some of the mammals, although this has not affected the vegetation pattern): it is just that their preconception, or mental image, of the ‘wilderness as woodland’ is incorrect – at least in infertile upland Britain. And such infertile areas (low potential biological productivity) will not support such a range of species, including large mammals, as in lowland Britain. Hence one must be very wary of generalising across the UK. My fundamental point for upland Britain is that, even if humans have modified the natural processes of grazing and burning, the uplands would look much the same even if they had not: *i.e.* the current vegetation pattern lies within the range of natural variation.

Likewise, in Scotland, and naturally (through chance) their

natural species complement would vary: some may have had large herbivores, some predators, some none, etc, so we cannot say "the system should have this or that complement". Perhaps letting things go wild means getting rid of the word "should"? However, the fact that Scottish moorland vegetation appears pretty uniform, regardless of its history, implies that the general successional trend has been towards open moorland. Also, I do not think size is always relevant, as Mark suggests: some of our most perfect 'wildernesses' could be very small off-shore islands that have never experienced human impact (other than global warming and input of air-transported anthropogenic chemicals). Likewise, I have created pond in my garden, but I am not in charge of the underwater ecosystem: the balance of amphibians, invertebrates, plants, *etc*. in it is probably indistinguishable from a nearby natural pond, and is, in effect, a wilderness! (I have been watching pond skaters on my pond, and their social system appears to be a more liberal democracy than, say, ants or bees. However, the great diving beetle appears to have eaten them or chased them away, which shows how liberal democracies can be upset by bigger, violent bullies!)

I do not think either Peter or Mark are willing to fully let go, or 'let nature be in charge': they assume that 'having nature be in charge' will automatically mean more species and diversity: this may or may not be the case at a given locality. Allowing nature to be in charge may well result in bracken invading a species-rich sward, or foxes and crows being more common than other species: we have to get rid of value judgements – accepting things we do not like as much as things we do like. This, though, is where size does become important: the bigger the geographical area, the more scope for conserving the full range of species.

Peter states that "deer numbers suppress vegetation and eat regeneration." I would argue strongly that different grazing pressures result in different vegetation patterns, and generally, in upland Scotland, evidence suggests that the greater the grazing level the greater the number of vascular plants (which is not to say they

will all be flowering as, for, example in a Yorkshire hay-meadow, which is perhaps a cultural artefact and the wrong model to hold in one's mind!). Deer have been around for millions of years, and have always been eating trees, and trees just have to put up with it! If they cannot, they become rare! It is a difficult to answer the question "what is the natural grazing level", as people argue either way that predators affect herbivore numbers. I prefer the theory that grazing is limited by forage availability in the limiting season (*e.g.* cold or dry). Perhaps the only way to find out is to stop managing and see what happens, adding missing species where possible: culling deer because we perceive there are too many to me appears the opposite of letting nature be wild!

In upland Britain, my fear is that we already have a (relatively) natural, wild network of moorland core areas, that we are replacing with woodland corridors – based on a dubious reading of the ecological history. Woodland corridors are also ideal conduits for the spread of introduced species like grey squirrel and sika deer: our approach to alien species, though, deserves a whole new debate, but in my view, conserving biodiversity means conserving the full range of species and habitats indigenous to an area.

I have been arguing for a long time that nature conservation is a broad church, and that different approaches are necessary in different places (see, for example, my article in *La Cañada* No.l7, spring 2003). The three main approaches relate to:

1. Wild areas: those with no predetermined ecological outcomes;
2. Nature reserves: prescriptive, with defined outcomes;
3. The rest of the countryside: nature has to fit in around humans.

I believe that in wild areas or wildernesses, we have to let go our preconceptions, as well as nature!

Notes

1., 2. References are to the articles in *ECOS* 25(1) mentioned at the end of **A New Paradigm for the Uplands** above.

From ECOS 27(1) 2006, pp.14-16

What is Natural?

A response to Mike Townsend's 'Who said people are unnatural?' in ECOS *26 (2*

In his short article 'Who said people are unnatural? – Tree planting or natural regeneration?' *(ECOS* 26 (2) 2005 pp 96-8) Mike Townsend raises again the issue of what is meant by natural. It seems to be common nowadays to argue that humans are part of nature, and to deduce from this that our actions are natural; however, although the former is true in a limited sense (in that we, as entities, together with our human nature, are given *a priori)* it does not logically follow that our creations and actions are natural.

Natural, unnatural, and artificial

As a species we classify the world to help us make sense of it, and we have chosen to classify two classes of object in this world, *viz.* natural objects, which are given *a priori* (*i.e.* not created by humans) and artificial objects, which are created by humans (my dictionary defines 'artificial' as 'not natural'). Hence most of the universe is natural, but in our little corner there are a lot of things created by us – increasingly so, as the years go by. Following from this, actions or processes which we are not in charge of we call 'natural' and those we are in charge of we call 'artificial'.

The word 'natural' only has meaning in relation to its opposite, 'artificial', in the same way that 'good' only has meaning in relation to 'bad' or 'quick' in relation to 'slow'. If we define everything as natural the word loses its meaning: all our actions become natural, including destroying wildlife and making the planet sterile; indeed, it becomes impossible to produce a rationale for nature conservation because everything we do will by definition be 'natural': the developer destroying a wildlife site will argue that his is a natural

action, or it would be logical to argue that a rampaging alien species is a result of natural causes!

The otherness of nature

No, we have to take a firm stand and argue strongly that nature is apart from us, and that nature conservation is fundamentally about conserving this 'apartness', about conserving what we have inherited *a priori*. We ourselves are natural, having evolved from nature, and we depend on nature, but our actions and creations are, by definition, artificial. As an aside, to say that we depend on nature is true but somewhat meaningless: of course we could not exist without a planet to live on and we rely on some natural processes, but could do without others!

Hence, in response to Mike Townsend's second question, planting a tree is an artificial action, us humans deciding what species to put where and, in effect, creating a designed landscape: planting is imposing our will on nature, for we cannot be certain that nature would have 'planted' the same number or type of trees, or be certain that nature did not 'want' a clearing in that particular location, or, indeed, we cannot be certain that nature would have wanted trees as opposed to an open landscape. By contrast, with natural regeneration, it is nature, not us, deciding on the planting pattern. Hence there is a fundamental difference, although, as Mike points out, it is not always as black and white as this because natural regeneration itself may be dependent on human intervention. But planting, by definition, is always 'unnatural'.

Human decisions or nature's?

I would agree with Mike that whether planting or natural regeneration is the best approach to woodland creation depends on the particular circumstances: one is not intrinsically better than the other. Although everything we do is unnatural this does not make it "invariably wrong". The classification of the world into both natural entities and artefacts does not imply any value judgement, *i.e.* any

implication that one suite of entities or actions is ‘good’ and the other ‘bad’. From a nature conservation perspective, in some locations action will benefit nature and in others not. For example, we will need intervention in the first instance to expand the current area of Wicken Fen. However, a very positive development of recent years is the emergence of the concept ‘rewilding’, whose essence is about humans pulling back and letting nature make the decisions. I was heartened to hear at a recent Wildland Network seminar that the Wild Ennerdale project has no defined endpoint for the landscape: this lack of defined endpoint is the essence of wilding and wilderness (unless you believe that nature is teleological!). It is not us who will decide the vegetation pattern but nature.

Mike, and others, argue that allowing such non-intervention can be defined as “intervention of a sort”. To me this makes a nonsense of language! Although we may make a decision for an area to go wild (become natural), by definition ‘doing something’ is not the same as ‘not doing something’. Black does not equal white!

Entities and artefacts

I often feel that a course in logic and semantics would benefit conservationists! We are ‘apart from nature’ by definition: it was our ancestors who decided this, but separating us out from nature helps us to make sense of the world! I find it useful to classify this keyboard I am using as an artificial entity and the flies who are trying to hibernate in my window frame as natural entities! Likewise, my table is an artefact, albeit natural entities have been used in its creation. I would like to live on a planet where some areas are artificial but also where many areas are natural; I see the need for both Natural England and for English Heritage (or their equivalents) – this separation of functions illustrating how, in the everyday world, and whatever Mike argues, people at large realises that there is a distinction between natural entities and culturally-derived entities, between natural and artificial.

Although it is relatively easy nowadays to make this distinction,

it is interesting to wonder at what time in human evolution did it become meaningful? Hours of debate are possible here, although it will be a bit like trying to determine when does black become white or a species become conscious!

[Author's note 2007. I seem to have spent a lot of time over the years arguing that natural means not artificial!]