EXECUTIVE SUMMARY

- Agri-environment funding should be reformulated towards supporting long-term, integrated whole landscape management
- Extensification of agricultural activity should be sought, especially a reduction in livestock grazing, as a key aim in marginal areas
- Delivering the whole landscape approach will necessitate a major upskilling of the statutory agencies, and would be nested within a long-term national view on farming
- It is the axiom in Britain that a withdrawal of farming is a pre-condition of moving landscapes substantially along the wild land continuum
- The need for ecological restoration of natural vegetation arises because our natural resource management has created highly modified landscapes
- The evident gains in diversity from the returning wild nature that have been seen in examples where farming has been withdrawn must be given permanency and protection
- This argues for a national system of publicly owned and protected wild land, as is the case in most of Europe

1. DEVELOPING OUR OWN AGRI-ENVIRONMENT POLICY

1.1 Speculation on the future of agri-environment funding is hampered by uncertainty about whether there will be farming support after the guarantee on current payment runs out in 2020. At present, the majority of subsidy is delivering on what is in effect a rural social policy, rather than food security, with a minor proportion (less than 15%) going towards other rural measures, such as agri-environment funding. The recent reforms introduced limited greening measures in the Basic Payment Scheme in England (1). These were devised to be complementary measures rather than a duplication of the current revised agri-environment scheme in England of Countryside Stewardship (2).

1.2 The opportunity now is to consider whether farm support should continue, and if it is to be an instrument of addressing market failure, implementing a rural social policy, or in securing the elements of the natural environment within a predominantly farmed landscape. It can be argued that the non-market public goods of securing the elements of the natural environment will bring a better overall focus to any program of farm support, delivering as well on a rural social policy, as it may also incorporate a way of addressing market failures. However, to achieve this, the implementation of agri-environment funding must be markedly improved from its current piecemeal approach, and which overcomes the constraints of property boundaries and voluntary take up.

1.3 The latter constraints were recognised as being a limiting factor for the effectiveness of the original Countryside Stewardship Scheme funding that began in the late 1990s (3). Reliance on the voluntary take-up of agri-environmental prescriptions in an unco-ordinated and ad hoc manner, did not guarantee conservation of either biodiversity or landscape, let alone its restoration or enhancement. Another constraint identified then and now is the reluctance of policy and statute makers to challenge individual property rights, although it has been argued that property rights are not immovable, and can evolve as societal sensibilities change (4). That reluctance is probably why there was a lost opportunity of an earlier implementation of a far better approach to rural management for biodiversity conservation and other environmental benefits.
1.4 These issues were researched over 15 years ago with farming communities in West Oxfordshire (5). The study looked at the benefits of farmers combining together to jointly implement whole landscape management, a process of integrated planning across privately owned property boundaries, that optimises the amount, location, configuration and management of wildlife habitats and other landscape elements, to deliver explicit environmental, amenity and biodiversity benefits (3). This included restoration of the natural functioning of the Thames Valley floodplain, a contemporary issue given recent flooding. All farmers within the study recognised that, in order to implement the spatially explicit options identified, there would have to be a change of philosophy; that if there was real dialogue, then it would become possible to work together for a common aim – “if they spent time enough to discuss the issues, there would be more co-operation and less individualistic action”. The authors concluded that this approach and its outcome would enhance farmers standing with the public and would provide a good principle in attracting subsidy for environmental objectives.

1.5 Another key issue identified was that agri-environment funding had to be aimed at landscapes and not just at individual farms if there was to be genuine scope for a more interactive and communal approach to landscape design (3). Thus while there have recently been a plethora of landscape scale initiatives like Nature Improvement Areas, Living Landscapes, Futurescapes, Strategic River Restorations etc., often overlapping each other, and all chasing agri-environment funding (6) they have patchy coverage within their areas because they approach it by making the individual funding agreements of conventional agri-environment schemes fit. Agri-environment funding should thus be reformulated towards supporting long-term, integrated whole landscape management, so that it is the scheme and the funding itself that drives a whole landscape approach. Within this, extensification of agricultural activity should be sought, especially a reduction in livestock grazing, as a key aim in marginal areas. Areas designated as Sites of Special Scientific Interest should be seen as part of the wider landscape, rather than be treated as islands that have favoured funding, so that they are integrated into the improved wildlife connectivity that will be afforded by whole landscape management. Delivering the approach will necessitate a major upskilling of the statutory agencies, and would be nested within a long-term national view on farming.

1.6 The estates of the National Trust in the Yorkshire Dales provide an example of where a long term, whole landscape approach is in process. This land held in beneficial ownership has the advantage of a single owner, working with its tenants, so that there is the opportunity to think ahead, and positively match the landscape and land management of the Dales to the purposes and expectations that people and society have for it. It means that work can be co-ordinated across boundaries, linking things together to achieve outcomes at a landscape scale, such as water catchment management in the Upper Wharfe (7). A primary aim is reinstating natural processes, plants and animals so that they are prominent in every part of the landscape, but which remains unmistakeably the Yorkshire Dales.

2. THE ROLE REWILDLING CAN PLAY IN CONSERVATION AND RESTORATION OF HABITATS AND WILDLIFE

2.1 I contacted the Environmental Audit Committee to seek clarification of the meaning of the unfamiliar term managed rewilding. I did not receive a reply. A host of meanings have been ascribed to rewilding (8) stretching it to the point where it lacks definitional precision (9). This has led, in particular, to a blurring of the distinction between the grazing of domestic livestock and rewilding, such as the increased use of Konik horses in natural grazing (10). Used as domestic surrogates for the extinct wild horse, these horses are often described as wild even though they are actively managed (supplemental feeding, population regulation); they are restricted behind fences; and
there is an absence of natural predation. Europe has many populations of horses kept under free-ranging conditions that are rarely called wild, despite being exposed to stronger environmental pressures, including predation, and having far greater freedom of movement (11). The blurring comes from this controlled grazing to maintain cultural landscapes being simultaneously called a natural process. In the same vein, it cannot be argued that extensification from a reduction of domestic grazing (see above) is evidence of a commitment to rewilding, as its aim is still in maintaining a biocultural landscape (10).

2.2 It is the axiom in Britain that a withdrawal of farming is a pre-condition of moving landscapes substantially along the wild land continuum. Thus when in 1974 the Nature Conservancy Council leased the 42ha limestone pavement of Scar Close in the Yorkshire Dales, a decision was taken to exclude livestock grazing so that the effect of withdrawal of farming could be observed. A leaflet on walks in the area from English Nature in 2005 notes that the ash trees and hazel bushes had escaped from the confines of the gikes (fissures) and observed that the area looked more like the landscape that existed before man cleared the upland woodlands that once covered the Yorkshire Dales (12). Scar Close sits in the Ingleborough National Nature Reserve (NNR) and the increasing voluntary recruitment of plants in the absence of grazing (currently over 200) attracts Wildlife Trusts to guided walks given by the Reserve manager.

2.3 The axiom of removal of farming was given prominence in a report of a National Parks Review Panel in 1991. The Edwards Report recognised the lack of viability of hill farming, and the need to “discourage the side-effects that have so damaged the environmental quality of the national parks in recent years” (13). The Panel considered a policy response of the “deliberate but voluntary withdrawal of farming operations” from some defined areas, so “permitting nature to take its course” (13). The report thus declared that “not every hectare of our national parks has to be farmed”, and that a conscious decision could be taken, for the protection of “natural systems”, to allow certain areas to develop a natural succession of vegetation, noting that it may well be appropriate in parts of Upland Britain. The Panel recommended that a number of experimental schemes on a limited scale should be set up in the National Parks, where farming is withdrawn entirely and the natural succession of vegetation is allowed to take its course (13). In its response, Government supported the recommendation (14).

2.4 The need for this ecological restoration of natural vegetation arises because our natural resource management has created highly modified landscapes where wild nature is controlled so that it gives greater reliability for human use (15). The inevitable result of this holding back of wild nature is a reduction in the range of natural variation of systems in their structure and ecological function. We have thus reduced the unpredictability and contracted the boundaries of ecosystem behaviour; changed species composition to obtain a reliable flow of goods and services; and reduced the undesirable behaviour of those natural systems (16). In doing so, we have replaced the natural ecological controls that existed with interventions that require persistent involvement if they are to be maintained.

2.5 Natural processes depend on the presence and abundance of organisms with particular functional traits, the greatest possible dynamic interaction in natural processes coming when the functional or trophic diversity is greatest, when species are present in all trophic levels of a natural system, including predators, plant eaters (herbivores), plants, carrion and detritus feeders, and decomposers (17). The consequence of reducing the range of natural variation in a previously self-regulating, self-sustaining natural system is that it loses the scale of dynamic interaction that is characteristic in natural processes, thus reducing ecological resilience to external perturbations. The fragmentation of native vegetation in our landscapes has also led to a loss of their ecological connectivity, reducing many species to small isolated populations that are under continual pressure
Whether plants, animals, or insects, they cannot easily move across farmed landscapes, leading either to local extinctions or a loss of genetic diversity and vigour.

2.6 Britain has few if any ecosystems with a natural range of variation, even where a predominantly native but limited range of species persist. It is the consequence of millennia of unrestrained, domesticated herbivory and the associated persecution of both plants and animals that were driven out. Thus entire landscapes have fallen into a landscape trap where they have shifted into a state in which major functional and ecological attributes have become depauperated from the centuries of grazing, burning, and leaching of soil minerals (19) a state from which it would be difficult to return without assistance in reinstating natural vegetation species that have been lost and where there is no local refuge (20). The priority in the ecological restoration of landscapes now is to break from that past of domesticated herbivory so that the distinctive natural vegetation that develops in reaction to the varying soils, hydrology and climate - and which has been lost from view in our highly modified landscapes - can re-establish itself (21).

2.7 At least two of the National Parks rose to the challenge of the Edwards Report by including actions in their Management Plans: the Peak District National Park would consider whether wilder areas of the Park should be allowed to "revert to nature" (22); and the Northumberland National Park gave itself a target to have set up “an experiment in wilderness re-creation before 2012” (23). To my knowledge, neither of these actions were taken up, but a second rewilding project in the Ingleborough NNR was set up by English Nature in 1999 to re-create the natural mixture of upland plant communities on the 174ha of South House Moor by demonstrating the ecological impact of removing farming pressures (sheep grazing) thus allowing and encouraging the upland vegetation communities to re-establish and develop to a more natural state (24,25). Other examples come from land in beneficial ownership. Thus in reinstating a wildwood to the 650ha of the Carrifran valley in the Moffat Hills, a community of hefted goats were removed in 2000 after fencing had been erected around the whole valley to exclude any incursion from other goats and sheep (26). This was followed by a phased removal of sheep from internal, temporarily fenced enclosures within the valley. Feral goats were also removed, along with livestock grazing, from Li and Coire Dhorrcail, 1,255ha owned by the John Muir Trust on the north-eastern slopes of Ladhar Bheinn on the Knoydart peninsula (27,28) and sheep were removed from Creag Meagaidh NNR in the Central Highlands (29).

2.8 While natural recolonisation can occur after exclusion of domesticated grazing (30) as it has done exclusively at Scar Close, the small potential in relict populations may act as a constraint on the process (20). Moreover, not all of the potential native species may be present within that population. Thus the ecological restoration through native woodland establishment in the Carrifran valley was grounded on a system of matching the planting of tree species to appropriate site conditions, based on the phytosociological communities of the National Vegetation Classification (NVC) (26, 31, 32). The project brief for the rewilding of South House Moor was based on identifying the existing phytosociological communities of the moorland, and then forecasting how those would change into new NVC communities after removal of sheep grazing, and with limited tree planting. These cопес of native trees were planted as seed parents so that natural regeneration can take over in the long term, the distribution of native woodland type being determined by the local conditions of soil and climate (24). Because of the lack of seed source at Li and Coire Dhorrcail, tree planting with native trees began in 1991, but had to be protected behind fencing due to deer browsing (27). Trees for Life have been planting trees on the 4,166ha Dundreggan Estate since it was acquired in 2008 (33, 34).

2.9 The aim of ecological restoration is to achieve a state of spontaneous perpetuation, a self-replicating population of reinstated species in a natural community. After substantial progress to that state for the natural vegetation of a location, the restoration of native herbivory can be
considered, and what natural mechanisms of restraint there must be on that herbivory. It is the much longer timescale for tree establishment and its seed production compared to the life cycle of mammals that confirms the need for the removal of domestic herbivory in ecological restoration. There will, in any case, be a likely early resurgence in small herbivorous mammals (such as field voles) as has been observed in the spontaneous regeneration of moorland vegetation of South House Moor freed from grazing, and which has attracted predatory birds (such as the short-eared owl) so that trophic processes have reinstated (25). Protection of trees through the use of vole guards was required at Carrifran from a resurgence of these mammals (26). In the medium term, tree establishment and regeneration often have to be protected from larger herbivores, such as deer (35,36). Thus Carrifran (26) Li and Coire Dhorrcail (28) Creag Meagaidh NNR (29) and Dundreggan (37) operate a policy of culling deer to reduce their inhibition of the growth of planted trees and of natural tree regeneration.

2.10 Deer culling to allowed levels at Dundreggan is considered insufficient on its own to reduce browsing pressure, and so a process of hazing deer during spring is starting whereby volunteers will take regular walks through and around the woodland, making noise and creating disturbance (37). This mimics the behaviourally mediated effects of large predators on their prey (38) and which is a missing element from a culling program, as it is from our predator-free landscapes. This presages discussion of the reinstatement of the large carnivores that are our former native species, as it does identification of large areas where ecological restoration and this reinstatement of the large carnivores can take place. The Northumberland National Park Management Plan noted that the possibilities for wilderness re-creation were likely to be opportunistic and dependent on large-scale changes in land-use or land ownership, but that communities or landowners may bring forward such proposals themselves (23). However, the evident gains in diversity from the returning wild nature that has been seen in all the examples of restoration given above must be given permanency and protection (39). Outside of land held in beneficial ownership where there is a de facto inalienability and a commitment to that permanency, it will be publicly owned land where an increasing public aspiration for wild land will be realised. This argues for a national system of publicly owned and protected wild land, as is the case in most of Europe (40).

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