La Cañada

Newsletter of the European Forum on Nature Conservation and Pastoralism

No 16 Winter 2002/03
ISSN 1027-2070

Editorial: The Mid-Term Review of the CAP and High Nature Value farming systems

Bob Gibbons

Abandoned barn in high pasture on the Plateau de Saugue, Gavarnie, in the French Pyrenees.

Franz Fischler's Mid-Term Review (MTR) of the Common Agriculture Policy (CAP) has generated considerable debate since its launch on 10th July 2002. While commentators now differ only in their assessments of how much of the package will be dropped as it passes through the institutions of the European Union this time round, they are also more or less unanimous in believing that, sooner or later, Fischler's package will form the basis of the reformed CAP.

Main elements of the Mid-Term Review proposals

- Decoupling of direct payments (including beef and sheep) into a new single farm payment (SFP).
- Cross-compliance and farm audits covering environment, animal welfare and food safety.
- Set-aside to continue with new rules.
- Carbon credit – a payment for energy crops.
- Cereal and protein crops – a 5% cut in intervention prices of most cereals.
- Dairy – price cuts to begin in 2004/5, quotas to continue to 2014/5.
- €300,000 limit per farm on direct payments.
- Modulation of payments to fund RDP.

Adoption of the core concepts (see box) of decoupling payments from production, modulation and the transfer of funds to a much enlarged Rural Development 'Second Pillar' are now widely seen as necessary preconditions for the accession of the new Member States in 2004, itself a major achievement for the Agriculture Commissioner.

Debate focused on intensive farms

Predictably, but unfortunately, much of the debate has centred on issues which mainly affect the larger and more intensive farmers (although the two are not synonymous – a point returned to below). Not only the main farmers' union grouping, COPA, but also most Member States, environmental and consumer pressure groups and, some might say, the Commission itself, have focused almost exclusively on this segment of producers.

Readers of *La Cañada* might well question the wisdom of this exclusive focus. *Most* of Europe's farmers and a very significant proportion of Europe's farmland are *not* at the large/intensive end of the spectrum. Many of these areas are, of course, also of 'High Nature Value', whatever that precisely means.

Importance of less-intensive farmers

Why should everyone else care? Well, there are at least three reasons:

- Less-intensive farms are essential to delivering the non-production benefits of the new CAP, both environmental and social.
- Less-intensive farms are cheap and often efficient deliverers of other objectives of community policy, from the Biodiversity Strategy to the maintenance of minority languages.
- The central role of less-intensive farming in the so-called 'European Model of Agriculture' gives legitimacy to support for an industry whose most productive and most commercial end is not so different from that of the USA or New Zealand.

This analysis of the Mid-Term Review (like everyone else's) has a few basic underlying assumptions, which ought to be spelt out clearly.

- There are such things as farming systems that are environmentally benign or beneficial, and these dominate large areas of Europe.
- The environmental benefit associated with these systems is linked to the logic of production and is, in many cases, currently largely underpinned by production-oriented support payments.
- These agricultural systems are usually

La Cañada 16

Contents

very marginal and fragile, economically, socially and environmentally, and are therefore prone to abandonment or replacement.
- Support for these systems must be particularly sensitive to issues that the rest of the CAP ignores, for example, age, literacy and the demands of local culture. It must use their resistance to change to its advantage.

Decoupling – why bother to farm at all?

Decoupling threatens the whole logic of these systems – producers will in most cases be able to substantially increase their net incomes by minimising their level of production.

This was acknowledged explicitly by European Commission officials at a recent session of the Agriculture and Environment Advisory Committee. Indeed, they see it as a major benefit of the reform. Farmers could not be expected, they said, to 'diminish their income prospects' or to 'produce at a loss'.

Would it then be 'better' *not* to produce and be profitable? To do so would certainly be a step towards increasing the 'efficiency' of overall production, which we tend to forget is also an aim of the CAP. These types of questions are not answered directly, but the general message seems to be 'Yes, but with safeguards'.

Now, one may argue that logic is not a great factor in the decision-making of many low-intensity producers. However, irrationality is not only a difficult thing to model, it is often more a source of inertia against change than a complete block. *De facto* abandonment, if it is a bad thing (is it, always?) is no better for being delayed by ten years.

The Commission's response seems to be based on a mixture of the positive results of some computer modelling of the beef regime, market opportunities, cross-compliance (maintenance of the land in 'Good Agricultural Condition' would be a condition for producers in receipt of the new decoupled payments) and expanded Second Pillar payments.

Market opportunities

'Farmers can benefit from market opportunities' if they aren't forced to undertake certain specified forms of production, says the Commission. 'Management decisions [should be] normally based on profitability.'

However, there seems to be little discussion of how much farming in the Less Favoured Areas (LFAs), for example, could *ever* be profitable. Low-intensity farmers' 'flexibility to respond' may be severely limited – often to a choice between abandonment and financial ruin.

Linking 'Good Agricultural Condition' to the environment

The Commission's conception of this link seems at first sight to be one of the central weaknesses of the MTR proposal. At the Advisory Committee it was clear that however one might construe 'keeping the land in order' or in a condition 'which will allow land to be used again for agriculture', these certainly do not equate to good *environmental* condition.

One suspects that, even from a purely agricultural point of view, coming to a meaningful definition will be extremely difficult, particularly in semi-natural areas. An arable field allowed to scrub over may still be perfectly suitable for grazing and thus could be used again for agriculture. Many heaths, mires and grasslands might endure for centuries just through the action of climate and wild herbivores without losing their grazing potential (whatever the effect on botanical diversity).

Concerns have been raised at the acceptability of paying public funds to maintain such extremely low levels of activity. The Commission, on the other hand, has 'serious doubts' whether the linking of payments to higher levels of production increases public support for the CAP, and clearly regards 'Good Agricultural Condition' as an easily appreciated public good which will command strong and sustainable political backing. There would seem to be some way to go before they address the concerns of sceptical stakeholders.

Rural Development

The Commission quite clearly does not see farmers depending solely on decoupled basic support in High Nature Value areas, and to some extent relies on the additional conditions attached to Rural Development

An extreme example of the possible new economics of agri-environment

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Current system	
Income from production	10,000
Income from basic support	20,000
Income from agri-environment	1,000
Total income	**31,000**
Basic expenses to maintain production	25,000
Extra expenses for agri-environment	1,000
Total expenditure	26,000
Net income	**5,000**
Proposed system – minimal GAC	
Income from basic support	20,000
Total income possible	**20,000**
Total expenditure possible	**0**
Net income possible	**20,000**
Minimum agri-env. needed to get back to status quo (= costs of production)	26,000
Increase in public funding	26,000
% increase in public funding	130%
Increase in agri-env. budget	25,000
% increase in agri-env. budget	2,500%

top-up payments to solve some of the basic issues. As in all the most recent stages of CAP reform, attention focuses mainly on an expanded budget for agri-environment schemes, but the MTR may need to end up with a completely new focus for the whole agri-environment programme.

The main difficulty for low-intensity systems flows from the implications of the interpretation of Good Agricultural Condition. If this is set at a very low level, as the Commission seems to imply, then it would necessitate a huge increase, as well as a fundamental refocusing of agri-environment payments to maintain even current existing beneficial practices (see box).

If, on the other hand, the standard was to be set at a higher level, as a response to public concerns, potentially large numbers of farmers would find themselves *forced* to produce to receive payments – back to square one. Furthermore, it would not be possible to claim agri-environment payments for 'additional costs' or 'income foregone' at this basic beneficial level of activity as these can only be paid for going beyond the *minimum* standards.

We would then have the somewhat strange situation where the farmers closest to the ideals of the 'European Model of Farming' were the only ones who could not potentially improve their situation (in our example by at least €15,000) through a reform meant to strengthen that very model. On the other hand, farmers far removed from the ideal could increase income both through redirecting production and by participating in agri-environment.

An alternative mechanism would, of course, be LFA support, since the high costs and low production of less-intense systems are related to a significant degree to natural handicaps such as climate, slope or geography.

However, the need to co-fund Rural Development measures is already producing marked inequalities in the application of these funds between Member States (and between regions in some States). In some, there are additional rules limiting the money to full-time farmers.

Even the Commission agrees that 'for the time being there is little consensus against which to redistribute CAP payments', and that the scope for 'messing about' with the current distribution of Rural Development funds is 'modest'.

Modulation

The benefits or otherwise of modulation (and capping) have been the other hot debating topic of the MTR. Interestingly, there seems to be a recognition by the Commission, even if only by implication, that a shift to the Second Pillar has to

mean redistribution of current funding. It is not clear that there is any political will at any level to ensure that this is the case – quite the reverse.

Moreover, there are many in the EU calling for funds to leave agriculture altogether to benefit others in rural areas.

Given that the assumptions as to whom will benefit from modulation are far from clear, it is even more important to look at the impact of the cuts on farm profitability and how that varies between systems.

In the example, basic direct payments are four times net income. €15,000 would be liable for modulation (the first 'franchise' of €5,000 is not modulated). A 10% modulation (€1,500) would lead to a *30%* cut in net income. On the other hand, consider a farmer on better land who receives the same subsidy but makes a profit of €40,000 (subsidy is only 50% of net income). That farmer would be subject to the same modulation, but the effect on the net income would be a drop of only 3.75%. Thus, the more advantaged the farmer, the less the modulation bites.

The recent Summit of EU Heads of State and Government has provided clarity on the CAP budget until 2013, but it is now clear that in future all new reform costs will have to be borne by those who previously benefitted from the agriculture budget. Despite wide-ranging press reports (on the Franco-German agreement), the Summit expressly did not restrict the funds available for Rural Development nor fundamentally change anything in the Commission's objectives and planned processes of reforming the CAP.

Ironically, adoption of the MTR proposals is seen as a necessary precursor to enlargement, yet it is in the Candidate Countries that the contradictions of the CAP are likely to claim their most significant environmental victims. For their sake and for the sake of High Nature Value farming systems in the existing EU, it is vital that the Community institutions take advantage of every opportunity to evaluate in detail the possible unforeseen effects of the MTR proposals and to seek workable amendments if necessary.

Eric Bignal

A Grazing Workshop in the Biebrza Marshes, Poland

Roy Harris

Traditional Polish farm at Biebrza, with two cows. Almost half of Polish farms have only one or two cows.

The Biebrza Marshes of north-east Poland are one of Europe's premier wetlands, and are best known in conservation circles for their wetland birds, with a list of 180 breeding species, including aquatic warbler *Acrocephalus paludicola,* great snipe *Gallinago media,* black-tailed godwit *Limosa limosa*, bittern *Botaurus stellaris*, corncrake *Crex crex*, Montagu's harrier *Circus pygargus*, and hen harrier *Circus cyaneus*. The mammals are pretty spectacular, too, with elk *Alces alces,* European beaver *Castor fiber*, wolf *Canis lupis* and wild boar *Sus scrofa*; the last wild European bison *Bison bonasus* herd is not far away, at Bialowieza. The vegetation communities are both diverse and extensive and, although the whole area has been used by man for centuries, it is nonetheless a remarkably complete wetland ecosystem embracing the floodplain of the Biebrza ('beaver') River and its associated fens. The abundant wildlife here has in the past been intimately bound up with management practices designed to harvest the resources of the wetland ecosystem.

Traditional land use

The marshes were an example of a complex pattern of traditional agricultural exploitation that not only helped to sustain a rural population and culture but also maintained a suite of rich wildlife habitats. Farming in the Biebrza Valley dates back at least to the Middle Ages. Traditionally, the fertile floodplain was used mainly as permanent pasture, the peat zone was cut for hay and aftermath grazing, plus wood- and reed-cutting, while farmyards and arable fields occupied the sandy upland edge.

Part of the system involved Polish red lowland cattle grazing the natural vegetation of the Biebrza wetlands. During the summer months, the dairy cattle from farms on the drier valley margins were turned out after morning milking, in some places wading across the river, to spend the day feeding in the marsh before returning later for milking.

Another important activity was the mowing of vast areas to produce a crop of hay. This provided essential fodder during the harsh Polish winter, when the cattle were kept in barns. It also played a vital role as bedding and, in turn, part of the raw material for the farmyard manure that was essential for growing potatoes. The regrowth on the hay aftermaths provided valuable high-quality grazing in the latter part of the summer. In the wetter areas, the hay was traditionally stacked on wooden platforms to keep it off the ground until the ground froze hard in winter, at which time it could be more easily removed from the marsh.

The Biebrza wetlands thus provided summer grazing and winter fodder for dairy cattle, as well as being the source of nutrients that, once processed by the housed cattle, sustained the fertility of the arable land on the higher ground.

Decline in traditional farming and consequent natural succession

In the Biebrza area the dislocation caused by the Second World War had a significant impact. In the Communist era that followed the war, Polish agriculture was not collectivised like that of its neighbours. Instead, Poland remained to a large extent a country of small peasant farmers. This is still the case today, with 46% of the 1,888,000 farms having either one or two cows and 87% having a herd of nine cows or less.

However, the political and economic changes since the advent of democracy and the market economy have, not surprisingly, had massive effects on agriculture.


Roy Harris

Decline of traditional farming practices in the Biebrza region has resulted in large areas of open habitat gradually disappearing through encroachment of birch, willow and alder, as seen here.

Over Poland as a whole, the number of cattle fell from 10 million to 6 million in the period 1990-2000.

Although traditional dairy farming practices still survive in the area, it is at a vastly reduced scale. Hay is still cut in the Biebrza valley but on a much smaller area, and the availability of inorganic fertiliser means that farmyard manure is no longer essential for producing arable crops.

The huge reduction of traditional farming practices in the Biebzra valley, especially since the Second World War, has precipitated major changes in the vegetation. Unchecked by either grazing or mowing, large areas have been released from traditional management constraints and have been radically altered by natural succession. Short, open sedge-moss communities have been colonised by more vigorous sedges and reed, and in drier areas regeneration of willows *Salix* spp., birches *Betula* spp. and alder *Alnus glutinosa* is transforming an open, farmed landscape into scrub. As the short, open wetland vegetation has declined, so have the numbers of breeding waders, such as ruff *Philomachus pugnax*, black-tailed godwit and great snipe, and, as the tussocky sedge communities have given way to scrub, the available habitat for the rare and threatened aquatic warbler has been reduced. The drastic decline in traditional low intensity farming has been mirrored by a decline in the special nature value of the area.

The Biebrza National Park

The Biebrza National Park was established in 1993 and covers 127,000ha out of the 600,000ha that make up the watershed of the Biebrza River, a 120km-long tributary of the Narew, a major branch of the Wisla, which flows into the Baltic Sea. The core area of the national park is a 60,000ha Ramsar site: 40,000ha are wetland, with an associated 20,000ha of dry upland consisting of moraine and hillocks covered by forest and arable fields. The wetland is mainly undrained fen, covering approximately 36,000ha bordering the 1-2km-wide mineral floodplain of the Biebrza River. Although the National Park is the major landowner in the core area, 43% is still in the hands of some 5,000 private landowners. Surrounding the core area of the national park is an inhabited area of 67,000ha as a buffer or protection zone.

Grazing Workshop

In April 2002, a three-day Grazing Workshop was organised at Goniadz by the Nature Conservation and Plant Ecology Group of Wageningen University and Research (WUR), the Biebrza National Park (BNP), and the World Wide Fund for Nature (WWF) 'Biebrza Project'. The workshop included a day in the field before two days of papers and discussions. Participants from the Netherlands, Belgium, Eire and the UK gave western European examples of the suitability and feasibility of grazing in conservation management, especially in peatland habitats, and Polish participants and visiting scientists who had undertaken studies in Biebzra described the area and its management and presented a local perspective.

The workshop looked at a range of potential management options (burning, mowing and grazing), assessed their likely effectiveness and suitability and then sought to assess the feasibility of implementing them within the National Park.

Burning

Burning was a contentious issue because it is not a management technique that is permitted in Poland at present. However, it was felt by some that potentially it could be a useful short-term management tool to check large-scale scrub invasion.

Mowing

Mowing was the preferred option of the National Park to maintain open wetland habitats. The effectiveness of this approach was supported by the practice of mowing for hay, followed by aftermath grazing, which had maintained open habitats until the drastic decline of traditional farming, especially after the Second World War. An experimental mowing trial within the park run by the WWF Biebzra Project in 2000 and 2001 has already started to demonstrate the effectiveness of hand-scything in reducing the structural dominance of tall sedges. This is allowing smaller plants such as marsh marigold *Caltha palustris*, bogbean *Menyanthes trifoliata* and early marsh-orchid *Dactylorhiza incarnata* to increase, and also allows the rapid return of nesting waders. However, the cost of hand-mowing and hay-making over extensive areas was prohibitive, at €315/ha. Currently, the National Park does not have the resources, either financially or in terms of appropriate machinery for very wet ground, to mow mechanically up to 20,000ha. There was also great concern that while it was necessary to remove the cut material, finding a market for, or disposing of, 50,000 tonnes of biomass was a major constraint. The essential problem is that the hay crop no longer has a value because the agricultural system that both produced it and used it has largely disappeared.

There seem to be three options:

1) Allow the practice of mowing to end, and accept the acceleration of scrub encroachment and the development of extensive coarse sedge communities and reedbeds.
2) Pay for cutting management and the disposal of huge quantities of biomass purely as a nature conservation exercise.
3) Re-establish low intensity agriculture as a mechanism for maintaining nature value through mimicking traditional management practices, even if more mechanised approaches are necessary to compensate for reduced manpower.

Grazing

Grazing was the mechanism that was most debated, drawing on the findings of research projects that had investigated the way in which milking cattle, managed in the traditional way, used the available vegetation, and how the nutritional value and palatability of the vegetation changed during the grazing season. The floodplain grassland appeared more attractive than grasses and sedges on the peatland. Nevertheless, the peatland vegetation could be grazed by free-ranging livestock during periods when the floodplains were

under water in spring, or had been grazed off in mid and late summer.

From a nature conservation perspective, there is a great difference between the management needs of the extensive peat and floodplain vegetation and that of the drier hillocks, which support calcicolous vegetation. The floodplains and the peatlands need to be grazed, or mown, to maintain an open extensive structure that favours both smaller herbaceous species and the special bird interest. In contrast, the habitats of the hillocks are at a much finer scale, with a patchwork structure of open glades within scrub and woodland being necessary for such rarities as lady's slipper orchid *Cypripedium calceolus*.

It is uncertain whether the grazing impact of free-ranging large herbivores would re-create short sedge or sedge-moss communities from areas that had become dominated by tall sedges such as tufted sedge and fibrous tussock-sedge *Carex elata* and *C. appropinquata*. Cattle and horses can certainly suppress reed-dominated vegetation and create short, grassy lawns, and within the National Park cattle were observed to graze reed communities from June until August.

Controlling invasive shrub and tree species, such as willow, birch, aspen *Populus tremula* and alder requires heavy grazing pressure on small seedlings to prevent successful establishment, and even heavier browsing pressure or bark stripping on established trees and shrubs if encroachment is to be reversed and open grazed habitats recreated. Elk and beaver browse and strip bark from many of these woody species. Cattle, horses and European bison may also contribute substantially to invasion control and regression. A local private initiative using Konik Polski has found that this primitive pony breed, the closest equine to the extinct tarpan wild horse, can effectively control scrub invasion and maintain open fen conditions.

Currently there are not enough domestic livestock grazing the Biebrza valley to maintain open conditions, and populations of large wild herbivores (elk, red deer *Cervus elaphus* and beaver) are not sufficient to control scrub encroachment.

Re-establishing the traditional pattern of pastoralism would be an attractive option, since it is known to have been effective in the past. It is no longer economically viable and would need to be supported by government or EU funds. However, options such as mechanical mowing are even *less* viable, so at the very least attempts should be made to keep what remains. An additional strategy could be to establish new extensive livestock systems such as free-ranging suckler cows to produce beef. The economic viability of such farming practices might be enhanced by marketing identifiable 'Biebrza' products and trying to integrate them with eco- and agro-tourism.

Roy Harris

Above **Cut reed ready for collection. Local activities such as this are no longer being carried out at a scale which is able to arrest succession to scrub over large parts of the Biebrza Marshes.**

Right **A nesting white stork *Ciconia ciconia*, one of the typical species of the area.**

Roy Harris

A further option was proposed following the concept of New Wilderness developed in the Netherlands. This would entail establishing populations of wild and feral large herbivores, including elk, red deer, beaver, wild boar, European bison, Konik Polski and possibly cattle in sufficient numbers to re-create and maintain extensive, open grazed habitats, possibly with additional management through mowing and scrub clearance.

The future

The practical problems facing the Biebrza National Park are truly daunting, as the collapse in traditional farming permits natural succession to change the vegetation communities in a way that renders them unsuitable for the special wildlife for which the site is renowned. In practical terms, reversing the current trends demands sensitive agricultural and environmental policies to be put in place by the time Poland joins the EU, so that sufficient financial support becomes available to re-establish land-use patterns able to maintain the necessary extensive, open habitats. Agricultural intensification would be as big a disaster as abandonment. In the past, a combination of pastoralism and hay-cutting has been effective: there seems no reason why it should not be again, with appropriate support. Otherwise a dramatically different approach would be required: this could be intensive conservation management divorced from farming, or the New Wilderness approach, if that could be shown to be effective in this situation and acceptable to local people.

Any action will require large-scale funding. Inaction will see the progressive deterioration of an internationally important wetland ecosystem.

Grazing Workshop Report

Grazing as a conservation management tool in peatland. Report of a Workshop, 22-26th April 2002, Goniadz, Poland.
Edited by J Bokdam, A van Braekel, C Werpachowski and M Znaniecka.
Joint Publication of Nature Conservation and Plant Ecology Group, Department of Environmental Sciences, Wageningen University, Bornsesteeg 69, 6708 PD Wageningen, The Netherlands, Biebrza National Park, Goniadz, Poland and WWF 'Biebrza National Park Project', Bialystok, Poland.
The report is available as a PDF-file on the WWF-Poland website: http://www.wwf.pl

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Pastoralism and Nature: 3rd workshop of the PASTORAL project

Sally Huband

Sheaves of oats, home grown for winter fodder, being fed to Highland cattle at Kindrochaid, Islay.

At both of PASTORAL's previous workshops (see *La Cañada* 15) it has become clear that there is still a need to explain in simple terms many of the complex aspects of the ecological interactions between grazing livestock (and associated pastoral management practices) and nature. If we can do this, we will have a much better chance of convincing others of the importance of pastoralism, particularly those involved in the development and implementation of both management practices and policy. Exploring these interactions formed the main purpose of PASTORAL's third meeting, held from 29 June to 1 July 2002 on the island of Islay, western Scotland. Thirty-six people attended, including delegates from Hungary, Norway, Italy, Holland, Spain and Ireland.

Islay (600km^2) is the most southern of the inner Hebridean islands and has a human population of around 3,000. As was experienced during the rainy field trips, the island's climate is very oceanic, with an average annual precipitation of 130cm in the lowland areas. It rains on more than half the days in a year and gales are common in the winter months. The island's physical constraints have prevented the over-intensification of agriculture, and livestock rearing remains the main land use. As a consequence, Islay still contains a high proportion of semi-natural vegetation and a number of habitats and species of European importance. The marsh fritillary butterfly *Euphydras aurina* is widespread on Islay, more so than in any other part of the UK. Islay also holds 85% of Scotland's population of chough *Pyrrhocorax pyrrhocorax*, with the remaining 15% located close to the north on the islands of Colonsay and Mull.

Robert Epps, a local farmer and current NFUS (National Farmers' Union of Scotland) local chairman, opened the meeting with a description of the current characteristics and trends of livestock farming on Islay. Central to his message, coloured considerably by his experience in recent years of helping to develop a wild goose management policy for the island, was the need for farmers and conservationists to work more closely with one another and for farmers to have more involvement in the design and implementation of agri-environment schemes and conservation strategies.

Indoor sessions

The meeting began with a series of papers illustrating the actual and theoretical links between pastoralism and nature.

Grassland diversity: the role of pastoralism

Begoña Peco described how the species composition of Mediterranean dehesa grasslands is a result of the interaction between the environment (in this case water availability and nutrient gradients), human-induced perturbations (e.g. low-density grazing and low-frequency ploughing to control scrub) and the life-cycle strategies of the plant species (e.g. ability to persist in seed banks). The period since the land was last ploughed, total annual rainfall and autumn rainfall are the main variables that determine species composition of the dehesa flora. Semi-natural pastoral dehesa habitats are, therefore, highly dependent upon interactions between grazing (and associated management practices) and the environment. This results in inherently 'unstable' habitats, with fluctuating species compositions and vegetation structures.

Habitat fragmentation and the metapopulation concept

Diana Prins explained how, according to metapopulation theory, species such as the marsh fritillary can cope with fragmented habitats and their inherent instability by existing in networks of connected local populations or 'metapopulations'. In this way, local extinctions can be countered by recolonisation from connected populations when suitable niches become available. The concept of 'unoccupied habitat' was discussed in the context of metapopulations. Apparently suitable areas of habitat may not be used every year, because many species have boom and bust (plague and famine) cycles not determined directly by habitat quality. However, these areas are no less important for the metapopulation. Extensive pastoral farming is practised over large areas and produces a mosaic of habitats of varying composition and structure. This provides sufficient habitat at the landscape scale, as well as variability at the micro-scale in order for metapopulations to survive. When sites are designated for the conservation of species such as the marsh fritillary, they must be large and will almost inevitably incorporate areas that are not currently populated by the species concerned.

Mosaics of habitats, vegetation composition and vegetation structures over large areas ensure that species with contrasting requirements (with other species and within their own life cycles) can occur. But in much of Europe, semi-natural pastoral habitats are becoming increasingly fragmented as a result of both agricultural abandonment and intensification. As fragmentation increases, so the habitat contains fewer ecological niches and fewer and smaller populations for which stochastic events (e.g. climatic variations, predators and parasites) assume greater significance. The distance and connectivity between populations influences whether re-colonisation of fragments can occur. The more isolated habitat fragments are, the less likely they are to be re-colonised.

Dispersal of plants and animals in livestock systems

Interestingly, the papers presented by Begoña Peco and Ben Hill both described the frequently overlooked role that livestock play in dispersing species both, in their dung and by external transportation. In dehesa grasslands, cows disperse more plant species through dung than any other

herbivore, while sheep maintain a link between many plant populations, through transportation of seeds in their fleeces. It has been estimated that a flock of 350 sheep potentially disperse 3 million seeds per year. Recently published studies in Germany have described how large, interconnected areas of calcareous grasslands came into existence during the main period of sheep transhumance, between the 15th and 20th centuries. One example of evidence that supports this is that the genetics of distant populations of upright brome *Bromopsis erecta* on the same transhumance route have been found to be more similar than nearby populations on different routes. At present in Germany, calcareous grassland remnants are maintained by conservation management techniques such as mowing (because there are few sheep flocks). Not only is this expensive, but it fails to maintain the biological connectivity between fragments as transhumance once did, and, indeed, still does in the Mediterranean and Alpine regions and countries such as Romania.

Field visits

A walk through the stunning western part of the island gave delegates the opportunity to see and discuss landscape-scale interactions between pastoralism and the environment. There were no marsh fritillaries to be seen, due to the bad weather, but a flock of choughs did put in an appearance, flying from the land of one farm to the next. Both the non-appearance of the marsh fritillary and the appearance of the chough reinforced the points made during the field discussions that conservation measures must be at the scale of the landscape. Although the weather remained abysmal, the next day delegates bravely returned to the west of the island for a second field trip, to see and discuss the implications of different pastoral management on vegetation type and structure (practices such as stocking densities and type of livestock).

One of the recurring discussion points during the field visits was that the biological value of extensive farmland may be described at several scales. Chairing the discussion, Axel Wolff summarised this as follows:

1 Within patch This is, for example, the diversity of plant species within a single vegetation community in a field. It is mainly affected by grazing pressure and local edaphic conditions.

2 Among patches This is characterised by differences in vegetation composition and structure within a single pasture or field. This is mainly the result of contrasting micro-environment conditions and grazing pressure. It increases the diversity of plant species within the pasture, but also of invertebrates and vertebrates by creating a range of habitat conditions. It also benefits animals which need different habitats in close proximity (e.g. insects or small mammals that hide or breed in high vegetation but feed in short vegetation). The resulting heterogeneity may be in the form of a mosaic (e.g. pastures on Islay) or a gradient (e.g. steppe pastures in the Crau).

3 Within farm The diversity of land uses within a single farm. This results mainly from the functional necessities of livestock farming, e.g. the need to grow hay or crops for winter fodder, while retaining pastures for the rest of the year. The resulting diversity in land-use benefits vertebrates and invertebrates which may require different habitat types at different times of the year, or which may need to simultaneously use different habitats (e.g. steppe and hayfields for wintering little bustards *Tetrax tetrax* or for breeding stone-curlews *Burhinus oedicnemus* in the Crau). It also directly results in an increased level of plant and animal diversity at the farm level.

4 Among farms This is characterised by the diversity of practices among local farmers. This may result from differences in environmental conditions among units (e.g. ground, slope, exposure), but also from differences in farming practices resulting from the individual decisions of farmers both today and in the past. It results in an increased diversity of land uses at the local landscape-level and, more importantly, in the timing of farming activities such as grazing, ploughing, sowing and cutting/harvesting. As a result, a single habitat (e.g. hay fields) may exist at various states of growth in the local landscape at any given moment. This would favour any natural asynchrony in the timing of activities of individuals of a species, as well as higher overall species richness, by allowing the coexistence of species that require different stages of the same habitat.

Hans Kampf

Dutch experts discussing the role of carcasses in conservation management of nature areas at Oostvaadersplassen Nature Reserve, The Netherlands.

Importance of livestock carasses for invertebrates

A similarly overlooked ecological role of pastoralism, presented by Oscar Vorst, is the importance of livestock carcasses for scavenging invertebrates. Studies of Highland cattle carcasses in a Dutch nature reserve revealed an invertebrate fauna of over 160 different species, which is more than the number of breeding birds in the same reserve. Unless found in a late stage of decomposition, carcasses of domestic cattle, sheep, horses and goats (but not wild animals) have to be removed under the Dutch Dry Rendering Act.

Current thinking is that these carcasses pose little threat to livestock unless the animal has died from a contagious disease, although there is a risk of botulism when temperatures are high. Removing livestock carcasses that are not infected with a contagious disease means that the environment is deprived of nutrients, specialist invertebrates of microhabitats and vertebrates of carrion.

Conclusions

The ecological principles described and discussed all support the case for landscape-scale conservation measures. In pastoral areas, the effectiveness of these measures will depend upon viable, functioning extensive livestock systems. In order to maintain the spatial and temporal diversity of pastoral farmland, at the full range of scales, farmers must be allowed flexibility of management. The current model for most agri-environment schemes generally acts to homogenise these practices (see also page 10). On Islay, for example, farmers in the local Environmentally Sensitive Area scheme are not permitted to cut hay or silage before 1st August in order to provide cover for nesting corncrakes *Crex crex*. This not only disadvantages farmers who are unable to make the most of good spells of weather before this date, but also chough fledglings which require a temporal succession of silage aftermaths for feeding. Ironically, despite wide take-up of the measure, most fields have no corncrakes.

Explaining in simple terms the ecological interactions between pastoralism and nature has to be a high priority if we are to

develop meaningful conservation strategies and environmentally sensitive agricultural policies. A high priority for the future is to determine the best policy mechanisms to sustain temporal and spatial ecological diversity. But to achieve this, we have to be able to answer the question: 'what is causing the homogenisation of livestock farming practices'? This should become a broad debate and should not be constrained by narrow-minded thinking that regards production support as intrinsically bad and support for rural development as good. If no other lessons were learnt from the Islay visit, it should have been clear that much of the biological value was there because of agricultural production, not despite it.

A fuller report of the meeting is available from the PASTORAL website: http://www.sac.ac.uk/envsci/external/Pastoral/default.htm

Acknowledgements

Some of the preparatory work for the meeting was carried out in Islay by Bastiaan Brak and Lammert Hilarides, research students at Wageningen Agricultural University, Holland. Their thanks are extended to the many farmers and local people who gave up their time for interviews and completing a questionnaire. Particular thanks are due to Robert and Isobel Epps.

The PASTORAL Project is funded by the Commission of the European Communities RTD Programme Quality of Life and Management of Living Resources, under project reference QLRT-2000-00559. The content does not necessarily reflect the views of the Commission and in no way anticipates future Commission Policy in this area.

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Pastoral Project Workshop, Islay: some personal reactions to the field excursion and the land management issues

I have been aware for several years of the work being done at Kindrochaid, by Eric and Sue Bignal, in re-establishing a traditional pattern of low-intensity pastoralism based on Highland cattle and hardy sheep. So I welcomed the chance to see how their system integrates the interests of low-intensity livestock production with the varied nature interests represented on a site bearing a host of nature conservation designations: SSSI, SPA, cSAC, and RAMSAR. Although I have been working for the last 15 years on a parallel grazing project in Orkney to develop strategies to integrate nature conservation grazing management with low-intensity livestock production, my roots were in more conventional nature conservation management, focusing particularly on the requirements of managing generally small, statutory wildlife sites marooned in a desert of modern intensive agriculture in southern Britain.

The area

The area of north-west Islay chosen for the Workshop field meeting is part of Eric and Sue's project. It covers approximately 450ha, which is stocked all year round with 30 Highland cows and 300 black-faced ewes. The area is also grazed by brown hares *Lepus europaeus*, roe deer *Capreolus capreolus* and feral goats *Capra hircus*. It is run as one unfenced open range, contiguous with up to 20ha of enclosed fields producing hay, silage and oats. The open range is impressively varied, and situated on the north-western coastal fringe of the island of Islay, directly facing the rigours of the North Atlantic. It is a mosaic of cliff communities, coastal heath, calcareous grassland, wet and dry heaths, and a suite of mires, plus still and running water. Parts are acidic and peat-covered, but there are localised outcrops of calcareous rocks, as well as sand dunes and grassland over blown shell-sand.

The biological value

There seems to be an almost endless spectrum of variation as one vegetation community grades into another, with shifts in wetness, acidity and exposure, and as the structure and relative abundance of the different plant species change. To the untutored eye, it might appear to be a wild and natural landscape: closer inspection reveals that in reality it is a landscape mediated by grazing, a product of extensive pastoralism with the structure and distribution of the vegetation intimately controlled by the impact of grazing livestock, plus the attention of wild grazing animals. Here, on the edge of the Atlantic, wind and salt spray are also potent forces and in the most exposed areas can mimic the effect of grazing.

Close-cropped, species-rich calcareous grassland gives way to streamside wetland vegetation, that grades into a dwarf shrub vegetation of heathers, with frequently grazed eared willow-scrub *Salix aurita*. Amongst rocky outcrops on the streamsides, the grazed transition between wet grassland and dwarf shrub heath is a remarkable, species-rich mix of wet ground vegetation, grassland with wild thyme *Thymus polytrichus* and orchids and low dwarf shrubs. Grazed willow scrub is kept low and open so heath spotted-orchid *Dactylorhiza maculata ericetorum*, round-leaved sundew *Drosera rotundifolia* and common butterwort *Pinguicula vulgaris* can grow side by side with eared willow. Elsewhere on the site, with less exposure and much less grazing the willow grows into thickets up to 2m high, here making a dense vegetation in association with bracken *Pteridium aquilinum*. Low heather and bell heather on the cliff tops is joined by creeping willow *Salix repens* and they maintain a dwarf mosaic with short, cropped grassland, the precise height and distribution of which is governed by grazing intensity and exposure to wind and salt spray. In contrast, there are inland zones where heather forms a dense, virtual monoculture up to a metre high, in places interspersed by short grassland glades intermittently cropped by sheep and cattle and hence maintaining relatively species-rich acid grassland, speckled with heath bedstraw *Galium saxatile*, tormentil *Potentilla erecta*, wild thyme, heath spotted-orchid and lesser butterfly orchid *Plantathera bifolia*. In some wetter peat zones, purple moor-grass *Molinia caerulea*, soft rush *Juncus effusus* and yellow iris *Iris pseudacorus* produce a very different vegetation type, and this generally mesotrophic mire is contrasted by an extensive oligotrophic mire system with abundant *Sphagnum* spp., black bog-rush *Schoenus nigricans*, bog-myrtle *Myrica gale* and small plants such as pale butterwort *Pinguicula lusitanicum* and early marsh-orchid *Dactylorhiza incarnata*.

The role of appropriate grazing management

Heavier stocking densities could transform

this infinitely varied vegetation mosaic into various types of grassland, especially in conjunction with typical agricultural activities like drainage and fertiliser application. Absence of grazing would generate equally dramatic vegetation changes, with the development of stands of dense purple moor-grass, willow scrub and, locally, bracken, taller dwarf shrub heath overwhelmingly dominated by heather and local areas dominated by yellow iris and meadowsweet *Filipendula ulmaria*. Whether any of these changes would be considered advantageous would depend on the precise objectives of management, but inevitably they would be accompanied by a loss of structural diversity and species richness, with consequent knock-on effects for many individual species, including the increasingly threatened marsh fritillary butterfly *Euphydryas aurinia*.

What was clear, even through the driving rain on the day of the field meeting, was that the mixed grazing by cattle and sheep, at a very light stocking density of around 0.15LU/ha, was generating a high level of biological richness within an extensive unfenced landscape, through low-intensity livestock production.

Richard Revels

Marsh fritillaries on bugle. This butterfly needs suitable habitat on a large scale as its metapopulations are subject to great change from one season to another.

A question of scale

A number of questions inevitably present themselves. Could the biodiversity benefits so evident here be easily replicated by any cattle- and sheep-grazing regimes elsewhere? Could this area be managed in order to generate even higher wildlife value? Is this traditionally-based agricultural system a cost-effective way to manage land for both nature value and food production? Is this land management approach sustainable? There is not space here to adequately debate all these complex points, but I can give some personal comments.

The present richness of this site is a product of sheep and cattle grazing. However, being very familiar in Orkney with wet heaths, calcareous mires and maritime heaths that have been badly damaged by ill-advised and poorly managed cattle grazing, it is very clear to me that this rich suite of habitats is not an automatic consequence of cattle grazing. Similarly, it is not just the choice of a light breed of hardy cattle, since I have observed small cattle breeds, such as Shetland and Dexter, wreck species-rich grasslands and heaths through inappropriate livestock husbandry. It was a revelation to me to see how small groups of Highland cattle had foraged out into a very wet mire to crop purple moor-grass, but had left little sign of their passing: other cattle would probably have poached the wet peat into a morass or floundered up to their bellies. Depending on the husbandry skills applied, sheep, too, can produce very rich grazed habitats, but equally there are plenty of examples where badly managed grazing can impoverish wildlife interest. The importance of the application of practical skills and experienced judgement should not be under-estimated. It would be all too easy to badly damage this area through inappropriate sheep and cattle grazing.

There is a risk that the kind of extensive, low-intensity pastoral system demonstrated here could be seen as a cut-price way of delivering nature conservation, since it occurs as a by-product of food production. However, the costs to the traditional pastoralist are high in terms of labour input, not least because the husbandry efforts and land management skills are exercised for a relatively small number of animals and hence the economic pay-back is limited. It is essential that the biodiversity value is recognised as a 'public good' produced through the management effort of the pastoralist and worthy of legitimate financial reward.

Traditional pastoral systems that have remained effectively unchanged for centuries, or examples like this one which has been sensitively re-created, based on a traditional model, are sustainable in ecological terms. However, whether they can survive as land management systems increasingly depends on external funding. It is not equitable for such systems to survive only because farmers are effectively prepared to subsidise them (either for cultural or idealistic reasons).

Latterly, my work has been to develop a system of targeted conservation grazing which uses livestock husbandry and careful timing to mould the structure and species-composition of grazed grasslands and heaths to achieve specified nature conservation objectives. Superficially, this might appear to be the antithesis of the above approach. In reality, the two represent opposite ends of the spectrum of applying grazing management to generate nature richness: the two concepts are not conflicting, but actually are closely complementary. The challenge was to see where each approach was particularly relevant and where they overlapped: the answer that emerges, is scale. The larger and more diverse an area is, the more appropriate it becomes to have a free-ranging system within which natural perturbations maintain biological diversity. In contrast, very small sites, especially those with rare or vulnerable species, are likely to require a more focused and carefully monitored style of grazing management if their conservation interest is to be maintained.

Extensive grazing systems like the one we saw can seem deceptively simple to the untutored eye. In reality, the impacts of grazing at a species level are complex. Current conservation thinking is too often constrained by limited vision and a lack of practical experience. People are so used to the damaging impacts of modern agriculture, they are blinkered when it comes to recognising the benefits of pastoralism, especially at the landscape scale where it takes great skill to arrive at an informed holistic assessment of value. Visiting projects such as this should be obligatory training for those in Scotland engaged in developing the policy and practice of managing extensive pastoral areas for biodiversity. I found it was an exciting and thought provoking experience.

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COMMENT
A perspective on the British uplands

The following Comment piece by Professor John Rodwell, vegetation scientist and author of the UK's National Vegetation Classification, is based on a speech that he made at a FACT Conference dinner in 2001. Although specific to the UK uplands, it has much relevance to the hills and mountains of the Continent, especially the EU candidate countries of central and eastern Europe.

I recently had the chance to visit the Altai mountains in Russia. This is a place where the last, fast-declining clouds of the Atlantic airstream drop a few grudging millimetres of rain and, from where, looking back west from the high plateau of the Mongolian border across the steppes into the taiga, then the broadleaf forest, one gets a very refreshing perspective on the British uplands and one's own local preoccupations. For Russia gives us a fulcrum over which to lever the north-west of Europe back into its rightful position.

Take our native pine forests, for example, one of the glories of the British uplands: Scot's pine as we call it, though you can hear the wind whispering in the needles of this tree in the boreal forests of Siberia, too, to where it extends across vast tracts of northern Europe.

To register and understand the landscape patterns within this bigger upland space, occupied by others and with their own stories, we need to broaden our horizons. The EU Habitats Directive helps give us a wider view, of course, though its coverage of the European uplands is partial.

Landscape memories

One of the striking features which visitors to the British uplands from more roomy landscapes remark upon is the intricate complexity of its patterns, and the ways in which human impacts have interacted with the framework of natural factors of climate and terrain to produce layer upon layer of landscape memories – a palimpsest, as it has been called, that is a manuscript on which previous messages have been overwritten and only partially erased. In many places around the upland fringes of the UK, towards the limits of enclosure, we see on the surface of what are now pastures, highlighted by thin snowfall or the slanting sun of a winter afternoon, the corrugations left by ploughing in Napoleonic times. Then, with grain imports threatened by the blockades of the French fleet, land was brought under the plough again to give a crop of oats or roots to sustain the population and war-effort. Today, none of us denies the heartbreak of the recent outbreak of Foot & Mouth Disease, but its impacts should be seen as part of a long and continuing process of change in the uplands, of which these other memories are also a part.

Robin Bush/Nature Photographers

The exceptional variety of plant communities at Malham Tarn, in the Yorkshire Dales National Park of the English Pennines, is partly the result of accidents of past mangement that, at the time, had nothing to do with nature conservation.

Note, too, the reach, even then, of economic and political effects that come rude and unfiltered through familiar policy frames. Indeed, the response to Foot & Mouth Disease itself has as much to do with the need for big retailers to get acceptable kinds of meat supplies back on stream again, as with animal welfare or the future of the uplands. This is an agri-economic world view which in my local supermarket, displays peas and broad beans on the 'Exotic Vegetable' counter. Is this reality of the control the markets exert reflected in environmental NGO deliberations about sustainability?

A sense of place

Even within the historic timescales of human impacts upon the uplands, the development of conservation as a public and policy concern and of wildlife management as a career and vocation is extremely short – in fact, it has developed more or less within the past 50 years. What's more, almost none of the upland landscapes and ecosystems that we now cherish for their biodiversity and scenic value have been produced by wildlife management. In fact, they have been produced by a flux of factors – farming, sylviculture, sport and recreation – by design, accident and neglect, through serendipity and greed. This poses a very particular challenge for the sustainability of these landscapes and ecosystems, because often there will be a measure of self-consciousness and artificiality about our attempts to mimic the processes which created them. Traditional hay-making was about having sufficient fodder to keep the stock through the winter, not about biodiversity.

Some of these lessons are especially uncomfortable. At Malham Tarn in the English Pennines, for example, the extraordinary botanical richness of North Fen came about because the owner, unable to launch his boats into this upland lake, raised the water level by a yard at the turn of the 18th century. In doing so, peat workings were flooded with marly waters. It would be hard to accommodate such a selfish act ungrudgingly within the framework of policy and expectation in many of our uplands today – or indeed to contemplate an action plan with a timetable of 200 years against which to measure our achievements. Risk, then, and patience should be part of any vision for the uplands.

This kind of cultural complexity is what helps make Malham Tarn a *place* and not just a *site.* The uplands are full of places, resonant with local distinctiveness, or at least they were before the uniformity of agricultural improvement, the dominance of a few economic crops and products, the *Common* Agricultural Policy, the predictable tidiness of tourist-oriented villages, the repetitive chatter of interpretation leaflets. I've recently had the privilege of producing a database from a farm diary kept by Walter Umpleby, a traditional farmer in the Yorkshire Dales, to help the National Trust and English Nature understand the sustainability of this farming operation, in particular the annual cycle of hay-making and its relation to the vicissitudes of the weather. But the diary is far more than this: it is a touching and tender reflection of the significance of the place to a man and his late wife whose whole life it was. Securing such significance for the

future is part of the sustainability of cultural landscapes.

Agri-environment schemes, landscape design and wildlife management all themselves conspire in homogenising this complexity. I remember taking along to a government apparatchik some computerised maps of the potential extent of different kinds of low-input meadows around the upland fringes which I thought might be of interest to help set more diverse and precise targets for extensification in the Environmentally Sensitive Area scheme. 'But we don't want more diverse and precise targets,' I was told, 'they are that much harder to hit.' The modest expectation of 'no further deterioration' of these improved upland grasslands remains in many policy-serving minds.

Allowing room for change

And then there are generic conservation guidelines that, though they help clarify management goals, can do so at the expense of that diversity of local distinctiveness which should be one of the delights and surprises of the upland scene. Of course, as one of the originators of the National Vegetation Classification, I can be accused of having conspired in this, helping to generate a scheme which is applied prescriptively to measure quality and set standards and targets for management. In fact, the NVC was conceived as a *descriptive and predictive* frame – that is, an account of what is present in the uplands (or *was* present when the field work was carried out) and what might be sustainable, rather than an indication of what necessarily ought to be there.

Indeed, what did ought to be there in the uplands and what should it look like? 'We know what we want' is an admirable indication of clear management targets and essential for accountable monitoring, but what we do want in any one part of the uplands ought to be the subject of personal heart-searching, local conversations and a national dialogue. In reality, of course, it's usually vegetation, birds, butterflies, furry animals with big eyes and rare species which call the tune for wildlife management, driven by the power of their lobbies and the fly-wheel of campaigns and action plans. But what about the unattractive invertebrates, the microbial populations and the soil types? Who speaks for these? In part of their Craven estate, the National Trust has withdrawn grazing to give the spiders a chance among dense blue moorgrass *Sesleria caerula* at the expense of a multitude of pretty flowers. Well, hooray. On the summits of Scottish mountains, Roy Watling is identifying basidiomycete fungi that are associated with the alpine grasslands and heaths: well, let's accommodate some of these little organisms among the dotterel *Charadrius morinellus*, shall we? And for the habitat context that accommodates such diverse goals, we will need a suite of favourable conditions and broad limits of acceptable change.

The limits of acceptable change for habitats in the uplands may need to be fairly elastic because sustainable conservation is about managing processes, not just patterns and states. Even in systems that are not changing directionally, there is a flux of processes and we need to understand its character and consequence through time and space. Integrating at the right scale is important in all this too. For example, the sustainability of traditional upland hay-meadows has depended absolutely on farms having about 20 times as much outbye grazing – land that is of negligible wildlife value in its own right. Having it in the right place is vital too. And all this landscape-scale pattern matters also for wading birds. That individual places are of adequate quality is not good enough. Whole-farm schemes, river catchment-scale planning, bigger thinking is part of what we need.

A real understanding

Partnerships are essential for negotiating this new future in the uplands, but here you have to be good with humans as well as with wildlife. Sociology helps. It helps understand vested interests and relationships between players, experts and publics, as I have been taught to call them.

Real reconciliation of objectives will be essential, but is this notion new? Just how sustainable and discrete *were* the different components of the upland scene in the past? The late Raven Frankland, a farmer in the East Cumbria Fells with whom I worked for some years, once said to me that farming as he knew it was never sustainable, but always supplemented its income by the farmer burning lime, selling eggs, spending two days a month on the railway shifting ballast or mending roads. We certainly know that, in the Lake District and Pennines, farming was often integrated with quarrying or mining as the seasons or economic shifts dictated. Indeed, some of our distinctive landscape features in this region, like the patchiness of juniper *Juniperus communis* scrub, for example, may relate to a push-and-pull of intensity of pastoral farming at the limits of enclosure, or exploitation within a farmland context to provide gunpowder charcoal for blasting. Encouragement should be given to removing the stigma associated with part-time farming.

Future landscapes

When the extent of the Foot & Mouth epidemic became clear, a column in *The Guardian*, listed the horrors that would befall the Lake District landscape. Ironically, every one of these was a UK Biodiversity Action Plan objective – the advance of marshland, fen-meadows, rush pastures, scrub and woodland. The notion that areas of our uplands each have an appearance recognised by common consent as definitive and proper runs very deep. In fact, of course, there is a range of optional future landscapes in all our uplands, the components are predictable to a considerable degree from the interactions of climate and soil and the kinds of intervention that are feasible and productive, but capable of being put together in diverse patterns from place to place. This means that there might be a range of models of sustainability and it means visions for the uplands, not a single vision. And what about some of these optional future landscapes being uplands the like of which no one has ever yet seen: sustainable patterns of ecosystems, new processes of productive use, not yet pictured in any painting, nor celebrated in any poem, nor championed so far by any vested interest? Re-wilding is only one dramatic possibility. There's a wealth of re-naturing yet to do.

As a scientist, I would like to help envision these options. Science can give shape and generality to anecdote, reveal causalities and test the predictive power of hypotheses – but it isn't certain and shouting its provisional reassurances louder doesn't reduce its uncertainties, as the public realised with BSE. But science *can* help and science is carried out and made use of. In many ways, however, though we might contribute here and there in various programmes, university scientists are not well positioned to contribute in a direct coherent way to a broader debate on sustainability in the uplands. For one thing, some are frightened of science, don't want to listen and don't ask us.

Scientific hypotheses do not a vision make. But neither do action plans, mission statements or conferences. We need to cultivate our imagination together, to conceive things that are at present out of mind and try and bring them to be. This is what will make these futures for the uplands present, give them life and make them last.

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The editors would welcome 'Comment' contributions from readers for future editions of *La Cañada.*

Noticeboard

8th Conference of the European Forum on Nature Conservation and Pastoralism – Rural Development measures and the future of pastoralism: regional problems, future management possibilities and policy realities

It was originally intended that this meeting would take place in Montpellier in the Autumn of 2002 (see article in *La Cañada* 15). However, severe delays in receiving responses to funding applications submitted by the Forum and its French partners meant that the decision had to be taken to postpone the meeting until 13-17 September 2003. The focus and venue of the meeting remains the same as previously indicated in *La Cañada* 15. Initial expressions of interest, or requests for further information, can be sent now to: Jean-Pierre Biber, Bureau NATCONS, Steinengraben 2, CH - 4051 Basel; tel: 00 41 61 271 92 83; fax: 00 41 61 271 04 74; e-mail: Jean-Pierre.Biber@natcons.ch

Recent and current activities

A review of the Irish Rural Development Plan 2000-2006: implications for natural heritage
The production of the Irish Rural Development Plan in 2000 presented an opportunity to recognise and support the important contribution that the relatively low-intensity pastoral farming systems make to maintaining a rich natural heritage in the Irish countryside. To assist the Heritage Council of Ireland to contribute in an informed manner to the Mid-Term Review (MTR) of Agenda 2000, the Council commissioned a study looking at the implications of the Plan for the natural heritage. The contract for this study was awarded to the EFNCP.

This study examined the four measures included in the Plan: agri-environment, early retirement, Less Favoured Areas and afforestation. Some of the findings of the study included:

- There are many opportunities for further integration of the suite of measures available to support low-intensity farmers and to reward the contribution they make to the management of the natural heritage.
- The positive contribution that low-intensity farming systems make to the natural heritage is under-valued, not only by policymakers but by farmers themselves.
- The direct competition from farm afforestation for marginal agricultural land is of major concern for the conservation of Ireland's natural heritage.
- The lack of information on the location and extent of semi-natural grasslands in the country is a serious obstacle to integrating agriculture and nature conservation policy.

A copy of the report is available from Wordwell Ltd., PO Box 69, Bray, Co. Wicklow; cost €15; e-mail: wordwell@indigo.ie; fax: 00 353 1 2864215; website: www.wordwellbooks.com.

Brussels Seminar 10 July 2002: A debate on the use of area payments in the EU Livestock Sectors and LFA
Thirty-five participants attended this seminar on the day that the Agriculture Commissioner was announcing his Mid-Term Review proposals for the CAP on the other side of town. In 1997, the EFNCP and CEAS collaborated on a project for DG Environment looking at possible options for better integration of environmental concerns into the livestock sectors. In the report, we developed a forage area payment scheme incorporating the concept of adjusted forage hectares, analogous with the widely used method of describing domestic animals (from chickens to bulls) in terms of a standard livestock unit. The considerable merits (for the environment) that we outlined in our proposals were echoed in the Commission's hopes for the eventual Agenda 2000. Subsequently, area payments were introduced to the LFA payments, but our report has had little impact on national ministries that have now adopted the new Regulations with considerable discretion on the details. For example, there are six different models of LFA area payments covering Britain and Ireland, each with its own combination of elements. Few seem to actually address the real objective of developing a truly area-based approach to direct payments that reflect environmental quality. At their worst, elaborate schemes have been developed which, a cynic might say, merely have as their objective maintaining the status quo and minimising any redistribution of payments.

With this background, the seminar aimed to provide an opportunity to debate these issues and to hear in detail from a range of speakers' experiences of area payments from several regions of the EU. Details of the programme, abstracts of most of the papers and a summary report will be available on the EFNCP website. Prior to that, copies are available direct from gillia@bignal.freeserve.co.uk.

CAP and the environment
Forum representatives (as sub-contractors) contributed to a report on *The environmental effects of Common Agricultural Policy direct aids to farmers and the cultivation of sugar beet*, which was prepared by the Central Science Laboratory under contract from DEFRA, and submitted in May 2002.

Projects & activities starting in 2003

Brussels Seminar, 5 February 2003: The integration of forestry, biodiversity and agricultural concerns on High Nature Value open grazed land
This seminar, part-funded by DG Agriculture under its CAP Information Actions programme, the UK Joint Nature Conservation Committee and Scottish Natural Heritage, aimed to explore the degree of integration between grazing, open habitats, woods and biodiversity in rural development plans. The next issue of *La Cañada* will be devoted to reporting on this seminar.

PAN: Thematic Network on Cultural Landscapes and their Ecosystems
This Thematic Network is funded under the European Commission's 5th Framework Programme. The project is coordinated by the University of Bergen and will be conducted in collaboration with partners from throughout Europe. The Forum will assist with the organisation of six workshops over a three-year period, and will contribute to these and help with the dissemination of the outputs. The first meeting of the network is scheduled to take place in Portugal at the end of March 2003. Further information on the project can be found at http://www.cultland.org/pan.

TRANSUMOUNT: A review of the role of transhumance in mountain ecosystem processes and dynamics
This Accompanying Measure is funded under the European Commission's 5th Framework Programme. The project is coordinated by ALTERRA in the Netherlands, and will be conducted in collaboration with a number of European partners. The overall objective of this project is to summarise the current status of transhumance in European mountains and its influence on the component fragile ecosystems. The Forum will assist with the organisation of one workshop and one larger conference, and with the production of a book summarising the outcome of these meetings.

Developing a High Nature Value farming area indicator
This project is funded by the European Environment Agency and involves a research team that includes EFNCP, IEEP, Alterra and is coordinated by the Danish Centre for Forest, Landscape and Planning. The objective of this ambitious project is to develop and test a suite of High Nature Value farming area indicators at the EU-level, and to analyse the possibilities for extending the indicators to all EEA member countries. The Forum will assist with the conceptual development of relevant indicators and with the testing of the relevance of these in a variety of European areas.

Brussels 3 March 2003: First Pillar Conference
The European Environment Bureau (EEB), with support from the Dutch Ministry of Agriculture, is collaborating with WWF and the EFNCP to hold a one-day conference in Brussels on 3 March. The aim of the meeting is to have a strategic discussion on the role of the 'First Pillar' and on the objectives and possible effects of decoupling of payments. One (ambitious) objective is for a round-table session at which all member states and candidate countries will outline the position of their governments on these issues. The objective is to produce a rapid report of the meeting that can become part of the ongoing debate of the CAP Mid-Term Review.

Other news

The Open Country
Issue number 4 (Summer 2002) of *The Open Country* includes a series of articles addressing the various dimensions of ecological restoration with respect to open country communities. Most relate to a workshop held in Budapest in August 2002. Copies of the magazine are available from Julia Kuleshova, Biodiversity Conservation Centre, 41 Vavilov Street, Apt.2., MOSCOW, Russia 117312.

Agri-Culture – Reconnecting People, Land and Nature
A new book by Jules Pretty, that presents the argument that there is no alternative to radical reform of national agriculture, rural and food policies and institutions. More details available at www.earthscan.co.uk.

Ecological corridors in land-use planning and development policies
Although not all ecologists are convinced by the concept of ecological corridors, this report, prepared by Robert Jongman and Dana Kamphorst, gives an overview of national approaches to creating ecological corridors by countries implementing the Pan-European Biological and Landscape Diversity Strategy (PEBLDS). More details from Council of Europe Publishing: e-mail: publishing@coe.int; website: http://book.coe.int.

Conservation Pays?
The British Grassland Society (BGS) has produced an Occasional Symposium report of this title, based on a joint meeting of the BGS and the British Ecological Society held in April 2002. It includes a paper by Eric Bignal and David Baldock titled 'Agri-environment policy in a changing European context'. Copies (£30) from the BGS office, PO Box 237, University of Reading, Berkshire RG6 6AR; www.britishgrassland.com.

Environmental Integration and the CAP – a review of the report to DG Agriculture

The recent publication by the European Commission of a report by IEEP and the Universidad Politecnica of Madrid on Environmental Integration and the CAP marks a long-overdue look at this important issue.

The commissioning of the work and, in particular, the central role given to a series of 'Greening the CAP' workshops, provides a timely opportunity to canvass a wide range of views on the successes and failures of the Agenda 2000 version of agricultural policy before the Mid-Term Review (MTR) is finalised.

The report certainly makes for interesting and stimulating reading. It divides in spirit, if not on paper, into two halves – the first an analysis of the current situation, and the second a set of policy recommendations.

Analysis of the CAP/environment interaction

Although they did not have the resources to look at all CAP sectors (sheep and early retirement and agri-environment incentives for organic farming were absent, and forestry incentives somewhat underplayed, for example), the report starts with what is still a fairly comprehensive whistle-stop tour of the various elements of the CAP.

The consultants have, on the whole, been careful to comment on the present version of the CAP, with its quotas, stocking-rate limits, base areas, cross-compliance and so on, and not the undoubtedly production-expanding version of the 1970s and 1980s. Many environmental NGOs are still apparently addressing the pre-Agenda 2000 CAP.

The report catalogues a range of reported impacts, from the highly damaging to the wholly benign. The team have in general been cautious in their evaluations.

In their emphasis on the 'counterfactual' – what would have happened in the absence of the policy – they (unfortunately) break new ground. It puts the work in marked and welcome contrast to much of the commentary on the MTR from whatever point of view.

The importance of non-CAP factors, whether as long-term trends or short-term variations, is stressed. An example of the former is the availability of very cost-effective nitrogen fertilisers, while the latter would include market conditions or legal constraints.

As the report's discussion of dairying suggests, the more truly profitable the sector, the less the effects of the CAP. In the case of dairying, this is particularly clear, as intensification and specialisation have been marked trends, despite the absence of direct payments.

To quote, 'There are many examples of assumed links without any clear rationale to explain these assumptions', and 'Without an understanding of the relative role of the policy as compared to other factors… it is difficult to be sure that the reforms proposed [by commentators] will be either necessary or sufficient to bring about the desired results.' 'One of the major weaknesses of the [environmental] NGO papers is a general assumption that the CAP is the primary driver of changes ... in recent years.'

A commentator with experience of actual farms in real regions of the EU would add that most arguments are also based on simple relationships drawn from means of large aggregated data sets, which hide huge and very significant amounts of variation between farms.

The report continues, in what must be one of its key passages: 'Thus there is a tendency to argue directly from the evidence of intensification and marginalisation to the need to change measures within the CAP without an interim analysis of the precise role played by CAP policies in the past and their likely impacts in future. Other important drivers . . . are frequently understated. The total effect is selectivity by nearly all the parties involved.'

For the vast majority of the regimes considered, the consultants find that there is a spectrum of environmental impacts – a high-intensity end, often more polluting and usually of lower biodiversity interest, and a low-intensity sub-sector, usually of higher biodiversity and often of lower environmental risk. In some cases – such as olives – there is a 'sharp distinction' within the sector between the types of system.

At both ends of the range, the CAP has potential for both good and bad, but in general it tends to be conservative – maintaining current activity against change. At the one end, this might discourage a more extensive approach, while at the other it certainly discourages abandonment.

Their review of the literature points to a tendency to concentrate on the negative effects of the policy – an account of a previous report for the European Commission's DG Agriculture on the environmental impact of arable farming seems to ignore completely any positive benefits of extensive cultivation, for example, in Spain.

They point out that most published work sees environmental impact as being correlated to input use. Models of this type are 'much less able to say anything meaningful about impacts upon more complex resources such as European biodiversity or landscapes'.

This mindset also colours the 'beyond normal good farming practice' approach to supporting environmental goods – a fact to which they allude, but which is not explored in the detail one might think it warrants, particularly for the High Nature Value end of the farming spectrum.

It might, indeed, be argued that the ease with which 'extra, add-on' management is described in non-agricultural terms (contrasting markedly with the difficulties of describing the true complexity of beneficial agricultural systems) is in itself a reason for the dominance of a prescriptive, non-functional approach to agri-environment in many Member States.

The authors conclude that 'It is preferable to look for efficacious integration measures which seem likely to produce the desired response on the ground rather than to simply reverse historic drivers, especially if their precise role is uncertain.' They see a real or perceived lack of symmetry in farmers' response to policy – removal of widely-cited damaging measures would not necessarily reverse all the assumed or actual environmental impacts.

Catering for the irrational

What are we to make of the diagnosis? Few could with justification disagree strongly with what is a manifestly fair, moderate and balanced piece of work.

One area of concern, however, is the unwillingness to put great stress on anything other than rational reactions to policy or other signals. While the authors emphasise the fact that non-CAP factors are important, the unwritten assumption seems to be that the reactions of farmers to these factors (legislation, social trends, even climate change) will still be those of 'economic men' (and women).

For better or worse, farming is not like that. It is driven almost universally by a strong, often irrational, productivist

instinct. In the more traditional areas, where farming's profitability is inherently poorest, agricultural activity continues *despite* all these 'rational' pressures.

This does not mean, however, that agriculture will survive come what may, and that therefore any policy instruments we might devise are benign towards these systems. Idiosyncratic behaviour is, on the contrary, susceptible to radical but unpredictable change (perhaps itself equally irrational), for example, on the death of a producer. It's the 'last straw' scenario – the last straw is *light*; the reaction is *non-linear* and *unpredictable*.

These kinds of relationships are littered with hystereses. The Precautionary Principle was *made* for these farmers, because the costs of getting things wrong are so high.

Geography – not always the most scientifically rigorous of disciplines – recognised the weakness of the determinist approach 20 or more years ago. Perhaps the predictors of agricultural-policy responses should follow geographers blinking into the real world!

Another weakness is that somewhere in the report, before conclusions are reached, attention should have been given to the role of politics in the implementation of CAP policies. This applies to EU-wide decisions (where to set stocking rate limits and what effect they have on the payments received, for example). It is even more relevant in the decisions taken within Member States on questions subject to subsidiarity – all sorts of issues relating to the RDPs, National Envelopes, quota trading arrangements and the like.

Many of the weaknesses in the current implementation of the CAP stem from these less-than-fundamental decisions. Not only was this a significant factor in the past, but it is undoubtedly going to remain so.

On the one hand, there is a lot of room for reform just within the existing instruments. On the other, any new suite of measures will be just as likely to be cynically (as some might say) manipulated – no-one should propose them thinking that they will turn out as the first internally-consistent and environmentally-orientated version of the CAP.

The proposals

The report sets out a comprehensive range of options, from removing clearly damaging incentives, through amendment of the First Pillar to 'green' it, through to more radical possibilities, such as expansion of the Second Pillar at the expense of the First, further moves to area payments and the like.

For the most part, these options could form a comprehensive and far-reaching, yet conservative and precautionary reform that could, taken as a whole package, address many of the problems of both intensive and extensive farming.

So it is quite extraordinary how the report, a model of careful analysis, seems to throw caution to the wind when it comes to the conclusions. NGOs, with a less rigorous and careful analysis, may be forgiven for reaching incorrect answers that at least follow logically from the facts as they see them. This report does not have that excuse.

Having recognised that there is 'little consistent evidence at EU level to indicate the overall effectiveness of agri-environment measures', the programme for reform *starts* with a massively expanded Second Pillar, dominated by agri-environment.

Decoupling '*may* [italics added] enable the removal of harmful effects without necessarily triggering radical restructuring'. But what if it doesn't?

Measures should (and can), they say, be 'targeted and selective', so how then do they arrive at the need for a 'substantial shift' of resources from First to Second Pillar?

Pluriactivity is commended, but pluriactivity means substituting profitable time spent away from agriculture for unprofitable agricultural activity. How then can agriculture survive without depending on the irrationality of farmers that all the studies do their best to ignore?

Page 9 starts, 'A primary requirement for an integration strategy would be to significantly enlarge the budget for the second pillar….' It is hard to find how this conclusion is arrived at from anything that has gone before. The opposite is true – things are double-edged, we don't know all the relationships involved, structures we value are fragile!

Page 9 continues to point out the weakness of agri-environment in supporting existing good practice – a key point for poor, low-intensity, biodiversity-rich farms, yet it remains the flagship of the strategy, one for which some of these same farmers will have to pay through modulation.

Extension and refinement of the use of National Envelopes is essentially rejected for reasons of realpolitik, but how does that make decoupling a sensible alternative. The authors say that First Pillar policy reforms affect all equally (and therefore are bad by implication for low-intensity farming), but that's only if they're applied in blanket fashion. Who says they should be?

There is no in-depth assessment of the possibilities offered by tightening the rules for National Envelopes or quota management; for active intervention in quota distribution; for greater guidance from the Commission or a stronger regulatory framework for the implementation of RDR measures, such as LFA.

However, a lack of confidence in the potential to amend tried and tested CAP mechanisms gives way to rose-tinted optimism when it comes to the benefits of implementing a farm audit, despite there being few indications that it would be anything more than an exercise in expensive bureaucracy.

Area payments in the LFAs have received little analysis, and what there has been has thrown up a very mixed message. Yet a shift to area payments in cattle and sheep is unhesitatingly recommended.

Problems of IACS, such as occur in areas of dual-use between producers, or where producers have informal or short-term lets, are well known, yet the report ignores these in favour of area payments and agri-environment (which needs a 5-year commitment).

Minimum stocking levels recreate headage payment traps for low-income farmers. Area payments would lead to an increase in the price of land in all areas, but especially so in the most marginal areas where farming operations are inherently unprofitable.

Most of all, perhaps, the recommendations show little appreciation of what farmers in High Nature Value Areas are like. It assumes that they will attend training courses, undergo audits, be paid for some kind of non-agricultural objectives, described in a non-agricultural language in a framework which promises them no reward for their hard work and still thinks that the best things will be preserved and nourished.

No! It is much more likely that the guardians of traditional production will die off. Their offspring will choose either to work in the newly 'developed' rural economy, or to become larger farmers who will choose low maintenance systems to maximise income for minimum effort.

Environmental integration and the CAP by David Baldock, Janet Dwyer and Jose Sumpsi Vinas, October 2002, published on the web by the European Commission.
For the full text see:
http:// europa.eu.int/comm/agriculture/envir/report/ieep_en.htm

Eric Bignal

Natura 2000: Promoting the social and economic benefits

It is well known that the world's biodiversity is declining at an alarming rate. According to the IUCN 'red list', 24% of mammals and 12% of bird species are globally threatened. Many of Europe's species and habitats are also threatened with extinction. In Spain, for example, more than 60% of all inland freshwater wetlands disappeared over a period of 25 years.

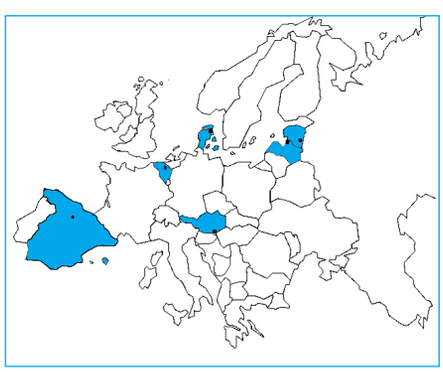
European Union measures to protect Europe's biodiversity date back to the 1979 Birds Directive. The 1992 Habitats Directive sought a more comprehensive approach, encompassing a much broader range of habitats and species. The Natura 2000 network, introduced by the Directive, was to bring all EU sites together to form a single 'coherent ecological network'.

Despite its great promise, most would agree that progress in establishing Natura 2000 has been disappointing. Although nearly 3,000 bird sites have been classified, some important sites still have no protection. Lists of sites under the Habitats Directive have still to be agreed, seven years after the legal deadline. The only list adopted so far relates to the (small) Macaronesian region off the European mainland.

Identifying and promoting the benefits of Natura 2000

There are many factors impeding progress under Natura 2000, but a recurring complaint is the lack of understanding about Natura 2000 and its implications for local communities. All too frequently, Natura 2000 is perceived as a threat to existing and future economic development. Landowners, for example, fear that Natura 2000 will limit the ways in which they can use their land, may lead to a loss of land value, or might force them to vacate certain areas altogether. Such views have led to considerable resistance to Natura 2000. While there can be no guarantees that present activities will be able to continue into the future, the reality is that many important nature zones are closely integrated with areas of human activity.

Various initiatives are underway to address these widespread concerns, by involving local stakeholders in discussions on the potential benefits of Natura 2000, and by stepping up efforts to communicate benefits to the general public. One such project, led by IEEP and WWF, has been using a series of site-based case studies to identify the opportunities of Natura 2000 designation to local sustainable development. Through a series of seminars, stakeholders explored initiatives to minimise any costs and realise the benefits. Case studies were developed for the Steirische Grenzmur (Austria), the Pond Complex of Central-Limburg (Belgium), Lille Vildmose (Denmark), Emajõe Suursoo Mire and Piirissaar Island (Estonia), the Ainazi Town and its Rural Territory (Latvia), and Riaza River Gorges (Spain) – see map. Of these, some insights from the Austrian 'Grenzmur' case study are outlined on page 16.



Map showing the locations of the IEEP/WWF Natura 2000 Project case studies.

The most obvious socio-economic benefits relate to the creation of jobs on-site, e.g. wardens, farmers and skilled labourers to undertake practical conservation measures or advisors to assist landowners. Additional employment can be supported where local products are developed and marketed, building on growing consumer demand for local sustainable produce. The project case studies have shown that the following local products are particularly promising: Vildmose Potatoes (Denmark), Piirissaar onions (Estonia), Grenzmur Pumpkin and pumpkin oil (Austria), and honey (Spain).

Local branding

Visitors are often willing to pay more for a locally branded product, particularly if the area has a 'story'. In Denmark 'Vildmose potatoes' from the Vildmose in Jutland, is a well-known trademark, but the brand could be strengthened further if a good, communicable 'nature story' were part of it. This branding of local products is proving to be not only valuable in encouraging sales, but also contributes to local pride and identity. Furthermore, regional brands may also help in raising awareness of traditional production methods and, indeed, support the retention of local skills.

There can also be a shift of local land-use patterns – with existing farmers, for example, moving to ecologically certified production (there is potential for this at the Riaza River Gorges site, Spain) or simply more sustainable land management practices, such as extensive rather than intensive fish farming in the Limburg Pond Complex (Belgium). This can be very important, given the additional premia often paid for eco-products. The growing shift from agricultural and rural development support schemes towards more extensive, ecologically sound production is also important. Agri-environmental schemes could offer significant funding for activities in these areas.

Tourism

Natura 2000 can also act in synergy with the tourism sector. Well-managed sites, duly identified and promoted in tourist plans, can only add to the attraction of an area. This can draw new tourists to the area as well as encouraging tourists already in the area to extend their stay, given the added attractions. Surveys have shown that tourists near the Austrian Grenzmur (currently 400,000 tourists annually, focusing mainly on the hot springs) would benefit significantly from extended visits, with tourists enjoying an extra day for nature walks, cycle tours or horse riding. Similarly, in the Belgian Limburg Pond Complex expectations are that a proportion of visitors to a nearby race track and business centre would also be attracted to the pond complex. The environmental, and often cultural features of sites can offer significant leisure, health, cultural and education benefits. Local stakeholders in Ville Lilmose (Denmark) are, for example, optimistic that the re-establishment of the old peat train, used in early parts of the last century in this then flourishing peat-mining sector, could prove a valuable cultural tourist attraction.

In addition, Natura 2000 designation may also attract additional EU or national funding. The LIFE Peatlands project in Scotland, for example, helped to pay for land purchase and habitat restoration, raised awareness of the importance of blanket bogs as a habitat, encouraged ecotourism and provided jobs.

Involving local people

Finally, it is worth underlining the importance and benefit of open stakeholder discussion in the sustainable development of local communities. Discussion on the potential role of Natura 2000 sites can

The River Mur at Grenzmur. IEEP/WWF

Natura 2000 – good news for the Grenzmur?

The Natura 2000 site – 'Styria-Grenzmur' – covers an area of more than 2,000ha, including waterways, alluvial forests and habitats in Steiermark, Austria. It is part of a 1,000km stretch, from the rivers Mur and Drau to the Danube, and is consequently of European interest. For 34km, the River Mur also acts as the border between Austria and Slovenia, so that proper management of the site implies good cross-border cooperation.

Employment in Bad Radkersburg and surroundings has increased by 60% in the last few years, thanks to spa tourism and related jobs. Nevertheless, the region could be described as lagging behind in development terms. Large numbers have to commute to the capital because of limited local employment. The cycling and spa tourism sectors are well developed, providing local attractions on the basis of their benefits to health, but these are significantly aided by the region's beautiful countryside. Non-local tourism is developing positively, with overnight stays in Bad Radkersburg and the surrounding area rising from 8,000 in 1970 to over 400,000 in 2001.

Before the area was considered for Natura 2000 designation, an Interreg IIa project – 'Living Space of the lower Mur' – was successfully completed. In close cooperation with Slovenian partners, and a budget of €2.6 million, the project developed the basis and measures for re-establishing the ecological functions of the river. These measures are to be applied under a €3.2 million follow-up project (Interreg III) that is in progress. The project includes measures in the alluvial forest, engineering on the River Mur (widening of the river and improvement of its structure) and on feeder rivers.

These and other issues were studied as part of the IEEP/WWF project to assess the benefits that Natura 2000 designation had brought. The findings were that Natura 2000 had a limited, but certainly a positive, impact on the economic development in the region. Synergies with tourism activities are clearly among the main benefits, as are increased funding opportunities. In the agriculture, forestry and fisheries sectors, the benefits tend to relate to the positive impacts of implementing management plans, themselves created in partnership with stakeholders. In the minerals sector (gravel extraction) the study identifies potential future losses. However, these could be avoided if preventative measures (careful zoning) are put in place.

For other examples, see the full case studies available on http://www.ieep.org.uk.

clarify misperceptions and address uncertainties (e.g. through zonal planning) and concerns. Importantly, stakeholder dialogue can go part of the way to identify how best benefits can be realised, and show that the Natura 2000 site can, if integrated properly in local and regional planning, become a constructive motor for local and regional development.

Conclusion

The primary aim of Natura 2000 is to help conserve Europe's biodiversity. Indeed, in some of Europe's most remote regions this may be the only benefit from Natura 2000. With innovative approaches and concerted stakeholder cooperation, however, most Natura 2000 sites can also offer some important socio-economic benefits.

The final results of the IEEP/WWF project were showcased at a major European conference in Brussels, Belgium on 28 and 29 November 2002, as well as communicated by WWF and partner offices in the six countries. The continuing aim is that the use of stakeholder dialogue and workshops can be replicated for other sites and regions of Europe. This will help ensure that more European citizens with economic as well as conservation interests start to see Natura 2000 as an opportunity for the long-term sustainable development of their communities.

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Background report, case studies and proceedings on : http://www.ieep.org.uk

The European Forum on Nature Conservation and Pastoralism brings together ecologists, nature conservationists, farmers and policy-makers. This non-profit-making network exists to increase understanding of the high nature-conservation and cultural value of certain farming systems and to inform work on their maintenance.

Edited and published by the European Forum on Nature Conservation and Pastoralism.
This issue was supported by the Joint Nature Conservation Committee and the European Commission.

The editors would like to thank the following: David Baldock, Jean-Pierre Biber, Sue Bignal, Jan Bokdam, Clare Coffey, Roy A Harris, Sally Huband, Liam Lysaght, Davy McCracken, John Rodwell, Axel Wolff.

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Designed and produced by British Wildlife Publishing, Rooks Farm, Rotherwick, Hampshire RG27 9BG UK