Appendix 3

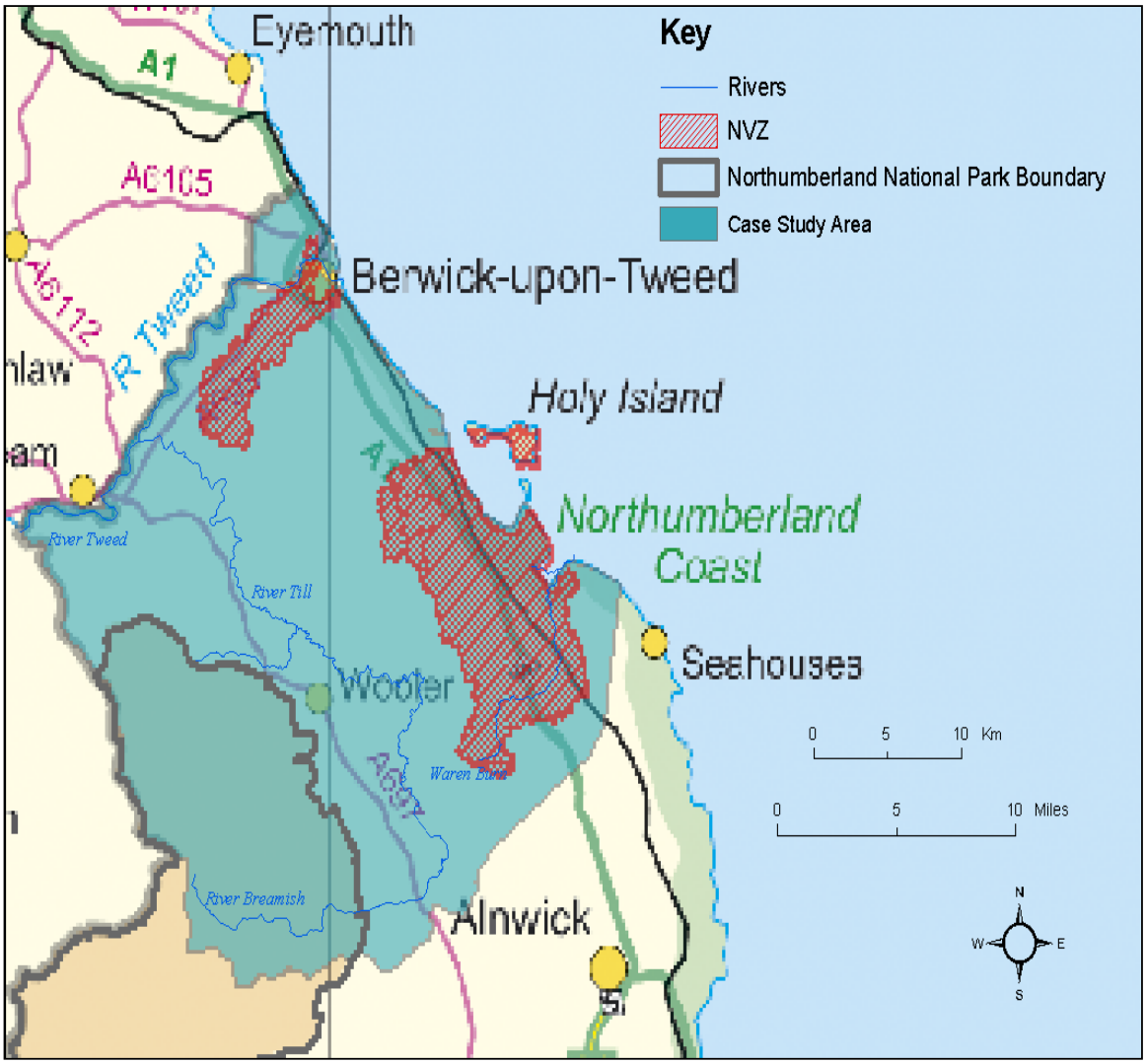
Environmental priorities in UK rural development programmes

Case Studies

CASE STUDY 1 – WATER ISSUES IN NORTH NORTHUMBERLAND

1 THE AREA

The majority of the River Tweed catchment lies in Scotland, but where the Scottish border follows the lower reaches of the Tweed the land to the southeast is drained by the Rivers Till and Breamish in Northumberland. This English part of the catchment, together with the adjoining coastal plain south of Berwick down to Holy Island, forms the case study area. See map below.



In the southwest the Cheviot Hills lie within the Northumberland National Park, a designation which recognises their importance for landscape conservation and as a resource for outdoor recreation and tourism. The Cheviots are grassy moorlands rising to over 750 metres above sea-level, used mainly for extensive sheep farming. Most of

the study area lies on better land along the fringe of the Cheviots and the coastal plain. Here there is arable and mixed farming on light fertile soils, with intensive production of potatoes, carrots and other field vegetables. Farms are large and mainly tenanted; the area is prosperous, but sparsely populated, with centres of employment in Wooler and Berwick. The Tweed is one of the best salmon fishing rivers in Europe and this, together with vegetable harvesting and packing, makes a significant contribution to the local economy.

The Rivers Tweed and the Till are a Special Area of Conservation (SAC), internationally important for salmon, lamprey species, otter and aquatic plants (*Ranunculus* and *Potomogeton* species). The extensive intertidal flats off the coast of Holy Island and Budle Bay support large populations of breeding, wintering and passage waders and wildfowl. This is a Special Protection Area under the Birds Directive and forms part of the North Northumberland Coast candidate marine SAC. Parts of the Tweed catchment and the coastal plain are designated as Nitrate Vulnerable Zones (NVZs).

The Countryside Agency's Character Area Profile for the coastal plain notes evidence of arable intensification during the period 1990-2002, with an increase in crops, fallow and set-aside, and a loss of grassland. In the Cheviot fringe, particularly on the rivers Tweed, Till and Coquet, there has been a general loss of riverside woodland and fringing vegetation, and subsequent erosion of river banks through clearance for arable cultivation and overgrazing of stock; there is also evidence for a marked increase in general cropping and horticulture and a marked loss of rough grassland[1].

The key policy drivers for government action on diffuse pollution in this study area are EU legislation (Habitats, Birds, Nitrates and the Water Framework Directives), the commitment in the UK Biodiversity Action Plan to restore wetland habitats and the UK Government Public Sector Agreement (PSA) targets to bring 95% of SSSIs into favourable condition by 2010.

2 ENVIRONMENTAL PROBLEMS

Three issues are examined here - water pollution by sediment and fertilisers; abstraction of river water for agriculture; and the use of pyrethroid sheep dips.

2.1 Water pollution by sediment and fertilisers

The Tweed catchment has been identified by English Nature (EN) as one of 105 priority wildlife sites at risk from diffuse agricultural pollution. The majority of sites sampled by EN in the Till catchment SSSI were found to be in 'unfavourable condition' in terms of water quality in 2002. Increases in algae and in water plants indicative of nutrient enrichment have been recorded on the Tweed, and also siltation of gravel beds which may affect salmon spawning grounds. Modelling of water quality data suggests that the Tweed also has a significant seasonal impact on

[1] See http://www.countryside-quality-counts.org.uk/cap/northeast/index_ne.htm

Lindisfarne National Nature Reserve (NNR) which has been submitted for designation as a Polluted Water (eutrophic)[2].

Diffuse agricultural pollution appears to be the main factor influencing the eutrophication of the Tweed catchment. In the lower catchment much of the land is free draining with silty soils, where excessive grazing pressure and stock access to river banks can lead to severe trampling and localised soil erosion, increasing both sediment load and N and P nutrient levels in the river. Run-off from exposed arable fields is another source of increased sediment load.

2.2 Abstraction of river water for agriculture

Field vegetables, particularly potatoes and carrots, are a valuable arable crop for farms on the better soils but require irrigation to maintain adequate soil moisture levels. Potatoes are usually irrigated early in the season when the tubers set (to prevent potato scab, which reduces the value of the crop to supermarkets), at a time when the river flows are relatively low. Potato cultivation requires expensive machinery and some farmers grow their own potatoes, others sublet their land to a contract grower for a season. Both farmers and contract growers abstract water from the river for irrigation, currently without charge because of a legal anomaly. Most of the Tweed catchment is in Scotland and the section in England is not classified as a main river which means that the Environment Agency (EA) currently has no control over abstraction. This gap has been filled by English Nature who notified abstraction as a 'Potentially Damaging Operation' (PDO) in the SSSI. Under earlier legislation EN could only to object to abstraction, not prevent it, but in 2000 new legislation[3] gave them powers to grant or withhold consent for PDOs including, in this case, abstraction. Without adequate data on flow rates or existing levels of abstraction EN had no means of defining a sustainable level of consents, and in 2000 tried to issue only short term consents, which will soon expire. Recent data shows that if all the current consents were exercised the abstraction rates would damage the SAC. EN is expected to renew these consents for much smaller quantities – probably it total about 60 percent of the quantity the farmers and growers applied for. In the near future (possibly 2007) EA will have powers to license abstraction, and will meter and charge for water taken from the river. Farmers are thus facing both metered charges and reduced volumes of water for irrigation. In response, a group of them came together in 2004 and, with assistance from the County Council's social fund and English Nature, have very recently set up a co-operative and employed a part-time adviser to assist them in applying for new consents, and to consider seeking advice on water management and funding for winter storage reservoirs. Thirty-one abstractors have so far shown interest in the co-operative, all of them situated within the SSSI.

2.3 Pyrethroid sheep dips

Pollution of watercourses from sheep dip chemicals is a significant threat on upland farms, because the new pyrethroid dips are highly toxic to aquatic life and careless disposal can lead to serious damage to aquatic invertebrates and fish. Many upland farms need to treat their flocks regularly, particularly where they share common grazings, but may not have land suitable for safe dip disposal.

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[2] English Nature (2003) *Prioritising designated wildlife sites at risk from diffuse agricultural pollution*. Research Report 551. Peterborough.

[3] Countryside and Rights of Way Act 2000

3 CATCHMENT MANAGEMENT PLAN

A cross-border liaison group of government bodies, NGOs and stakeholders, the Tweed Forum, was established in 1991 with the aim of 'promoting the wise and sustainable use of the whole Tweed catchment through holistic and integrated management and planning'.
In 2003 the Tweed Forum published a Catchment Management Plan (CMP), which is intended to guide and help develop the work of those involved in the management of the river. This work is supported by a dedicated project officer, whose post is partly funded by both the Scottish Borders and North Northumberland LEADER+ projects. The actions identified in the CMP as likely to reduce the impacts of diffuse agricultural pollution and water abstraction include:

- identifying and locating those agricultural sectors that contribute most to diffuse agricultural pollution;
- improving farm waste management through nutrient budgeting and other waste minimisation and efficiency measures;
- promoting and extending the use of sustainable farm drainage systems;
- increasing farmers' awareness of and action on practical ways to reduce diffuse pollution, highlighting potential economic savings;
- raising awareness of the legislation on the use of agrochemicals;
- managing the agricultural demand for water, to conserve supplies and reduce abstraction rates.

4 POTENTIAL USE OF RURAL DEVELOPMENT MEASURES

4.1 Importance of reducing diffuse water pollution

Diffuse water pollution from agricultural sources is a pressing environmental problem, but inputs of nutrients and silt from agricultural land to surface and ground waters are largely unchecked. Recent government estimates suggest that agricultural sources of pollution account for approximately 70% of nitrogen, 50% of phosphorus and the majority of silt in UK waters [4]. Nutrient levels in rivers and lakes remain high, despite efforts to control point sources of pollution, and excessive siltation of river and lake sediments is causing ecological problems in many areas.

Action is needed to meet obligations under a range of environmental and nature conservation drivers (e.g. Bathing Water Directive, Habitats Directive), and the introduction of the Water Framework Directive (WFD) provides the basis for establishing long-term processes to resolve the problem. Each Member State is required to protect, restore and enhance the status of aquatic ecosystems and to ensure the progressive reduction of groundwater pollution. The WFD places greater emphasis on ecological objectives than has been the case in the past. The WFD programmes of measures do not have to be put in place until 2012 but this only leaves

[4] Defra (2004) *Developing measures to promote catchment sensitive farming*. At http://www.defra.gov.uk/corporate/consult/csf-june04/

3 years to achieve their environmental objectives of reversing catchment processes that act very slowly. More immediate action is required to start the process.

A variety of instruments are available to minimise and control diffuse water pollution, ranging from direct regulation, financial instruments, voluntary schemes to educational initiatives. The traditional regulatory approach, which has worked well in tackling point source pollution, will only deliver part of the solution for diffuse pollution, and other measures are needed urgently.

4.2 Agricultural policy context

Existing regulatory and cross-compliance requirements

Any use of the EAFRD measures by farmers will be underpinned by regulatory and cross-compliance requirements, including:

- the introduction of abstraction licences and metered water charges to replace the current EN SSSI consents, probably in 2007;
- NVZ requirements on land near the lower reaches of the Tweed and along the coastal plain;
- soil management requirements as part of the Good Agricultural and Environmental (GAEC) conditions attached to the decoupled Single Payment.

Limitations on the effectiveness of regulation and cross-compliance

Regulations and GAEC conditions can, in general, only prevent environmental damage through sanctioning potentially harmful activities (abstraction of water) or requiring actions such as the preparation and implementation of soil management plans. At a catchment scale their effectiveness in combating diffuse pollution and soil erosion will depend on the level of enforcement and farmer compliance, which in turn is influenced by many factors including the farmer's perception of the costs and difficulties in complying (in terms both of management time spent understanding the requirements and of implementing them on the ground), the attitude and behaviour of other farmers, the relatively small risk of being 'caught' and the levels of penalties.

Even with a high level of compliance, regulation and conditionality alone are unlikely to deliver the range of positive management actions needed at a farm/field scale to meet the government's environmental targets and commitments for the Tweed/Till and coastal SACs, and the Water Framework Directive. Achievement of these targets, even for a river already in good condition such as the Tweed, will require voluntary resource conservation action across the catchment. This will vary from small management changes easily accommodated within the current stock and crop regimes (provided that the farmer understands what is required) to more difficult issues such as changing the cropping pattern on vulnerable fields or major capital investment in water storage. The more efficient and effective use of water resources is also a key factor.

Farmers' own resources

Farming in this case study area is generally efficient, and on the more fertile soils in the lower catchment it is capital intensive and profitable, particularly for high value vegetable crops. Farmers are technically competent and aware of policy and market developments and their own business needs; they are likely to have access to capital if required but may never have considered longer term investment in resource conservation in the way that they might invest in harvesting machinery or livestock

housing, for example. The work of the Tweed Forum and the development of the farmers' water abstraction co-operative illustrate the ability of local people to work jointly when there is a common goal and where project officers are available to facilitate and support joint activities.

4.3 Priorities for use of scarce rural development funds

In an area such as this rural development funds could be used most effectively for soil and water conservation by:

- advising farmers how to comply with regulatory requirements, then to use their own resources to implement environmentally sustainable management beyond the regulatory/ cross-compliance baseline;
- supporting co-operative action by a group of farmers where this will achieve greater environmental benefit for the catchment as a whole than separate activities;
- making it possible for existing local groups such as the Tweed Forum to build up packages of government funding from the separate streams of the EAFRD and from other sources to target local problems.

These options are discussed in the context of the environmental problems identified above.

4.4 Assisting compliance with standards and additional sustainable management

To combat water pollution and soil erosion the baseline for all farmers receiving the Single Farm Payment is to comply fully with GAEC standards for the protection of hedges and watercourses, preparation and implementation of soil management plans and NVZ requirements (where applicable). Beyond this farmers could adopt low cost farm management techniques (which may result in savings) such as: soil testing to limit both N and P applications to no more than crop requirements, restricting manure application within 6 metres of watercourses, optimising dietary P in livestock feed, cleaning ditches in rotation, and minimum tillage practices on soils at risk of capping or erosion. More efficient farmers will already be following these standards or be able to adopt them without difficulty, but for some it will require advice and information delivered in a way that demonstrates the wider benefits to the individual farm business – this requires either a considerable investment of time and management effort in using computer based advisory packages, or on farm advice delivered by an adviser with a clear remit to maximise both environmental and economic advice.

Government funded advice is mainly targeted at environmental regulation (the cross-compliance advisory service) or directly tied to applications for higher level agri-environment schemes. Although some initial farm business advice is available on a free-to-the-farmer basis, more detailed advice on farm business performance is seen as a service to be purchased by the farmer, not provided by the government, but commercial advisers have no reason to deliver advice on sustainable management beyond the regulatory baseline.

In line with current EU and UK policy, significant changes are currently are being made to the way in which agriculture is supported by public funding. Central to this change is the principle of directing public funding, via a range of incentives, towards the delivery of wider public benefits including environmental benefits. The Single

Payment Scheme, although de-coupled from production of crops and livestock, will in many instances underpin financially the economic performance of whole farm business; if public goods such as resource conservation are to be delivered effectively in future on farms receiving public support it is therefore essential that environmental advice is an integral element of all farm business advice. It has been shown how combined business and environmental advice can be delivered effectively, in a Structural Funds 5b project some years ago[5], but such advice is not available under the current England Rural Development Programme.

Some of these low cost measures described could of course be included in an entry level agri-environment scheme, but these do not involve either advisory visits or on-farm scrutiny of applications. It is arguable that they may not be able to deliver appropriate environmental management in the right place on the farm as effectively as an advisory service and voluntary action by the farmer.

4.5 Supporting co-operative action by farmers for catchment level benefits

Co-operative action by groups of farmers is now relatively uncommon in the UK, compared to more traditional farming systems here and elsewhere in Europe, where farmers shared labour, equipment and sometimes land (the remaining modern exception is common grazing land, but here the level of co-operation is often poor). Achieving policy objectives for river quality and diffuse pollution will require catchment scale action which in turn needs the participation of all farmers. Where farmers share the rights to use a scarce resource, such as river water for irrigation, active co-operation will be needed too.

The farmers' abstraction co-operative has already demonstrated the willingness of local farmers to work together and this approach could be developed by this group to:

- Explore the feasibility of abstraction measures such as building joint storage reservoirs to allow winter abstraction and trading abstraction consents.
- Buy advice and training on environmentally sustainable water use (e.g. alternatives to spray irrigation, calibration and use of equipment, minimising leakage).
- Develop a local branding/assurance schemes for quality produce (e.g. salad potatoes or carrots) that include strong environmental criteria.
- Develop the collaborative approach in other areas of mutual benefit to the members such as marketing, business support and labour or machinery rings.

Other activities which would require co-operative action by groups of farmers, rather than individual farmers include:

- Joint application of a group of farms to a higher level agri-environmental scheme to address diffuse pollution and soil management in a stream catchment using measures such as: restricting stock access to watercourses, piping drinking water to stock fields, reducing stocking rates, surfacing cow tracks and gateways, planting grass or woodland strips along field edges,

[5] University of Gloucestershire and ADAS (2003) *Economic Evaluation of the Upland Experiment (Bodmin Moor and Bowland Initiative)*. Defra. http://statistics.defra.gov.uk/esg/evaluation/upland/default.asp

creating sedimentation ponds, reedbeds or other wetland areas to intercept drainage water, sowing green winter cover.

- Sheep farmers co-operating to dip flocks at the same time of year, to minimise the transfer of parasites from one flock to another; in the longer term this should reduce the need for dipping and the risk of pollution.
- Creation of shared disposal facilities for sheep dip where practicable and subject to the necessary consents.
- Working with local veterinary practices in the development of area based animal health plans. This would promote alternatives to dipping and promote better stock health/animal welfare management, addressing the problems before they happen rather than treating the symptoms when they occur.

Experience of the abstraction co-operative has shown that funding is needed to assist with the costs of setting up a co-operative, and of employing a project officer to obtain advice, information and funding for joint schemes and to undertake feasibility studies. The use of EAFRD funds to set up the co-operative could ensure that environmental objectives were written into its terms of reference, and funding for a project officer could be targeted at environmental outcomes, with the remainder of the costs met from a levy on members.

4.6 Innovative funding mechanisms

Experience in the case study area has shown that the environmental use of current RDR funds is limited by rules on sources and use of finance (the current England Rural Development Programme is co-financed centrally by Defra, which limits the options for co-financing by local public funding sources). For example, in the absence of RDR assistance, the abstraction co-operative used a combination of local authority and EN funding to employ a project officer but find that they can only obtain RDR funding for a feasibility study for winter storage reservoir if the study results in a successful application for capital grant towards constructing the reservoir. For innovative projects such as the Tweed Rivers Heritage Project and The Tweed Invasives Project, the NGO and local authority members of the Tweed Forum can access other sources (such as the Heritage Lottery Fund, and Landfill tax credits), but cannot use these to match fund RDR funds. A more flexible approach to funding particularly, but not solely, in the area of co-financing would help here – for example as was adopted for some Structural Funds. The current project based schemes within the ERDP are often seen as complex and restrictive in what they can and cannot fund. A flexible project-based approach to funding environmental improvements within the scope of supporting wider economic and social outcomes, would give the RDR the ability to meet specific local needs. RDR funding could also be directed directly to the voluntary sector to support specific activity, rather than through a project based approach.

5 CONCLUSIONS

The study area is characterised by a need for environmental management at the scale of catchments rather than individual farms, and by modern, efficient farming systems adjacent to internationally important rivers and wetlands.

There is as much a need for government assistance to facilitate joint, voluntary action by farmers as there is for payments to support specific environmental management, although these are also important. This could be characterised as support for farmers to help themselves to move quickly and effectively to sustainable management methods. Government support should build on and develop on the strengths of what is already there locally, recognising that each area is different and solutions must be tailored to meet local needs. Public sector funds should offer medium to long-term support for local initiatives without overburdening them with administration. (New initiatives with only a short lifespan carry the risk of stimulating enthusiasm and demand which cannot be met within the funding or timescale of the scheme.) Environmental gains should be linked with and underpin social and economic gains e.g. local branding and farm assurance schemes.

Specific needs include:

- setting up farmers' co-operatives and shared interest groups, helping them to employ on-farm advisers who will give priority to both business and environmental advice, and to employ project officers who would organise and facilitate co-operative activities such as dipping and water management, animal health and welfare;
- enabling joint applications from groups of farmers for agri-environment and investment funding;
- more flexibility in funding with a new type of relationship developed between the public and voluntary sector, whilst still providing accountability. The Tweed Forum is the basis from which to develop this type of approach. allowing more flexible combinations of EAFRD and other public funding for LEADER type local initiatives.

These catchment scale objectives could be achieved by an EAFRD policy package designed to draw in other resources (private and public funding and technical expertise) and delivered using facilitators and project officers. EAFRD funding used in this way in a prosperous farming area could have a significant gearing effect and achieve widespread benefits at relatively low costs.

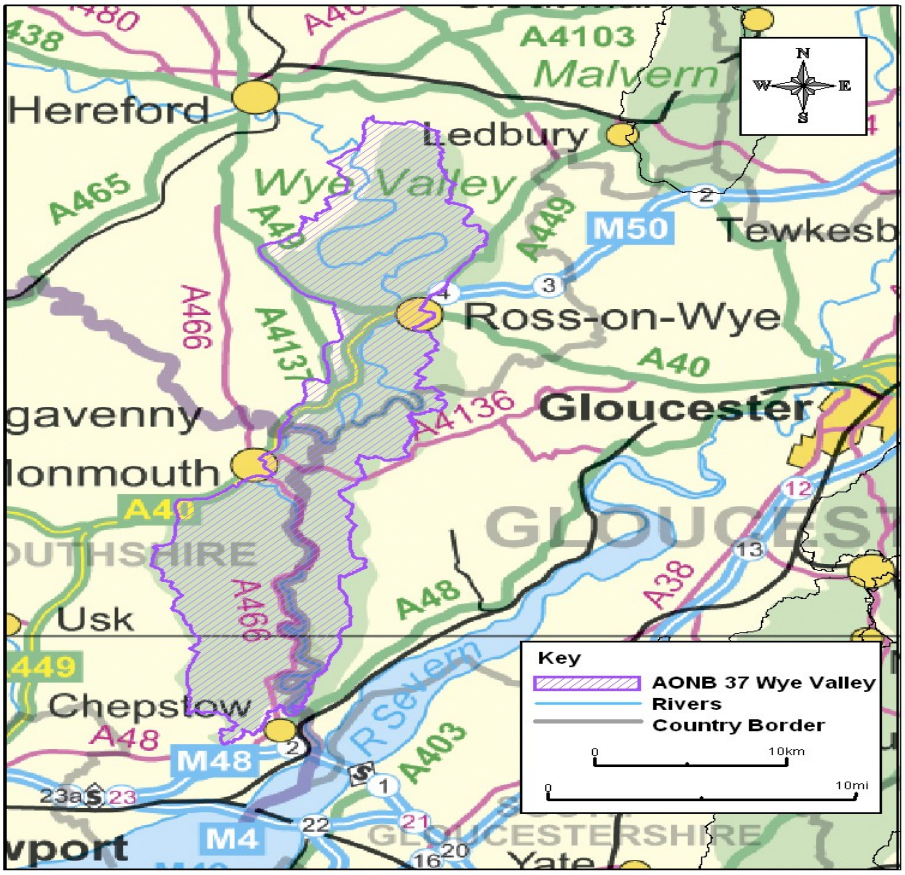
CASE STUDY 2 – GRASSLAND MANAGEMENT IN THE WYE VALLEY[6]

1 THE AREA

The Wye Valley is an intricate mix of habitats. Best known for its woodlands and the River Wye from which it takes its name, it is also important for its mosaic of semi-natural grasslands. The area, comprised of 65% farmland and 27% woodland, is particularly rich in natural habitats. This is reflected in the 45 Sites of Special Scientific Interest, three National Nature Reserves and three European Special Areas of Conservation. The Lower Wye Valley was designated as an Area of Outstanding Natural Beauty (AONB)[7] in 1971 and has IUCN Category V protected area designation. One of 41 AONBs in England and Wales, the Wye is unique in straddling both the English and Welsh border. It covers 326 square kilometres in three counties – Herefordshire (46%), Monmouthshire (36%) and Gloucestershire (18%). See map below.

[6] The information contained in this case study is drawn primarily from a note prepared by Dr George Peterken, Chairman of The Parish Grassland Project and the 2005 Wye Valley AONB Management Plan plus telephone interviews with George Peterken, Catherine Fookes of the AONB and Jim Swanson of the Grazing Animals Project.

[7] The AONB is a national conservation designation to protect natural beauty including both biodiversity and landscapes.



The area is equally rich in historic and cultural associations with 85 Scheduled Ancient Monuments and the Wye gorge is registered as a landscape of outstanding historic significance.

The Wye Valley is dominated by the River Wye and can be divided into two sections:

- In the northern section, the river meanders through the Old Red Sandstone of the fertile Herefordshire lowlands;
- From Goodrich southwards, the Wye cuts through a plateau of uplifted Dolomitic Limestone producing a spectacular gorge clad in ancient semi-natural woodland.

From as early as the 16th century, the area was described as the land of 'wool, wheat and wood' and a mix of livestock and arable farming along with woodlands and forestry characterises the landscape today. Grassland improvement and conversion to arable land has been a consistent trend throughout much of the areas' history. While much of the land is managed as commercial farmland, there are also many smallholdings or part-time farms and an increasing number of non-farming landowners who keep horses and ponies or allow others to graze their land.

Several areas of semi-natural grassland remain within the Wye Valley. This case study focuses in on one area – the parishes of St Briavels and Hewelsfield. The semi-natural grassland in these parishes is concentrated on the large common that until 1842 was known as The Hudnalls, but the resource as a whole is by no means confined to this common. For the last two hundred years or so the common has been enclosed into a fine-scale patchwork of very small fields - bounded by hedgerows and criss-crossed by tiny lanes - divided almost equally between the two parishes. There are approximately 225 ha of semi-natural grasslands on the Hudnalls common, distributed over several hundred plots. In addition, some 25 ha of semi-natural grassland are present in small fields immediately adjacent to the common. Additional examples of grassland in Lower Meend, The Fence and the Aylesmore/Rodmore Valley bring the total area of semi-natural grassland up to 280-300 ha.

2 ENVIRONMENTAL PROBLEMS

The main problem explored here is the decline in quality and extent of the semi-natural grasslands as a result of changes in farming. These changes not only have biodiversity impacts but also significant knock-on effects on landscape quality due to the intrinsic relationship of the two issues[8]. While The Hudnalls is somewhat unusual in the Wye Valley in terms of its ownership and land use patterns, the threats facing its semi-natural grasslands are repeated elsewhere throughout lowland England, and hence it can be seen to be illustrative of a more widespread problem.

The meadows and pastures of The Hudnalls contain no spectacularly rare plants and are not outstandingly rich in species overall. Most grow on acid soils, where grasslands are naturally poorer in species than grasslands on neutral or lime-rich soils. Nevertheless, these grasslands include a number of characteristic species amongst the dominant sweet vernal grass including ox-eye daisy, knapweed, meadow buttercup, spotted orchid and others. Yellow-rattle has recently been recorded in 38 fields and there are a few local rarities such as twayblade orchid, false oxlip, pale sedge, lousewort, adder's tongue fern and bitter vetch.

The composition of the grasslands depends on (i) site characteristics, (ii) management and (iii) history of change in site and management. Most ground is made up of reasonably well-drained, mildly acid, friable loams with a capacity to retain water, but depressions and streamsides remain permanently moist and flush zones appear to have a higher base status. The fields are used today as meadows (mown, then grazed), pasture (grazed), garden lawns, or not used at all. Some are fertilised and/or treated with herbicides to various degrees, but most appear not to be treated at all, or receive only applications of slurry.

The area occupied by semi-natural grassland has gradually diminished over the last 30 years or more. The exact nature of the decline is unknown but one estimate suggests it

[8] Further information on the environmental and landscape quality of the Lower Wye Valley can be found at http://www.countryside-quality-counts.org.uk/cap/southwest/CA105.htm. Trends in agriculture and development are transforming the landscapes in ways that are inconsistent with existing descriptions of character.

is likely to be in the order of 20% over the last 30 years on the common and a much larger proportion outside the commons. The following factors appear to be responsible:

- Agricultural improvement – i.e. ploughing, followed by arable cultivation or reseeding with grass ley. This has been a major factor in the past, but now that semi-natural grassland is so limited, loss rates due to agriculture are reduced. Elsewhere in the AONB, the recent loss of Sellack Common is a reminder that the pressures remain.
- Disuse – followed by successional changes to bracken and eventually woodland. There have been steady losses over the last 60 years or so of small fields on the commons. Elsewhere, this has also claimed some floodplain meadows (e.g. Lower Martridge). Latterly, this process has been accelerated by tree planting, even by conservation organisations e.g. Highbury Fields. Current difficulties in relation to securing cattle and sheep grazing may presage accelerated losses. The Minutes of a recent Wye Valley Graziers Meeting records significant concern about the introduction of the Single Farm Payment and suggests that many suckler cow producers are likely to cease production. This is of conservation concern as cattle grazing is particularly important for maintaining the biodiversity value of semi-natural grasslands.
- Building and associated conversions to gardens - a steady trickle of such losses on the former commons. Several fields are already known to be owned speculatively in the hope of gaining planning permission.

In addition to these outright losses, there are several forms of deterioration including:

- Change from meadows to prolonged horse and sheep pasture
- Light improvement by fertilising and limited herbicide use
- Reduced grazing pressure, allowing scrub and bramble to invade. This includes intermittent mowing or grazing (i.e.neglect for a single year).

Most remaining semi-natural grasslands are in the hands of landowners that do not derive a significant income from farming. Within this category of landowners grassland is sometimes used to keep sheep or horses, but often it is rented to full time farmers. St Briavels and Hewelsfield are fortunate in still having some traditional smallholding and commoning families, who use many fields, but there is doubt that they will continue indefinitely. The loss of cattle and increase in horses is problematic due to the different pasture management regimes that accompany these animals.

3 BIODIVERSITY AND THE AONB MANAGEMENT PLAN

The Countryside and Rights of Way Act (2000) increased the duties of AONBs and requires that a Management Plan be produced. A new Wye Valley AONB Management Plan was drafted in 2003 and circulated for consultation with a final version due to be published in 2005.

The Plan sets out specific aims and policies in relation to biodiversity and landscapes as well as activities such as agriculture, forestry, tourism and recreation. These essentially highlight priority issues that rural development schemes and measures can be used to address.

4 CURRENT USE OF RURAL DEVELOPMENT MEASURES AND OTHER INITIATIVES

Graziers, farmers and other landowners are already making use of some RDR funding streams to help maintain appropriate grazing and management of the semi-natural grasslands. A number of landowners have entered land into Countryside Stewardship agreements for grassland maintenance and boundary maintenance but group applications, which would be of considerable benefit, are not allowed by the Scheme. The best management for the semi-natural grassland is a combination of a hay cut followed by aftermath grazing but a lack of grazing animals makes the latter difficult to secure. An application to the Rural Enterprise Scheme to fund a 'Rent-a-cow' scheme to provide cattle to graze the aftermath was recently turned down. The application was considered under the 'Projects with an economic return' heading but there would arguably be no or minimal economic return on such an activity and hence might be better considered under other project headings.

The Parish Grassland Project was set up by parishioners in 2001 as a not-for-profit organisation to help maintain the grassland habitats and local landscape, raise awareness of the issues and maintain the necessary management skills. The Project relies mainly on the voluntary input of parishioners but some Heritage Lottery Fund money has been secured to help buy machinery e.g. for haymaking, which is shared by landowners, erect information display boards and produce a small book about the area.

The Wye Valley Graziers are a group of livestock farmers in the Wye Valley. The AONB supported the group by overseeing the production of 'The Sustainable Wye Valley Livestock Feasibility Study' in partnership with English Nature, FWAG and the Herefordshire Partnership. The report highlighted the benefits of sustainable grazing to the environment and the historic landscape as well as outlining the problems livestock farmers in the Wye Valley are facing. The Graziers meet regularly and have identified a number of activities that would benefit the area including improving marketing opportunities for meat produced in the Wye Valley. They are currently in the process of gathering information to demonstrate the benefits of grassland to biodiversity, landscapes and historic features.

Other useful initiatives include the Woolhope Dome Project in the north of the Wye Valley. The Project is a partnership between local people, the AONB, English Nature, the Forestry Commission and the Herefordshire Wildlife Trust and funds a Project Officer. The initial focus of activity was on consultation, training, awareness building and gathering information about the wildlife of the area. A Herefordshire Rivers LEADER + programme has since been used to establish a grazing scheme, encouraging the use of rare breeds and providing funding for fencing and water supplies, establishing a machinery ring and developing a marketing strategy for orchard, woodland and grassland produce. Graziers have been encouraged to link to the Traditional Breeds Meat Marketing Scheme.

These examples illustrate that relevant grant funding is available to help secure some grazing management but that this is being accessed through scattered initiatives throughout the Wye Valley and difficulties have been encountered.

5 POTENTIAL USE OF RURAL DEVELOPMENT MEASURES

5.1 Policy context

The rationale for the use of public funds to help secure the future of the Wye Valley's semi-natural grasslands and landscapes can be found within the AONB objectives plus the wider UK BAP objectives for habitats and species. Local experience suggests that grazing is already difficult to maintain within the Wye Valley and that the recent CAP reforms are likely to exacerbate this situation further. Cross compliance may have some limited impact in preventing undergrazing of sites and ensuring the maintenance of permanent pasture but this policy tool will have no purchase on those non-farming landowners who do not receive SFP. Some horse grazed land may be eligible for SFP however and therefore subject to cross compliance conditions. Positive incentives and area wide initiatives are likely to be needed in future to address the problem.

5.2 Priorities for use of rural development funds

The following issues have been identified as priorities for the use of rural development funds:

Maintaining grazing of semi-natural grasslands

Agri-environment schemes are likely to remain important in the management of the Wye Valley grasslands but these alone may not be adequate to ensure a sufficient pool of grazing animals is maintained in the area. The reliance of non-farming landowners on farmers and graziers to be able to supply cattle and sheep is a particular problem. Specific funding streams to encourage farmers to keep or establish traditional and/or rare breeds for largely conservation (i.e. non-productive) purposes are needed (feasible within EU legislation). The proposed Higher Level Scheme within England's agri-environment programme could include supplements for grazing cattle and native breeds. Targeting enhanced payments at important areas such as the Wye Valley grasslands would also be beneficial. Linked to grazing, is the need to maintain hay meadows. The small fields and limited access require specialised machinery which is not widely available. Funding to establish machinery rings and purchase appropriate machinery is necessary.

Habitat restoration and boundary feature maintenance

Agri-environment schemes are well suited to providing the right incentives for habitat restoration and the maintenance of boundary features. A key issue identified in this case study is the need to maintain or develop the skills and know-how in relation to such activities, especially in relation to non-farming landowners such as horseowners. Advice and training (see below) are important but other approaches could include ensuring the necessary machinery is available for use in the area and paying a local person to act as a manager or parish warden.

Encouraging and supporting collaborative action

This overall study has identified the need to be able to address environmental issues at a larger e.g. natural area, landscape or catchment, scale whereby large numbers of landowners work in collaboration towards an agreed objective. This case study is a good example of where a more concerted effort is needed in order to meet conservation objectives, in this case to maintain the semi-natural grasslands of the Wye Valley. A number of initiatives and networks already operate within the AONB but these appear to operate in spite of and not because of, rural development funding and the overall impact is more ad hoc and scattered than it might be. Many initiatives rely on non-Government sources of funding and the commitment of individuals. The AONB appears to take a lead role in many, but not all, cases but this begs the question as to what happens outside designated areas where there is no obvious lead partner? LEADER offers some potential in this area and increased funding in future may help to facilitate collaborative networks but other opportunities for encouraging collaboration need to be explored.

Providing advice and training

There appear to be two types of advice and training needs illustrated by this case study. First, is in relation to non-farming landowners who require conservation advice about the best management regime for their land and possibly training in skills such as hedgerow maintenance, hay making etc. Advice for horse owners is particularly needed to combat over-grazing, poaching, soil compaction, erosion and manure management. Secondly, is the need for advice and training for graziers and farmers both in relation to best conservation practice and more widely in relation to business development e.g. marketing of produce. The AONB would provide a natural focus for the provision of such advice and training in the form of a 'one-stop shop'.

Marketing of local produce

There appears to be some potential to develop and market Wye Valley meat and a small number of marketing proposals and initiatives already up and running. The Wye Valley Graziers are interested in establishing a person to market Wye Valley meat but suggest funding of at least £40,000 is required. Here, as in many other rural development examples, what is needed is human capital as opposed to infrastructure (although infrastructure is often needed e.g. in relation to abattoirs, cutting plants etc). Paying for people is currently difficult under many rural development funding streams yet this appears to be a priority for the future.

5.2.3 Other funding streams

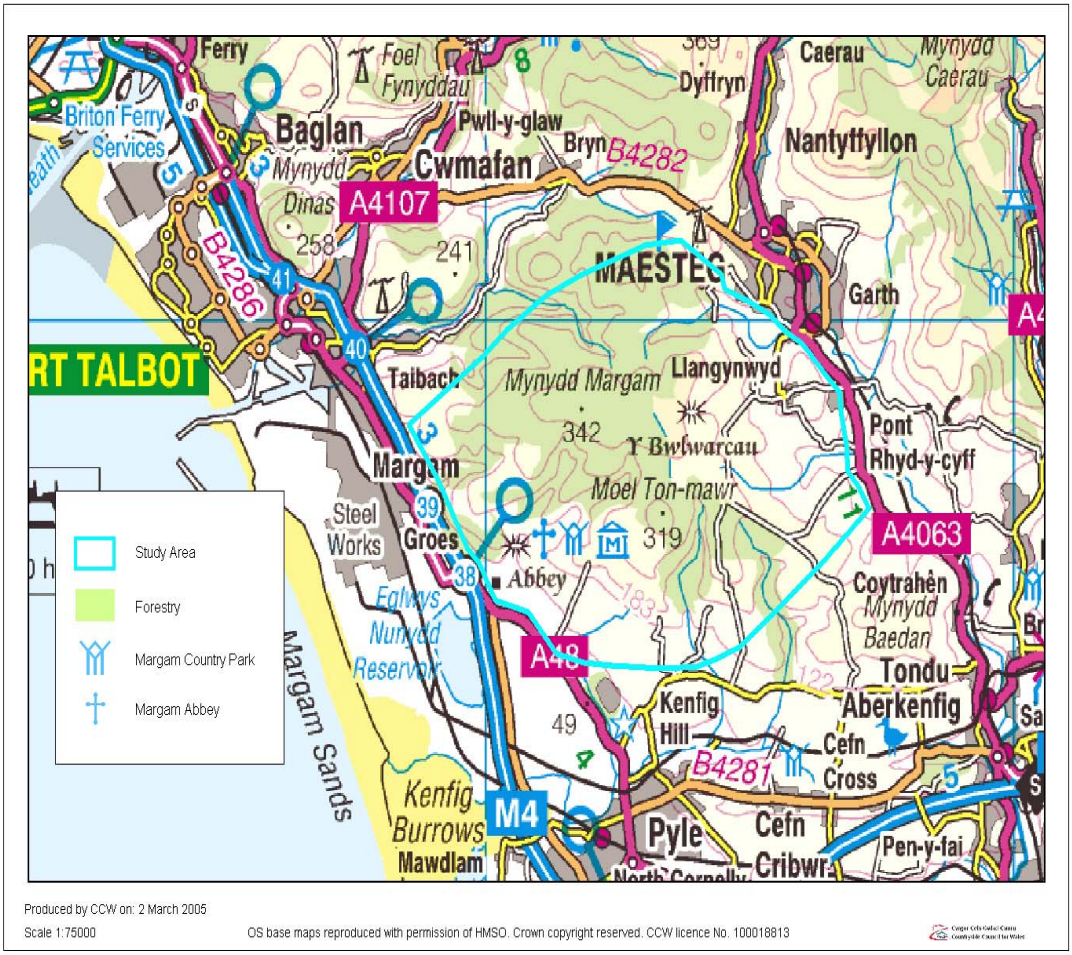
A critical issue appears to be the need to maintain the economic viability of beef production. The introduction of decoupling suggests that some beef farmers, especially suckler cow producers, may reduce or cease production and simply take the Single Farm Payment. To address this problem, one policy option considered by Defra, but subsequently rejected, was to use the National Envelope mechanism to support the beef sector. This mechanism allows Member States to take up to 10% of the total Single Farm Payment from all farmers receiving it and redistribute it to 'types of farming important for the environment or to encourage the marketing of produce'. Targeting such funds at the beef sector in England would be one way of helping to maintain the viability of environmentally important production systems. In Axis 3 of the proposed new Rural Development Regulation, support for 'conservation and upgrading of rural heritage' could be used by Defra to develop schemes for non-farming landowners.

6 Conclusions

The continued loss of semi-natural grasslands from the Wye Valley will have both biodiversity and landscape impacts with possible knock-on effects on tourism and the local economy. The combined downturn in the profitability of livestock farming and hence lack of grazing animals and the increase in non-farming landowners present some difficult issues for rural development funding to address. While various initiatives consisting of different partnership arrangements are tackling some of the issues identified, a more strategic and co-ordinated approach appears to be lacking. ERDP funding is being drawn down in a number of cases but it cannot currently fund a number of the solutions identified in this case study. The case study highlights particular needs for investment in 'human capital' and in 'soft support' such as advice and training. It also highlights the particularly difficult problem of ensuring the continuation of activities such as haymaking and cattle grazing when the economics do not favour their continuation. The decoupling of farm subsidy may require a more innovative approach to maintaining grazing than the measures employed so far.

CASE STUDY 3 – LAND USE AND LANDSCAPE ISSUES IN MARGAM MOUNTAIN, SOUTH WALES

The study area is a small but distinctive block of hill land, of about 4,000 hectares, which rises steeply from the narrow industrialised coastal plain of South Wales. Margam Mountain itself, at 344m above sea level, is in the centre of an upland plateau dissected by small, steep sided wooded valleys and ravines. Despite its upland character and LFA status there are significant urban populations nearby, in Port Talbot, Neath and Maesteg, and it is easily accessible from local roads and from the M4 just to the south. There is only one village within the study area, Llangynwyd. See map below.



1 THE AREA

Much of the plateau was afforested in the mid-twentieth century, but the remaining family farms are used for stock rearing, with improved pasture and arable land on the flatter ground of the plateau. The study area has been the focus of human activity for at least 2000 years and in prehistoric times it would have been open land, commanding views of the densely wooded coastal plain and valleys and providing

access to the pasture lands further north. Archaeological and historic sites include Bronze Age ritual and funerary monuments; large Iron Age hillforts, settlements, enclosures and trackways; a Roman road, early Christian monuments and medieval defensive works. Some, but not all, of the archaeological sites are Scheduled Ancient Monuments but the spatial relationship of the sites and their landscape setting is equally important, and the area is recognised as one of 22 'special historic landscapes' in Wales[9]. The late prehistoric enclosures may be the earliest Welsh example of a group of sites used for gathering and sorting stock in the system of transhumance between the *hafod* (summer pastures) and *hendref* (winter pastures), which had become well established in the region by the 13th Century. This is significant because the memory of the *hafod* and *hendref* system persists as a strong element in Welsh folk identity and place names[10].

At the foot of the western slopes lies the 340 hectare Margam Country Park, now in the ownership of the unitary authority but based around the 18th Century mansion and pleasure gardens sited near the site of a great Cistercian abbey. To the east of the study area lies the medieval castle of Llangynwyd. The easy access from urban areas makes Margam Mountain an important local recreation resource.

2 ENVIRONMENTAL PROBLEMS

a. Lack of agricultural management

The traditional upland farming system, of hill grazing with improved pastures and hay meadows on the better land, was curtailed by the afforestation of the upland plateau. Some of the modern farms are large (200+ hectares), especially those that were formerly tenanted farms of the Margam Estate. Despite difficult access up the steep valleys some of the flatter agricultural land on the plateau has been improved and is in arable rotation, with the remainder used for stock rearing, mostly sheep but with some cattle. Long–term maintenance of traditional field boundaries is neglected in many places, leading to landscape deterioration and loss of the historic patterns of enclosure (although the boundaries themselves may be more recent they often follow the line of much older enclosure patterns). Encroachment of bracken and ragwort occurs in places, and lack of maintenance of field drainage systems can lead to soil erosion as a result of stock trampling wet ground. It is difficult to forecast the impact of

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[9] Cadw: Welsh Historic Monuments (2001) *Register of Landscapes of Special Historic Interest in Wales*. Cardiff. This is a non-statutory register prepared by Cadw in conjunction with CCW and ICOMOS, as a means of identifying and providing information on the most important and best-surviving historic landscapes in Wales. Part 1 identifies the historic parks and gardens, both in towns and cities and on rural estates, and Part 2 identifies the historic landscapes of Wales which carry physical evidence of past human activity, from the agricultural landscapes of the prehistoric period to the industrial landscapes of the 19th century and the technological landscapes of the 20th century; there are thirty six 'outstanding' amd twenty two 'special' historic landscapes in Part 2.

[10] Kelly RS (undated) *Proof of Evidence on Historic Landscape for Section 78 appeal by Community Power Ltd against a decision by Neath Port Talbot County Borough Council on proposed construction of Margam Wind Energy Cluster*. Countryside Council for Wales, Bangor.

decoupling agricultural support payments but there is likely to be a reduction in grazing intensity and in the proportion of cattle to sheep.

b. Recreational use and urban fringe problems

Margam Country Park, on the western edge of the area, provides a focus for family-orientated recreation, with its formal gardens, historic buildings and activities for children. The whole area is well used by local walkers, who can follow the Coed Morgannwg Way from the country park up onto the ridge where it meets two other recreational paths, the Ogwr Ridgeway Walk and St Illtyd's Way, near Y Bwlwarcau hillfort. There is a general right of access on foot and by bicycle to the forestry land in public ownership and many forest roads are also public footpaths. Visitors can park off a minor road, which crosses the ridge, and enjoys the views afforded by a short walk along the ridge. Horse-riding is also popular.

In common with most forests in South Wales unauthorised recreational use by motorcyclists and four-wheel drive vehicles is a significant problem, but here it is likely to damage earthworks and archaeological sites, in addition to causing soil erosion and damage to paths and tracks. Farmers also suffer from unauthorised use of their land by off-road vehicles, and many older farmers say that they feel intimidated by these trespassers. The difficulties of farming in this area are exacerbated by trespass by children from nearby settlements, damage to fences, removal of gates, fly tipping and stock disturbance.

c. Landscape impacts of afforestation

The conifer plantations were planted by the Forestry Commission before landscape guidelines ensured that new planting respected the landform and existing features. The plantations are now entering the harvesting stage and clear felling in blocks has had a major landscape impact, particularly on the view of the mountain from the settlements and transport corridor on the coastal plain. The *LANDMAP* assessment for part of the area notes that *'large-scale forest plantations are a major landscape feature but require sensitive replanting strategies to modify their edges and relationship with the landscape'*.

Afforestation has certainly had an adverse impact on some of the upland archaeological sites and obscured parts of the open moor that surrounded them, but it is still possible to understand the relationships between the sites. The Forestry Commission has attempted to make some of the earthworks more accessible and to keep them free of trees and shrubs but this can have the unwanted effect of making them more vulnerable to vehicle damage.

3 POTENTIAL USE OF RURAL DEVELOPMENT MEASURES

a. Policy context

In contrast to biodiversity and resource protection there are at present no EU policies or UK government targets specifically on landscape management, although if the UK government ratifies the European Landscape Convention, landscape management is likely to become more prominent in the environmental policy agenda. As a result landscape protection and enhancement outside statutory areas relies largely on the

local authorities' spatial planning and development control powers and on integration of landscape priorities into central government policy – for example in the management of Forestry Commission woodlands or in agri-environmental schemes. The non-statutory designation of Margam Mountain as a special historic landscape and the presence of Scheduled Ancient Monuments will afford significant protection from unsuitable development, such as wind turbines, but ongoing landscape management (or lack of it) will remain the responsibility of farmers and of the Forestry Commission. The importance of external sources of funding for environmental management of all kinds is emphasised by one of the local councils:

> '*In addition to EU funding for agriculture and agri-environment schemes, the National Assembly for Wales, Welsh Development Agency, Wales Tourist Board, Millennium Commission and Heritage Lottery Fund help fund environmental projects outside the agricultural sector. Given the general lack of funding available locally, accessing these external funds is crucial in delivering many of the Countryside Strategy's aims*[11].'

The recreational potential of the area is recognised in the unitary development plan for the western part of the study area which notes that '*Margam Park will be enhanced as a regional tourist recreation and leisure destination. The potential for recreation, leisure and tourism within the dramatic scenery extending from Margam Park northwards into the Goytre and Cwm Wernderi valleys and towards Bryn will be pursued'*[12].

Publicly owned woodlands in Wales are managed by the Forestry Commission on behalf of the Welsh Assembly Government. The Assembly's strategy for woodlands in Wales is very clear on the priorities for woodland management in historic landscapes such as Margam Mountain:

> '*We must ensure that our woodlands enhance the landscape by recognising their history and by using modern design principles, when planning the future management and replacement of plantations following felling…… We will develop action plans to prioritise work in historic parks and landscapes and to extend the information on important historic features within woodlands……Continuous-cover (where low-impact silviculture protects the soil and retains a woodland appearance) is not possible in all circumstances, but our favourable site conditions in Wales allow this type of management to be used in most sheltered woodlands. The National Assembly-owned woodlands are predominantly plantations of conifers, on sites that*

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[11] Bridgend Borough Council (2003) *Revised Countryside Strategy For Bridgend County Borough 2002-2007* Downloaded from http://www.bridgend.gov.uk January 2005.

[12] Neath Port Talbot County Borough Council (2003) *County Borough Unitary Development Plan Deposit Draft January 2003.* http://www.neath-porttalbot.gov.uk

were previously open habitats. These woodlands, though often more diverse than the open upland they replaced, are generally less diverse than those in private ownerships and will benefit most from conversion to a more stable woodland environment. We will aim to convert at least half of the National Assembly woodlands to continuous cover over the next 20 years, where practical, and encourage conversion in similar private sector woodlands.'[13]

b. Priorities for use of rural development funds

The relative lack of private investment in this area, and the proximity to urban populations, suggest the following priorities for using rural development funds to ensure appropriate management of this historic landscape: improving the management of farmland; dealing with unauthorised recreational use and other urban fringe problems; and managing woodlands for landscape and recreation.

c. Improving the management of farmland

The farmland is within the 'natural handicap areas' (revised LFA areas) and should qualify for the decoupled Single Farm Payment, although uncertainty remains over how the new LFAs will be categorised. However, the environmental conditions of Good Environmental and Agricultural Condition can only prevent deliberate removal of traditional field boundaries, not ensure their positive maintenance. There will be no additional protection for unscheduled archaeological sites. Although the LFA scheme in Wales, Tir Mynydd, offers small incentive payments for some elements of sustainable farming such as mixed stocking and having broadleaved woodland on the farm it is difficult to see how these could address the detailed management problems of this enclosed land. Agri-environment payments are therefore the most likely source of funding, but remedying years of neglect will require capital investment as well as annual payments for:

- restoration and management of traditional field boundaries, using local materials and methods and taking account of the historic significance of the enclosure patterns;
- bracken and scrub control, accompanied by controlled grazing, particularly to protect historic features from root damage and to reveal the spatial relationship of the archaeological sites;
- conversion of arable land to semi-natural grassland, where this would improve the landscape setting and visitor access;
- reduction in grazing pressure to combat soil erosion (although decoupling of support payments may achieve this without the need for agri-envoronment payments).

To achieve coherent improvements in the landscape management of this historic area it will be necessary to involve most if not all of the farmers and, where the farms are tenanted, the landowners. This could be achieved by encouraging group applications to agri-environment schemes from several adjacent farms, but such applications are

[13] Welsh Assembly Government (2001) *Woodlands for Wales.* Cardiff

unlikely to happen without a great deal of information, support and encouragement for the farmers concerned.

d. Dealing with recreation and access in the urban fringe

Trespass on foot and with vehicles, and the consequent damage to field boundaries, farm machinery and livestock, is a major problem for farmers. Fly tipping is a hazard to livestock, expensive to clear up and detracts from the landscape and its enjoyment by walkers. It is common for UK agri-environment schemes to require the farm 'to be kept tidy and free of rubbish' but the payment calculations do not take into account the cost to farmers of maintaining the landscape by regularly removing dumped rubbish or repairing walls and fences broken by trespassers. There is a case for agri-environment payments in areas like this to be raised in recognition of the extra work involved, and, as with agricultural maintenance, for the tidying and repair work to be done on all the farms affected within an area.

An additional option would be to adapt an idea used experimentally in the North York Moors National Park and to appoint a 'community caretaker' who could be funded by rural development funds and other national or local government funding (the current difficulties of using RDR funds in this way are discussed in the North Northumberland case study). In the national Park experiment, funded through one of the Countryside Agency's Land Management Initiatives, the caretaker was self-employed, working under contract on specified tasks defined by the local community. Here the model could perhaps be adapted for a caretaker to work on behalf of local community groups, farmers and landowners and the Forestry Commission on such tasks as:

- maintaining areas identified by the project clean and litter free, including road verges, parking areas footpaths and open spaces;
- general day to day "lengthsman" duties including maintaining footpaths, road verges, run offs and cleaning and maintaining signs. This would not include any major repairs;
- notifying farmers, landowners, local authorities and the police (as appropriate) of trespass damage and fly tipping, so that prompt action can be taken.

Although this area might appear to offer farmers opportunities to diversify into recreation provision such as permissive access for motorcycle scrambling or riding, farmers here are often reluctant to become involved in public access because of concerns about public liability and potential damage. There is also limited opportunity to develop local markets or farm tourism – the area is used mainly by people from nearby settlements, rather than by tourists, and opportunities for marketing niche food products within this Objective 1 area are likely to be limited.

e. Managing woodlands for landscape and recreation

The principles of sensitive management defined so clearly in the above extract from the Assembly's woodland strategy apply equally to Forestry Commission management of government owned conifer plantations and to grants/management payments to private woodland owners under the forestry and agri-forestry measures of the EAFRD. Positive action on woodland management in this historic landscape could include:

- conversion of conifer plantations to mixed native broadleaved woodland;

- conversion to a continuous cover forestry where possible (the position of the steep escarpment facing the prevailing south westerly winds may make this difficult, in which case clear felling coups could be deigned to take landscape impact into account);
- re-alignment of woodland boundaries to improve the overall impact on the landscape;
- removal of woodland cover from sites of archaeological importance and subsequent management as grazed semi-natural grassland to protect the remains and make them more visible and accessible to visitors;
- provision of dedicated tracks and areas for motor cycles and four-wheel drive vehicles to use, to reduce damage and disturbance, for other visitors and for farmers.

4 CONCLUSIONS

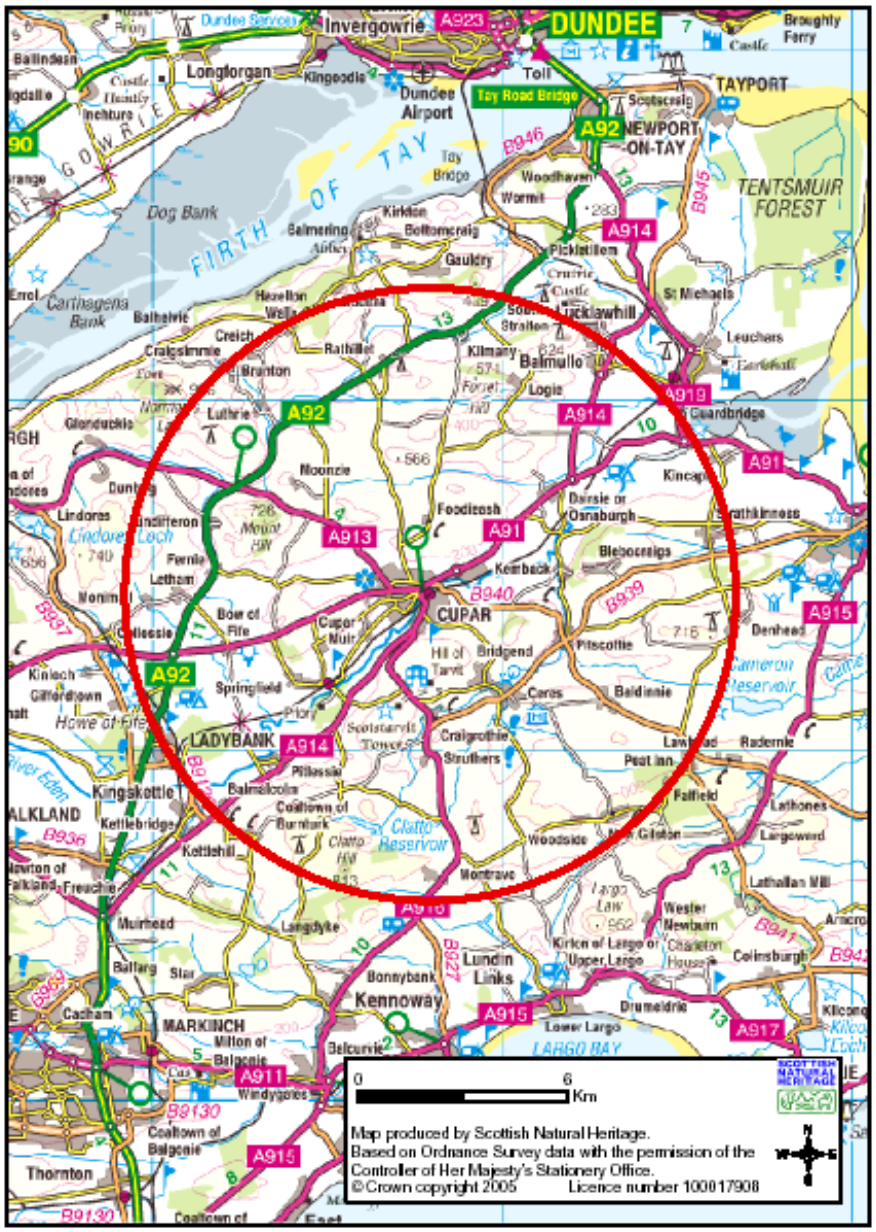
There are significant opportunities to restore and improve this important landscape area but these are likely to depend on co-operation between government and private owners, joint action by groups of farmers and active co-operation between farmers and local communities. The area is relatively small but heavily used, mostly by local people, some of whom are regarded with justifiable suspicion by farmers who have suffered from trespass. It lies on the boundary of two unitary authorities and although these local authorities are likely to be supportive they have other significant social and environmental problems to deal with, and may be unable to contribute significant resources.

There is a strong case for combining EAFRD funds with other public sources of funding and using a territorial LEADER approach to engage neighbouring urban communities, farmers and the Forestry Commission in projects designed to deal with specific local problems. Given the difficulties faced by land managers there will need to be significant investment of project officer time in facilitating co-operative action between farmers (such as joint applications to agri-environment schemes), and in working with local schools, off-road vehicle users and the police to find long-term solutions to some of the more intractable problems. These longer term initiatives on co-operative action could be supported in a very practical way by using public funds to employ a ‘community caretaker’, responsible to the local community, to undertake practical work on the ground to mitigate some of the environmental problems which are not the direct responsibility of the farmers. Although significant investment of public funding is likely to be needed for some time the advantage of using EAFRD funds in a flexible way would be the opportunity to give ‘ownership’ of sustainable long term solutions to the local people, both the land managers and the users.

CASE STUDY 4 – PROMOTING AND MANAGING PUBLIC ACCESS IN CUPAR, FIFE

1 THE AREA

The town of Cupar (population 8,887) is situated in the Fife region of Scotland and is the principal commercial and service centre in central Fife. The area is characterised by the flat basin of the River Eden which forms the Howe (or 'hollow') of Fife. The Lomond Hills to the south and the eastern part of the Ochil Hills to the north provide an attractive landscape for the rich agricultural land in the Howe, while Cupar's landscape setting is created by the lowland hills which almost surround the former County town. See map below.



Farming is an important economic activity and much of the land around Cupar and in the Howe is prime quality agricultural land. Forestry, manufacturing, tourism, and the service sector also play an important role in sustaining local employment and prosperity. Small scale individual enterprises account for a significant part of the local economy and the area is not heavily reliant on branch plants of national/international organizations due to the presence of locally based enterprises.

The area is served by three railway stations at Cupar, Ladybank,and Springfield providing links to Aberdeen, Edinburgh, Dundee, Perth, and beyond. Cupar and Ladybank give direct access to the rail network on the east coast main line, while Springfield station has a more local role. All of these stations are included in a review of rail service provision in Fife by a consortium in which Fife Council is the lead partner. The A92 trunk road linking the M90 and Glenrothes to Dundee traverses the area while the A91 also connects with the M90 and the central Scotland motorway network. The Council has also developed the Kingdom of Fife Cycling Initiative which has the aims of further developing cycling facilities within Fife and identifying proposed routes which could be developed for cyclists. The Plan area is popular as a tourist and visitor destination, with historic attractions such as Hill of Tarvit and Falkland Palace, and outdoor leisure attractions at the Lomond Hills (part of Lomond Hills Regional Park) and Pitmedden Forest.

All of these factors help to make this an attractive area in which to live and in recent years it has experienced a high rate of house building activity, both in Cupar and the surrounding settlements. It is anticipated that house buyers and builders will continue to be attracted to Cupar and the Howe of Fife.

This case study focuses on an area extending by a 7km radius from the settlement of Cupar.

2 ENVIRONMENTAL PROBLEMS

Walking is the most popular recreational activity in the UK, and a number of agencies and authorities have provision for public recreation and enjoyment of the outdoors as part of their remit. The quality of the Scottish countryside is a key motivator for residents and visitors alike, and the provision of a welcoming and accessible countryside with amenities and systems in place to sustain this valuable resource is seen as essential. Local authorities play a key role as managers of areas of public open space in and around settlements, as custodians of public rights of way, and as negotiators with other land owners with regard to public access. Much work has been carried out to improve public access in recent years and many examples of partnership working have been developed, for example with Scottish Natural Heritage. The Paths for All Initiative brought together public bodies, recreational groups and land managers' representatives in pursuit of the goal to facilitate the creation of local path networks for people of all ages and abilities to walk, cycle and horse ride for recreation, health and sustainable transport.

In June 2001 the Scottish Executive published 'A Forward Strategy for Scottish Agriculture'. The Strategy recognised that farmers and the land they work can be a

huge asset to the rural economy in many different ways, not just to the production of food. The level of income generated from walking is considerable and much of this is derived from land managed and owned by farmers. It was seen as vital to develop better links between these two important sectors so that farmers could earn income from this tourism and, in turn, help to ensure that the quality infrastructure and services required by visitors to Scotland were provided.

Scotland has a long tradition of enjoying access to land and inland water for recreation. However, problems regarding poor access provision and maintenance and conflicts between land owners and those who desire access to land for recreational purposes are not uncommon. Walkers and other access users frequently experience problems of insufficient path networks (especially in lowland areas such as those around Cupar), poorly maintained paths, lack of and poorly maintained infrastructure such gates and stiles and poor signage. Land owners can experience problems such as damage to crops and disturbance of livestock, damage to fences and the illegal dumping of rubbish. In addition, heavy recreational use of some areas can lead to problems such as soil erosion, habitat damage and disturbance to wildlife.

3 LAND REFORM (SCOTLAND) ACT

By the late 1990s it was clear that access legislation in Scotland needed reform. Reasons put forward included:

- The present access legislation was very unclear
- The duties and powers of local authorities needed up-dating
- The rights of way system was not working
- Reliance on the voluntary principle achieved only patchy results
- Land managers needed more practical support to help manage access
- Public expectations were growing and better access provision was needed to support the promotion of healthy living, social inclusion and sustainable development
- To help rural economies, visitors and tourists needed clearer access to the outdoors.

Following lengthy consultation, the Land Reform (Scotland) Act 2003 was passed by the Scottish Parliament on January 23 and received Royal Assent on February 25, 2003. The Scottish Outdoor Access Code was approved by the Parliament in July 2004. Both the Act and the Code came into effect on 9 February 2005. The Act ended the historic legacy of feudal law and created a framework for responsible access to land and inland water and also for rural and crofting communities to have the right to buy land in their area. The Scottish Outdoor Access Code explains what responsible access means and gives land managers information about how best to deal with visitors to their land.

The Act provides for rights of responsible access to land and inland water for recreation and passage. It seeks to balance the desire of recreational users to enjoy the countryside with the needs of those who live and work in the countryside. The Act placed new powers and duties on local authorities to:

- plan for and establish a system of core paths in their area to serve needs, including those of walkers, for recreation and passage.
- ensure that the system of core paths is accessible, promoted and managed.
- establish at least one local access forum in each of their areas, with a balanced membership of both recreational and land management interests, to advise them in their use of powers relating to access rights.

Early in 2005, Fife Council invited landowners and residents in and around the Cupar area to view and comment on draft proposals for a Core Path Network for Cupar and its surrounding countryside. According to the Council, the Draft Core Path Plan for the Cupar area strives to achieve a balance between the 'right of access' and the needs of landowners and residents. They consider that the suitable provision of core paths will assist in the management of access, particularly over agricultural land, and that the potential for conflict between access and land use/privacy issues through exercising the 'right of access' will be greatly reduced by the provision of such routes.

4 CURRENT USE OF RURAL DEVELOPMENT MEASURES AND OTHER INITIATIVES

It appears that relatively little use of rural development measures has been made to date to fund access provision or management either in Fife or Scotland more generally.

SNH provides some grant funding for access, including the following:

- Access Provision such as the creation, improvement or management of footpaths, bridleways and cycleways and signposting and waymarking:
- Recreation Facilities such as visitor reception facilities, educational and interpretive facilities, viewpoints, car parks and low cost accommodation, where these relate to enjoyment of the natural heritage;
- Ranger Services to help visitors enjoy and understand the natural heritage and to manage recreational activities and pressures.

In general, local authority budgets have been the traditional source of funding for access but there are other sources of finance available reflecting broad policy cross-linkages. Other sources of funding that have been used include:

- health authorities
- urban regeneration schemes
- public-private partnerships
- contributions from developers
- Enterprise companies
- local countryside trusts
- Paths for All Partnership
- Land fill Tax Credit
- European Funding sources e.g. LEADER +

5 POTENTIAL USE OF RURAL DEVELOPMENT MEASURES

5.1 Importance of improving access provision

With 41% of all adults regularly taking a stroll for pleasure, leisure walking is the most popular recreational activity in the UK today. VisitScotland estimates that the walking market generates over 1 million trips annually, with visitors staying for a total of over 9 million 'bednights' and spending over £400 million. It is also estimated that around 16 million leisure day trips are taken in Scotland involving some form of recreational walking. The majority of these (93%) involve a long walk or ramble, while the remaining 7% are accounted for by hill walking. Facilitating access can therefore have significant economic benefits for rural areas.

The benefits of access provision extend much more widely than economic benefits. The Fife Walking Initiative 'Bums Off Seats' is a partnership comprising Fife Council, Ramblers Scotland, NHS – Fife, Fife Society for the Blind and Scottish Disabled Ramblers. The initiative aims to improve inactive peoples' health by encouraging them to undertake regular, sustainable exercise in the form of walking. NHS Scotland recommends that adults should be undertaking 30 minutes of moderate physical activity on most days of the week. Some 48% of males and 65% of females aged between 25-34 years fail to meet this target. By October 2003, the Fife Initiative had resulted in 328 participants undertaking 2,064 walks. The initiative overlaps well with Fife Council's new access remit resulting from the Land Reform (Scotland) Act 2003.

Other objectives for enhancing access provision include reducing the number of car journeys taken in both urban and rural areas. In rural areas in particular, the car is the most significant mode of transport due to the lack of other public services. Improving path networks for walking and cycling could help to reduce short journeys between adjacent rural settlements.

5.2 Policy context

Supporting public access has not, historically, been a significant objective of EU rural development policy. Public access is however seen as a key countryside issue in the UK with, over the years, increasing demand for access provision. The proposed European Agricultural Fund for Rural Development includes some measures covering public amenity and access; those Member States where access is seen as an important issue could develop appropriate schemes under these measures. Axis 2 Article 38 (b) allows 'on-farm investments which enhance the public amenity value of the Natura 2000 area concerned'. Meanwhile, Axis 3 Article 52 (b) allows support for 'recreational infrastructure offering access to natural areas and small-capacity accommodation'.

5.3 Priorities for use of rural development funds

Establishing Core Path Networks will require Local Authorities in Scotland to work closely with the farming and landowning community. The provision of positive incentives for establishing new paths and for path maintenance is likely to be necessary. The new Land Management Contracts proposed in Scotland seem an obvious mechanism within which to embed access measures. Some degree of targeting could be used to ensure access is provided in priority areas. Farm access management plans would help farmers to take more strategic decisions about access

provision on their land and link to other measures within LMCs. The desire to create extensive path networks that extend beyond any one individual farm boundary suggests there is likely to be benefit in encouraging farmers and landowners to work together collectively. Ongoing path management and monitoring will require human resources. Fife Council has already piloted the use of farmers as access managers in Regional Parks and this is one idea that could be extended to other areas. Finally, access provision can be linked to other on-farm rural development projects and measures e.g. the development of farm shops and tourist accommodation and habitat management, together creating venues and attractions the public will want to visit.

In the Cupar area, rural development funds could be used most effectively to:

- Pay for lowland path management in Land Management Contracts and for new paths in the Rural Stewardship scheme. Major funding for paths should be on condition of producing a farm access management plan.
- Provide incentives for landowners to make collaborative applications to install new path networks
- Support syndicates of farmers to appoint path maintenance wardens
- Support improvements to farm tracks which are shared by recreational and farm vehicles
- Provide payments for new paths close to housing, as well as information and interpretation provision
- Encourage farm visits and engagement of communities in the siting of access facilities.

6 CONCLUSIONS

The Land Reform (Scotland) Act 2003 creates new opportunities for access provision is lowland agricultural areas such as that surrounding Cupar in Fife. While the legal obligation to provide a network of core paths falls on Fife Council, it is clear that without significant investment from other sources it will be extremely difficult to develop an increased recreational and functional route, safe for multi-use (walkers, cyclists, horse riders etc). Funding will be required both to implement and maintain this network of lowland paths.

The benefits to individuals and society collectively of improving access provision are significant. Tourism is a major economic activity and a potentially significant revenue earner for farmers and other landowners. Increasing the rates of regular exercise is known to have significant health benefits while reducing car usage will reduce both fuel use (hence saving money) and benefit the environment.

Rural development funding, used in conjunction with other public and private finances, could have a significant role to play in future in supporting the provision and maintenance of access routes and the necessary associated infrastructure. In addition to Land Management Contracts, funds from sources such as the Rural Stewardship Scheme and LEADER will be required. Farmers and land managers should be able to access the necessary capital funding for new paths or upgrading. However, allocation of such funding needs to be co-ordinated. For example, applications could be encouraged from key geographical areas or specific situations that would benefit from

funding for paths. Criteria for this might include land subject to high visitor pressure e.g. close to centres of population or popular visitor attractions where there is a need to integrate access with land management and wildlife conservation. It is also important that neighbouring farmers/land managers are encouraged to plan and apply together for path network funding.