38. *Crosby Gill*

This SSSI is an enclosed upland area focused upon a gill which marks a transition from a limestone plateau to improved pastures in the valley of Lyvennet Beck. It is a composite site of unimproved limestone grassland, gill woodland and rich calcareous wet flushes. A large assemblage of plants is supported, including the very rare alpine bartsia in the flushes. The Site was designated in 1983 to counter various proposals to drain the flushes using MAFF grants. A 21-year agreement was made with the tenant farmer at the Site.

The current system of management (left to the farmer within the general confines of the agreement) is producing excellent results. The habitat mosaic is maintained as the farmer is able to provide a variety of grazing animals and has the flexibility to operate different grazing systems. However, cattle are essential to create and maintain tussocks in the flushes which themselves support alpine bartsia. They also break up surface vegetation and thereby keep the flushes 'open' through trampling, benefiting sedges and species such as bird's eye primrose. The SSSI land carries around 30 suckler cattle during the year and some sheep which roam across the area. The beef enterprise is a minor part of the farm business which is based upon upland sheep. Sheep alone would not be able to graze the flushes properly and a deterioration in quality would be inevitable. It is interesting to postulate that if the farmer was to enter into MAFF's Moorland Scheme and receive payments for removing ewes from moorland outside the SSSI, the in-bye area of the SSSI may come under pressure to receive removed stock. Some re-negotiation of the management agreement would then be necessary. Such wider impacts of new agri-environmental measures remain to be considered in detail.

39. *Giant Hill*

Giant Hill is famed for the prehistoric giant figure carved into the chalk hillside within the boundary of the SSSI. The sward supports a herb-rich turf and the largest downland colony of Marsh Fritillary butterflies in Britain. The grazing regime on the Site is tailored to produce a sward varing from 7 to 15 cm in height for Marsh Fritillaries and Duke of Burgundy Fritillaries, down to 5 to 10 cm elsewhere.

Elements of continuity and change have recently come to characterize the Site. The owner's family has possessed the site for 600 years, but it has been managed for four years by a farming company on behalf of the owner (except for the enclosure containing the giant figure which is leased to the National Trust). Grazing was formerly let to a grazier, but has been taken in hand since 1996. There is continuity as the grazier's herd has been purchased and retained on the Site. However, the farming company has experienced a change of manager at the beginning of 1997. The previous manager was very sympathetic to nature conservation objectives and the approach of the new manager is yet to be assessed.

Sheep are grazed on areas which do not support the marsh fritillary and are used by the National Trust on 'the giant', but the SSSI is mainly beef grazed. However, this is a minor element in the farming activities on an estate that amounts to thousands of hectares. The grazing herd is suckler beef, but is in need of improvement through the introduction of new bloodlines. This is currently in progress and will also create an increased size herd, from 45 to 60 beasts. In the past, grazing occurred all year round and tended to result in overgrazing during winter and spring. As a consequence, cattle are now housed in winter where they calve. This practice also avoids the need to scatter supplementary feed over the SSSI that has caused poaching, nutrient enrichment and hay seeding. Continued cattle grazing is vital to the interest of the site as sheep would graze the turf too closely, leading to a decline in numbers of grass species and elimination of butterfly food plants.

The SSSI land has been entered into the South Downs ESA and a management agreement for grazing is paid for by this method. This has raised conservation awareness of the estate owner and managers because they have given greater consideration to the management of interface areas between the SSSI and adjacent land (see below). A 'top-up' EN management agreement operates in conjunction with that for the ESA to pay for fencing and scrub clearance, as this lies beyond the scope of ESA payments. Increased density of scrub has been actively monitored between 1984 and 1994 using aerial photograph data. A causal factor has been the necessity for a light grazing regime to maintain a sward of sufficient height to sustain the Fritillary butterflies. The additional agreement means that scrub control is now active.

The owner also has a Countryside Stewardship agreement for a small parcel of land which has not been designated SSSI and splits the designated Site into two parts. The parcel has been omitted as it was afforested with a plantation. Countryside Stewardship will remove the plantation and return the area to grass so that it may be grazed in conjunction with the SSSI at some stage in the future. The overall result has been to effect an improvement in the SSSI, evident in the increase in butterfly numbers observed since the introduction of closely controlled management implemented by the farm management company.

40. *Lewes Downs*

The Lewes Downs SSSI is a highly species-rich area of chalk grassland and scrub. It lies in four blocks with part of the largest southern block designated as an NNR (one third of the total SSSI area). There is an abundance of orchids within the grassland which also supports many butterflies and moths. There are five owner-occupiers.

Unit 1: a small block of 2 ha owned by a local farmer.

Unit 2: a fragment of 0.5 ha owned by East Sussex County Council.

Unit 3: a block of 45 ha owned by the county wildlife trust (Sussex Trust for Nature Conservation) and let to a local farmer (the same farmer that has a licence to graze Unit 1 on Castle Hill SSSI - case 37).

Unit 4: is 62.5 ha owned by a large estate and includes all the area designated as a NNR.

Unit 5: a 14 ha block owned by another local farm business.

The NNR has most information available on management practices and is currently under a Nature Reserve Agreement. There have been fluctuations in grazing activity at this locality. Until 1995, the owner had grazed the area for eight years with beef cattle for finishing in partnership with another farmer. The cattle on the block belonged to the latter, but various problems meant that at times no cattle were present on the site. In contrast, 30 animals were put on to the site in 1996. This represents the upper limit of the grazing carrying capacity for the site but was necessary because of the lack of grazing that had occurred in recent years. The animals were supplied by a local farmer who owns land in the Lewes Brooks SSSI (case 8) under a 'gentleman's agreement' with the owner. This rather informal arrangement is a cause for concern and whether or not grazing has been secured for 1997 is unknown. The cattle graze from July and August to around Christmas, and it is estimated that at least 15 head are required to maintain floristic diversity of the chalk turf. The cattle produce a tussocky sward that sheep do not, maintaining breeding opportunities for invertebrates (see information for Castle hill - case 37).

The availability of payments for management under the terms of the South Downs ESA may provide a context for expanding the area of species rich chalk grassland. The conversion of ex-arable strips to grassland is being encouraged within the Site through the Site Objective Statement, and this may initiate interest amongst owner-occupiers on land adjoining the SSSI. However, given the instability of current grazing practice within the NNR, priority does need to be given to securing current interest.

41.& 42. *Minchinhampton Common and Rodborough Common*

These SSSIs are similar in their structure and nature conservation interest and are best discussed together. Both Minchinhampton and Rodborough Commons are unimproved Jurassic limestone grassland within the Cotswold Hills. Their value has long been recognized through SSSI designation (in 1972 and 1954 respectively). They have common characteristics, comprising a raised plateau area and steep slopes on all sides dropping down to the Stroud valleys. Not all the slopes have been designated due to urban development and some small sections of slope within the Site are not contiguous with the main plateaux areas. The plateau of Minchinhampton Common is criss-crossed by roads and partly occupied by a golf course. Despite urbanization pressures, there are four nationally scarce invertebrates here. Rodborough Common possesses a caravan park and some housing estate developments which are excluded from the designated area. Both Sites are in National Trust ownership.

Grazing on the Commons is overseen by separate commons committees. However, these are to merge as the Commons adjoin each other (as do the SSSI designations) and there has been a decline in the number of commoners who exercise their grazing rights. There are around 60 properties with registered commoners rights, but only five graziers actively exercise their rights across the two Commons. Hence, it comes as no surprise that the Commons suffer from a general lack of grazing. It can be estimated that Minchinhampton is 60% adequately grazed and 40% undergrazed. On Rodborough, the situation is worse with only 20% adequately grazed. The plateaux areas receive most grazing attention whilst the slopes tend to be neglected by animals. This is because stock migrate to watering points located on the plateaux areas.

The five active graziers have the following characteristics.

Grazier 1: is a part-time farmer who is retired from an occupation in the communications industry. He grazes 30 head of beef cattle.

Grazier 2: has the largest farm business, growing some arable crops and grazing over 100 head of beef cattle on the Commons.

Grazier 3: is a small farmer grazing 30 head.

Grazier 4: is a small family farm business grazing 50 head.

Grazier 5: has a farm business of 60 ha and grazes anything between 40 and 80 cattle in a particular season.

Single suckler systems dominate. All graziers are over 55 years of age and are currently grazing below the permitted level under their registered commoners rights. The grazing season has also contracted so that animals are now grazed only during the summer months. A significant factor in the absence of animals in October is the number of road traffic accidents involving livestock. Roads on both commons are increasingly being used as a 'commuter rat run' , reflecting attempts to avoid traffic congestion in the valleys. Insurance

premiums for the commoners have risen to the extent that any benefits from free common grazing are eliminated. Further, there are special problems associated with grazing the 'satellite' or detached areas of the Commons which have been included in the designation. For example, isolated blocks on Jacob's Knowle (north east, Minchinhampton) and Nailsworth Hill (south, Minchinhampton) are greatly undergrazed as the commoners system has broken down with so few people exercising grazing rights.

An ingenious development has been the entry of the Commons into the Cotswold Hills ESA scheme. MAFF have accepted the need for increased grazing across the Sites (about a 50% increase in grazing activity is required) and so a separate holding number has been created for the Commons. The active graziers are party to a joint application and this has permitted ESA entry. It has been arranged that ESA payments are then divided amongst the graziers according to the number of animals that they put out on the Commons. In this way, the ESA is being used as an incentive to graze more animals as a holding mechanism against destocking. However, given current market conditions and rates of ESA payment, it is unlikely to encourage a 'real' increase in beef animal numbers.

Various stock management methods are being tested to encourage more even grazing by existing beef animals. For example, strategic placing of lick blocks and relocation of water supplies from the plateaux to the slopes has been postulated to manipulate the pattern of grazing and promote stockmanship. As part of these measures, active driving of animals from the plateaux by graziers is also required. The problem is that this type of stock management is labour intensive and does not fit easily with modern systems of agriculture. Fencing of the area is not possible given the use of the Sites as recreational facilities and their open landscape character. It should be noted that sheep grazing does not provide a mechanism to compensate for the extensification of beef on the Commons. Sheep would not help to maintain the tufted sward required to conserve floral diversity and a registration condition of sheep on the Commons requires their removal each evening.

43. *Oddy Hill and Tring Park*

This SSSI comprises two sections of unimproved calcareous grassland, Tring Park constituting the majority of the area of the Site. There is a range of grass species in the chalk turf and orchids are well represented. Where there has been a cessation of grazing, scrub invasion provides further habitats for invertebrates and breeding birds. The site has been under the ownership of Dacorum Borough Council since 1994 and let to the Woodland Trust. The Trust were responsible for the reintroduction of grazing on the Site in 1995 using a local grazier.

Beef stores are now grazed at a low intensity in conjunction with sheep on one management unit at the highest part of the Site. There were 40 cattle on the Site from December 1995 until October 1996, which has become the maximum agreed number. This was reduced to 25 in the winter of 1996/7 and numbers will again be raised in the summer months. The scarp slope section of the Site is ungrazed as yet because there is a high percentage of scrub cover. It is hoped to introduce sheep grazing here in the near future. The detached block of land at Oddy Hill is ungrazed because recreational pressures have acted as a deterrent to the keeping of stock. Scrub control is needed at this point before grazing with sheep becomes a possibility. A Countryside Stewardship agreement is in operation to assist the clearance and control process throughout the Site, together with a 'top-up' payment from EN for fencing, to increase water supply availability and for Site monitoring.

44. *Snailwell Meadows*

Snailwell Meadows is a small collection of fields in East Cambridgeshire representing a calcareous fenny grassland type. The Meadows comprise peat on chalk and support a range of grassland types. The wetness of the Site in winter means that grazing only occurs during the summer months. A management agreement is in place with the owner, and a tenant grazier fattens store beef cattle on the Site. There is a system of exclosures in operation at the Site which allows seed heads to set in certain field areas before they are subjected to cattle grazing. This is particularly important to ensure the regeneration of the nationally rare Cambridgeshire milk parsley (a Schedule 8 species). The grazing regime is stable and the Meadows are now in good condition.

45. *Soham Wet Horse Fen*

This Fen is part of the larger Horse Fen and consists of grass pasture on calcareous loam soils. The Site is similar in its botanical interest to Snailwell Meadows (case 44), containing a rich species mosaic. There are three management units relevant to the Site.

Unit 1: Southern fields. These are owned by a large private landowner and the rights to graze are let annually according to local tradition at the 'Horse Fair'. The procedure and management is overseen by a local committee, the members of which are known as 'fen reeves'. A further agreement exists with the Cambridgeshire Wildlife Trust. Hence, this land is one of their reserves, although they are not involved with stock management. Cattle have free range access to both fields comprising this unit. A small area of this unit was lost in the mid-1980s to a road development. An element of scrub clearance has taken place on the edges of these fields, and this has led to a problem with creeping thistle invasion.

Unit 2: detached field. This unit is a single field and is under considerable pressure from village development. Expansion of housing and industrial units means that this field has become increasingly isolated and access to this field for grazing is increasingly an issue. Given the threat to the long-term viability of this field, careful monitoring of its botanical interest is required.

Unit 3: Northern fields. These possess a variety of institutional owners, including the Cambridgeshire Wildlife Trust. There are five fields which have different management regimes. The west triangular field owned by the Trust is aftermath grazed by a farming tenant from early July. A management agreement covers this practice. The tenant grazes the eastern fields with store beef cattle and sheep in combination. Animals are introduced in early May and graze through until October or November depending on weather conditions.

The existence of Soham Wet Horse Fen depends upon the arable farmers that dominate the area retaining their beef cattle enterprises. These are without exception a subsidiary part of their farm business activities. Countryside Stewardship is in evidence at the Site and is assisting some small areas of arable farmland in the locality to be converted back to grass. Sheep grazing is possible here as conditions are sufficiently dry to cause few animal welfare problems. However, the effects of sheep-only grazing on the grass sward would again have to be closely monitored.

46. *Topley Pike and Deepdale*

This SSSI is a typical limestone dale cut into the carboniferous limestone of Derbyshire's White Peak, within the Peak District National Park. It comprises the linked dry valleys of Back Dale, Deep Dale and Bullhay Dale which merge into Wye Dale from the south at Topley Pike. There is considerable botanical interest in the range of calcareous grassland

types supported and the limestone cliffs and screes, which are of geological interest, provide further habitat types for flora.

There are approximately nine owners of land in the SSSI, although cattle are only grazed on the northern and southern sections of Deep Dale and in the upper confines of Back Dale. Beef grazing is present in just one field at Topley in the north of the Site, the rest of the northern SSSI being too precipitous to allow cattle access. In the Back Dale area, the cattle are suckler beef cows derived from the farmer's dairy enterprise. They are young stock which graze only in the summer, but this is effective in delivering site management objectives.

In the Dale centre, the western side is grazed by sheep only as it is considered too dangerous for cattle. Nevertheless, cattle have been grazed at this point in the SSSI in the past. A Countryside Stewardship agreement is in place here to help maintain the character of the Dale limestone landscape. The eastern side of the Dale is owned by a quarry company which has an active presence in the north-west of the Dale. This was bought in speculation of expansion and has not been grazed for 30 years. The tussocky grass has made it difficult for scrub to invade on this eastern side, but the next five years appears crucial as scrub is beginning to gain a foothold. For this reason, the area has been recently entered into a Wildlife Enhancement Scheme agreement to promote active management. A compensatory agreement was formerly in operation as there was some threat of slurry application to the grassland by the grazing tenant. Entry into WES can be regarded as reflecting some acceptance by the company that an expansion of quarrying activity in this direction is unlikely to gain approval. The farmer at Bullhay Dale in the south west of the SSSI has the only significant area of SSSI land which is not under agreement. Attempts are being made to persuade him to enter into Countryside Stewardship.

The mixture of sheep and cattle grazing found in the SSSI is viewed as the ideal way to maintain the quality of the Site. A lack of cattle grazing increases the potential for scrub invasion, whilst grazing with sheep only would not result in the range of grass sward structures necessary to retain the diversity of the Dales. Various payment schemes available have added an important 'insurance' dimension against change in the Dales and have some extra potential to help restore neglected parts of the Site.

47. *Warton Crag*

Warton Crag is effectively a 'sister' SSSI to Arnside Knott (case 35), despite being administered by a different EN Regional Team. Warton Crag lies to the south of the Arnside and Silverdale Area of Outstanding Natural Beauty and comprises a limestone hill of 163m rising over Morecambe Bay. The SSSI contains a mosaic of limestone-related interest including calcareous grassland, limestone pavement, crags and screes. There are also areas of scrub and woodland, the latter providing a habitat for red squirrels. The Crag is divided into a small number of large upland 'allotments' by stone walls, indicating a 19th Century history of use as rough grazing.

Three landholding units cover the Site, all of which involve institutional bodies. The south western allotments are owned by the RSPB and managed as part of the Layton Moss Reserve. Lancaster City Council (LCC) own the south eastern block of land, whilst the centre and north / north eastern section of the SSSI is owned by Lancashire Wildlife Trust. Since the 1940s, scrub invasion took place until a series of actions were taken in the first half of the 1990s. The LCC block has been entered into Countryside Stewardship from 1995 to repair walls to stockproof condition. It will allow stock to be reintroduced into the area for the first time in many years. This follows the lead taken by the RSPB who entered their land into Countryside Stewardship when the scheme first opened in 1991. The RSPB

land was formerly grazed by a local tenant grazier, but an arrangement has been made with a new tenant to graze the land in conjunction with the LCC area. Starting in 1997, 10 suckler beef cattle of a hardy breed will graze the RSPB and LCC blocks as a single grazing unit. As the Warton pastures are free-draining, it will provide winter grazing from October to March, and allow cattle to be moved from the lower pastures adjacent, owned by the National Trust, that are vulnerable to poaching. The northern Wildlife Trust area has been in EN's Reserve Enhancement Scheme since 1991 and grazing commenced in 1995. An organic beef suckler herd is put on to the area by the grazier mentioned in case 35. This is not the main business interest of that person. Hence, he seems more prepared to graze the limestone pavement areas which are potentially hazardous to cattle.

Beef cattle grazing is beneficial to nature conservation on Warton Crag for three main reasons. First, cattle grazing creates a diversity of sward height. Secondly, the continued abundance of scrub means that sheep have difficulty in coping with certain locations within allotments, so that labour intensive stock management is required. Thirdly, the area is generally open to public access meaning that dogs are a source of added difficulty to stock management. This said, some grazing with sheep contributes to grass sward diversity and these animals face fewer problems with suitable water supplies which restrict the use of cattle.

**Synopsis of Calcareous Grassland (including Calcareous/Neutral Grassland)**

- An evaluation of the diverse case studies encountered indicates a very fine balance between tendencies to overgraze and undergraze sites.

- Overgrazing causes a decline in sward quality, often associated with high stocking rates of sheep, and poaching caused by cattle. Stocking in winter increases the poaching risk and supplementary feeding leads to problems with nutrient enrichment.

- Undergrazing is the dominant problem on eight out of the thirteen calcareous grassland SSSIs investigated (a trend observed on neutral grassland Sites). This has led to scrub invasion, reflecting withdrawal of grazing from Sites for reasons which include lack of profitability of beef (especially in farming upland allotments), pressure from urban uses (recreation, traffic) and failure to exercise commoners rights. Although some scrub is desirable in places, such as where it provides breeding cover for downland birds or is of benefit to tall herbs and invertebrates, there remains a threat to grassland diversity.

- The main advantage of beef cattle grazing is to promote diversity of sward heights in these SSSIs. In turn, a wider variety of invertebrate interest is typically supported. The ideal situation is grazing beef cattle in conjunction with sheep. Sheep are often more readily available than beef cattle and also reflect farming systems that are traditional to many localities investigated (for example, upland limestone areas and chalk downs).

- Active scrub clearance appears to have been recently implemented on most Sites. There is some use of livestock on calcareous grasslands for removing scrub, although there is clearly potential to expand this approach. Manual clearance tends to be favoured as an 'immediate fix', often supported by a combination of Countryside Stewardship and 'top-up' Wildlife Enhancement Scheme agreements where specific management is required.

- The importance of particular individual graziers is highlighted. In the cases of Warton Crag and Arnside Knott, one grazier is vital to the maintenance and restoration of the SSSIs, even though the Sites occur in different EN Regions!

- Similarly, the Lewes Downs (case 40), Lewes Brooks (case 8) and Giant Hill (case 37) examples indicate how certain individual farmers (with a less than ideal approach to nature conservation) offer the best available grazing solution and have an instrumental role in safeguarding the interest of Sites. Vulnerability to change derived from instability in the beef market and individual farmer preference over agricultural business enterprises is therefore a major cause for concern.

**Calcareous Grassland (including Calcareous / Neutral Grassland) Farmer Case Study**

Mr. G. is a National Trust tenant with a 20 hectare home farm with beef (approx. 70 head of cattle) and sheep with additional grazing rights on salt marshes for the sheep. He also grazes a number of upland limestone conservation sites (approx. 500 hectares, of which half is grazed by his beef cattle). He uses 16 hectares of his farm land for mowing for winter feed for the beef cattle. He has approx. 70-80 breeding ewes on these salt marshes which are becoming increasingly eroded. This will mean a future reduction in grazing sheep numbers. The sheep are a mix of hill breeds including Hebridean, Hill Radnor and Wiltshire Horns (rare breeds) and Gritstones, Rough Fells and Cheviots. The main enterprise on the farm is the beef enterprise: a suckler system with rearing and finishing. Having the mixed livestock is important for his organic beef and sheep production which he retails himself. He has been affected by the BSE crisis in that he has to finish the cattle earlier and use supplementary feeding (in line with the organic farming guidelines). He receives SCP on 20 cattle and BSP which is on 20-25 head a year. He receives extensification payments mainly as a result of his organic system which is far below the extensification threshold of 1.4 livestock units.

The SSSI has 3 owners, all of whom have slightly different grazing agreements both in terms of the financial benefit to Mr. G and the times of year they require him to graze the site. He uses traditional breed beef cattle (North Devon, North Devon cross and Red Poll) to graze the site. The different conservation sites he grazes helps make his 20 hectare farm more viable. There have also been changes in his beef production in the last five years as his breeds have become less mixed with a change to more specialist traditional breeds such as Red Polls. He feels it "makes life more interesting and they do a better job with the SSSI and the farm set-up." The cattle can convert low quality forage on the SSSI and traditional and native breeds are better able to do this. The future of both the SSSI site grazing and Mr. G's farm business is currently unsure. His 5 year tenancy agreement with the National Trust is due for renewal and if it is not on viable terms then his beef enterprise and farm business may alter dramatically, possibly even ceasing altogether. There is currently no requirement at the site for sheep grazing under the existing management plan despite it being traditionally grazed by sheep. Therefore, beef grazing is novel but with specific benefits. Mr. G. prefers to feed using small bales of unimproved meadow hay (rather than a ring-feeder) concentrated on areas of scrub and bracken which helps to keep the ground open with less build up of nitrates.

The SSSI grazing does not benefit the farm business as a whole as Mr. G sees it as "a liability because it is a lot of work, a large area, difficult access, no water on site, high risk because of a lot of public access, difficult terrain, parasites, ticks and poor quality grazing". However, he grazes it is because he sees "a need for it in terms of conservation, it is well established and I'm happy to do it on that basis to achieve the conservation objectives". The SSSI have some negative impacts on his beef system due to the different management systems of the 3 site owners. This has caused untimely and sometimes unnecessary moving of stock. More forward planning and an overall grazing agreement would be more beneficial to both the site and farmer if the owners' objectives could be met under one grazing agreement. Mr. G. is in the Organic Aid Scheme and Countryside Stewardship.

Interestingly, Mr G has withdrawn from another SSSI because of the high levels of public access and problems of gates being left open and the poor quality grazing even for traditional breeds. The SSSI was perceived as more of a liability than an asset. Two of his Red Poll cattle in calf with twins aborted on the site due to nutritional problems but he would consider future grazing if the terms were viable.

## 5.5 Synopsis of policy implications from SSSI case studies

5.5.1 The policy considerations contained in this section are derived directly from the experience of gathering and compiling data on case study SSSIs. At this stage in the analysis, the aim is to demonstrate briefly, using SSSIs as exemplars, the relationship between the conservation of the environment and agricultural commodity support mechanisms.

5.5.2 The points raised serve as 'signposts', backwards to the full discussion of current commodity support mechanisms in Chapter 2 and forwards to future policy implications in Chapter 7.

**Beef Policy**

5.5.3 There is little doubt that the commodity support available in the beef sector has retained herds on many farms with land of SSSI status. The compensation for cuts in the support price for beef established as part of the 1992 reform of CAP and available in the forms of payments under the BSPS and SCPS has tended to fossilize the pattern of beef enterprises as a result of quotas on SCP in the face of creeping specialization in the farm sector. The BSE crisis has had some direct influence on SSSI management, as at Foulness and Woolcombe, where some grazing has been withdrawn and elsewhere where modifications to farm systems have been made to accommodate the 30 month rule. However, there are few signs that the crisis has led to a radical diminution of grazing in the overwhelming majority of cases we examined. Whether or not there is a real threat to the long-term management and conservation interest of Sites remains open to question. There are probably four key factors that have so far prevented the impact of BSE leading to an unacceptable reduction in grazing on Sites:

- retention on farms of large numbers of cattle during the post-BSE period, either awaiting slaughter or improved markets;
- a modest recovery of market prices;
- structural rigidity in farming, leaving farmers with little option for change;
- farmers being prepared to 'sit out' the crisis in the hope of improvement, a strategy facilitated by the fact that beef enterprises are commonly supplementary to other more profitable enterprises.

5.5.4 It is important to stress, therefore, that the lack of an immediate and, in terms of nature conservation, damaging response to BSE and its associated policies does not mean that there may not be future implications for Site management.

**Relationship with the dairy sector**

5.5.5 The profitability of dairying, where high intervention prices still operate within the quota system, has safeguarded the economic viability of many farm businesses. The impact of dairying was especially evident in coastal grazing marsh areas. Three main influences of the continuation of this dairy policy regime may be highlighted:

- At least some cattle are available for grazing SSSI areas, usually dairy followers, and these have very similar environmental impacts to grazing with beef animals. The most difficult problem is one of breed hardiness, as for example in some coastal marsh areas where grazing is suitable only for hardy herds.
- There is a strong tradition of beef as a supplementary enterprise for dairy farmers. As a long term enterprise, beef is subject to considerable financial uncertainty but the regularity of

income from dairying acts as a cushion. To some extent in such instances, beef may be founded on personal interest rather than driven by policy mechanisms or market conditions.

- Given the limits on dairy expansion (quota and cost of quota), it cannot automatically be expected that non-viable beef herds which are removed from the farm business will be substituted for by dairy expansion.

5.5.6 The influence of a strong dairy sector means that if farmers are looking to restructure their businesses and increase profitability, the elimination of beef herds from the farming system often represents the first and easiest element of adjustment that can be made. Indeed, evidence from the academic literature indicates that farmers are likely to make this type of adjustment to the farm enterprise mix before embarking on more radical and fundamental restructuring strategies, such as those involving a shift to farm diversification (Munton, 1990; Bowler *et al.*, 1996). This outcome can be observed in the SSSI sample as a lowland-upland contrast. Farmers in the lowlands have more options available and tend to change to other enterprises, as illustrated on the Pevensey Levels. Farmers in the uplands tend to have fewer on-farm enterprise adjustment options and have embarked on pluriactive strategies which represent a more fundamental restructuring of the business, as demonstrated at Leek Moors. As a general observation, wherever pluriactivity occurred on farm businesses investigated, as at Lord Wood Meadows SSSI, the grazing regime appears to be more secure and insulated from agrarian change[17]. Given this pattern of farm business adjustment, it is unsurprising to note that several SSSIs studied (such as the Lune Estuary) revealed situations where beef grazing animals have become increasingly difficult to find. In addition, at the time of study, BSE has lessened the availability of animals and accelerated an established trend towards a decline in the number of available graziers. This said, those farmers committed to beef, or perhaps looking for a way into farming, still express a desire to graze, as observed at Foulness. The problem here is that farmers tend to come from further afield, and this raises questions about the sustainability of such practice and whether policy consideration should be given to supporting local grazing where payments are made for environmental purposes.

**Beef grazing on trust and charity land**

5.5.7 The availability of grazing licences to farmers (whether offered through trusts or charities, or obtained through annual agreement or stint auctions) is a useful tool available to farmers to ensure compliance with stocking density limits (which have been progressively reduced since 1993/4 to 2.0 LU/ha) for BSPS and SCPS. This 'safety valve' approach is frequently observed in operation on grazing marsh SSSIs. Many farmers seem to find this advantageous because it enables them to retain their dairy systems of production (almost always the main business enterprise in grazing marsh localities) and run sideline beef simultaneously, the continued profitability of which is linked closely to being able to claim premium. This ensures that trusts and charities continue to have an available supply of graziers. Thus, current beef rules seem to be making an important contribution to the retention of the nature conservation value of SSSIs (and especially coastal grazing marshes).

5.5.8 The case studies do suggest that trusts and charities owning land offer some environmental guarantees where beef grazing is vital to conservation interests. This is because they can search for the grazing type required rather than having to make locational decisions (ie. make use of those factors which are tied to location) in the context of a profitable farm business operation. Further, a resident herd could be established and run at an economic loss, as at Christchurch Harbour, if necessary to conserve Site characteristics. However, in most cases, trusts and charities will still be reliant upon the availability of farmers due to a lack of herd management expertise and year-round grazing. The Warton Crag case study revealed that in situations where a grazier is employed by

[17] It is important to point out that there are examples of the reverse logic in operation, although not from this study. In Scotland, increased off-farm employment has led to a simplification of enterprise mix on crofts and a corresponding loss of beef cattle to be replaced by sheep: Brown 1997.

several trusts or charities in the same SSSI, or where there is more than one site manager, farmers can be bombarded with conflicting requests of when to graze, number of beasts permitted and sectors where grazing is needed. Farmers can become disillusioned with grazing under licence in such situations and may decide to withdraw from trust and charity sites. Further, farmers can also feel entitled to a proportion of any payments received by bodies under agri-environmental agreements, but they rarely get paid benefits in this way (even though the cost of renting the grazing may be greatly reduced, perhaps it would be 'psychologically' better for trusts and charities to charge more for grazing in the first instance and then pass on discounts to farmers under the heading of agri-environmental payments).

**Beef and agri-environmental schemes**

**5.5.9** The existence of schemes from the agri-environment policy area, predominantly ESAs and Countryside Stewardship, may provide a small amount of extra income support for farmers to continue grazing. WES is commonly employed in two situations: where CS agreements are unavailable or have failed to be negotiated; and in a top-up role where items or practices are not included in mainstream schemes (as observed at Oddy Hill and Tring Park). Payments from the schemes are typically viewed as a bonus for continuing with established farm practice rather than encouraging a positive shift towards more environmentally friendly farming (see Morris and Potter, 1995). The well-rehearsed criticism that such schemes target maintenance of an environmental status quo rather than widening conservation interest applies throughout the relevant SSSI case studies, including Hartland Moor, Southlake Moor and Foulness. Only isolated instances are encountered where individual farmers have changed their farming systems as a consequence of scheme participation. Nene Washes (CS) and Lewes Brooks (ESA) contain rare examples. Payment levels for higher tiers of scheme participation are still too low to tempt farmers into practices which have greater environmental value than those associated with the basic entry requirements. In fact, with a change in market conditions through the BSE crisis, payment levels can be argued to have slipped back to a level at which even their ability to act as the grazing 'holding mechanism', which they have appeared to do in recent years, is called into question.

**5.5.10** A specific problem, as far as the beef regime is concerned, is that the agri-environmental schemes tend to reduce animals to the 'livestock unit' as a common denominator for accounting purposes. This approach fails to be sensitive to the differences in the nature conservation outcomes derived from different types of grazing animal (let alone individual breeds) which emerge from this research on individual Sites. For example, Mercaston Marsh & Muggington Bottoms SSSI is in CS and patently benefits from grazing by Longhorn cattle. However, this is purely due to the sustained enthusiasm by the farmer involved with management as it is not stipulated as part of the agreement. It is recognized that there is a danger of being over-prescriptive and discouraging farmers from participating in schemes, but financial rewards, attention to the individual and some agreed flexibility in the agreement would seem to offer a fruitful approach.

**5.5.11** The difficulties that some farmers have in entering common land into an ESA agreement is exemplified by the case of Minchinhampton Common. The difficulties associated with entering commons into agri-environment schemes have been identified in recent research (Short *et al* 1996, Wilson and Wilson 1997) and MAFF has issued guidance on the matter (MAFF 1996a). A clear resolution is required as it could be crucial in helping to secure beef grazing of important SSSIs where either undergrazing or overgrazing of sheep may be a very real threat to conservation interest.

**5.5.12** One observation emerging from the case study analysis, and not yet perhaps fully appreciated, is that the wide range of agri-environmental schemes now available from the accompanying measures of 1992 CAP reform can contradict objectives of certain SSSIs. For example, it was noted at Crosby Gill that farmer participation in the Moorland Scheme could lead to the relocation of sheep from the moor on to the SSSI. The effects of grazing the SSSI to its limit are unclear, but have the potential to compromise the conservation interest of the Site. The complexity of policy is such that

streamlining is necessary to reduce inconsistencies, facilitate assessment of possible effects and permit outcomes to be easily monitored.

**Relationship with the sheep sector**

5.5.13 Sheep have been a profitable enterprise for farmers since well before the 1992 CAP reforms. Favourable green pound rates and payments under SAPS have contributed to a continuation of this situation since 1992. Under these conditions, it is logical that shifts away from beef towards sheep can be observed in the case studies, as apparent on the Pevensey levels, for example. A major conclusion of the Site work is that sheep cannot replace beef grazing across habitat types, so that a compelling case presents itself for careful and considered change in the sheep regime to accompany any adjustment or reform made in the beef sector (see below).

**The farmers themselves**

5.5.14 The case study interviews were useful in revealing facts about farmers which were suspected but did not emerge from discussions with COs. Some of the farmers we interviewed were hopelessly confused about the current designations which affect their land! Some did not think they had an SSSI on their land and so presumably would not devote special management to it. Others used the term interchangeably with ESA. CS was rarely mentioned (except in the context of non-payment from trusts and charities!). Extensification payments appeared to be something of a mystery to most, regardless of whether or not they were actually claiming them!

5.5.15 Differences of opinion also emerged concerning the environmental condition of Sites. Some farmers thought that good grass management was the purpose of the SSSI and were attempting to 'better' the Site. In the case of wetland SSSIs, the botanical interest on which a Site was notified occurred in water-filled ditches rather than on the grassland but farmers were unaware of this[18]. Farmers were often unaware of the precise value of their management role. A need for less formal, less scientific and more regular communication is indicated.

5.5.16 Personal preferences and stage in the family life cycle may be as important as changes in policy regimes (commodity support or agri-environment). For example, the lack of interest in beef farming and an affinity for dairying is a more potent explanatory variable in accounting for change on Southlake Moor SSSI than any specific policy event. As long as farm business decisions broadly make economic sense, a significant proportion of farmers will always remain peripheral to policy reform aimed at producing environmental goods whether achieved through commodity support decoupling or dismantling.

## 5.6 Conclusions

5.6.1 This chapter has illustrated the complexity both of management requirements for nature conservation on SSSIs and the farming systems that provide for those requirements to be fulfilled. Whilst the findings indicate the potential vulnerability of management on some sites to agricultural change, it is also clear that there is no simple and straightforward 'risk' associated with the immediate impact of the BSE crisis. This is partly because of the length of time required for market and policy changes to feed through the system, partly because of the importance of dairy followers and sheep on some sites, and partly because of other factors associated with farms as family businesses. However, these are tentative conclusions based on a relatively small number of case study interviews with farmers. Whilst these findings are consistent with the findings from other research on farmers responses to the '92 reforms (Chapter 4), there is a need for further research amongst the farming community responsible for SSSIs to confirm or amend these findings.

[18]This is consistent with work undertaken on the Pevensey Levels WES: Clark 1994.

**5.6.2** This is particularly so because of the uneven and, at times, rather scant knowledge of relevant farming businesses and systems held by COs. Given the complexity of landholding arrangements on many SSSIs and the complicated nature of CAP commodity regimes, this is not entirely surprising.