

7 NEUTRAL GRASSLAND

7.1 NEUTRAL GRASSLAND HABITATS

7.1.1 Summary

Hay meadows and flower-rich pastures provide a breeding and feeding habitat for many species of bird, including finches, buntings and birds of prey, small mammals such as mice, voles and shrews and beetles, spiders and butterflies, amongst other invertebrates. They are also one of the most beloved aspects of the traditional English landscape. They have inspired many writers and painters and are one of the typical images of the rural idyll etched in the English psyche. They are therefore highly valued for their aesthetic appeal. In addition, these meadows and pastures contain a rich array of plants, including many scarce species.

7.1.2 Neutral Grassland Ecology

Neutral grasslands occur throughout the United Kingdom on soils in the pH range of 5 - 7. By definition, these are neither strongly acidic as with heathlands or strongly alkaline as with chalk grasslands. They often occur on damper soils which are difficult to cultivate.

Unimproved neutral grasslands developed over many years in response to traditional low input farming operations. They are the typical **hay meadows**, or "**old meadows and pastures**", of lowland England. These grasslands provided grazing and hay as winter feed for farm livestock and working horses. Such areas were probably most abundant in the last century and early part of this century when horses were used on every farm and large quantities of hay were required as feed.

Management systems would have varied widely with a combination of hay making and grazing being favoured in some fields while others were used solely as pasture. A typical management regime may have involved grazing in early spring before the meadows were shut up for hay until late June / July and finally, after the hay cut, grazing the new growth in the autumn. The "**Lammas**" system of management which was practised on some hay meadows next to rivers was particularly distinctive. Such meadows were often common land and managed to a rigid timetable, with hay cutting occurring in July and grazing not allowed until Lammas day (12th August). Fertility was maintained by regular winter flooding. The long continuity of management provided by this system enabled a rich wildlife community to develop and today where it continues, also provides a historical interest.

Such management regimes with only low inputs of organic fertilisers and no inorganic fertilisers or herbicides, maintained soil nutrients at levels which kept the growth of competitive grasses in check and allowed finer grasses and herbs to compete. The

cutting of hay favoured the development of a specialised herb rich plant community which was adapted to flowering and setting seed before the hay was cut. This combination of nutrient levels and the specialised management regime produced the flower-rich meadows which are so valued today.

Typical herb species of these unimproved neutral grasslands are Birds-foot Trefoil, Black Knapweed, Red Clover, Meadow Buttercup, Ox-eye Daisy, Lady's Bedstraw and Cowslip. Fine grasses include Red Fescue, Sweet Vernal Grass, Crested Dogs-tail and Common Bent. Other more specialised species associated with this habitat include Green-winged Orchid, Snakeshead Fritillary and Yellow Rattle. Sawford (1990) lists the characteristic plants of this habitat in more detail.

Neutral grassland habitats are most noted for their floral interest. Many species of insect can not cope with the drastic changes in habitat caused by hay cutting. However, these meadows and pastures may be valuable for a specialised range of plant feeding and predatory invertebrates and as a nectar source for some insects. They also provide a key part of the habitat requirements for many birds, such as finches, buntings and birds of prey and small mammals, such as voles, mice and shrews.

The most ecologically valuable neutral grasslands are those with a species-rich sward and a varied structure. Features such as ant hills or ridge and furrow provide added interest, due to the subtle changes in topography, aspect and micro-climate. Ridge and furrow features, developed as a result of past cultivation, may also be linked to important archaeological features.

The ecological value of these meadows and pastures is often enhanced if they are found as part of a well wooded landscape of hedgerows and woodland. The meadows can act as foraging areas and nectar sources, while the hedges and woodlands provide sheltering and breeding sites for a wide variety of wildlife.

The National Vegetation Classification (NVC) survey recognises four neutral grassland types which may be found in Hertfordshire. These are listed in Appendix 3. In the river valleys there is often much overlap between the drier neutral grassland communities described here and the wet grasslands, fen meadows and marshes described in Chapter 5. This action plan confines itself to the drier neutral grasslands and those river valley grasslands which have traditionally been managed as hay meadows (NVC Community MG4).

7.2 HISTORY OF NEUTRAL GRASSLAND IN HERTFORDSHIRE

Unimproved neutral grasslands occur in a broad swathe across Hertfordshire, on the chalky boulder clay areas in the north and east, on less acidic gravels in southern and mid Herts, on London Clay in the far south, gault clay in the far north and west and on clay with flints on the Chilterns dip slope.

These grasslands would have formed an extensive part of Hertfordshire up until mechanisation of farms during this century. The maximum extent of grassland would have been during the agricultural depression of the 1930's. It is estimated that there was about 75000 ha of permanent grassland in the county in 1934 (Herts State of the Environment report, 1992). Most of this grassland would have been relatively unimproved and species-rich compared to today's grasslands, though ancient grasslands would have still been relatively uncommon, though far more abundant than now.

From the 1940s onwards the mechanisation of farming and intensification of production methods was greatly encouraged. This resulted in a dramatic decline in the extent of permanent grassland and unimproved "old meadows and pastures" in particular. Traditional hay making also ceased as it was no longer seen to be economic.

The impetus for these changes in agricultural practice was largely driven by government policy in the wake of the food shortages experienced during the Second World War. Initially subsidies and grants were provided by the British government, and these were continued with entry into the EEC and Common Agricultural Policy in the 1970's.

Mechanisation of farming resulted in a decline in demand for hay for working horses. Intensification of farming with the application of large quantities of inorganic fertiliser and use of herbicides reduced the species richness of these grasslands, encouraging only the fastest growing grasses. In Hertfordshire, many grasslands were ploughed and converted to arable. Others were reseeded with simple rye grass based swards, containing new highly productive varieties of grass adapted to high inputs of agricultural chemicals. Faster grass growth led to an increase in the numbers of livestock and allowed these to be grazed earlier in the year. The switch from hay to more productive silage resulted in more frequent cutting.

These changes have resulted in a decline in floral species richness and also in species richness and overall populations of invertebrates. This in turn had knock on effects further up the food chain, with a decrease in available food for birds and mammals. The declines of common farmland birds, detailed in Biodiversity Challenge (1994) demonstrate this. Changed farming practices have also proved to be detrimental to many ground nesting birds such as the Corncrake, with increased risks to nests and young from trampling or machinery.

Nationally, it is estimated that over 95% of unimproved neutral grasslands have been lost this century (The Lowland Grassland Management Handbook, English Nature and The Wildlife Trusts, 1994). No precise figures are available for Hertfordshire, but the loss of unimproved neutral grassland is likely to have mirrored the national decline. The Corncrake last bred in Hertfordshire in 1968 (The Breeding birds of Hertfordshire, 1993).

7.3 **NEUTRAL GRASSLAND - CURRENT STATUS, TRENDS AND THREATS**

7.3.1 **Status**

Unimproved species-rich neutral grassland of NVC community MG5 is now one of the most threatened semi-natural habitats in the UK. It has been estimated that only 4000 hectares (ha) remain (The Lowland Grassland Management Handbook, English Nature and The Wildlife Trusts, 1994). Since 1940 there has been over a 95% decline nationally in the area of this habitat.

Lowland seasonally flooded hay meadows (NVC community MG4) are a priority habitat under the European Community Habitats Directive, which member states have a duty to maintain at or restore to a favourable conservation status. Hunsdon Meads SSSI is the only example in Hertfordshire and the whole of the East Anglian Plain Natural Area.

Today, it is estimated that there is about 950 ha of quality unimproved neutral grassland remaining in Hertfordshire. (Hertfordshire Habitat Survey). In addition, there is an unknown quantity of relatively species rich semi-improved neutral grassland.

There are over 80 known unimproved neutral grasslands remaining in the county but only about a quarter of these are fields or groups of fields greater than 5 ha in extent. The only extensive area of neutral grassland still being actively farmed is on the upper greensand and gault clay north of Tring. There is also a concentration of unimproved neutral grasslands on the London Clay in south Hertfordshire, particularly west of Broxbourne and on the chalky boulder clay in north Herts. However, these are usually small scattered fields, within largely improved grassland or arable farmland.

Neutral grasslands can be found in all the Natural Areas recognised in the English Nature and Countryside Commission joint Character Map, and in all the Hertfordshire County Council landscape zones. The important sites and major geological deposits supporting neutral grasslands are listed below by Natural Area and shown in Map 7.1.

West Anglian Plain - Geology: Upper Greensand and Gault Clay.

Key Sites: Folly Farm meadows, Tring; Astrope meadow and pastures, Puttenham; Boarscroft Farm meadows and pastures, Long Marston.

Chilterns - Geology: Clay-with-Flints, Valley Gravels & River Alluvium.

Key Sites: Shrubhill Common LNR, Hemel Hempstead; Chorleywood Dell nature reserve; Pepperstock meadow, Flamstead; Water End meadows; Cow Lane meadows, Tring; Great Revel End pastures; Gaddesden Hoo meadows; Champneys grasslands, Wigginton; Mimram meadows, Whitwell and Long Deans nature reserve, Hemel Hempstead.

London Basin - Geology: London Clay, Valley Gravels & River Alluvium .

Key Sites: Dalmonds Farm meadows, Brickendon; Hoddesdon Lodge meadow; Wormley West End meadows; Northaw Place Fritillary meadow; Danesbury pasture, Welwyn; Archers Green, Tewin. Panshanger pasture, Hertingfordbury.

East Anglian Plain - Geology: Decalcified Boulder Clay, Valley Gravels & River Alluvium.

Key Sites: Hunsdon & Eastwick Meads (SSSI); Langley meadow, Knebworth (SSSI); Roe Green, Sandon (part); Meesdon Green (part); Colliers End meadows; Weston recreation ground; Hooks Green meadows, Clothall; Munchers Green & Moor Green, Ardeley; Burns Green meadows, Benington; Meadow north of Standon Lordship; Braughing Friars meadow.

Other Sites - Kings Meads (part); Ickleford Common; Oughton Head Common, (part).

Species almost exclusively associated with this habitat which are locally and/or nationally of conservation concern include:

- Flora:** - Green-winged Orchid *Orchis morio*
- Snake's Head Fritillary *Fritillaria meleagris*
- Adders-tongue Fern *Ophioglossum vulgatum*
- Meadow Rue *Thalictrum flavum*
- Greater Burnet *Sanguisorba officinalis*
- Saw-wort *Serratula tinctoria*
- Lady's-mantle *Alchemilla filicaulis*
- Meadow Saxifrage *Saxifraga granulata*
- Pepper Saxifrage *Silaum silaus*
- Yellow Rattle *Rhinanthus minor*
- Greater Bird's-foot Trefoil *Lotus uliginosum*
- Grass Vetchling *Lathyrus nissiola*

Birds: - Corncrake *Crex crex*

7.3.2 **Trends**

Though the loss of these grasslands has slowed markedly in recent years, many of those remaining are still threatened as a result of no longer being part of mainstream agricultural production. The traditional management upon which the ecological interest of these grasslands depends is therefore no longer economic. It will only be continued as a result of the interest and goodwill of the landowner or manager. The provision of grant aid and advice to the owner or manager is also often required, because the equipment and knowledge to manage the grasslands sensitively may not be available.

Some of the best grasslands in the county have been targeted by the County Councils Countryside Heritage Site project. Through this project, advice, limited grants and practical assistance have been provided to landowners. However, most of the important neutral grasslands have not been included. Unfortunately, until recently, there has not

been an agri-environment scheme such as Countryside Stewardship available for these grasslands, unless they were also in river valleys, in which case the waterside landscapes category was appropriate. From April 1996 onwards, however, an old meadows and pastures category has been added to Countryside Stewardship to cater for unimproved neutral grasslands.

Many of the remaining old grasslands in and around towns and villages have been converted to informal open spaces. If managed sensitively, this can ensure that the grasslands are protected into the future. However, too often frequent amenity mowing regimes are adopted which will in time reduce the species richness of the grasslands.

7.3.3 Threats

There are five major threats to unimproved neutral grasslands which are still present today.

The first major threat is agricultural improvement, either through ploughing and reseeded or application of agricultural chemicals (herbicides or inorganic fertilisers). These decrease the species richness of the sward and decrease populations of invertebrates, mammals and birds. There have been a couple of recent cases where known important neutral grasslands have been treated with agricultural chemicals in order to improve the nutritional value of the sward.

A second problem is lack of management. This is also associated with the intensification of agriculture, particularly where neutral grasslands are now part of a largely arable landholding. On larger farms management of these meadows is peripheral to the main farm business and therefore unimproved grasslands often remain neglected if they have not already been improved. The absence of both grazing and cutting can result in the change to a more species poor sward dominated by coarse grasses and the eventual succession to scrub and woodland.

The third major threat to these grasslands is from inappropriate management. This is particularly a problem where unimproved pastures are now grazed by horses, often all year round or where they are mown as amenity swards by local councils. These both inhibit flowering of many species reducing the species richness of the sward.

Horse grazing is often accompanied by overgrazing and poaching. **This is a major problem facing many grasslands in Hertfordshire and one that is increasing.**

Other examples of inappropriate management are seen where neutral grasslands are now also recreation grounds or public open space and are cut too frequently. These sites may often also be threatened by built development. These particular issues are also covered in the Urban habitats action plan.

A specific more recent threat has been the development of golf courses. Even where important grassland sites have been retained within the design, their future management is not assured, as the Newgate Street golf course has demonstrated.

The widespread adoption of sensitive management may be further hindered by the generally fragmented ownership and management of unimproved neutral grasslands.

The fourth threat is from nutrient enrichment as a result of run off or spray drift from agricultural sources, air pollution from traffic or more distant sources or in river valley hay meadows from polluted floodwater. Enrichment causes a change in the species composition of the vegetation, often encouraging faster growing, rank species to out-compete the smaller herbs, which are often of greater conservation concern.

The fifth threat is lack of water, particularly on damp grasslands, as a result of falling water tables. The cause of this is a mixture of the recent drought years, perhaps linked to the onset of global warming combined with over-abstraction to satisfy increased public demand.

7.4 THE FUTURE FOR NEUTRAL GRASSLAND IN HERTFORDSHIRE

7.4.1 Farming and Neutral Grasslands

In the future, a wholesale return to low input farming systems in which traditionally managed neutral grasslands are a key component is extremely unlikely to occur, even though such systems would have many environmental benefits. However, the adoption of less intensive farming in selected areas, where environmental and social objectives have equal weight to food production, is achievable and desirable. The current trends in the agricultural economy towards a system based on a mixture of market forces and environmental / social subsidies would support this.

Old unimproved meadows and pastures and new wildlife-rich neutral grasslands could play an important role in any increase in the production of meat and dairy products based on low input pasture economies. A more health and environment conscious public has now begun to demand food products derived from more environmentally sustainable farming methods and these demands are likely to increase further. The recent BSE scares demonstrated this level of concern. Such trends in public opinion present a real opportunity to promote wildlife-rich neutral grasslands, as a key part in producing livestock "reared in harmony with nature".

7.4.2 Management

The priority for the remaining unimproved neutral grasslands in the county is to ensure they are protected from agricultural intensification and well managed. Sensitive management of the remaining resource is essential because species-rich unimproved grasslands can not be re-created in the short-medium term.

Sensitive management depends on continuation or re-introduction of a low input management system. Such systems will only develop if management incentives and advice are available to landowners and managers. Advice targeted at small holders with horses is particularly required in Hertfordshire.

The increased use of the agri-environment schemes currently in operation, the Environmentally Sensitive Area (ESA) and Countryside Stewardship schemes, would ensure that the remaining unimproved neutral grasslands are well managed. **The Chilterns should become an Environmentally Sensitive Area (ESA) as soon as possible and include management options for neutral grasslands as well as chalk grassland (see Chapter 8).** The Chilterns conference is already actively promoting ESA designation.

Such an approach would help support the development of a more widespread low input pasture or mixed farming system in the area, which would encourage sensitive management of neutral grasslands and have wider environmental and wildlife benefits.

The addition of the old meadows and pastures category to Countryside Stewardship from April 1996, for the first time provides a scheme which can target both resources and advice to these grasslands. **It is essential that all the remaining unimproved neutral grasslands in Hertfordshire are actively targeted through this scheme.**

Many good quality old grasslands have survived within or on the edge of urban areas, such as Fairlands Valley, Stevenage; Boxmoor, Hemel Hempstead; Danesbury, Welwyn and Templewood Vale, Welwyn Garden City. These have great potential for enhancement if managed sensitively. Unfortunately too often they are treated as close mown amenity swards.

However, both Danesbury and Boxmoor show how such sites can be managed to benefit wildlife. Both of these sites are grazed, Boxmoor by cattle and ponies and Danesbury by Longhorn cattle. Danesbury has also been entered into the Countryside Stewardship Scheme. Grazing is not appropriate on all these sites, but more sensitive mowing regimes can be established to benefit wildlife and these are discussed further in the Urban action plan (chapter 10).

Water Resources

Many of the drier river valley grasslands and damp clayey neutral grasslands depend on sufficient water levels and clean water to maintain their wildlife value. These issues are considered in detail in the Wetlands action plan (see chapter 5). However the following case study demonstrates some of the problems.

CASE STUDY - HUNSDON MEAD SSSI

Hunsdon Mead SSSI is of vital importance as the only meadow of its kind left in Hertfordshire. The site continues to be managed on the traditional Lammas system, by a local farmer and commoner. However, the waters of the Stort navigation which provide the regular winter flooding, which is an essential part of the management regime, are now polluted. The Environment Agency has shown that the pollution is mainly nitrates and phosphates, derived from agricultural run-off upstream in the Stort catchment (there is no sewage works upstream). Flooding with this polluted water is causing nutrient enrichment of the species-rich sward, which is resulting in a decline in the numbers of herb species and therefore the sites conservation value.

In the short-term, there are plans to build up the banks of the navigation and to divert water along back channels at times of high flow, thereby avoiding flooding of the mead. While this will solve the immediate problem of nutrient enrichment, in the medium to long term, the lack of flooding is also likely to result in changes in the composition of the vegetation. A better long-term solution is therefore required. This must involve decreasing pollution levels in the Stort navigation and then allowing flooding to re-occur. To decrease pollution levels, buffer zones will need to be established adjacent to the river upstream, ideally including new wetland habitats, as suggested in Chapters 4 and 8. Such an approach will also involve co-operation in Essex since much of the problem derives from farmland in that county.

7.4.3 Restoration

There are limited opportunities for restoration of neutral grasslands on existing unimproved sites because most have been lost as a result of agricultural improvement rather than neglect. However, the remaining unimproved sites which

are threatened by scrub encroachment would benefit from scrub clearance and the re-introduction of suitable grazing and cutting regimes.

In Hertfordshire, there exists a large area of neutral grasslands which has been semi-improved. These grasslands retain some of the species associated with unimproved grassland, though they are likely to have lost the more specialised and rarer species. They have usually been treated with low doses of inorganic fertiliser. Restoration to a more species-rich sward is possible in the medium term, though it will depend on the nutrient levels in the soil, the proximity of seed sources and probably most importantly the reinstatement of a low input management regime.

Restoration of semi-improved grasslands to a more species-rich sward would have benefits, particularly where these are adjacent to existing unimproved sites. This would buffer the best grasslands from, for example, damage by fertiliser or pesticide drift. It would also have ecological benefits in that a larger area of grassland would be under a low intensity grazing regime, allowing larger populations of insects, mammals and birds to use the habitat and may allow the spread of scarce species.

Another opportunity for restoration, involves the re-establishment of Lammas grazing / hay cutting on river valley grasslands. Suitable examples may include Roydon Meads adjacent to Hunsdon Mead SSSI, part of Kings Meads and Sawbridgeworth Marsh SSSI.

The Countryside Stewardship old meadows and pastures category includes incentive payments to encourage restoration of grasslands. The scheme should be targeted to fields adjacent and close to unimproved grasslands, with the priority initially being larger blocks of potentially good grassland. Similar comments apply to any future Chilterns ESA scheme.

7.4.4 Creation

Creation of herb-rich grasslands is very difficult and expensive. However, it would be possible to create new areas of wildlife-rich rough grassland on areas now occupied by improved grassland or arable production. If these were created next to existing unimproved and species-rich, semi-improved grasslands they would provide similar benefits to restoration. They could buffer the more ecologically valuable grasslands from threats such as fertiliser and pesticide drift; they would provide a larger area of less intensively managed grassland habitat; and by providing a larger area of grassland would increase the management options available to a landowner or manager under a low input pasture system. **This is particularly important if the problems associated with overgrazing from horses are to be resolved.**

A major problem for creation of these grasslands is the lack of a suitable seed source. Locally collected seed from species adapted to local ecological conditions is best, because these species are adapted to local conditions and are likely to have their own distinct genetic makeup. Very few meadows in Hertfordshire are still managed for hay, therefore harvesting of local seed is unlikely to be anything other than a very localised option. It is highly likely that large-scale grassland creation will depend on seed sources from outside Hertfordshire, but these should be derived from elsewhere in the UK (and not abroad) and preferably as close to Hertfordshire as possible.

Grassland creation should also be promoted through the Countryside Stewardship old meadows and pastures option and any future Chilterns ESA. Areas around existing unimproved grasslands should be targeted through such a scheme.

7.4.5 Targeting Agri-environment Schemes

The cost of using agri-environment schemes to develop a low input-low output system for managing grasslands across Hertfordshire would be prohibitively expensive and would conflict with the need to farm the best soils economically and efficiently. However, targeting of smaller areas would allow the most efficient use of money and achieve the greatest environmental benefits.

While general principles suggest that areas around all existing unimproved neutral grasslands be targeted for restoration and creation, the ease of future management, grazing in particular, will determine which areas are most suitable. In Hertfordshire, the most obvious areas to target are those where a pasture / mixed farming system is still fairly well established and may become more pre-dominant in the future and around concentrations of good quality grasslands.

The neutral grasslands on the Chilterns clay-with-flints, those on the upper greensand and gault clay north of Tring, and those grasslands in south Herts on the London Clay are found within more mixed farming systems. These have developed because the heavier clay soils found in these areas are less suitable for arable cropping. As agriculture moves towards a world market and increased specialisation, pasture / mixed farming may increase in these areas and there may be greater opportunities for restoration and creation.

The remaining neutral grassland sites in north and east Hertfordshire, outside the river valleys, are generally isolated within a largely arable landscape, which is likely to remain in the future. It is not therefore appropriate to target the whole area for grassland restoration and creation. However, there are important concentrations of existing sites around many villages which should be targeted to ensure their future survival.

Management grants and advice should be available and targeted to all remaining examples of unimproved neutral grassland in Hertfordshire. However, the restoration and creation of neutral grasslands should be targeted more closely to **the Chilterns, the area north of Tring, south Hertfordshire and in selected areas of the boulder clay in north and east Hertfordshire**. These areas and key sites are listed in Appendix 1, with their distribution shown in map 7.1.

A large part of the south Hertfordshire area is included within the Watling Chase Community Forest. The Countryside Commission currently view the community forest area as a priority for targeting of grant schemes. While increasing the area of woodland is the major priority (see Chapter 4), there are also opportunities for increasing the area of wildlife-rich grassland. On more acidic soils these will form the new heathlands envisaged in Chapter 6, but on less acidic soils, new neutral grasslands can be created. Within the community forest area, there is therefore a need for a strategic approach to identifying areas suitable for planting and those suitable for neutral and heath / acid grassland creation.

An additional area where the creation of new "hay meadows" should be targeted is the river valleys. Chapter 5 on wetlands envisages the creation of a series of larger wetlands linked along the major river valleys in the county. These would be composed of mixed wetland habitats such as grazing marsh, reed beds and carr woodland, but there would also be opportunities for including new "hay meadows" on drier parts of the floodplain. The creation of such hay meadows should be targeted as part of the Countryside Stewardship waterside landscapes option.

Advice through Countryside Stewardship is often aimed at farmers. However, particularly in the Chilterns and south Herts, the conservation of these grasslands will be dependent on horse owners often with only small landholdings. The numbers of landowning horse owners in these areas and the numbers of horses grazed are likely to continue to increase in the foreseeable future. **It is therefore necessary to develop a strategic approach and specific advice for these horse owners, since they will play a major part in the quality of grassland resource in the future.** English Nature have recently published a leaflet on horse grazing which is aimed at this audience and must be made more widely available.

The successful restoration and creation of large areas of wildlife-rich meadows and pastures on working farms through agri-environment schemes will not occur unless these schemes are made more attractive. In particular, the **levels of payment will have to be increased** to encourage participation by landowners and managers and improved management advice provided.

7.4.6 Urban Fringe Open Space

Perhaps a greater opportunity for restoration and creation of these meadows and pastures, is in the fields around towns and villages. There is an increasing demand for access to the countryside and areas around towns and villages are generally well used. However, there is potential to provide even greater access opportunities for local people, coupled with increasing the area of wildlife-rich meadows and pastures.

The areas around towns and villages are often intensively used for grazing horses. As such they are often overgrazed which limits their wildlife potential. Purchasing of areas by public subscription for use as public open space or **new "commons"** would provide a real opportunity for increasing access and improving the wildlife interest of these areas. The areas could still be used for horse grazing, though managed with the aim of restoring their wildlife interest. Arable fields could also be purchased for the creation of wildlife-rich grasslands and so partially relieve the pressure of overgrazing on existing pastures.

Some areas could be managed as "hay meadows" and involve the local community in their management. An example of this in slightly different circumstances is the road verge at Grange Hill in Welwyn. The council cut this verge twice a year in July and September and local people organised through the Welwyn Natural History Society rake the "hay" off the verge the following weekend.

The key to establishing these "**new commons**" is meeting the cost of land purchase. Funding opportunities include the Millennium Greens scheme, the Landfill Tax

(potentially), as well as other grants associated with the Watling Chase Community Forest or the reclamation of derelict land.

CASE STUDY - BUNKERS LANE, HEMEL HEMPSTEAD

Dacorum Borough Council acquired a 50 ha site from the Commission for New Towns in 1995 to develop as a new area of public open space. The location is typically urban fringe being on the edge of Hemel Hempstead, though with a rural character. The land had been previously leased to a tenant farmer. It had been in arable production, though on transfer to the council the land was set-aside.

Within the design, provision is included for more formal areas, however, a majority of the open space is to be developed into new wildlife habitats. The council commissioned the Herts and Middlesex Wildlife Trust, to prepare a report detailing how this area could be designed and developed into a wildlife-rich open space.

The site has the typical geology and soils (clay-with-flints over chalk) of the Chilterns dip slope. The site is therefore suitable for the creation of new wildlife-rich neutral grasslands. The proposals for the site include developing an intimate mixture of new wildlife-rich grasslands and mature hedgerows and a community woodland.

The fields to be developed as grasslands have been sown in spring 1996 with either a simple fine-leaved grass and wildflower mix or a nurse crop of fine grasses, using only locally appropriate species and where possible seeds of UK origin. It was not possible to use local Hertfordshire seed or hay. These mixes will also allow natural colonisation of species to occur and so should increase in species richness in the future.

The future benefit of these grasslands to wildlife will be largely determined by the management regime adopted. It is planned to graze the grasslands and by varying timing and intensities of grazing it will be possible to create a series of meadows with a diverse structure, of greater benefit to wildlife.

With the high demand for grazing land for horses, an additional short term opportunity is the grazing of set-aside land. Such management would provide a rough grassland habitat of benefit to a wide range of insects, birds and mammals, and would be far more preferable to the current standard management guidelines which result in spraying or ploughing of the area. Areas managed in this way may become suitable for longer term grassland creation schemes as part of new public open spaces.

7.5 A VISION FOR NEUTRAL GRASSLAND

We would expect to see all of the unimproved neutral grassland meadows remaining in 1996 (approximately 950 ha) being sensitively managed. A minimum of a further 1000 ha would be at an advanced stage of restoration or creation. This would be concentrated in the following core areas (see map 7.1 also):

- * the Chilterns dip slope;**
- * north of Tring;**
- * south Hertfordshire, including the Watling Chase Community Forest;**
- * in selected areas in north and east Herts.**

Low input pasture or mixed farming systems supporting the management of these grasslands, will be favoured in these areas, by environmental land management schemes such as the ESA scheme or Countryside Stewardship.

In the Chilterns AONB and surrounds, a neutral grassland resource of at least 450 ha will be established and managed as part of a low input pasture and mixed farming system. An ESA scheme for the Chilterns will encourage and support such a system. The existing 60 ha of unimproved neutral grassland will be managed sensitively and 300 ha of semi-improved grassland will have reverted to more species-rich neutral grassland and 100 ha of new wildlife-rich neutral grassland created from land currently in arable production.

In the area north of Tring, the existing important sites at Folly Farm meadows, Astrope meadows and pastures and Boarscroft Farm meadows and pastures, will be sensitively managed and form a core area of at least 250 ha. This will include about 150 ha of new wildlife-rich grassland restored from semi-improved grasslands and a further 50 ha created from arable production in this area.

In south Hertfordshire, including the Watling Chase Community Forest area, there will be an area of at least 500 ha of neutral grasslands set within a well wooded landscape. Existing important sites will be managed appropriately and where possible enlarged. The area of wildlife-rich neutral grassland will be increased by restoration of about 200 ha of semi-improved grassland and creation of new grasslands on about 150 ha of arable land.

In north and east Herts, there will be an area of at least 150 ha of neutral grassland, concentrated around the villages and managed as an integral part of the rural economy. The area of wildlife-rich grassland will be increased by restoration of about 50 ha of semi-improved grassland and creation of 50 ha of new grasslands.

Neutral grasslands and traditional hay meadows will be restored as part of the large interlinked mixed wetland habitats envisaged in the Wetlands action plan (see Chapter 5).

New areas of public open space will be created around the towns and villages in the above areas. These open spaces will include both restored and newly created areas of meadows and pastures. An area of at least 10 ha of new wildlife-rich neutral

grassland, will be developed as accessible open space in each parish in the above core areas, where the soil types are appropriate and where such an area does not exist at present.

A demonstration farm containing large areas of wildlife-rich grassland and showing the commercial application of low input farming methods will have been established. Such a farm will also provide a repository of livestock for grazing more isolated unimproved grassland sites without access to local grazing stock.

In total, there will be about 950 ha of unimproved neutral grassland of long standing, as well as a further 1000 ha of wildlife-rich grassland being restored from semi-improved grassland or created on former arable land.

7.6 TEN YEAR TARGETS

To ensure no further loss of long-established unimproved neutral grasslands through improvement or development.

To have all remaining (approx 950 ha) unimproved neutral grasslands under appropriate management regimes to ensure that they retain their wildlife interest.

To have begun large-scale restoration of at least 200 ha of neutral grassland from semi-improved grassland in the three core areas.

To have begun large-scale creation of at least 200 ha of new grassland consisting of locally appropriate species in the three core areas.

Increase the number of farms and area of farmland managed as low input pasture systems.

7.7 PROPOSED ACTIONS

7.7.1 Policy and Legislation

NG1. Local Plans to include neutral grassland habitat protection policies at next Local Plan review.

Action: LA's.

7.7.2 Site Safeguard and Management

NG2. Designate appropriate sites as Local Nature Reserves by 2005. Possible candidates include Templewood Vale, WGC and Danesbury near Welwyn (both in progress); several open spaces in Hemel Hempstead; and Fairlands Valley, Stevenage.

Action: LA's.

NG3. All Local Authorities to identify open spaces with potential as wildflower meadows and implement appropriate management regimes by 2005.

Action: LA's.

NG4. Consortia of local communities, public authorities and conservation organisations to purchase areas of land to restore or create wildflower grasslands. These areas should be around towns and villages in the three main areas, where they can act as new commons. Seek five new sites to be purchased and managed sensitively by 2007.

Action: PCs, LA's, Community Groups.

NG5. Establish a demonstration grassland creation scheme at Bunkers Lane, Hemel Hempstead by 1998.

Action: DBC, HMWT.

NG6. Investigate the opportunity for grassland creation at Hudnall Park by 1999.

Action: HO.

7.7.3 Species Management and Protection

NG7. Assess the need for individual species action plans for threatened rare / notable species by 2000.

Action: HERC, HNHS, HMWT, RSPB, HBC, BTO.

Snake's-head Fritillary. Secure appropriate management at remaining county sites by 2000 and increase population to 150 plants, with at least 50 on each site by 2007.

Green-winged Orchid. Maintain sensitive management regime at remaining county sites. Increase population to at least 100 plants by 2007.

Corncrake. If species returns to Hertfordshire, immediately target protection and management advice to landowner(s).

7.7.4 Advisory

NG8. Actively target advice and if appropriate Countryside Stewardship or Countryside Heritage Project grants to all unimproved neutral grassland Wildlife Sites by 2007.

Action: HMWT, CMS, FWAG, HCC, WCCF.

NG9. Provide advice on management and restoration of semi-improved neutral grasslands adjacent to Wildlife Sites, where these are part of the same management unit, by 2007.

Action: HMWT, CMS, FWAG, WCCF.

NG10. Promote the establishment of buffer zones and wetland habitats along the Stort corridor to decrease pollution of Hunsdon Mead SSSI. Include actions in next LEAP review.

Action: EA, HMWT, EWT.

7.7.5 Research and Monitoring

NG11. Monitor the management and quality of a sample of key neutral grassland sites every 5 years, beginning 1999.

Action: HERC, HMWT, EN.

7.7.6 Communication and Publicity

NG12. Organise open days and participative activities at appropriate demonstration sites, showing the value of these grasslands and benefits of low input farming. At least one every 2 years.

Action: CMS, LA's, LEAF, FWAG, HMWT.

NG13. Promote the English Nature / British Horse Society leaflet on grazing horses on conservation sites, to managers of neutral grasslands (including semi-improved grasslands).

Action: EN, HMWT, CMS, FWAG, WCCF, LA's.

NG14. Promote wildlife-rich meadows and pastures as important components of organic / environment friendly farming systems, through adviser contacts, articles and demonstration farms.

Action: FWAG, LEAF, EN, HMWT, CMS.