



**BEECHENHILL FARM,**

**ILAM,**

**STAFFORDSHIRE**

**ECOLOGICAL REPORT**

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**2000**

*Ecology Service and  
Farm and Countryside Service*

**Q PEAK**  
DISTRICT  
NATIONAL PARK AUTHORITY

## **FOREWORD**

Centuries of farming have made the Peak District what it is today, a place of such special value that its importance has been recognised by designating it a National Park, one of Britain's best-loved landscapes. The wildlife of the park makes a particularly important contribution to the character of this landscape, whether it is the expanses of 'wild' open moorland, flower-rich meadows or the call of the curlew. Farming and nature together have created a truly "living landscape".

Much of the wildlife which we take for granted in the Peak District, such as flower-rich limestone dale grassland, ponds with great crested newts, or extensive cottongrass bogs, is actually very uncommon or absent elsewhere in Britain. For other habitats and species, such as heather moorland and red grouse, Britain is the most important country in the world. Our conservation responsibilities therefore extend far beyond the bounds of the National Park.

Many wildlife habitats have flourished because of traditional farming activities. However, the last 50 years has seen radical changes in farming at an unprecedented pace encouraged by successive government policies. This in turn has led to loss of wildlife and habitats on a massive scale. Since the 1930's it is estimated that in Britain we have lost:

- ?? over 97% of our flower-rich grasslands
- ?? 30-50% of our ancient woodland
- ?? over 30% of our moorland
- ?? over 140,000 miles of hedgerow
- ?? birds such as lapwing, grey partridge and skylark have declined by 50-75%
- ?? nearly half of our species of butterfly are declining or near extinction
- ?? nearly 40% of our rarest plants have suffered substantial declines.

The most important habitats are usually those which have been managed traditionally for a very long period of time. They are an important part of our history and, once destroyed, are often irreplaceable.

In the Peak District our aim is to work closely with farmers, to help them look after the special character of the National Park and its wildlife. In doing so it is important to protect both the rare and the more commonplace plants, animals and wildlife habitats which make the National Park special. Lapwing, for instance, have declined by over 50% in Britain since the late 1970's due to agricultural change. The National Park has become a poorer place with the decline of this increasingly uncommon bird, and would be poorer still if it disappeared completely. It is only by working closely with the farming community that we can ensure the things we take for granted today do not become the memories of tomorrow.

This report has been compiled by the National Park Authority's Ecology Service to explain why your land is important for wildlife. I hope that you will find it interesting and informative, and that it explains why we value your help in managing the land sympathetically for wildlife. If you have any comments on the report, or wish to know more about the wildlife on your land, our Ecology Service will be pleased to help.

I would like to thank you for your support in helping to conserve the unique wildlife of the Peak District National Park.

**MARTIN DOUGHTY**  
**CHAIRMAN**

## **INTRODUCTION**

### **GRASSLANDS IN THE NATIONAL PARK**

Traditional pastures and hay meadows are a rich tapestry of plants. On the drier sites swathes of ox-eye daisy, knapweed, eye bright, meadow clover and pignut are characteristic whilst on the wetter soils an abundance of meadow sweet, marsh marigold and ragged robin are found. The great range of flowering plants provides nectar for a variety of insects and cover and feeding sites for birds such as skylarks, meadow pipits and lapwings.

Many plants associated with flower rich grasslands are vulnerable to change and nationally their populations have declined dramatically with the changes in agricultural practice. A large number of the characteristic plants have very specific habitat requirements and are poor at colonising new sites. Thus, once lost from an area they may have gone forever.

Ecologically the most interesting sites are those which are long established, each field having developed a unique community of plants over a considerable period of time. Often, they are one of the oldest links with the past that a local community has, older than the church. These ancient flower rich swards make an important contribution to the classic rural scene, an essential part of the character of the National Park.

Grasslands are often located on accessible and productive land and are therefore vulnerable to agricultural improvement. The application of fertilisers and herbicides or ploughing and re-seeding with productive grasses can readily convert a rich attractive sward into grassland of little wildlife value. Thus, there has been a considerable loss of traditionally managed pastures and meadows. National estimates indicate that over 97 % of flower rich grasslands have been lost since 1937. Characteristic birds of grasslands have also suffered losses. For example, it is estimated that the population of skylarks has declined by 54 % in the past 20 years.

Flower rich grasslands, like many other valuable habitats in the National Park, are maintained by farming and the only way to ensure their future is to encourage traditional management.

## SUMMARY

Beechenhill farm was surveyed on 13<sup>th</sup> June 2000. Field 8821 was found to be of considerable ecological interest. Stretches of flower rich grassland with a light scattering of scrub, plus a small spring provide rich wildlife habitat. An impressive range of plants includes many restricted to infertile soils – and therefore in national decline as a result of modern farming methods. These include:

**Quaking grass**  
**Hairy oat-grass**  
**Yellow oat grass**  
**Salad burnet**  
**Bird's-foot trefoil**  
**Lady's bedstraw**  
**Thyme**  
**Early purple orchid**

**Glaucous sedge**  
**Harebell**  
**Fairy flax**  
**Hoary Plantain**  
**Small Scabious**  
**Burnet Saxifrage**  
**Pignut**  
**Marjoram**

Remnants of a rich flora can also be found at the base of field 6015 and the edge of 0346. The remainder of the fields are largely improved although locally, there is a high frequency of **pignut** and a diversity of grass species.

Trees and scrub around the southern field boundaries plus strips of planting near the farm buildings and to the north-east further the wildlife potential. The same can be stated for the pond near the house, which has records for great crested newt – a species of local and international significance.

## THE VEGETATION

### 1. Block of fields south of the buildings

#### *Field 8821*

This is the field of greatest nature conservation interest on the holding. A rich flora - associated with shallow soils over slopes, banks and outcrops - occurs sporadically throughout the field. The most extensive and best example of this is found at the base of the field to the south. It is characterised by a range of grasses; the most commonly occurring being crested dog's-tail, red fescue and notably, **quaking grass** and **hairy oat-grass**. The infertile nature of the soil allows for many normally uncompetitive species to thrive, giving rise to an attractive sward which is extremely herb rich. **Salad burnet**, **bird's-foot trefoil**, ribwort plantain, meadow clover, white clover, and locally, mouse-ear hawkweed, **common knapweed**, **lady's bedstraw** and **thyme** are frequent to abundant. In addition, there are scattered patches of **early purple orchid** and **glaucous sedge**, plus **harebell**, **common cat's ear**, **fairy flax**, spring sedge and **marjoram** (or possibly wild basil - the leaves on the new growth being very similar) The range of species is indicative of neutral to calcareous (lime-rich) soils.

On the bank to the east of the site there is an area of more typical limestone grassland. Sheep's fescue and crested hair-grass largely replace red fescue and crested dog's-tail in a shorter, finer turf with an even greater concentration of herbs. In addition to the above species, there is **hoary plantain**, **small scabious** and **burnet saxifrage**.

Away from the rich areas the sward becomes more dense and characteristic of more fertile soil. There remains a variety of grass species including **yellow oat** and **hairy oat-grass**, but species of infertile soils - including **quaking grass**, sheep's fescue and crested hair grass - are absent or rare. **Pignut**, common mouse-ear and bulbous and meadow buttercup are the most frequent herbs. Yarrow, white clover, meadow clover, thistle and germander speedwell are occasional. Richer more open patches contain **burnet saxifrage**, field woodrush, **bird's-foot trefoil** and meadow clover.

### *Scrub and trees*

Further to the wildlife interest, there is a scattering of scrub around the edges of the field. Hawthorn is the predominant species with elder occurring rarely. Hawthorn is a particularly good nectar source and foodplant with 200 species of insects and mites associated with it. It also provides songpost, roosting and nesting sites for a number of birds; the grubs and insects it harbours together with the berries providing them with a valuable summer and autumn food source -breeding redstarts plus wrens and blackbirds were seen. The development of large, continuous areas of scrub at the expense of rich grassland is not desirable however, as shade tolerant plants will displace the more interesting and rarer grassland species.

Tall trees, mostly ash, around the boundaries of the field provide songposts for birds such as blackbird and song thrush, and nesting sites for species such as woodpeckers, nuthatches and tits. Any dead wood niches including damaged bark, fungi, sap runs, old insect burrows, branch stumps or dead branches, rot holes, heart rot and hollows, will provide invaluable habitat for a large number of specialist insect species, many of which are threatened through lack of appropriate habitat.

**Salad burnet** is a long-lived, short attractive herb of limestone grassland. The plant is a poor competitor and is thus confined to unproductive habitats. It is very tolerant of drought with its deep penetrating taproot and is thus common on the shallow dry soils of the limestone dales. Salad burnet regenerates from seed but it has extremely low capacity to disperse to new sites. Thus, it is restricted to old, traditionally managed grasslands and though relatively common in the Peak District the national population of salad burnet is undoubtedly decreasing. The leaves can be eaten in salads or used as a cooling addition to summer drinks. They are slightly bitter to the taste and release the scent of cucumber when crushed. The round, dark crimson flower heads resemble scabs or blood clots and for centuries the plant was used to staunch wounds and as a remedy for internal bleeding. This is reflected in the Latin name *Sanguisorba* meaning blood absorbing.



**Common knapweed** is a fairly common plant of pastures, meadows and road verges but always in conditions of low to moderate fertility. It is a large, tufted, attractive herb whose frequency, vigour and flowering is increased in grasslands managed as a meadow. Around 100 tiny purple flowers are gathered together into a dark-purplish flowerhead. They are pollinated by a wide variety of insects that visit the flowers to gather nectar. The seeds (up to 1000 per plant) are attached to tiny hairs that act as parachutes so allowing them to be dispersed by the wind from late summer through to winter. It regenerates almost solely by seed but has the capacity to develop, flower and set seed at some sites after the hay crop has been taken. The seed heads are a valuable food source for insects whilst still in the flowerhead, and for rodents when on the ground. According to folklore, knapweed can be used to tell a 'maidens' future. A girl would pick the flowers off a flower head and put the remaining buds inside her blouse. After an hour they would be taken out and examined. If the buds had now blossomed it was said to be a sure sign that the man she will marry will shortly come her way.



**Thyme** is a low growing, woody perennial plant that produces a fine display of pale purple flowers in mid summer. The plant is strongly scented, since it contains thymol oil, an aromatic oil that has antiseptic and preservative qualities. In the Peak District thyme is generally restricted to dry rocky soils on the limestone. It is well adapted to withstand drought with its well-developed deep primary root system that has been found to descend some 2 metres. The National Park supports a good population of this species but in many lowland areas of Britain it is rapidly decreasing, as more habitat is lost to intensive agriculture. Like many interesting species, thyme is sensitive to increases in the use of fertiliser since it is unable to compete with faster growing grasses. Thyme is very important for insects, particularly bees that are strongly attracted to the nectar. In medieval times the plant was used a symbol of love and in folklore thyme was long regarded as the favourite flower of the fairies, who were said to love its delicate sweet scent.

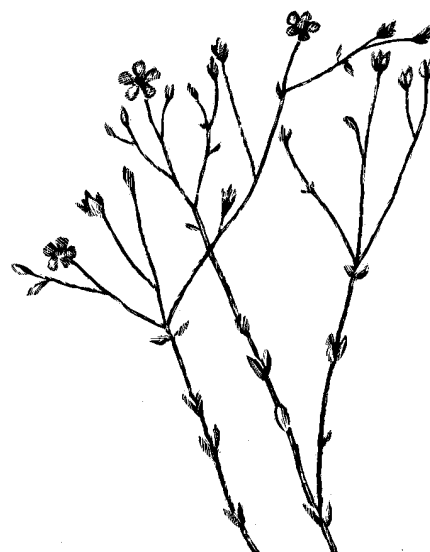


**Early purple orchids** are an attractive species of unimproved grasslands, often on the base-rich soils of the limestone dales. This impressive plant is not uncommon in the Peak District but nationally, the population has declined and this area is now an important stronghold. For centuries this plant was associated with love and reproduction. According to the Greek physician Dioscorides, it was used by couples to determine the sex of their unborn children. If men ate the tuber, boys would be born but if women ate it they would be blessed with girls.



**Glaucous Sedge.** Sedges differ from grasses in having solid, often three-sided stems with three rows of leaves - as opposed to tubular stems with alternate leaves in two rows. The flowers are reduced to scales, called glumes, which are clustered together in spikes. Variations in the spikes, leaf and stem distinguish one sedge from another. Glaucous sedge is so-called because the stem and underside of the leaves are glaucous - bluish-green in colour (similar to carnation leaves). It is a plant of infertile, often calcareous soils; the low soil fertility coupled with grazing suppressing the growth of more competitive species. Once established it forms large clonal patches with regeneration by seed a rare event. The species is in decline as a result of the replacement of infertile pasture by a range of disturbed and fertile habitats.

**Fairy flax**, a biennial herb, is a delicate plant with small white flowers. It is confined to shallow, infertile often lime rich soils and always associated with flower rich vegetation. The plant regenerates solely from seed. Fairy flax is a close relative to the large blue flowered flax that is grown commercially for linen. The name of the plant dates back to the Middle Ages when the plant had strong associations with powerful fairy magic.



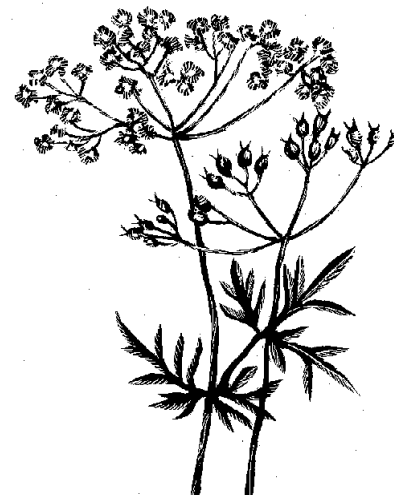
**Hoary plantain** is a plant of lime-rich meadows and pastures. The flower-stem rises from a rosette of leaves held close to the ground. The leaves and stems are silver haired, thus Geoffrey Grigson, a 17th century botanist, describes the flowers as 'alive in the wind.....frizzled with purple and lilac'. It is the only attractive and scented member of the British plantains, relying on the numerous bees that visit the flowers, for pollination.



**Small scabious** is an attractive herb with pale blue flowers, characteristic of dry limestone grasslands. The plant was once thought by herbalists to be a remedy for a variety of skin conditions from freckles to the scab, scabies and even the plague - when the juice was used to consume the sores. According to folklore, the lilac, button-like flower heads would be picked by a girl, each one given a lover's name, then a husband would be chosen by the one which flowered best. The plant is well adapted to dry habitats; its long taproots can grow deep into the soil in search of water, enabling it to sustain growth even in times of drought. It thrives on moderate to steep slopes on infertile, calcareous soils. Small scabious is not able to compete in tall productive grasslands, with its low stature and lack of ability to spread vegetatively. It regenerates by seed so it is associated with short, open vegetation. Since small scabious is ineffective at colonising new sites it is largely restricted to old, traditionally managed grasslands.



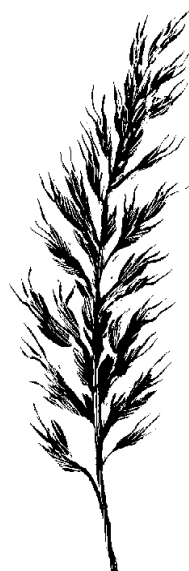
**Burnet-saxifrage** is a slender plant with divided leaves and numerous small whitish flowers collected together to form a branched flower head. It has a preference for dry, infertile grassland on limestone dalesides but also occurs in meadows within the Peak District. The plant is tolerant of summer droughts having a well-developed taproot. The name 'saxifrage' meaning stone-breaker, originates from its use in the 16th century in the treatment of kidney stones and gall-stones. The stems and leaves were also used in preparations to staunch bleeding and to heal wounds. The plant has a low colonising ability since it is largely dependent on seed setting for regeneration and the fruits develop late in the summer. Burnet saxifrage is regarded as an indicator species of old grassland.



### **Field 6015**

The sward in this field is generally dense, yet comprises a wide variety of grass species including **yellow oat** and **hairy oat grass**. Of interest is a high frequency of **pignut** and bulbous buttercup with, towards the base of the field, the odd patch of **lady's bedstraw** and the rare plant of **marjoram**. Some isolated hawthorn shrubs and ash on the boundary increases the wildlife value of the field.

**Hairy oat-grass** is an attractive loosely tufted grass with softly hairy leaves and distinctive shimmering oat like seeds. It is restricted to well drained calcareous/neutral unproductive soils. Hairy oat grass is largely found in older grassland and shows limited ability to colonise new sites. Within hay meadows this species is associated with the richest swards of high ecological interest.



**Marjoram** This is a tall aromatic herb of relatively dry and infertile, usually calcareous soils. The pale pink flowers are clustered together in bunches near the top of the plant. The wild form has been little used in cooking unlike the cultivated varieties, but the aromatic dried and powdered leaves have been used for curing a great many complaints– including indigestion, earache, cough, dropsy and bladder trouble. Marjoram also produces both a red dye which can be used to stain wool and a juice which has been used to perfume wood A more romantic association is as a symbol of happiness and, in the past, it has been used to crown couples on their wedding day. The generic name, *Origanum* means 'joy of the mountains'. In summer it is particularly attractive to butterflies.

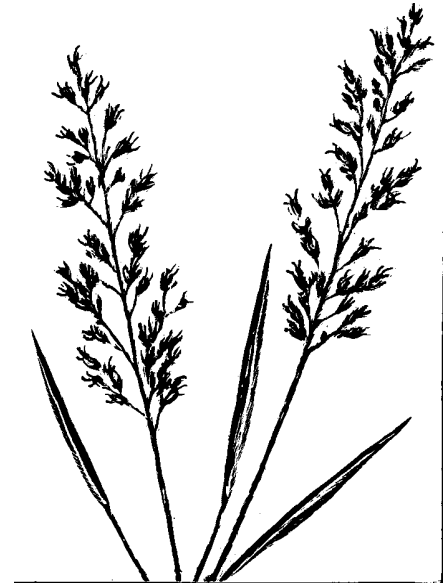
**Lady's bedstraw** has many small, single veined leaves in whorls around the branched stems. The flowers are small, yellow and clustered. This species is generally more robust when growing in a meadow as opposed to a pasture, forming a distinctive mat of yellow where locally abundant. The name derives from a medieval legend, which suggests that the Virgin Mary lay on a bed of lady's bedstraw at the inn in Bethlehem because the donkeys had eaten all the other fodder. This has also led to the belief that lying on a bed of lady's bedstraw eases childbirth. The plant has many proven uses for it contains a chemical called coumarin which prevents blood from clotting, and produces both yellow and red dyes. The flowers of lady's bedstraw were also once used for curdling milk



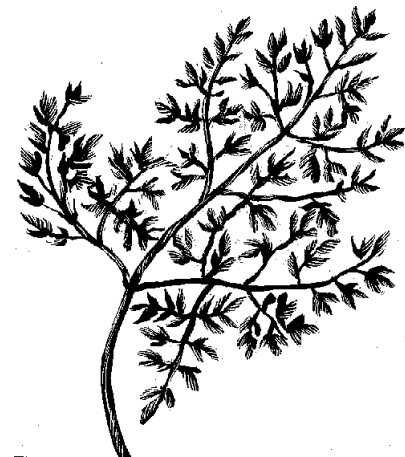
### *Fields 7018 and 7109*

These two fields had been cut so were difficult to assess but are apparently more improved and of less interest than the adjacent fields. There is however **yellow oat-grass** and locally occasional **pignut** and cut-leaved cranesbill. (The major species seem to be perennial rye-grass, rough-stalked meadow-grass, common bent and white clover.)

**Yellow oat grass** is a tufted perennial with hairy leaves and attractive golden seed heads. It tends to be restricted to traditionally managed grasslands, found scattered in both neutral and calcareous swards. The species is susceptible to grazing and thus tends to flourish in hay meadows where being an early species it has the added advantage of setting seed before the hay is cut. Yellow oat grass does not have a persistent seed bank and it is relatively slow at colonising new habitats. Thus, this attractive grass is declining in its extent, particularly in lowland Britain.



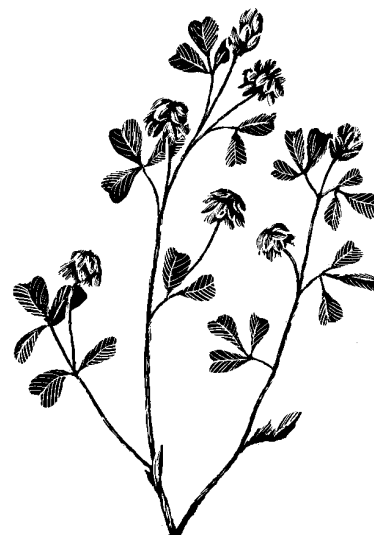
**Pignut** is a member of the carrot family, having delicate highly divided leaves and tiny white flowers gathered together at the top of the flower stem. It is an early flowering species with the leaves withering away by late June or July when the seed is setting. Pignut forms small underground tubers that are good to eat. In the past pigs were trained to nuzzle them out for human consumption (thus the name) but it is now mainly children who dig them up. Increasing use of fertilisers has led to the decline in pignut, since the plant is unable to compete with productive grasses.



### *Field 6534*

This field had been cut but again seems to comprise a mixed grass sward, with locally frequent **pignut** and bulbous buttercup. **Lesser yellow trefoil**, dove's-foot cranesbill and cut-leaved cranesbill occur over shallow soils at the edge of the field. A lead rake at the northern end supports abundant red fescue and patches of germander speedwell in otherwise similar grassland.

**Lesser yellow trefoil** is an annual member of the clover family with small yellow flower heads and trefoil leaves. It is claimed that it is the true shamrock used by St Patrick to explain the Holy Trinity to the people of Ireland. It is present in infertile grasslands on rock outcrops and also in hay meadows but is rarely found in heavily grazed situations.



### *Field 0346*

The interest in this field lies on the bank along the eastern boundary. A rich flora includes **lady's bedstraw**, **harebell**, **bird's-foot trefoil**, yarrow, bulbous buttercup, **pignut**, mouse-ear hawkweed, crosswort, field woodrush, **hairy oat-grass**, **quaking grass** and sweet vernal grass in a crested dog's-tail-common bent-red fescue dominated sward. The remainder of the field has been heavily improved and is dominated by perennial rye-grass, crested dog's-tail, rough-stalked meadow-grass and white clover.

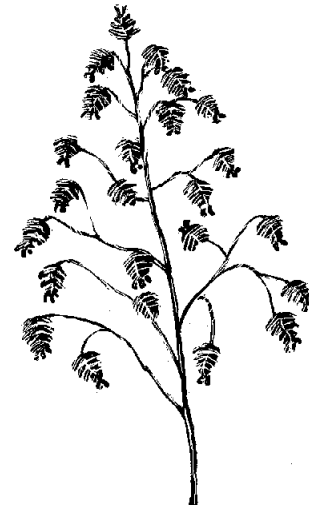
**Harebells** are one of our most attractive wild plants with their bell shaped, pale blue nodding flowers. This perennial plant is restricted to unproductive dry grasslands on both acidic and lime-rich soils. Harebells are linked with magic and folklore and hence have been given curious local names such as 'witch's thimbles' and 'fairy bells'.



**Bird's-foot trefoil** is a member of the pea family of plants, having yellow flowers arranged like a bird's foot and leaves split into five parts, the upper three resembling a trefoil. The red streaks present on many flowers give it the alternative name of 'bacon and eggs'. Birds foot trefoil is an important nectar source for butterflies and other insects. It is widely distributed within grasslands, most commonly on the limestone, but is absent from sites which receive regular applications of nitrogen-rich fertiliser or manure. Birds foot trefoil is a poor competitor in more productive grasslands and is one of the first species to be lost from meadows which are fertilised.



**Quaking grass** is one of the most attractive of our native grasses with its triangular purplish flower heads. Its papery scales make a distinctive rattle-like sound in the wind and it is this trembling which gives the grass its name. The species is particularly associated with infertile species rich grassland. Quaking grass is now a rare component of hay meadows.



### ***Fields 8345 and 9342***

These fields are heavily improved with perennial rye-grass and white clover the major species.

### **2. Block of fields north of the farmhouse.**

These fields had been recently cut so were difficult to assess. They appear to comprise semi-improved to improved grassland. Fields 9786, 0176 and to a lesser extent 0764 are of the greatest interest in this block as they support a mixed grass sward that includes common bent, Yorkshire fog, red fescue and sweet vernal grass. The remainder are more improved, being dominated by perennial rye grass, rough-stalked meadow-grass and white clover. Of interest was the presence of linnets

**Linnets** have declined on farmland by 56% over the last 20 years. They are dependent on the availability of a rich seed source and on hedges or bushes as nest sites. Smaller than sparrows they are often seen in small flocks except in the spring when they are found in pairs. The male has a red forehead and breast in the summer, otherwise they are a rich brown with greyish heads. The tail is forked. Conservation measures aimed at halting the decline in this species include the management and establishment of hedges as tall, bushy features, management without herbicides and late-cut meadows.

### **3. Block of Fields East of Ilam Moor Lane**

This block of fields has undergone intensive agricultural improvement. The resultant dense, largely uniform grass sward is dominated by perennial rye-grass and rough-stalked meadow-grass with locally abundant meadow foxtail. A strip to the north east has been fenced off and planted with deciduous trees and shrubs including ash, sycamore, field maple, hazel and hawthorn.

Four stone pits occur within this area, one lying in the woodland. These support coarse grass and tall herb vegetation typical of unmanaged or lightly managed grassland on largely fertile soil. Species include false oat-grass, cock's-foot, stinging nettle, cow parsley, hogweed, thistle, common sorrel, broad-leaved dock and, in the case of the southernmost pit, burdock, goosegrass and sow-thistle. Of note in this pit, where the soil thins to become more calcareous, is the presence of **musk thistle**. Although not species rich, such vegetation provides useful insect habitat. The large white flowers of cow parsley and hogweed attract numerous insects whilst nettle forms a valuable foodplant. It has 27 insects closely associated with it and a further 17 that use it in their diet. These include the caterpillars of the small tortoiseshell, red admiral, peacock, comma and painted lady butterflies. The long grass, especially where it is tussocky with an associated litter layer, affords warmth, shelter and protection to overwintering insects.

**Musk thistle** is an attractive plant with striking large, drooping flower heads. This species of thistle is relatively restricted in its distribution in the Peak District, being confined to well drained lime rich soils. The plant is less invasive than the common creeping and spear thistles and provides an important nectar source for insects. .

### **4. Pond associated with the farmhouse**

Dewponds are a characteristic component of the White Peak where natural water sources are few owing to the permeable nature of the bedrock. Traditionally they are lined with stone setts over a puddled clay layer but more recently constructed or renovated ponds are concrete lined. Many provide a habitat for great-crested newts, an internationally important species with one of its strongholds in this area. Survey of areas of the White Peak show that over 50 % of ponds had been lost from 1970 to 1985.

A great crested newt was observed in this pond in a survey in 1991. The stone-lined pond is large for a dewpond and contains vegetation valuable to an aquatic fauna. Plants include branched bur-reed, water starwort, willowherb, water mint, jointed rush and marsh foxtail. Both the bur-reed and the starwort are good invertebrate habitat and in the latter case provides a seed source utilised by wildfowl. The submerged vegetation will support the larval stages of species including dragonfly and damselfly (the latter observed during the survey). Newts like to lay their eggs in leaves whilst toads like to string their eggs around vegetation. The water is currently shallow which will tend to favour wildlife, as shallow water is warmer – especially important for cold-blooded amphibians. Drying out in late summer will prevent the establishment of predatory fish such as stickleback benefiting newts amongst others. The newts will also benefit from the proximity of stretches of woodland and long grass providing shelter and frost-free hibernation sites (although the crossing of the track may prove treacherous).

## **EVALUATION**

- ?? The edges of field 8821 are of considerable conservation interest. The uncontrolled spread of scrub however, would be an undesirable trend that would threaten this interest. There is also considerable potential for an increase in diversity across the whole field, given the numerous small stretches and open patches of rich flora from which the interest could spread under a traditional management regime.
  
- ?? Semi-improved fields including 7018, 7109, 6015, 9786, 0176 and 6534 also show conservation potential, which could be enhanced under traditional management regimes. (A survey before cutting would enable a fairer assessment of the relevant fields.)
  
- ?? A rich flora along the edge of 0346 may not cover an extensive area but is important and would provide a valuable seed source from which interest could spread into adjacent fields should this become a future objective,
  
- ?? The pond with a record for great crested newts is an important wildlife asset.