

## Holtspur Bottom Butterfly Reserve

This reserve is on the south facing hillside opposite Holtspur Bank LNR. The land was in low-intensity agricultural use many years, largely for grazing and hay but with the south-western third having signs of attempted arable use. In 1998 it was leased to Butterfly Conservation by the Town Council for 22 years. At that time, viewed from the LNR opposite the reserve appeared as a featureless field with surrounding hedges and an untidy bank at the right hand end. Inspection had revealed much that is desirable for a butterfly reserve; although most of the reserve in 1998 was open grassland on thin soil, there were many opportunities for enhancement.

Access is only by the public footpath from Riding Lane to White House Lane; from the former this starts as a woodland like ride, beloved by Speckled Woods and bounded on the lower side by a small ash copse. Below the copse is about an acre of steep slope chalk grassland, rapidly scrubbing over but most has not been damaged and is still rich in butterflies and herbs. An area of dense and rough scrub has developed on the site of an adjacent disused rubbish tip.

The footpath continues along the top of the reserve, below a hedgerow rich in chalk flora; there are many buckthorns which in a hot and sheltered position are much favoured by egg-laying Brimstones. As it leaves the reserve it passes into woodland, too dense for butterfly use, except for Purple Hairstreak usually out of sight in the oak canopy above. The bottom edge of the reserve is less attractive, separated from the old sewage works site by an ageing hedge but it does provide a profusion of plants of disturbed ground, including large areas of nettle.

### Restoration or Re-creation?

Although deteriorating with scrub intrusion, much of the good butterfly and moth habitat remained intact on Holtspur Bank when it became protected; management there has been that of restoration. On Holtspur Bottom, most of the habitat had been destroyed by ploughing and seeding with alien ryegrass; restoration will be more difficult - none of our native butterflies can survive on this grass. It will have to be weakened, if not eliminated, to encourage native flowers and grasses to return.

The chalk bank can be managed to encourage the spread of desirable species back onto the hillside, while continuing to provide sustenance for species already present.

The existing hedgerows need attention and in places in-filling. New hedges, or groups of shrubs, are needed to provide sheltered areas on the hillside.

First thoughts were that the ryegrass would be weakened by grazing and cutting regimes; grazing by cattle breaks the surface, allowing other seeds to germinate. The grass cover was by no means uniform; the western third is weak, as the topsoil here is very thin, with chalk appearing in places on the surface. This had allowed many native plants to appear, but ragwort, increasingly a problem weed on all soils, had become entrenched. Poisonous to stock, it had to be drastically reduced, if not eliminated prior to grazing. Once achieved however, this area could have the greatest potential for early development of a rich grassland sward.

As with the LNR, a ten-year management plan has been created, although this is likely to need much modification as the reserve develops. Unlike the management for the LNR, which follows well tried and tested procedures, we are at the forefront of the move to recreate downland here and there is little previous experience on which we can draw. It is likely that the grassland of Holtspur Bottom will need to be re-created as much as restored.

The plan recognised four habitats:

Open Grassland. Stock fencing to be installed around the central area allowing a wide walk around the perimeter hedges. This will allow free access at any time for walkers. The fenced central area will normally also be accessible, but can be closed when grazing or other management work takes place. Within the central area an internal fence will separate the western, 'ragwort' area from the remainder so that appropriate management can take place as necessary in either section.

Upper Hedgerow to be cleared of dead materials, cut, and then allowed to develop, with only a low level of management to maintain and enhance the existing good range of chalk herbs, backed by an interesting range of shrubs. Gaps to be infilled as necessary.

Residual chalk grassland bank. To be opened up by removal of invading hawthorn and dogwood scrub. Very limited grazing may be needed to maintain a low height of sward. The Ash 'copse' at the upper end to be thinned.

Lower and Western Hedgerows. To be maintained by twice yearly cutting to promote the growth of larval food plants, especially nettle.

This plan was accepted by MAFF as the basis of a Countryside Stewardship Agreement for the reserve and this is particularly gratifying in that the reserve lies adjacent to, but outside the Chilterns Area of Outstanding Natural Beauty. The Agreement recognises the potential of the site and its role in expanding conservation in the valley, enhancing the LNR and the AONB.

It supports a study to assess the feasibility of re-establishing horseshoe vetch on the reserve, for the possible long term return of the Chalkhill and Adonis Blues to the valley and also the creation of bare chalk scrapes and hollows to vary further the range of habitats.

Mention is made above of an area of dense rough scrub on a rubbish tip. This is of little immediate value for conservation, and being hazardous will not be open to visitors. The long term future of this part of the site is still being considered, but it may be cleared and replanted with holly and ivy species as a potential stronghold of the Holly Blue butterfly.

## The First Two Years

When 'restoration' started there were three priorities; scrub clearance on the chalk bank; thinning ash on the upper bank, and dealing with ragwort. The first two were the subject of winter works, but the ragwort had to be tackled at once; our C/S Agreement required action to control this pest. After a brief experience of ragwort pulling, we were reluctantly driven to use of glyphosate herbicide. In August 1999, with the hope that any native flowers would have already seeded; spraying, and later cutting the 'crop' of dead ragwort was done by local farmer Rob Larkin, a very good friend to the reserve. At this time access was over rather than through the old tip and up the steep chalk bank. Although it was possible to get a tractor through with sprayer, and later the cutter, his forager was a different matter. We were left with neat lines of dead ragwort. Just one working party showed that hand raking was not going to be a solution. Later came tractor and rake, to leave a large heap of material at the lower boundary.

This part of the hillside now looked hopeful; some native herbs had survived and others reappeared; there was no sign of ragwort. Spring was awaited and showed little sign of regeneration; early summer was different - a sea of ragwort seedlings. Open Day 2000 in July led one member, a farmer himself, to observe "that looks dreadful!"

Ragwort seed has a life of 20 years; although further glyphosate treatment would destroy the new crop, the problem would recur for many years. Advice from MAFF had been to resow to reduce the area of bare soil for ragwort seed to germinate, but it had been agreed that with the density of ragwort present this would not succeed. A new approach was taken. Deep ploughing (12-15") would be followed by harrowing and rolling, prior to sowing with native seed. The deep ploughing was specified to bury all existing surface soil and seed to a depth at which regeneration would be minimal; this would also have the benefit of bringing less fertile subsoil to the surface.

Late summer 2000 was wet; but the chalk soil on Holtspur Bottom was hard packed; ploughing was difficult but eventually achieved; harrowing followed, but by then we had a hillside of sticky chalk; rolling was out of the question.

In September a dry spell provided just enough time for sowing. Seed had already been purchased following a magnificent response from members to an appeal. The decision to go ahead was a gamble; the alternative would have been to delay for another year. By late autumn a green sheen covered the soil; to our relief this was largely grass, with virtually no trace of ragwort. We have not seen the last of ragwort; plenty remains in the surrounding verges, but we are hopeful now that on the worst affected areas, we have progressed.

While the battle with ragwort was being fought in the lower field, much has been done on the remainder of the reserve. Fencing has been installed, the upper field has been subject to regular grass cutting/removal. During both winters scrub has been cleared from the chalk bank and the ash copse thinned. Dogwood is a problem here and in comparison with the spraying programme to be used on the LNR, frequent cutting to reduce the plant's vigour is initially being trialled.

In winter 2000/1 some 900 new hedging plants have been added. A further 900 plants will be added in Autumn 2001. During 2000, as a preliminary to possible horseshoe vetch re-introduction, soil from various areas of the hillside was sent to the MAFF laboratories for analysis to assess its suitability. The results are favourable, except in the lower part of the eastern end, where phosphorus levels are high, probably due to seepage from and around the old sewage works.

Less obvious are the results of efforts by our farmer friend in the rubbish tip. This has involved movement of a large quantity material to either side of a central track, consolidating the ground, clearing elder scrub, and installing a gate. As the tip materials have a high percentage of broken glass, the area is dangerous and not available to visitors, but it has transformed ease of access for management equipment.

At each end of the public footpath notice boards are being erected to display maps of the reserve, butterflies to be seen, and general information on Field trips and Butterfly Conservation activities. With the basic features of the reserve completed, it will increasingly become the site for many local Branch activities; e.g. moth trapping, butterfly and moth identification, and photography.

### Butterflies and Moths

30 species of butterfly have been recorded on the reserve, with 19 confirmed as breeding. The total is the same as that for the LNR, but the relative abundance of species is different as a consequence of the warmer, drier habitat of this site. There are good populations of Small Heath, Small Copper and Common Blue. Regular sightings of Dark Green Fritillary, which breeds on the LNR, occur, while Small Blue occasionally appear from a colony on the privately owned meadow adjacent to the footpath.

It is likely that most of the moths already recorded on the LNR are present. However, in the spring of 1999, we were pleased to record a rather obscure, but nationally scarce micro-moth, *Enicostoma lobella*, for which there appears to be no previous record for the Upper Thames area since the early 1900s. It would be hard to make a very convincing argument for the beauty of this small grey moth, but it is pleasing that the new reserve is home to such a little known species. The caterpillars feed on blackthorn.

Frank Banyard, May 2001. Butterfly Conservation in the Chilterns: Prestwood and Holtspur Valley Reserves, a review and guide.