BASILDON NATURAL HISTORY SOCIETY

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ROADSIDE VERGES IN BASILDON

PRELIMINARY REPORT INTO THE EFFECTIVENESS OF ROADSIDE VERGE MANAGEMENT FOR WILDLIFE CONSERVATION PURPOSES IN PARTS OF BASILDON NEW TOWN.

Dr R. L. Cole, Records Officer, B.N.H.S.

Nethermayne: Cutting and clearing operations in October

The same slope - the following autumn

Photos: R L Cole

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Introduction

For a considerable number of years it has been the practice of Basildon District Council, latterly in conjunction with the County Highways Department, to manage some of the wider roadside verges on the edges of the town in a manner that is sensitive to the needs of wildlife. This policy was worked out in discussions between council officers and members of the Basildon Natural History Society, and with due consultation with the contractors hired for the management process.

The roads that were initially selected for this treatment included the southern end of Nethermayne and substantial sections of Staneway. In both cases there are significant sections of roadside bank, some of them south-facing, which lend themselves to maximising the wildlife value of what can be allowed to exist there. Other roads, including sections of Mandeville Way and Westmayne, were subsequently incorporated into the system.

One major advantage of the system of verge management that was adopted was that considerable sums of local authority money have been saved, since it was no longer necessary to pay contractors to mow the verges regularly throughout substantial periods of the year.

Instead, a highly effective system was adopted, whereby the verges that were located further away from the road, and thus out of the way of the essential lines of vision for traffic, were left unmown throughout the spring, summer and early autumn. Then in the autumn, 50% of the verge was mown, cut and cleared, leaving the other 50% unmown for the forthcoming winter, spring and summer. In the October of the following year, the contractors returned, this time mowing the 50% which had been left uncut since, in effect, the October of two years previously, and leaving unmown the 50% which had been mown the previous autumn.

The management of this was straightforward, relying upon local features such as lamp standards as the means of identifying what was to be mown each autumn. One vital consideration was that whatever was cut from the verge needed to be raked and removed, thereby preventing the nutrient enrichment which, elsewhere on mown verges, causes a few very vigorous plant species to thrive, at the expense of many other, rather more delicate, species.

The role of the verges in forming a vital part of the Living Landscape

In recent years, ecologists have drawn more and more attention to the fact that wildlife nature reserves, on their own, constitute an inadequate response to the business of conserving many vulnerable plant and animal species. The danger is that such reserves become increasingly isolated in the landscape, all too often surrounded by intensively cultivated farmland, built-up areas and other such unsympathetic land-uses, in effect cutting off breeding access to other centres of population of the threatened species. Denied such cross-fertilization, the gene pools become ever more vulnerable to disease and deterioration, while localised accidents such as fires or inappropriate habitat management can wipe out populations, with little chance of replenishment from the wider landscape.

Instead, there is now far more emphasis upon managing the overall landscape with a view to linking up the centres of wildlife richness, seeking to ensure that enough wildlife-friendly land is maintained to enable many species to disperse successfully. Clearly, this does not work to the advantage of all organisms, but it fulfils a vital role for a large percentage, and it is highly cost-effective, in that biodiversity is maximised without recourse to expensive, and politically problematic, intervention.

In practical terms, this means that existing strips and pockets of green land, hedgerows, trees, bodies of water, etc can fulfil a valuable role in enabling wildlife to disperse across the landscape, especially if they are managed sensitively. This policy is now being implemented by many public authorities, in accordance with the requirements of the 2006 NERC Act.

In effect, Basildon Council, in collaboration with the BNHS, was ahead of the game when arrangement was made for the above-mentioned roadside verges to be managed in such a wildlife-friendly way. Those verges constitute a highly effective means of enabling wildlife to thrive and disperse, while also providing a magnificent display of wild flowers to delight the eye of motorists and other passers-by. These verges were being managed in this imaginative way long before the Living Landscapes policy was formally adopted by the Essex Wildlife Trust, the Essex County Council and other local authorities.

Indeed, the Basildon verges merited justified praise when English Nature cited them nationally as an example of best practice, worthy of emulation elsewhere.

For a long time, the management policy for the verges was unobtrusive. However, in response to increasing curiosity and praise, as well as some ill-informed criticism, permanent notices have now been fixed on the banks and verges, declaring them to be "Conservation Areas".

Experience in 2009

The difficult economic climate of 2009 meant that, for the first time, the annual October mowing of 50% of the managed verges did not take place. It has been made clear by Council officers that 50% will be mown in autumn 2010, thereby

resuming the management, and that a contract has been agreed that should ensure the now-customary management is maintained for the next five years. Occasionally missing the autumn cut should not be disastrous. Many plants and animals will be able to benefit from the additional cover and food supply. Moreover, it is far better for the cut to be missed than for a sudden, clean sweep of the whole lot to be undertaken, at the wrong time of year: that would undo so much good work, achieved gradually over the best part of two decades.

That said, it should be appreciated that, given the extra year's growth, the woody bases of species such as blackthorn might be that much more resistant to mechanised mowing, perhaps necessitating greater investment of time and machinery when the mowing is resumed, in turn negating some of the cost-cutting of 2009.

Abundance of wild flowers

Over the considerable number of years that the management policy has been in operation there has been a remarkable build-up in the numbers and variety of wild flowers, due in part to the fact that flowers have been allowed to set seed, in turn leading to a build-up of the seedbank in the soil. A proportion of this is always dormant, in effect awaiting appropriate conditions in which to germinate. Moreover, as intimated above, the prompt removal of mown material in autumn inhibits those few species which otherwise tend to dominate our verges, on account of their ability to thrive in nutrient-rich situations. The removal of the mowings, combined with some exposure of bare ground, enables some of the dormant seed to germinate – and some of this seed will be of rarer and more vulnerable species, which otherwise do not get much chance to prosper.

The result is a spring- and summer-long unfolding spectacle of successional flowering, as first the spring flowers bring welcome colour to the verges, followed by the full colour of high summer. Many people have commented on the drifts of primroses which adorn the slopes of Nethermayne in April, and the multitudes of cowslips in the verges of Staneway and Mandeville Way just a couple of weeks later. These flowers are now so very scarce in the wider landscape, but the verges afford them sanctuary in a manner that maximises the pleasure brought to the travelling public. The result, so splendid in terms of providing welcome spring flowers, is all the more remarkable in that precious public money does not have to be spent on regular restocking .

Far less obvious to motorists, but appreciated by some of the walking public, are other, more subtle flowers, including at least two species of wild orchid. Orchids are rather more exacting in the conditions needed for their germination and survival, but under the management regime on the Basildon verges they are gradually becoming established – bearing in mind that it takes an orchid plant some seven or so years to get from germination to flowering.

A considerable catalogue of other flowers could be provided. It would include

the arrays of scabious and knapweeds, so vital to flying insects, as well as the drifts of ox-eye daisies, which flower so spectacularly on the slopes of the A13 below Vange church. The verges of Westmayne between Laindon and Toomey's showrooms are particularly beautiful with displays of these flowers, while Mandeville Way has a rare concentration of meadow saxifrage among the cowslips, in turn delighting the eye. It takes a closer look into the sward to appreciate just how many different wildflowers are present.

With so many different species, it is little wonder that these verges support an astonishing variety of animal life, as the following brief summary makes clear.

Butterflies in remarkable profusion

It is not always appreciated that the Basildon area is one of the best parts of Essex when it comes to seeing butterflies on the wing. Most other parts of the county cannot match the thirty or so species which regularly appear around the town, nor can they match the sheer profusion in which some of these species appear during the relatively brief periods when they are on the wing. The verge management policy is eminently successful in this respect, and it has played a vital part in the spread of some species, at a time when all too often the story is one of local extinctions and gradual decline.

Probably the greatest success story is that of the marbled white butterfly, a glorious insect. For a long time these butterflies were confined to a highly vulnerable colony on the seawall at Canvey, where the grasses upon which the

Marbled white butterfly Photo: J L Cole

caterpillars feed were mown much less frequently than elsewhere. It was not until the hotter summers of the 1990s that these butterflies started to spread, aided by a population build-up. Somehow a few of them were able to reach the managed roadside verges of Nethermayne and lay their eggs in the sward. A substantial colony of these insects built up alongside Nethermayne over the next year or two, providing the basis for further expansion right over Langdon Hills. Now, each June, it is possible to admire these lovely butterflies as they drift among the flowers and grassheads of the slopes of Nethermayne, in the company of other species, all of them benefitting from the abundance of wild flowers.

Grizzled skipper Photo: P G Furze

Some of the butterflies are even rarer than the marbled whites. Basildon is now the only place in the county where the grizzled skipper can be seen on the wing: it has died out everywhere else. But it has been able to hang on locally, thanks in part to the way in which the Nethermayne slopes are managed. This also applies to the green hairstreak, which has undergone an increase in numbers in recent years, again thanks in part to the verges policy.

In recent years there has even been talk of attempting a come-back for a couple of species that have long since been absent from the county – of attempting some careful re-introduction, thereby trying to stem the decline of some of our much-loved English butterflies. Such ideas can be contemplated when roadsides are managed as sensitively as those of Basildon are.

The vital fact to grasp is that if 50% of the grassland is left unmown from one summer to the next, the overwintering stages of all these butterflies – usually as tiny caterpillars, or as eggs or pupae attached to plant stems – are allowed to survive, and go on to complete their transformation into butterflies the next summer. Clear mowing of the entire verge simply wipes out what might otherwise have been there, and can be likened to carnage. The same principle, of course, can be applied to a lawn.

Other insects and invertebrates

What has been said about butterflies applies equally to other insects. A wide variety of flowering plants means that a correspondingly wide variety of dependent insects can be supported by them – insects which simply would not be

there otherwise. Each scarce flower species that is enabled to survive and thrive on the roadside verges creates a potential niche for something which feeds on it. There was a fascinating example of this one day in 2003, when a party of interested souls was inspecting the verge beside Nethermayne. That summer had seen an influx of hummingbird hawkmoths from abroad – and we were able to watch as some of these laid their eggs on the lady's bedstraw flowers that were growing on the roadside bank.

There has been much concern in recent years about the decline of our bumble bees. Out of some twenty-odd species which once abounded in Britain only half a dozen can be reckoned to be at all common, and even these are vulnerable, especially given their need for grassland in which to make their nests as well as forage among the flowers. Yet here, once again, the sensitive management of some of our roadside verges around Basildon has made it possible for rather more bee species to hold on and prosper. South Essex has some of the national rarities when it comes to bumble bees – insects like the shrill carder bee, the brown-banded carder bee and the red-shanked carder bee. The verges support significant populations of these creatures, and it is probable that they make their summer nests among the roadside herbage – and, even more importantly, find appropriate niches in which the queen bumble bees can overwinter (when all the workers have died off, and the summer's nests have been abandoned). The term "carder bee" refers to the way in which the above-mentioned rare species shred the grasses to make their nests, just above ground level: any summer mowing regime implicitly destroys the nests, pushing these bees closer to extinction.

Such species are the object of Biodiversity Action Plans, the aim of which is to save the affected creatures from extinction, and where possible create the conditions for local populations to thrive. Local authorities bear some of the responsibility for upholding these plans, through the 2006 Act, and the roadside verge policy is an excellent means of addressing the issue. The Basildon area has quite a number of these BAP species, reflecting the regional and national importance of the Thames-side hills for wildlife.

Birds

It is clear that the verge management policy has also been highly beneficial for wild birds. It is not always appreciated that many small bird species rely upon an abundant supply of small insects and other invertebrates at the critical period when they are feeding their young in spring and early summer. As indicated above, the flower-rich sward supports such an abundance, and with careful and patient observation it is possible to behold the regular visits of small warblers, dunnocks, finches and other species to the verges, moving in from adjacent bushes and hedges in order to gather the precious beakfuls for their nestlings. Throughout the year, other insectivorous birds like pied wagtails frequent the

mown margins, reaching into the adjacent sward for insects. The adjacent thick cover of bushes and brambles provides some facility for nesting.

More demonstrably, the verge management policy generates a handsome crop of seeds on the dried grasses and flower-heads, and in autumn and winter various of the seed-eating bird species can be seen feeding on the banks, including charms of goldfinches and small flocks of yellowhammers – delightful birds, which would be Basildon's loss were they to disappear completely from the urban area.

The rich supply of beetles and other insects, as well as small mammals and lizards, also attracts kestrels, which can be seen hovering by day over the verges. It would appear that the kestrels which nest regularly on Hawkesbury Bush spend a considerable amount of time hunting over the adjacent verges, particularly those of Nethermayne and the Five Bells Junction. Less obviously, the same niche is exploited by owls at night, including the all-too-rare barn owls, which have their base locally in a couple of farm buildings on the nearby marshes.

Small mammals and reptiles

The rich supply of food, both invertebrate and vegetative, sustains an impressive variety of small vertebrates, including field-mice, field voles, bank voles, shrews, lizards and slow-worms. Delightfully, the Basildon area still has a thinly-scattered population of harvest mice, and the current verge management policy appears to be sustaining these elusive but attractive little mice, judging by the bone contents of some pellets produced by barn owls known to hunt over the Nethermayne area. Moreover, we now have demonstrable evidence that yellow-necked mice exist in the immediate area, and the verge policy might well be helping to sustain this very localised species. For some years, it was known that adders were given to basking very shyly along the tops of the banks of Staneway, keeping well away from the pathway beside the road, and it is possible that we still have these creatures, existing in a niche well removed from where they might pose any kind of threat to people.

Discussion

The above survey provides a broad idea of what has been observed to inhabit these precious verges when they are managed in the sensitive and imaginative manner which has long been the custom here in Basildon. Detailed species lists could be provided by the BNHS, should they be needed.

It is important to appreciate that the verges do not exist in isolation. Their existence as wildlife-rich habitat helps to enrich the overall landscape, so that what is able to exist in, on and over the verge swards is often only able to do so when recourse to what exists in the wider landscape is also possible. The kestrel which hunts over the verges also hunts elsewhere – but if the verges were not managed in such a sensitive way, what exists in the wider landscape might well

not be enough to sustain the kestrel population. The verges thus form part of a rich mosaic of habitats, somehow maintained in a region where so much land is necessarily devoted to housing, commerce, transport, agriculture and industry. Take away the sensitive verge management – replace it with regularly gang-mown short grass with precious little in it – and you would immediately help to impoverish the landscape all around, eliminating the precarious means whereby so many creatures are able to exist.

There are further dimensions. Not only is it very much cheaper to manage the verges in the manner outlined in the introduction, it is also more prudent in road engineering terms. There have been occasions of very heavy rainfall and soil saturation when the steeper slopes have been subject to landslip, necessitating expensive remedial action. The advantage of maintaining the verges in a wildlife-sensitive manner is that deeper-rooted plant species help to stabilise the slope – a point appreciated in modern motorway management.

Conclusion

Basildon Council's policy of maintaining these verges in such an unobtrusive and yet so beneficial a manner must be counted as one of the great successes of wildlife management in the region. It is to be applauded for this policy.

The professional competence and dedication of the Council's officers and contractors are particularly worthy of mention. It is appreciated that an able team, led by Terry Simmons, has overseen the policy for a number of years, efficiently re-activating the seasonal cutting, and ensuring that it was done in the required manner.

As indicated above, Basildon Council was well ahead of the game when the Natural Environment and Rural Communities Act was passed in 2006. Section 40 of that Act states that "every public authority must, in exercising its functions, have regard, so far as is consistent with the proper exercise of those functions, to the purpose of conserving biodiversity".

In effect, all authorities are now charged with the duty to do what, in the case of these few verges in and around the New Town, the Basildon Council had already been doing.

The BNHS applauds all that has been achieved, trusts that the policy will continue, and requests that serious consideration be given to applying the management policy to some more roadside verges in the urban district.

Primrose Photo: G Reid

Green hairstreak Photo: P G Furze

Green-winged orchid Photo: R L Cole