

# **States of Nature:**

Reflections on the threats to Manchester's biodiversity and what ordinary people can do about them.

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## Preface

It is with great pride and pleasure that Manchester Climate Monthly publishes this work by Dave Bishop. Biodiversity, as Dave says in his report, is often the “poor relation” in an environmentalism that often feels as if it is reduced to counting individual molecules of carbon dioxide.

If Manchester is to prosper in the coming decades (and, frankly, given the lack of genuine preparedness for the real challenges that lie ahead, that isn't a rhetorical question), then we will need many many people and organisations to learn new skills, make new connections and grow in places that are currently barren.

We hope this report is one seed in that growth.

Marc Hudson,  
editor of Manchester Climate Monthly  
July 2013

Owing to constraints of space, we are only publishing portions of Dave's full report. You can read it all online at [manchesterclimatemonthly.net](http://manchesterclimatemonthly.net)

We will also be asking for Dave to write in response to the Council's imminent release of its serially-delayed “Green Infrastructure Plan”, which is due to be agreed by the Executive of Manchester City Council in July and then scrutinised by Neighbourhoods Scrutiny Committee in September.

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## The Current State of Biodiversity in Manchester and Greater Manchester

Currently, biodiversity in Manchester and Greater Manchester is in a poor state and deteriorating annually. The destruction of wildlife, and wildlife rich sites, in this region, over the past few decades, has been shocking and depressing. Some of the reasons for this decline are listed below:

**Overdevelopment:** Since the 1980s countless green spaces have been built on and currently no remaining green space is safe from development. Property developers have huge power and influence over the fate of open space in our country and region – power and influence handed to them by successive governments who always seem to be keen to hand them even more. The debate over development is almost always framed in terms of housing need, but it should always be borne in mind that developers are driven by profit and not the fulfilment of real housing needs.

In 2010 the ‘Guardian’ newspaper ran a campaign in support of the UK’s biodiversity entitled ‘Piece by Piece’ (1). The introduction to this campaign emphasised the fact that it is the cumulative effects of endless developments which are so damaging to our national and local biodiversity:

*“Every year tens of thousands of schemes are put forward to build on, extend, expand or simply plough up the land for human use. By no means are all of these a problem. But thousands are: they destroy or disrupt natural habitats; they divide up and drive out populations of insects, animals and birds; they create pollution. In each case, developers, landowners, planners and local people can argue that it is in effect just one little bit of heath or woodland, one insignificant beetle or a small number of birds that will lose out because of the development. But added together they combine to have a catastrophic effect. One by one they diminish our biodiversity, erode the natural capital that provides the clean air, fresh water, fertile soil and rich web of living things that humans depend on, and undermine our connection with nature and our sense of humanity's place in the natural world.”*

Back in 1998 local butterfly expert, Peter Hardy, noted that in the Greater Manchester of that time:

*“... the ever increasing trend towards “market testing” and privatisation, result[s] in every available scrap of land being looked at with a calculation of how much profit it could generate if put to commercial use.”*(2)

Since then the trend to build on “every available scrap of land” has accelerated. Many developers seem to think that they can discharge their responsibilities towards the environment by planting a few trees - and they are often supported in this notion by the local authorities. Nothing could be further from the truth (see the section on tree planting below)!

**Neglect:** In many parts of the conurbation, wildlife friendly, ecologically sound management of our remaining biodiverse green spaces has virtually been abandoned. In those places where it does still take place, it may soon disappear as a result of local government spending cuts. Frustratingly, many of these green spaces have, at some point, had ‘Biodiversity Action Plans’ written for them, but, in many cases, these plans are seldom, if ever, implemented and usually no management at all takes place. Neglected green spaces tend to become overgrown, shady and less and less biodiverse.

**Inappropriate Management:** If the biodiverse spaces mentioned above are ever managed they tend to be treated as ‘standard’ urban parks with the main priority being ‘visitor access’ and tidiness. It is not unknown for trees and shrubs to be cut when in flower or during the bird nesting season, or species-rich grassland to be mowed in May or June (i.e. when plants are in flower) or even sprayed with herbicide. It is now common-place to visit any small piece of biodiverse land, anywhere in the city, and to find it full of men in hard hats and fluorescent jackets, wielding power tools and destroying the wildlife.

**Pollution:** Motor vehicles not only emit CO<sub>2</sub> in their exhaust gases but also oxides of nitrogen. These latter gases are soluble in rain-water and lead to soils becoming enriched with nitrogen compounds – which are potent plant nutrients. Such ‘eutrophication’ of soils means that green spaces tend to become dominated by coarser, more vigorous species, such as nettles, to the detriment of more delicate species which can’t compete. Although it may not be intuitively obvious, low nutrient habitats are usually the most biodiverse. Higher rainfall, possibly resulting from climate change, coupled with ever increasing numbers of motor vehicles on the road, can only increase the eutrophication of soils. This effect could, in theory, be ameliorated by the application of appropriate management techniques which act to remove excess nutrients from a particular habitat.

**Climate Change:** There is strong evidence that climate change is already affecting UK biodiversity and these impacts are expected to increase as the magnitude of climate change increases. Some of the changes known to be taking place include:

- Changes in the distribution of species (some species appear to be moving further north).
- Changes in phenological phenomena (i.e. the annual timing of natural events such as budbreak and the laying and hatching of birds’ eggs).
- Changes in the composition of plant and animal communities.
- In addition there is a strong possibility that non-native species, pests and pathogens may establish and spread.

It is highly likely that continuing habitat fragmentation, of the type now occurring regularly in Greater Manchester, will interact with, and exacerbate, the various impacts of climate change on biodiversity.

## **Biodiversity in the Greater Manchester Region**

The ongoing destruction of local wildlife is particularly tragic because our region still exhibits surprising richness:

Greater Manchester is a metropolitan county in North West England, with a population of 2.6 million. It encompasses one of the largest metropolitan areas in the United Kingdom and comprises ten metropolitan boroughs: Bolton, Bury, Oldham, Rochdale, Stockport, Tameside, Trafford, Wigan, and the cities of Manchester and Salford.

The county spans 493 square miles (1,277 km<sup>2</sup>). It is landlocked and borders Cheshire (to the south-west and south), Derbyshire (to the south-east), West Yorkshire (to the north-east), Lancashire (to the north) and Merseyside (to the west). There is a mix of high-density urban areas, suburbs, semi-rural and rural locations in Greater Manchester, but overwhelmingly the land use is urban.(3)

When considering this vast metropolitan area, wildlife may not be the first thing that springs to mind, but it can be surprisingly rich and diverse. In a sense it is a landscape in its own right – a landscape apparently dominated by human beings and their artifacts and constructions – but also a complex set of habitats for non-human living things.

Among the housing estates, shops, offices, roads and motorways are public parks, playing fields, private gardens, allotments, brown field sites and river valleys - and these areas are connected by road and railway embankments, cycle tracks and rivers, brooks and canals and their banks.

But perhaps more surprisingly to the un-initiated :

*“Greater Manchester has three sites designated for their international importance: Rochdale Canal Special Area of Conservation (SAC), Manchester Mosses SAC and The South Pennine Moors SAC and Special Protection Area. Overall there are 23 Sites of Special Scientific Interest [SSSI]. In addition there are over 500 Local Wildlife Sites, known locally as Sites of Biological Importance or SBIs, together with 47 Local Nature Reserves.*

*Greater Manchester supports 20 UK Biodiversity Priority Habitats. These are: Arable Field Margins; Blanket Bog; Eutrophic Standing Waters; Hedgerows; Lowland Dry Acid Grassland; Lowland Fens; Lowland Heathland; Lowland Meadows; Lowland Mixed Deciduous Woodland; Lowland Raised Bog; Open Mosaic Habitats on Previously Developed Land; Ponds; Reedbeds; Rivers; Upland Flushes, Fens and Swamps; Upland Hay Meadows; Upland Heath; Upland Oakwood; Wet Woodland; Wood-Pasture & Parkland. In addition there are over 130 UK Biodiversity Priority Species present [in Greater Manchester], ranging from the easily recognisable such as hedgehogs and house sparrows to the more obscure species such as floating water plantain, mud snail and the southern silver stiletto fly.”(4)*

## **National and Local Biodiversity Policies**

There are now several national and local policy documents devoted to the cause of biodiversity conservation and improvement. If all of the provisions and recommendations in these documents were to be implemented, our natural environment would be in a much healthier state and its future would be much more secure.

The Lawton Report (*'Making Space for Nature: A review of England's Wildlife Sites and Ecological Network'*, 2010) recommends “ecological networks” as a solution to the problem: *“Ecological networks have become widely recognised as an effective response to conserve wildlife in environments that have become fragmented by human activities. An ecological network comprises a suite of high quality sites which collectively contain the diversity and areas of habitat that are needed to support species and which have ecological connections between them that enable species, or at least their genes, to move...”*

*We propose that the overarching aim for England's ecological network should be to deliver a natural environment where: Compared to the situation in 2000, biodiversity is enhanced and the diversity, functioning and resilience of ecosystems re-established in a network of spaces for nature that can sustain these levels into the future, even given continuing environmental change and human pressures.” (5)*

But if the reader looks at the satellite image of Greater Manchester on Google Earth, it's easy to see that it is a very heavily built up conurbation with relatively little green space. In 2008 the Greater Manchester Ecology Unit, in collaboration with Salford University, published a report entitled, 'An Ecological Framework for Greater Manchester'(6). They performed a sophisticated spatial analysis of the sub-region and concluded that the development of a conventional landscape-scale ecological network here could be very difficult. This is because the existing wildlife rich sites tend to be small and fragmented, and in many built-up urban centres there are no wildlife-rich sites at all. They proposed instead the establishment of an Ecological Framework in which the potential of urban green spaces, such as parks, domestic gardens and those recognised biodiverse spaces which do exist, is maximised to provide a favourable context for wildlife. They did acknowledge, however, that it is perfectly possible to establish smaller ecological networks nested within the larger framework.

The authors of the report state that:

“The development of an Ecological Framework for Greater Manchester has three main aims:

1. To conserve and enhance biological diversity in Greater Manchester by informing and underpinning efforts to repair, create and connect habitats.
2. To promote the need for pro-active nature conservation in Greater Manchester, including habitat creation and repair.
3. To contribute to national and sub-regional land-use planning obligations and contribute to the

requirement in [Planning] Policy EM1 of RSS to achieve a step change increase in biodiversity resources.”

And they conclude that:

“... habitat creation, repair and connection will be most likely implemented in Greater Manchester through the following mechanisms:

- Obligations placed on new development for the enhancement and creation of greenspace.
- Changes to the management of existing areas of greenspace (predominantly publicly managed greenspace).
- Land regeneration schemes.
- Influencing the behaviour and perceptions of the general population (particularly for the management of gardens).

The spatial implication of the use of the above mechanisms is that the Ecological Framework should be as inclusive as possible, and include areas of planned development and areas of dense population, since some of the above mechanisms were considered more likely to operate in such areas.”

The Report identifies 20 GM ‘Biodiversity Opportunity Sites’ i.e. sites within which there are opportunities for habitat creation and repair. These sites would complement, and exist in addition to, existing sites such as SBIs etc.

In terms of local and specific policies there are currently 18 GM Biodiversity Action plans: 9 related to specific types of habitat and 9 to particular species or taxa.(7)

There are also biodiversity initiatives in Manchester, Tameside, Wigan and Salford. In early 2012 the *Manchester Biodiversity Action Plan 2012-2016* 16 was published, which was a revised version of the previous *Manchester BAP 2005 – 2010*.

## ‘On the Ground’

All of the documents considered so far are, by and large, informed, erudite and impressive; *if their recommendations were to be implemented*, it is highly likely that they would have a very positive effect on biodiversity both nationally and locally. But whether those recommendations will (ever) be implemented remains to be seen.

Turning to the *Manchester Biodiversity Action Plan 2012 – 2016*, (8) for example, we find that out of 108 objectives published in the plan, 84 of those objectives have no stated completion date. True, some of those 84 objectives could be interpreted as being associated with “continuous” or “on-going” projects – but not all are. Why, for example, does Manchester City Council feel that after six years it is still not compliant with the Natural Environment and Rural Communities (NERC) Act, 2006(9) and cannot specify a date by which it will be compliant? The relevant objective reads: “To fully comply with the NERC duty of 2006 where the Council and public bodies must in exercising their functions have regard to conserving biodiversity.”

Another ‘on-going’ project is: “To support the GM ecological framework objectives, including biodiversity opportunity areas.”

A general impression from reading the plan is that it is *mainly aspirational*.

But, as outlined above, although some initiatives are being taken, destruction of biodiversity, by a number of different agencies is still taking place on an unacceptable scale – at least it is in South Manchester, where I live.



## Effective Habitat Management

Broadly speaking, a key objective of most habitat management is to maintain or increase the biodiversity of a particular habitat by increasing light levels and reducing nutrient levels. Many habitat management techniques are very similar to traditional, low intensity land management or farming techniques. For example, many areas of woodland in the UK were 'coppiced' by cutting selected trees down to ground level and allowing them to re-grow as multiple poles – which were put to a variety of uses. This process was repeated every few years. A by-product of coppicing was optimised light levels in the woodland which allowed the typical wild plants of the woodland floor to grow well and to flower. Grasslands were cut for hay i.e. the grass was cut, spread out to dry in the sun and then gathered up, stored in barns and fed to animals during the winter. This removal of material minimised nutrient levels in the habitat. A by-product of this process was that the colourful hay meadow flowers were able to compete with the potentially more vigorous grasses and provide an abundant source of pollen and nectar for pollinating insects such as bees, butterflies and moths. An important aspect of both of these processes was timing: coppicing happened during the winter, when the trees were dormant; hay was cut in late summer when the grass seed (as well as the accompanying wild flower seed) was ripe; the spreading and turning of the hay during the drying process acted to spread the ripe seed over the meadow. Other habitats, such as pastures, ponds, ditches, brooks, hedgerows etc. all had their associated appropriate management

### Case Study – The Mersey Valley

The River Mersey is formed by the confluence of the rivers Goyt and Tame under Stockport town centre. It flows from there, in a generally westward direction, through the townships of Didsbury, Northenden, Chorlton-cum-Hardy, Stretford, Urmston and Flixton until it joins the Manchester Ship Canal near Carrington. Historically, this was a rural landscape dominated by flood meadows (which would have been extremely biodiverse). From the late 19th century and through much of the 20th century, this ancient landscape was literally torn apart. This destruction, of course, corresponded to the increasing industrialisation and urbanisation of the Manchester region. Sewage works and increasingly large domestic rubbish tips were soon dotted throughout the valley. In the 1960s vast quantities of gravel were extracted to build the motorway system. By the 1970s the Mersey Valley was a mess (a perfect, textbook example of the tendency of our culture to regard our environment as worthless and expendable and to wreck it without any thoughts about history, meaning, value or the future).

In 1978 the Mersey Valley Countryside Warden Service (MVCWS) was created to manage the valley "for people and wildlife". In the early days the Mersey Valley and the MVCWS were administered by a Joint Committee made up of representatives from Stockport, Manchester, Trafford and Greater Manchester Councils. In those days wildlife really was a priority and serious attempts were made to restore and create important habitats. Some major mistakes were made - for example, little attempt was made to conserve some important areas of semi-natural grassland and far too many trees were planted – but wildlife was, at least, seen to be important.

In 1986 the Greater Manchester Council was abolished by the Conservative government of the time, and soon after Stockport withdrew from the Joint Committee. In the years that followed MVCWS was gradually cut back. In 2007 the Valley and MVCWS suffered a major blow when Trafford Council withdrew a large part of its funding contribution. In the last 10 or 15 years any emphasis on wildlife and habitat management in the Mersey Valley has grown less and less, while 'informal recreation' and 'access' appear to have become the dominant priorities. This seems to have been a deliberate policy – although the reason for such a policy is not clear (probably a combination of political ideology and expediency).

It is probably significant that the recent Inspector's Report

methods and seasons.

The output from traditional methods, such as coppicing and hay-making was, of course, the cut materials (wood, timber and hay) and these were removed from the site as a matter of course. After habitat management for wildlife, the removal of cut materials ('biomass') can be more problematical. It certainly is locally because there is currently no way of disposing of, and making sustainable use of, biomass and it has to be stored on site (hardly an ideal situation).

Well-managed habitat will encompass a certain amount of variation and thus contain niches for a variety of different organisms to inhabit it. Ironically, 'habitat piles', consisting of cut biomass, can represent niches for insects, small mammals etc., but one can have "too much of a good thing" and such piles will eventually rot down and return nutrients to the soil.

Finally, the habitat manager needs to be aware of the importance of the boundaries between different types of habitat, for example grassland adjacent to still or flowing water, grassland next to woodland etc. These boundaries are often very important for wildlife. For example, a hedgerow might form a boundary to a meadow and a bird which feeds in the meadow might well nest in the hedgerow.

for the Manchester Core Strategy(10) contains the following paragraph:

"Concern was expressed that Sites of Biological Importance (SBI) and Local Nature Reserves have been steadily deteriorating in the Mersey Valley over a number of years as a result of poor management, neglect and recreational pressure. In the future, they will be at risk from proposed extensions to Metrolink. This raises questions about the likely effectiveness of Policy EN15. The policy reflects PPS9 and the Good Practice Guide for biodiversity and geological conservation in that it provides a positive approach to maintain and enhance the City's varied assets. It requires developers to avoid, mitigate or compensate for harm. Natural England welcomed the policy's aims, and details of management techniques are not a matter for the current plan. However, the Council proposed a modification to acknowledge that tensions between improving biodiversity and recreational access should be addressed (MM17). I support the proposed change to assist effectiveness."

At the time of writing the Metrolink line to the Airport is being driven through the Lower Hardy Farm SBI. This site, which is next to the river in Chorlton, has never been managed by MVCWS (probably because it has always been earmarked as a potential transport corridor). Nevertheless, its flora was unique in the Mersey Valley. If nothing else, its destruction demonstrates that SBIs have no real protection.

Although it is perfectly understandable that the Inspector decided that a discussion of the "details of management techniques" was not relevant to her report, appropriate management techniques are vital for the effective conservation of biodiversity. What follows is mainly a discussion of wildlife friendly management methods in the context of different types of habitat.

Trafford Council have recently withdrawn all funding from the Mersey Valley. At the time of writing (June 2013) the MVCWS is in the process of being disbanded. Manchester and Trafford Councils are currently exploring alternative arrangements for meeting their statutory obligations to maintain the Valley in the face of Government spending cuts. The future of the Mersey Valley and its wildlife is uncertain.



## Urban Parks and Grasslands

Many urban green spaces consist of closely mown, featureless grass swards. Examples include parks, cemeteries, playing fields, golf courses and road-side verges. Such areas are usually very poor in biodiversity. Many playing fields don't even appear to be very well used and are perhaps played on, by a few young men, for just a few hours per year.

Manchester City Council report that they spend £1.96 million per annum on mowing 1112 ha (11.12 km<sup>2</sup>) of grassland.(11) This is a large sum of money, but I'm not suggesting, for one moment, that it is unusual and would imagine that most local authorities in the UK spend a proportionally similar amount (and, of course, it's not just local authorities who mow grass). I also strongly suspect that the vast majority of the city's inhabitants expect to see large areas of closely mown grass and, if they think about it at all, believe that such areas are both normal and desirable. But consider the following quote from the American author Bruce Sterling:

*"It's hard to recognise that a neatly groomed lawn with a little kid, a puppy, and a kitty is a biological holocaust. But it is. When you witness a lovely sight like that, it means that half an acre of the planet's surface, which formerly supported many hundreds of various weeds and beetles, has been reduced to just four species (not counting their microbial inhabitants). That is the true face of the Sixth Great Extinction. It's a face which we humans find pleasant. It's not a mean guy with a club skinning a seal. It's civilised people playing badminton on the lawn, maybe having a lemonade."* (12)

Returning to the cost of grass cutting, if the amount that Manchester spends on this activity is typical for the GM county as a whole, then the ten boroughs between them are probably spending somewhere between £10 – 20 million per annum (some will be spending more, some will be spending less). Scale these figures up for the whole of the UK then the nation must be spending several hundred million pounds per annum on keeping grass a few millimetres tall. So, in a time of financial stress, the UK is spending vast sums of money on, what is basically, a cosmetic exercise. And if Sterling is right, then we're all contributing towards the Sixth Great Extinction through our council taxes!

The authors of a 2006 CABI space report entitled *"Making contracts work for wildlife: how to encourage biodiversity in urban parks"* (13) wrote *"letting grassy areas grow tall and then cutting back at the end of the summer is similar to a traditional agricultural hay cut. Weeds can be important for groundfeeding, seed-eating birds. So it is desirable to work through a gradation from informal woodland management to more formal shrubbery, with all shades between. Also, hoeing of weeds is better for keeping weeds down than herbicides. Coppicing involves cutting back trees and shrubs to the ground both to rejuvenate the woody plants and to let light in at ground level to encourage bulbs and wildflowers to grow. In some cases, grazing of grassland may be introduced."*

This new approach to park management is currently beginning to be gradually introduced into Manchester parks. I have been informed that:

*"In the last two years as part of the city's ongoing commitment to improving bio-diversity an increasing area of Manchester's parks has been given over to this purpose, with approximately 10 percent of the mowed areas now being managed as a part of a differential mowing programme."*

*This approach has complemented the ongoing habitat improvements being undertaken in Manchester's parks. Whilst every park is unique and the style and type of park will determine the best approach to bio-diversity, where possible common principles have been adopted, including the introduction of various forms of shelter and food sources, this has included, water habitat creation, mixed hedge row planting, shrubbery, meadow planting, differential approach to grass cutting, introduction of bees for pollination, tree planting, bird and bat boxes, increased bulb and fruit planting improved tree and shrub planting, and fruit planting (sic)." (14)*

Nevertheless, a South Manchester lady (who has asked not to be named) has told me that her local park is regularly "massacred" by contractors working for the Council. Grass has been

mowed in dry weather creating a 'dust bowl' or in wet weather creating a 'mud bath'; trees and shrubs have been pruned in spring-time, just as they are coming into bud or flower, and herbicide has been over-enthusiastically sprayed along path edges leaving a 2 or 3 ft 'dead zone' on either side of the path."(15)

So there is still quite a long way to go before all Manchester parks become havens for biodiversity!

A recent report in local newspapers described changes in Fog Lane Park in Didsbury.(16) Local residents had complained about the park being overgrown and neglected but a Manchester City Council spokesperson replied that, "the park was being left to grow to encourage bio-diversity ...". Nevertheless, park staff are alleged to have told a complainant that, "they can no longer maintain the park because of cuts." The article went on to quote Cllr Rosa Battle, the Council's executive member for culture and leisure, who said: *"There is a bio-diversity strategy in action across the city, not just at Fog Lane, and park managers have chosen areas that once left fallow will create a more natural environment and attract a greater range of wildlife – benefitting the wider ecosystem of the park and surrounding areas."*

If we are to put a charitable interpretation on the newspaper story above then it may be possible to conclude that the Council are taking advantage of present financial strictures in order to improve biodiversity in Manchester's parks by cutting back on intensive management (?) Nevertheless, the main complaint of the Council's critics seems to be that the park now looks untidy. And there is also a suggestion in the story that other people have viewed the apparent 'neglect' as an invitation to 'fly tip' in the park. This suggests that attempts to improve biodiversity in urban parks may run up against cultural barriers.

On the other hand, "a survey by the University of Sheffield in 2002 ... found that 32 per cent of people would use their urban parks, play areas and green spaces more if they had more varied vegetation" (17). Whatever the extent of cultural barriers may be, biodiversity in urban parks will not be improved if appropriate management regimes are not put in place.

## **Brown Field Sites**

Brown field sites are those which have been previously developed. Urban naturalists tend to be attracted to these sites because they are often very biodiverse. They can be vital habitats for wildlife. A recent BBC Nature report (18) described them thus:

"These sites are home to unusual, hardy plants and their patches of bare ground become warm "microclimates". Experts say these features allow many rare insects to thrive...

Philip James, professor of ecology at the University of Salford, agreed that such sites could be ecologically important, telling BBC Nature that they often became home to rare species "normally associated with other habitats that are regularly disturbed, such as river banks, sandy heaths or chalk grassland".

Brown field sites are, of course, likely to be subject to re-development at any time. If they avoid re-development then they are inevitably subject to natural succession. They are probably at their most biodiverse in the period before self-seeded trees begin to appear. In a sense, biodiverse brown field sites are transient phenomena but they could be managed if the will to do so existed.

## **Allotments and Private Gardens**

Allotments are not just a source of wholesome fruit and vegetables but they are also an important British cultural institution. In addition they are often quite biodiverse. This is because they represent a mosaic of different habitats. A wide variety of crops are grown in allotment plots

and cultivation styles vary from immaculate, 'text book' husbandry to scruffy/weedy 'slapdash'. As well as fruit and vegetables, plot holders often grow an assortment of flowering plants on their plots. Many of the weeds found on allotments are often old-style, floriferous arable weeds – which are now much rarer in the wider countryside. In summer 2011 I had the honour of being asked to judge the "Most Bee-Friendly Plot" on a local allotment. This was quite a difficult task because some plots were so popular with bees and other pollinating insects that a clearly audible buzzing sound emanated from them!

Many private gardens are also biodiverse because, like allotments, they often contain a mosaic of habitats. There is also no doubt that many garden owners are interested in "Wildlife Gardening", which is often promoted, these days, in a variety of different media. It is, of course, neither possible nor desirable to dictate to people how they should manage their gardens but sound, scientific advice should be freely available if the would-be wildlife gardeners should ask for it. During the last few years Sheffield University has run a series of intensive studies on British urban gardens under the overall title of BUGS (Biodiversity in Urban Gardens in Sheffield). The first phase of this project, BUGS 1 (19) was confined to Sheffield gardens but the second phase, BUGS 2 (20), widened the scope of the project to gardens in Leicester, Belfast, Cardiff, Oxford and Edinburgh. The findings of this two phase project have been written up as a series of scientific papers – most of which are available on the BUGS website. The information in these papers and from other relevant sources could contribute towards a scientifically sound advice service for aspiring wildlife gardeners.

But wildlife friendly gardens are under threat. According to a recent RAC report: "Millions of the UK's front gardens are being paved over to become parking spaces, according to new research ...

Almost one-third of the 20.8m homes with front gardens have turned them into hardstandings, amounting to just under 7m homes, an area roughly equivalent to around 100 Hyde Parks. The number of houses with paved-over front plots has almost doubled in the past 20 years. In 1991, just 16% of houses with front plots had turned them into hardstandings, compared with 30% in 2011, according to the report *Spaced Out: perspectives on parking policy*, published by the RAC Foundation, the independent motoring charity.

It states that the main cause for the increasing number is the significant rise in car ownership. The number of cars in Britain has grown from 21m in 1991 to 28.5m in 2011, a figure the report estimates could grow to 32m over the next two decades...

The loss of domestic garden space also presents a threat to wildlife. The conclusions of the RAC Foundation's report chime with research conducted last year by the London Wildlife Trust. Their survey of private space in the capital found that the annual loss of greenery from domestic gardens is 3,000 ha (7,410 acres), or the equivalent of two-and-a-half Hyde Parks.

"Front gardens are an incredibly valuable wildlife resource in any urban environment and in London gardens represent 24% of land," said Carlo Laurenzi, chief executive of the London Wildlife Trust. "The removal of each tree, hedge or square metre of lawn is a loss not only of the plants involved, but also for the wildlife that depends upon them for food and shelter. London's gardens provide valuable habitat for a range of wild plants and animals including birds, mammals, amphibians and a huge variety of invertebrates." (21)

## Tree Planting

We appear to live at a time when there is very little understanding of local biodiversity, and the forces driving its loss, but trees are 'fetishised', and planting them is seen as a sort of universal panacea for the poorly understood phenomenon of biodiversity loss. It's also worth noting that developers still get away with concreting over our remaining green spaces by promising to plant a few trees in compensation.

Let's be brutally frank: planting trees, for the sake of planting trees, or because it's seen as a virtuous and 'green' thing to do, is an ill-informed and ignorant pastime. It often does more harm than good – especially if the wrong trees are planted in the wrong place – as they often are. Oliver Rackham had this to say back in 1986:

*"Too much attention, and too much money, goes into the automatic and unintelligent planting of trees. Tree-planting is not synonymous with conservation; it is an admission that conservation has failed ..."*

People plant trees, and get grants for doing so, without even looking to see whether there are trees on the spot already. Round the corner from my house the local authority has planted ashes where there are already perfectly good ash saplings.

Planting trees, except in replacement for trees known themselves to have been planted, erodes the historic landscape. It diverts funds and attention away from real conservation, and encourages people to go on destroying wild trees. It may damage existing meadows, ancient woods, and other places where the planted trees are to grow." (22)

This passage remains as true and as relevant as it was when it was written 27 years ago. 'Around the corner from my house', someone has recently planted an ash tree (and elaborately staked and mulched it) without noticing that the surrounding area is being invaded by countless thousands of self-sown ash saplings!

Perhaps even worse is the fact that the planted copses are seldom managed. These copses need long-term management plans. They are often dark and gloomy because the trees are planted too close together and are never thinned out.

There is another, more subtle, problem connected with tree planting, and that is there is no guarantee that purchased trees (given that they are suitable species for the site) are from local stock, or even that they are from the UK. A Welsh oak and a Hungarian oak may both bear the scientific name, *Quercus robur*, but they may not behave the same in the UK and may even look different. Oliver Rackham explains why this may be a bad thing thus:

*"... the biological reality has only recently come to light and is not fully understood, especially with trees. Many trees widely distributed in the northern hemisphere exist as clines, varying gradually from western Europe to east Asia or even into America. Travellers to the Caucasus or Japan might describe the local variants as species distinct from those of western Europe.*

*Importing false natives arbitrarily mixes up variants from one point on the cline with those on another point ... The consequences vary according to whether the introductions perform better or worse than the true native, whether it hybridises with it, and whether it has the same relation to associated plants, animals and fungi ...*

*In general such introductions advance the cause of homogenisation and dilute the world's biodiversity."* (23)

He makes the further point that importing thousands of trees increases the risk of importing tree diseases. This risk has been dramatically realised recently with the importation of Ash Die-back disease (*Chalara fraxinea*) – a disease which has the potential to kill off one of our commonest native tree species.

Recently the distinguished tree and woodland expert, Peter Marren laid the blame for Ash Die-back fairly and squarely on the shoulders of the tree planters:

He wrote:

*"Future generations might wonder who was to blame for the holocaust of our most graceful woodland*



*tree. They might point a finger at the hapless, failed guardians of our woodland heritage, Defra and the Forestry Commission. They would be wrong. What is about to cause the worst disaster in woodland history is not so much law as love. Everyone loves a planted tree. We thought planting trees was the solution but it wasn't. It was the problem.” (24)*

He explains that many of the tree diseases that are now running rampant in our countryside, such as Sudden Oak Death, Chestnut Canker and the disease which has devastated our wild Juniper populations, were probably brought in on imported trees, all to satisfy the, often irrational, obsession with tree planting. He castigates the Woodland Trust, who claim to be, “passionate about [tree] planting”. Ash Dieback has recently appeared on one of their Suffolk estates, in a plantation next to an ancient wood (!) He asks where their plantation trees came from; were they imported?

Legitimate reasons for planting trees include: planting hedges (as long as the plants are from local stock), planting orchards, street trees and native or ornamental trees in parks or gardens. Nevertheless, all such trees will need some form of management for the foreseeable future. It is absolutely essential that every project of this type should be accompanied by a long-term management plan. It's also important to note that a copse of planted trees is not equivalent to an ancient wood: the latter is an ecosystem; the former is just a collection of trees.

## **Does Planting Trees Counter Climate Change?**

We often hear that we need to plant trees in order to counter climate change. Rackham tells us that Britain is far too small to make an appreciable difference to global CO<sub>2</sub> levels:

*“... exhorting people to plant trees to sequester carbon dioxide is like telling them to drink more to hold down rising sea level.” (25)*

Recently Miles King, Conservation Director of the Grassland Trust commented on the Woodland Trust's ridiculous plan to plant 6 million trees, in 2012, to mark the Queen's Silver Jubilee. He wrote:

*“The Woodland Trust press release extolled the virtues of trees as carbon stores. The planting scheme will be making Britain greener in more ways than one – as well as the beauty of the trees themselves, they will reduce the impact of pollution; the carbon lock-up potential from six million trees is roughly equivalent to the annual carbon dioxide output of a million cars.*

*This statistic didn't look quite right to me so I did some calculations – and yes, what it actually means is that over the lifetime of the trees – a couple of hundred years – and assuming a lot of caveats, they will soak up the CO<sub>2</sub> produced by a million cars in one year.”*

He went on to write:

*“What's really interesting is that converting intensively managed grasslands to wildlife-rich grasslands creates the same amount of carbon storage as planting trees. And you can carry on grazing them, unlike plantations.” (26)*

## **Grasslands**

The origins of our native grasslands, and their relation to former British woodland, have been, in the absence of direct evidence, the subject of much speculation. The Grassland Trust has produced the following account (27) which agrees reasonably well with other related passages in this report:

*“The origins of England's semi-natural grasslands go back thousands of years. Almost all of the plants and animals that inhabit these grasslands colonised Britain after the last ice age, about 10,000 years ago. As the glaciers retreated, grasslands replaced them. These were, in turn, replaced by a primeval wood – the ‘Wildwood’, which flourished for 4,000 years, occupied by Mesolithic hunter-gatherers. During that time, grassland wildlife would have survived in naturally open spaces within the Wildwood, possibly kept open by natural events, such as fires and floods, as well as by herds of native herbivores (e.g. auroch, elk, bison, moose, wild boar, beaver, red deer), most of which are now long extinct. Since the arrival of Neolithic farming culture, 6,000 years ago, grasslands have dominated the English landscape.”*

Our biodiverse grasslands are called “semi-natural” because they have evolved as a result of human farming practices. Such grasslands had two main uses: they were either grazed directly by livestock or cut for hay which, after being dried, was fed to livestock during the winter months.



It is now recognised that semi-natural grasslands are extremely important for wildlife:  
*“Semi-natural grasslands are the richest habitats for wildlife in England, supporting more priority species than any other habitat; a fifth of all priority species are associated with grassland habitats.”*  
But they are also among the most endangered habitats in Britain:  
*“As recently recognised in the EU Biodiversity Strategy, intensification of agriculture has been almost entirely responsible for the wholesale loss of semi-natural grasslands across Europe and especially in England, as a result of increases in fertiliser application, herbicide use, cultivation, re-seeding with agricultural grasses and drainage. Losses of habitat have slowed in recent years, although they continue, especially for small fragments of grassland. Intensive agriculture has also driven abandonment of marginal grasslands, either because there are no livestock on arable farms, or because the semi-natural grasslands are irrelevant or inconvenient for intensive livestock systems. Intensive agriculture continues to have indirect effects on surviving semi-natural grasslands, through eutrophication, drainage and water abstraction. Eutrophication is still a major problem (although nitrogen comes from a variety of sources, including airborne deposition, from industrial and transport emissions). While agri-environment schemes have provided some respite in recent decades, their future is uncertain and they cannot be regarded as an effective protection mechanism.”*

The severity of these losses is illustrated by the example of lowland meadows and pastures in England of which 97% have been lost since 1940; there are only 8000 ha left.

Although most semi-natural grasslands in the UK have been lost to agricultural intensification there were, until recently, some examples of this type of habitat in Greater Manchester – but these have mainly been lost as the result of ignorance and neglect.

## **Planting Biodiverse Grasslands**

Biodiverse grasslands can be planted and such planting could go some way towards compensating for the loss of semi-natural grasslands. Nevertheless, creation of such grasslands is not particularly easy and requires an in-depth understanding of the local environment. It is necessary to select the right site and prepare the ground appropriately. It is then necessary to sow the seeds of the appropriate species (for the site and region). Any seeds must be of local provenance. Finally, a long term management plan should be prepared for the site and committed to.

There is a Greater Manchester Biodiversity Action Plan for Grasslands (28) (and this contains more information on different types of local grasslands and also on planting strategies).

The Friends of Chorlton Meadows are currently trying to re-create an area of biodiverse grassland, on Ivy Green, using locally gathered wild flower seeds (29).

## **The Value of Nature**

As is noted in the various biodiversity policies cited above, the natural world is the sole source of human wealth. Unfortunately, conventional Economics has ignored the value of nature and concentrated only on such topics as the relationships between producers and consumers, the operation of markets etc. and has ignored the true value of nature or regarded it as an irrelevance. Economics is often referred to as the “dismal science” but, surely, an area of study which ignores the fundamentals cannot be regarded as a science at all (?) It is as if physicists chose to ignore the Laws of Motion or Thermodynamics or chemists considered the nature of chemical bonds to be irrelevant!

Recently, some conservationists have argued that the value of nature should be rigorously quantified and included in all economic calculations. The British conservationist, Tony Juniper has written articles on this topic for various publications and in January 2013 published a book on the subject (30). Other conservationists, most notably George Monbiot, are alarmed by this development. They argue that nature should be valued for its own sake and putting a monetary value on it may lead to its commodification (31). There is no doubt that this debate has much further to run.

Nevertheless, there is increasing evidence that the health of the natural environment also has indirect economic value by having an influence on human health and well-being. Consider the following anecdote:

In the spring of last year (2012) I was walking down the lane, near my house in Chorlton, which leads down to the Hardy Farm area near the Mersey. I was passed by a high-spirited gang of small girls with ages ranging from about 5 to about 13. They were carrying nets, jam jars and plastic buckets. They stopped at a shallow pond next to the path and as I passed I realised that they were collecting frog spawn. Presumably, they hoped to watch the frog spawn develop into tadpoles and then into frogs. Ironically, the pond had not been constructed for the sake of wildlife but to drain the path in order facilitate 'access'. Nevertheless, it's now one of the most biodiverse water bodies in the area.

The sight of children enjoying nature is now even rarer than some of the rare plants that I occasionally find on my botanical expeditions. Sadly, in one generation, the proportion of children regularly playing in wild places in the UK has fallen from more than half to fewer than one in 10. It has been estimated that 11 to 15 year olds now spend, on average, half their waking day in front of a screen. An indoor life has been linked to Attention Deficit Hyperactivity Disorder and other mental health problems (32).

More generally, there is increasing interest in the link between healthy and biodiverse environments and human health and well-being (33). Although I can't extrapolate from a sample of one, I can testify that my own mental and physical health has been markedly improved by my extensive contacts with the natural world in the years since I retired in 2005.

## **Future Prospects for Biodiversity Nationally and Locally**

Sadly, prospects are poor.

In July 2010 Caroline Spelman, the coalition Government's Secretary of State for Environment, Food and Rural Affairs, pointed out that there is an economic case for conserving biodiversity. Her thoughts on this subject were reported as follows:

*"Our approach to our natural environment is often bafflingly equivocal. On the one hand, we're unified by our appreciation of the beauty of our waterways, forests and the diversity of plants, birds and animals. On the other, appreciation hasn't saved them from piecemeal degradation over the years. Too often as a society, we decide that economic gain and environmental protection are incompatible, instead of inseparable. The beauty of our landscapes is significant, but few are aware of the solid economic benefits they bring – and what we don't value we don't protect. So today, when rebuilding their economies is the number one priority for governments across the world, we need to start making the economic case for our environment at least as strongly as we have been making the aesthetic one.*

*... our environment is the natural foundation on which our economy is built. It creates thousands of jobs and generates billions of pounds. English national parks, for example, support over 54,000 tourism-related jobs. The Peak District national park on its own contributes £155m to the region – 60% of local businesses say they would suffer if the landscape deteriorated."*(34)

These words were uttered, of course, during the coalition Government's 'honeymoon period' – when it was still expressing an ambition to be the "greenest government ever". But in September 2012 Ms Spelman was replaced by Owen Paterson and the honeymoon was over. Paterson has idiosyncratic views on climate change, has tended to take the side of the pesticides industry in the debate around neonicotinoids and bee health, has dragged his feet over the creation of marine reserves, supported the culling of badgers and is considering removing a layer of protection for wildlife by merging Natural England with the environment Agency (35).

But even before Mr Paterson was in post, the Government was showing its true colours: In his Autumn Statement for 2011 (36), George Osborne, the Chancellor of the Exchequer, stridently attacked environmental regulation describing green policies as a "burden" and a "ridiculous cost" to British businesses.

In a clear attempt to redirect the coalition's green policies, the chancellor told parliament: "I am worried about the combined impact of the green policies adopted not just in Britain, but also by the European Union ... if we burden [British businesses] with endless social and environmental goals – however worthy in their own right – then not only will we not achieve those goals, but the businesses will fail, jobs will be lost, and our country will be poorer."

Mr. Osborne gave £250m worth of assistance and rebates to the most energy-intensive companies, scrapped a planned rise in fuel duty, announced a massive road-building scheme and hinted at a watering down of regulations to protect British wildlife.

This view that achieving a healthy environment is optional and that in times of economic trouble we should abandon such goals is monumentally wrong on so many levels. Nevertheless, I suspect that what Mr. Osborne said in that statement is what many politicians, of all of the mainstream parties, privately think – that wildlife and the environment are trivial and of no consequence.

In Manchester the leader of our city council, Sir Richard Leese, seems to think that the answer to massive biodiversity loss is more tree planting. In answer to a question about the loss of local habitats to development he replied:

*"If you look at what we're working on for designs for new housing areas and so on, we are increasingly taking the best practice – mainly from Northern Europe – in terms of how we increase green, water management... increasingly within green spaces it won't all be sculptured lawns and so. We have a greater use of tree planting species that will encourage insects and birds and so on ... But no, we're not concreting over everything, and we are planting – particularly trees – vast amounts of the city on a year-by-year basis."* (37)

Isn't it time that someone told Sir Richard that conservation is about preserving and maintaining existing habitats and species? It is not about arbitrarily introducing new species once the existing habitats and species have been destroyed.

So, after a few years of fine words and noble policy documents, politicians' real contempt for, and complacency towards the fates of, nature and the environment are becoming more overt. This makes little difference on the ground because although the noble (paper) policies have said 'all-the-right-things' the deadly war against nature has continued unabated.

In fact, the UK is failing dismally to meet its national and international obligations. Recently, a wide-ranging alliance of wildlife conservation groups published a report entitled '*The State of Nature*' (38) - a comprehensive audit of what has happened to the natural world in Britain over the last half century. The report was co-ordinated and produced by the Royal Society for the Protection of Birds (RSPB) but 24 other bodies took part, ranging from the Bat Conservation Trust to the British Lichen Society.

The report is, essentially, a catalogue of loss. It examines the fates of 3,148 species of mammals, birds, reptiles, amphibians, invertebrates and plants in the British countryside since 1962. It concludes that 60% of these species have declined in numbers, 30% have declined by more than half and 10% are threatened with extinction. Populations of many species – like the House Sparrow or the Garden Tiger Moth - which were common only a couple of decades ago are now in steep decline. There's no reason to believe that the situation in Greater Manchester is any different

Those of us who take an interest in natural history are not at all surprised by the findings of the report; most of us have had to look on with horror, for the last few decades, at the depressing spectacle of the natural world being brutally dismantled around us. The political and business establishments in the UK seem determined to find out the 'hard way' what it's like to live in a sterilised world.

## What Needs to be Done to Reverse the Decline in Local Biodiversity?

Residents, community groups, campaigners and activists should always challenge threats to green spaces from developers.

As detailed above, our local authorities, including Manchester City Council, have produced several Biodiversity Action Plans (of varying credibility). Unfortunately, most of these documents are, in reality, 'no action' plans and seem to represent merely 'paper aspirations'. Activists should demand that the authorities keep their written promises with respect to biodiversity.

- \* The local authorities should be urged to spend less money on gang-mowing of grass and more on ecologically sound habitat management.
- \* Land managers with responsibility for linear features, such as roads, tram lines, railways, cycle tracks, footpaths, rivers and canals should be urged to manage the verges and embankments of these features as viable wildlife corridors in order to enhance connectivity in the landscape.
- \* Local authorities should be urged to find viable and sustainable uses for the biomass generated by habitat management regimes.
- \* The need for tree planting should always be questioned. The appendix to this report consists of a questionnaire which should help the reader to decide whether to participate in tree planting exercises or not.
- \* One of the most important contributions which interested individuals can make to the cause of local wildlife conservation is to learn how to identify local species and to record them. The Greater Manchester Local Record Centre is currently running a project called 'From Grey to Green' (39). The objective of this project is to re-connect the people of Greater Manchester with their local wildlife and encourage them to record it. The more we know about our local biodiversity, the more chance we have of conserving it.
- \* We need to explore possible ways of re-connecting children to the natural world around them.
- \* Finally, of more immediate concern, we need to challenge our local authorities with respect to the likely impact of spending cuts on our green spaces. They have neglected local biodiversity for years; do the cuts mean that they are now intending to abandon it all together?

## How Will We Know if We've Succeeded?

The answer to this question is surprisingly simple: the vegetation in our green spaces will become more diverse and colourful; there will be more native wild flowers on view with correspondingly more of the insects, birds and mammals which depend, directly or indirectly, on them for food.

David Bishop, June 2013

## Appendix: Tree Planting Questionnaire

1. Why are trees being planted on the chosen site – what will be achieved by doing so?
2. Has the site been surveyed for valuable species/habitats which might be damaged by tree planting?
3. What is the source of the trees which are to be planted on the site?
4. Have the trees to be planted on the site been imported from outside of the UK?
5. Are the trees to be planted on the site originally from a UK source but grown-on outside of the UK?
6. If the trees to be planted on the site are from a non-UK source, or have been grown-on outside of the UK, have they been checked for disease and are they certified 'disease free'?
7. Has a long-term management plan been written for the site?
8. Are the resources in place for managing the site in the short-term?
9. How likely is it that the site will be managed in the long-term?
10. Does the management plan contain provisions for disposing of any wood or timber, generated as a result of the implementation of the plan, in a sustainable manner?

## Manchester Biodiversity Action Plan 2012 – 2016

Manchester City Council has published a Biodiversity Action Plan (BAP) for the period 2012 to 2016 ([http://www.manchester.gov.uk/download/meetings/id/12789/item\\_7-Manchester\\_biodiversity\\_action\\_plan\\_2012-\\_2012](http://www.manchester.gov.uk/download/meetings/id/12789/item_7-Manchester_biodiversity_action_plan_2012-_2012)). At the end of the plan is a long list of activities to be undertaken, by the Council and its partners, in order to meet the plan's objectives. Some of these activities have completion dates associated with them whilst others are open-ended. It would be useful to know how much progress has been made on the open-ended activities – particularly the 10 listed below:

1. To ensure biodiversity is sensitively managed in parks, open spaces, cemeteries and waterways across the city (BAP p. 25).
2. Biodiversity training made available for all Manchester City Council land managers (BAP p.25).
3. Biodiversity management embedded into grounds maintenance contracts (BAP p.25).
4. To investigate opportunities for adjusting maintenance to improve biodiversity provision with registered social landlords and private landowners (BAP p.26).
5. To provide biodiversity guidance, advice and assistance for SBI [Sites of Biological Importance] landowners and land managers (BAP p. 27).
6. To ensure annual five percent improvement on SBIs in active conservation management in line with Defra guidance (BAP p.27).
7. Trialling of grass-cutting adjustments and better biodiversity design and management, including roundabouts and roadside verges (BAP p. 27).
8. To fully comply with the NERC duty of 2006 where the Council where the Council and public bodies must in exercising its functions have regard to conserving biodiversity ("NERC duty" refers to the Natural Environment and Rural Communities Act, 2006) (BAP p.30).
9. To encourage schools to establish and maintain school wildlife areas and use them for curriculum-based study (BAP p. 34).
10. To create improved connectivity between green spaces (BAP p. 36).

Dave Bishop, July 2013



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***For further information about Manchester Climate Monthly;  
[manchesterclimatemonthly.net](http://manchesterclimatemonthly.net)***

***For further information about the work of Friends of Chorlton Meadows;  
[friendsofchorltonmeadows.blogspot.co.uk](http://friendsofchorltonmeadows.blogspot.co.uk)***

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