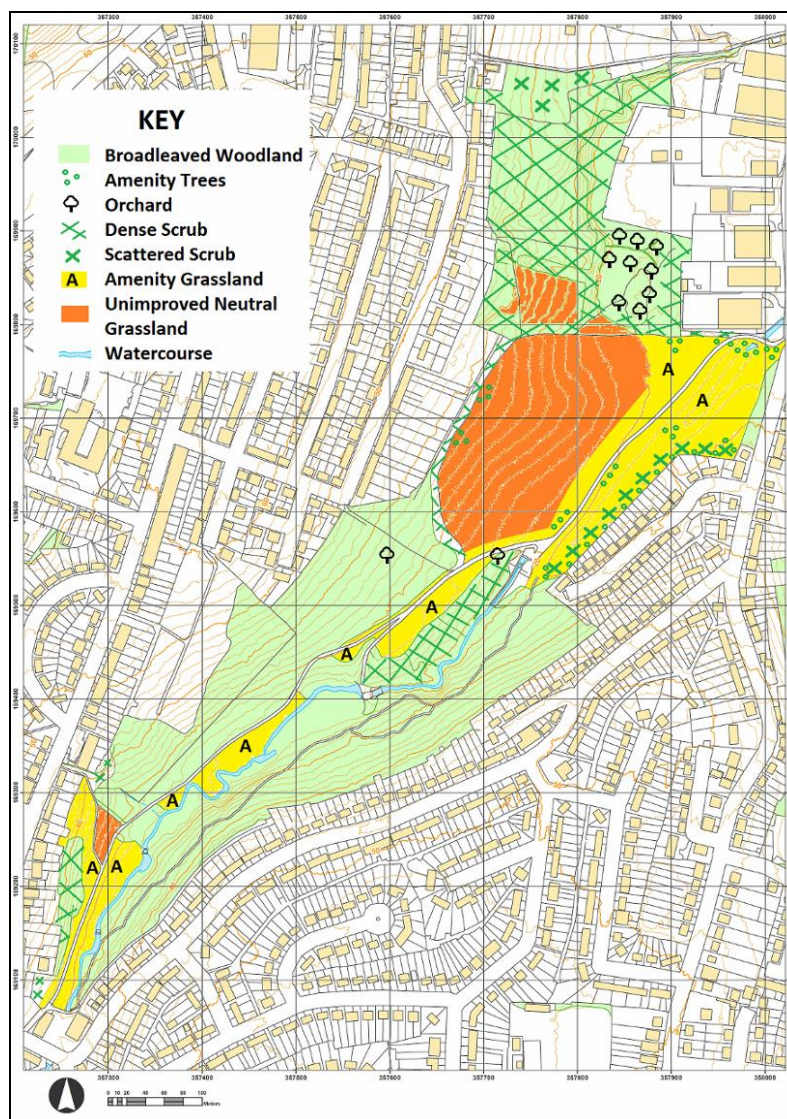


GRASSLAND

Parkland and Amenity Grassland

Frequently, up to a third of the area of a town or city may be grassland. Of this, typically about two-thirds are grassland. Amenity grassland comprises intensively managed and regularly mown grasslands; typical lawns, playing fields, golf course fairways and many urban parks. In these areas the sward composition depends on the original seed mixtures used and on the age of the community, however Perennial Ryegrass, with or without White Clover, often predominates, with the possible presence of herbs such as Daisy, Broadleaf Plantain and Dandelion. A range of other species can be present, but do not become obvious until or unless the management regime is relaxed.



Extent of amenity grassland areas (yellow) and wildflower meadows (orange)

The combined cycle and pedestrian path that runs the length of Manor Woods Valley was given its tarmac surface in the spring of 1995. Before that it had a was a hardcore surface that was muddy when wet and rough when dry. At the same time the dilapidated chain-link

fence at the Vale Lane entrance was replaced with a low-level iron bar on short posts. The stone walls, gate and access barriers at the Vale Lane entrance, and the gate and fencing at the Bishopsworth Library entrance were installed in 1997.



New gate and rails installed at the Vale Lane entrance in 1995

At the end of the 1990's the rather short-lived idea of creating a fishing pond or lake in the Lower Park, near to the Vale Lane entrance, was mooted.

During 2001 and 2002, Wessex Water undertook major engineering work in Manor Woods. They constructed a large underground holding tank which was to receive pollution from foul sewers when heavy rain causes an overflow. This reduced the number of such overflows into the Malago from several dozen each year to just a handful. The construction work took place between Bishopsworth Entrance and Valley Heights Path. There is now occasional vehicle access from Bishopsworth Entrance to an access shaft near the Valley Heights Meadow, which is slightly above the natural ground level, with the earth mounded around it.

During the works, the southwest end of St Peter's Rise was closed to traffic for some weeks, but pedestrian and cycle routes, both on the road and through Manor Woods Valley, was maintained, the latter by the construction of a tarmac path close to the Malago. This presented a pleasant walk on a narrower track near to the water. It was suggested that this temporary path should be retained when the work was finished, so allowing pedestrians a more interesting route separate from the cycleway; however, the pre-existing path was re-instated as originally planned.

A group of travelers briefly moved onto the Vale Lane end of the site in late May 2002. During their brief stay, there was damage to the grass, a tree near the path was chopped down and the wooden pergola style part of the gateway entrance was almost totally destroyed.



Damage caused at the Vale Lane entrance during the incursion by travelers in 2002

In response to the damage caused during the incursion by travelers, MVCG (Malago Valley Conservation Group) set up a new working group specifically to look at the entrances to the valley. This group soon became the Manor Woods Valley Working Group (MWVWG) within MVCG. This group effectively became the predecessor to the Manor Woods Valley Group (MWVG). The latter was formally formed as a successor to MVCG in the spring of 2019. MVCG effectively closed in October of that year, at which time MWVG took over its remaining resources and function as the friends' group for Manor Woods Valley and its immediately surrounding area.

The first entrance to be tackled by the MWVWG was that at the rear of Bishopsworth Library. In an hour's work, a group of around six people, headed by Anton Bantock, gathered litter, bottles and cans, cut back Brambles and cleared Ivy. The Vale Lane entrance feature was not made-good by BCC for another two years.



The MWVWG members clearing the Bishopsworth entrance - 2002

Work by MWVWG in following years included clearing of Brambles and planting of wild flowers at the entrance behind Bishopsworth Library.

Ad hoc litter and garbage clean-ups took over from the regular monthly 'raids' in 2007; however, littering on the Valley Road path into Manor Woods became such a problem that it needed the intervention of BCC contractors. Litter has always been a problem in Manor

Woods Valley, but the installation of two bins along the main path and the replacement of one behind the library was during 2011 improved the situation. Subsequently groups from MVCG, Community Payback and organisations using their Corporate Social Responsibility (CSR) time have conducted regular, and not so regular, rubbish 'sweeps' of the valley. By 2018 Manor Woods Valley was essentially litter-free.

Wood benches installed on concrete pads at several location within Manor Woods Valley suffered progressive loss due to vandalism during the mid-1990's. Replacement metal benches installed in 1999 have largely successfully resisted vandalism. In 2006 MVCG lobbied BCC for more park furniture, including at least one picnic table and proper sign boards at the entrances, agreement to a better grass cutting regime and pursuing the plan for an improved path through the woodland.



Site of bench destroyed by vandals



The replacement steel bench has stood the test of time

MWVWG took it upon itself to paint the railings alongside the library entrance to the Woods and to plant *Rosa rugosa* behind the railings. This was done in 2006, unfortunately the latter plants were soon accidentally removed by the Tabernacle when they were tidying-up their property. Work to clear scrub and rubbish from around the Library Entrance took place on a regular basis post-2006.

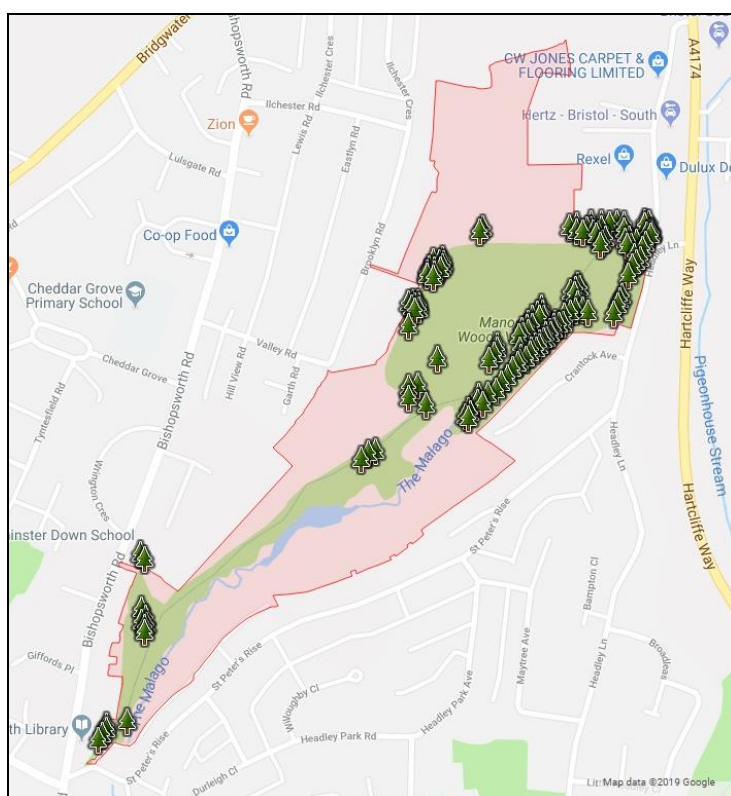
A group more than 40 people came from all over Bristol for a 'Fungi Foray' in October 2007.

To correspond with the declaration of Local Nature Reserve (LNR) status for Manor Woods Valley, two interpretation boards were installed during 2008; one near the library entrance and the other at the 'pond'. South Bristol Riverscapes (a two-year scheme to improve the streams and waterways throughout South Bristol) and the BCC Parks officer worked with MVCG to plan and produce these. In the spring of 2010 designer Clare Chalice worked on a third interpretation board for the Wildflower Meadow. The 'Mid-Summer Meadow' board was duly unveiled in early June. The board was financed from a grant from Yansec for £2000 and £339.46 from MVCG funds. The latter board was badly vandalised in 2015 and 2018. On each occasion BCC repaired the damage in a timely manner. On the latter occasion, through the use of social media, the culprit was identified and prosecuted.

Section 106 money originating from the development of the Valley Heights flats on Bishopsworth Road was used to landscape the path from Bishopsworth Road, with native trees being planted below the flats in autumn 2009. Failed and damaged trees were replaced two years later.

A certain degree of vandalism has always been an issue in Manor Woods Valley. This was especially bad in 2013 when the area around the interceptor had been targeted. Slabs were removed from the top of the wall and some taken away. The finger post (River Path and Woodland Path, partly paid for by MVCG) was uprooted twice and the Malago Greenway sign behind Bishopsworth Library had been removed and thrown into the library garden. Following some persistent badgering, all this damage was repaired by BCC.

According to the 'Trees of Bristol' register there are 148 standard trees, of 32 species, within the Manor Woods Valley parkland and lower end of Butcher's Broom Spinney. There are various Maples, Chestnuts, Ash, Cherries, and Whitebeams, amongst others.



Locations of Parkland Trees in Manor Woods Valley

Wildflower Meadows

The maintenance requirements of amenity grasslands are surprisingly high, forcing many local authorities and land-owners to seek cheaper management protocols or regimes. Creating grassland habitats in urban settings for the provision of native or naturalised grasses and flowering plants offers several advantages, however tall grasslands and wildflowers can sometimes be seen as unsightly and unattractive both before and after flowering. Others see tall grasses as a fire risk; and others as a dog latrine or a focal point for littering.

Benefits of tall grasslands that merit their wider consideration include:

Biodiversity - while short grasslands attract birds and invertebrates of grassland and very open habitats, tall grasslands tend to include nectar-rich plants, in turn attracting hoverflies, butterflies, moths and bees. The habitat will also be more likely to support small mammals and even reptiles.

Social benefit - tall grasslands are particularly attractive to young children, stimulating the imagination and natural play, educating with respect to insects and other invertebrates associated with the habitat, and introducing them to wild habitats.

Economic sustainability - the management regime for grassland varies according to the specific habitat to be created (or maintained) and the objectives associated with it. The management regime for tall grasslands and wildflower meadows is less intensive than for closely mown amenity grasslands, so they can be a cost-effective alternative.

Public acceptance of grasslands other than monotonous and barren amenity grassland can be fostered through community engagement, education and carefully balanced design. For example, colourful wildflowers and bulbs that provide a changing splash of colour through spring, summer and autumn can stimulate interest through visual appeal. Maintaining closely mown grass along edges and paths, and cutting wide meandering pathways through the tall grasses, can improve aesthetic appeal and encourage people to wander in and out of the meadows. Signs to explain the interest and importance of tall grass and meadowlands, including interpretation of the habitat's biodiversity, may stimulate interest.

Biodiversity of grassland can be increased by:

A shift in habitat type from closely mown grassland to rough, tall or flowering grassland, or shrub land

Changing the cutting regime to convert to flowering lawns for at least a period of the year, to stimulate species and structural diversity

Removing turf and/or topsoil through stripping or soil inversion, and laying a meadow seed mix on the reduced-nutrient sub-soil

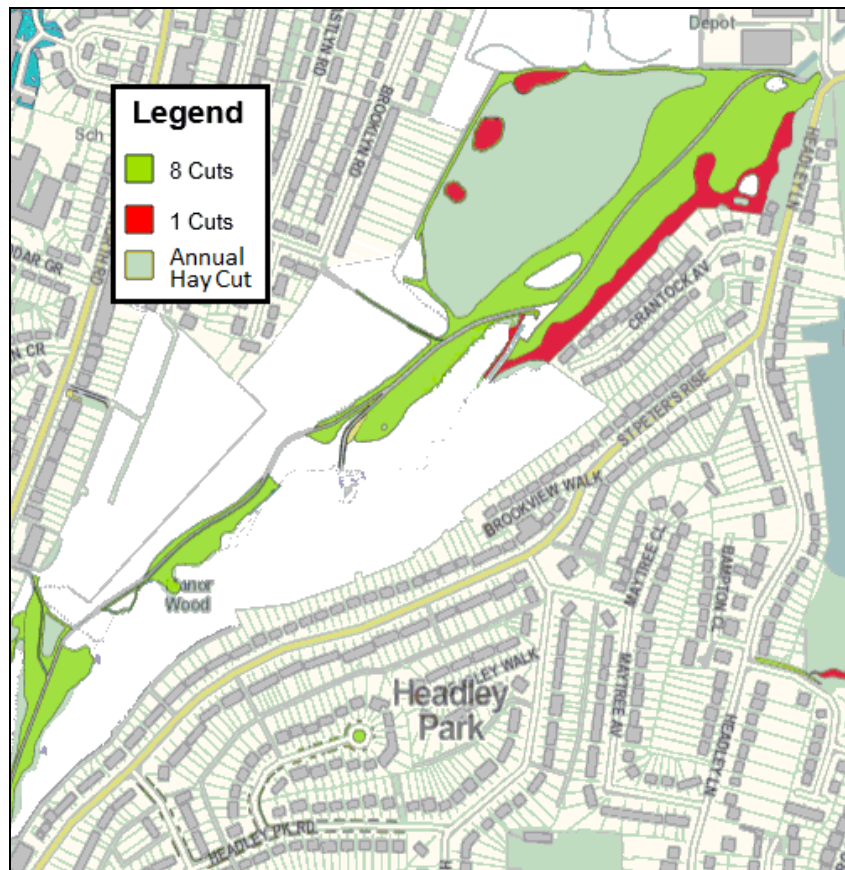
Cutting in rotation so that there is always some long grass somewhere in the greenspace

Not cutting for at least one season, to reveal what species are naturally present

Encouraging nutrient-stripping of the soil by using a sow-grow-mow regime, removing the cuttings with each mow

Seeking specialist advice.

About half of the grassland area in Manor Woods Valley is managed as regularly amenity grassland, with the other half being managed as wildflower meadow. The latter having been established by following several of the principles outlined above.



Grass cutting regime

The Wildflower Meadow

The large area, known as The Wildflower Meadow, has a complex topographical history. Sometime between 1938 and 1948 three long quarry pits had been dug to the west of the brickworks, one of which impinged on what is now the northwest corner of the Wildflower Meadow.

In about 1950 the hedgerows in the Wildflower Meadow, Lower Park and other open spaces, were removed. LIDAR data (see 'Allotment Wood' chapter), reveals that there are no relict hedge-banks visible in the Wildflower Meadow and Lower Park. This demonstrates how completely these areas were later re-profiled. The current landform of The Wildflower Meadow was created as a result of land-filling with domestic refuse, followed by tipping of the arising from the tunneling works associated with the culverting of the Malago. Works associated with the latter began in 1971 and were completed in 1976. The wildflower element of the meadow was not deliberately created, but came about as a result of poor, or no, capping the arising with top soil and impeded drainage. The latter is probably a function of compaction by heavy machinery, the structure of the arisings and the absence of drains being installed. Today the Wildflower Meadow runs to approximately 2.67ha. Its soil type is described as loamy-sand.

A soil survey conducted by University of Bristol students in January 2019, of a single transect across The Wildflower Meadow, the old course of the Malago and Lower Park, revealed that the top soil along the whole of transect was similar. This could indicate that the whole area was covered in the same material in the mid 1970's. This would explain why the 'old course' of the Malago has a gentle profile and straighter 'course' compared with

usually steeper sides and winding course of the up-stream natural course of the waterway. The students' work appeared to bear-out observations with regards to impeded drainage on parts of The Wildflower Meadow, especially in the more elevated areas. The work also indicated that it would be possible to extend The Wildflower Meadow, or a similar habitat in to the Lower Park should the opportunity arise.

Originally managed as regularly mown amenity grassland, a more sympathetic grass cutting regime introduced by Bristol City Council in the mid-1990s resulted in an abundance of wild flowers hitherto not seen, including patches of Lady's Smock. The presence of the relatively rare Corky-fruited Water Dropwort was first described in 1996, in which year several areas of grass had been left to grow in the spring, but were cut before the Dropwort had flowered. This plant is a native perennial of hay meadows and pastures, particularly horse-grazed pasture. It increased in numbers and range across the site with the new cutting regime. It is usually found growing on acidic soils and will tolerate both damp and dry conditions. Its natural range is relatively restrictive, being centered around the counties of Somerset, Dorset and Hampshire but where it does occur it can be very abundant, indeed by the late twenty-teens it was the dominant flowering plant along the top edge of the Wildflower Meadow. Perhaps in this area the tunneling arisings have served to acidify the soil somewhat.

In 2001 Hoary Cress and Hedge Woundwort were recorded, as were Ox-eye Daisies and Buttercups amongst the grasses. Bird's-foot Trefoil, Red Clover and Flax were noted in the wildflower meadow in 2005, in which year a meeting to discuss the mowing regime took place with the Community Parks Manager, one of the Council's Conservation Officers and the Local Nature Reserve Officer. As a result, The Wildflower Meadow was cut for hay in the summer of 2007, so that by September a wide variety of flowers which had re-grown after the hay-making were evident.

By 2019 Bee Orchids were widespread across the Wildflower Meadow, having presumably spread from the Orchard Triangle, and a single Common Spotted Orchid was present near the top of the meadow. In addition to the aforementioned, Pyramidal Orchids were present in the Wildflower Meadow and one sprang-up in an unmown part of the Lower Park in 2021.

MVCG donated funds to allow the installation of a simple bench at the top of the flower meadow during 2013. The bench soon proved popular for walkers who stop to admire the view.

Orchard Triangle and Sunny Bank

The Orchard Triangle is a relatively small area of grassland between Manor Woods Orchard and the Wildflower Meadow. It is quite uneven made-up ground and has a small, Sedge filled, wet patch at its lower end. It was once mown along with the main meadow and the orchard, but this became more occasional and ceased altogether in the mid-2000's.

The area was known for its Orchids. 1999 saw 26 Bee Orchids in the area when it was unmown that year. These were thought to be a new species for the site at that time. They were not evident two years later, but ten were counted in 2002 and 25 in 2003, by which time they had spread further away from the original site where they had appeared. In addition, a single Pyramidal Orchid, represented the first known record in Manor Woods Valley, was present in 2003. In 2006 and 2007 there were over one hundred Bee Orchids

counted as well as a single Pyramidal Orchid which re-appeared after not being seen in 2005. All of these fascinating and beautiful flowers then disappeared as Brambles and occasional wild Roses came to dominate the area.



Pyramidal Orchid

As a result of clearance work then scything work by MVCG and Avon Wildlife Trust volunteers Bee Orchids reappeared in 2017 and a, or perhaps 'the', single Pyramidal Orchid in 2018, apparently having lain dormant, or in a vegetative state, beneath the Brambles. Additional flower spikes of both species were noted in subsequent years.

Snake-head Fritillary bulbs were planted in the lower damp area in the winter of 2018-19, and appear to have established well.

Sunny Bank is a narrow strip of ground between the Orchard Triangle and the bottom edge of the Rabbit Field. It has a south-easterly aspect. It is prone to suffer from Blackthorn encroachment.

Due to its great floristic diversity, the combination of the Orchard Triangle and Sunny Bank is particularly important to butterflies, especially Marbled Whites, Large Skippers and Ringlets. The relatively rare, occasional migrant, Clouded Yellow was present in the late summer of 2020.



Sunny Bank (left of the path) and Orchard Triangle (right of the path) – June 2018

The Rabbit Field

The 0.12ha Rabbit Field, situated in an elevated position to the north of The Wildflower Meadow and west of Manor Woods Orchard, used to be an area of species rich grassland before becoming overgrown with Brambles during the 2000's. Most of the area was cleared of Brambles in January and February 2017, with follow-up sessions taking place throughout the year. ParkWork, an organisation that offers training and skills development for volunteers who need additional support to secure permanent employment while improving Bristol's green spaces, carried out the bulk of the work. This was funded in part by the project to improve the habitat for Slow-worms and other wildlife. Other contributors included Bristol GoodGym, the Environment Agency and Avon Wildlife Trust (AWT).

As a result of the initial Bramble clearance, ruderal vegetation rapidly appeared, most notably Musk Mallow and Ox-Eye Daisy in the first summer.



Musk Mallow and Ox-eye Daisies in the Rabbit Field – summer 2018

Annual cutting by AWT using a self-propelled bar-mower and hand-cutting by volunteers has 'knocked-back' the Brambles to produce an area of mixed ruderal and rough grassland.



Cutting the Rabbit Field using a bar-mower – autumn 2019

A good crop of Cowslips was present in the spring of 2021, presumably a product of seed sown in four years earlier.

Valley Heights Meadow

Valley Heights Meadow is a relatively small area (0.8ha) situated near the western end of Manor Woods Valley. It was known as an area relatively rich in wildflowers until mowing ceased in the early 2010's. Course vegetation began to take-over and by the summer of

2018 the early stages of scrub succession had started. BCC was persuaded to flail the area in the autumn of 2018. MWVWG then cleared the arising by raking, and at the same time cleared Brambles from beneath and growing through the central Hawthorn and Elder, revealing an apparently self-set Common Oak in the process.

Once the area was cleared, a wildflower see mix was broadcast across the area. In addition, plug-plants of several wild species, and Fritillary bulbs, all donated by the Urban Buzz project, were planted by the MWVWG in the later winter of 2018-19. These were all growing well, with the Fritillaries flowering, when they suffered a set-back in April 2019, when BCC mistakenly mowed the whole area; however, the summer of 2019 produced a good display of Field Poppies, Yellow Rattle, Corn Cockle, Corn Marigold and Cornflower. The area was again mown and raked in the autumn of that year and the following year.

An adult Toad and Common Frog were found during raking of the Valley Heights Meadow in 2019.

Slow-worms and the meadows

Following a survey conducted in June and July 2017, Just Ecology established that there was a 'good' population of Slow-worms present in Manor Woods Orchard and the Rabbit Field. A maximum of 18 individuals was recorded during the survey. As a result, it was determined that the site was a suitable receptor for Sow-worms from a development site in Ashton Vale. The carrying capacity of the site was increased with the provision of two reptile hibernacula, one in the Orchard and one in the Rabbit Field. During August to early October 2017 a total of 118 Slow-worms were moved and released at the Manor Woods Valley site. The release of Slow-worms was accompanied by a grant, made to the MWVG, to fund habitat management for the benefit of Slow-worms over a five-year period.



Slow-worms under a monitoring mat

A follow-up monitoring survey conducted between May and September 2018, produced a maximum count of 15 Slow-worms on any one occasion. This still fell within the 'good' population bracket, but was not significantly changed from the before translocation population numbers despite the release of 118 Slow-worms on to the site. This could have been due to dispersal or non-survival of Slow-worms, differences in the timing of the

surveys and/or distribution of refugia, and/or the fact that at least two monitoring refugia were not found during the final survey visit. The highest density of Slow-worms occurred along the south-east facing grassy bank below the Rabbit Field on edge of the orchard.



Relative density of Slow-worms recorded during the 2018 survey

Recommendation made as a result of the 2018 survey included improving the quality of grassland on scrub edges, similar in nature to that where most of the Slow-worms were found. The 2018 survey report noted that MWVG was 'doing an amazing job at cutting back bramble scrub', however it was also noted that 'Mechanical and/or chemical intervention would seem to be needed if large areas are to be returned to grassland of an optimal nature for wildlife.'

The final organized Slow-worm survey took place in the spring of 2019. This revealed an 'exceptional' population'. Casual observations made during the same year revealed at least three generations of Slow-worm being present under the refugia monitoring 'mats' deliberately left on the site following the organized survey.

Surveys across several parts of the site conducted in late 2020 and early 2021 revealed the presence of Slow-worms around all edges of the Wildflower Meadow, in the Valley Heights Meadow and around the edges of the Lower Green. This means that Slow-worms occur in suitable habitat across the whole site.

No other reptile species were encountered during any of the translocation-based surveys or wider site surveys. This would tend to indicate that there are indeed no other reptile species present.