Report to	Mousehold Heath Conservators	**Item**
	17 November 2017	7
Report of	Head of citywide services	
Subject	Mousehold Heath annual report 2017/18	

Purpose

To update the Mousehold Conservators on progress with production of the annual report

Recommendation

1) To note the contents of the report Mousehold Heath Annual report 2016-17

Corporate and service priorities

The report helps to meet the corporate priority a safe, clean and low carbon city

Financial implications

Any financial implications arising from this report will have or will be met from approved budgetary provision

Ward/s: Mutiple Wards

Contact officers

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Nigel Hales - Mousehold warden	01603 213310

Background documents

None

Report

Background

1. On 16 June 2017 the Mousehold Conservators **RESOLVED** to:

   (1) approve the content of the Mousehold Heath Annual report 2016-17 subject to any amendments identified at the meeting being made
   (2) ask the parks and open spaces manager to review use of maps in report and possibility of adding a map link in,
   (3) delegate authority to the Parks and open spaces manager to produce the finished version of the report with the communications team,
   (4) ask the parks and open spaces manager to produce a PDF version of the finished report for the Norwich City Council website, a hard copy of the document for each member of the committee, and also copies for circulation to local schools; and
   (5) ask the chair to write a letter to the local press at the time the annual report is published, to thank volunteers for the time they have given up to help look after the heath and to the raise awareness of the heath, the annual report and the work of the Mousehold Heath Conservators.

2. Due unforeseen circumstances work to finish the annual report was delayed.

2016 – 2017 report amendments

3. The report has been amended taking into consideration the amendments identified at the 17 June meeting and the report is in a new format.

4. Additional photographs and images have been incorporated to reflect the point raised that ‘a picture paints a thousand words’.

5. A change of name for the Mousehold Heath Volunteers was discussed with the group following concerns raised about the group getting confused with the Mousehold Defenders. The group agreed on a new name Mousehold Heath Mouseketeers.

6. A review of the maps for the report was considered. However, the production of base maps and then layers of information is time consuming. The new management plan will have new base template maps for the site and then layers of information will be built to go on them.

7. The new map formats will also enable information to be more accessible to the public and flexible in terms of what you want to view on the map, via the council’s GIS portal. It will also enable future maps to be produced for publications more efficiently.

8. A PDF copy of the final draft copy is attached. (Appendix 1)

9. The chair has been asked to write a letter to the local press at the time the report is published, covering the subject areas in recommendation 5.

Next steps

8. Hard copies of the report will be produced and circulated at the Mousehold Conservators meeting on 17 November 2017.

9. A PDF version of the annual report will be loaded on to the Norwich City Council website 18 November 2017.

10. Copies of the report will be distributed by the Mousehold wardens to the schools local to the site after 18 November 2017

Mousehold Heath Conservators

Annual report 2016 – 17

NORWICH City Council

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1. Chair's welcome

I am delighted to report that it has been another wonderful year for all those involved with Mousehold Heath. It is a unique area consisting of woodland, heathland and recreational open space within Norwich, a remnant of a much larger area of heath that once stretched as far as Salhouse Broad, several miles to the north-east of Norwich. As well as being a very popular recreational area, the heath is an important site for biodiversity and it has been designated as both a local nature reserve and a county wildlife site.

It is managed by the Mousehold Heath Conservators and Norwich City Council on behalf of the people of Norwich.

A management plan for Mousehold Heath was adopted in 2008 and guides the care the site through the development of an annual work programme.

Key priorities of the plan included retaining and enhancing the biodiversity value of the heath and continuing to ensure that the site provides a clean, safe and attractive environment for people to visit.

None of this could have been achieved without the dedication and commitment of the Mousehold wardens and the teams of volunteers, who work tirelessly to retain and enhance the remaining areas of heathland habitat.

Over the last couple of years, two separate areas have been brought back to establish a balance between woodland and open heathland and grassland areas, to benefit both people and wildlife. Active management, including regular vegetation cutting, scrub removal, bracken control and the creation of bare soil 'scrapes' to encourage plants such as heather to regenerate, is carried out to ensure that we keep the remaining heathland area and improve its condition.

Thank you to all involved for their interest and support in this beautiful place in our fine city.

Marion F. Maxwell

Cllr Marion Maxwell
Chair – Mousehold Heath Conservators

2. Introduction

Mousehold Heath

Mousehold Heath is a unique area made up of 88 hectares (184 acres) of woodland, heathland and recreational open space within Norwich. Mousehold has played an important part in the history of Norwich and it is a designated Local Nature Reserve. It is important both for its wildlife and as a place where people can improve their health by exercising and unwinding, away from the busy pace of everyday city life.

In Tudor times, Mousehold Heath stretched as far north as South Walsham and was 22 miles round. The surviving remnant of the heath was given to Norwich City Council (then known as the local corporation) by the Dean and Chapter, to look after on behalf of the citizens of Norwich.

This was officially recorded in 1884 by Parliament in an agreement called the Mousehold Heath Confirmation Act and a body called the Mousehold Heath Conservators was formed to govern the heath. The conservators were comprised of city councilors, representatives of professional bodies and members of the public and meets four times a year, to oversee the management and protection of Mousehold Heath.

The conservators also prepare an annual report which provides an overview of the work they oversee, any changes to the heath or new biological records and an opportunity to look forward and reflect on changes, opportunities and issues faced. The report also highlights the level of voluntary activity as well as the numbers of events, walks and surveys undertaken.

Examples of how the community are involved with Mousehold Heath, including through management work, attending events, guided walks and talks to find out more about their local open space, are also contained.

The work of the Mousehold Conservators

The management of Mousehold Heath is guided by a management plan (he current plan was approved in 2013 and is due to be reviewed 2017/18). This seeks to balance the important ecological value of the site with an equally important recreational use within an urban area.

The main management objectives for Mousehold Heath are therefore to:

- ensure that the area is managed effectively
- maintain and enhance its wildlife and historic value
- promote and enhance people's access to and enjoyment of the site.

The challenge is to balance these important and at times conflicting objectives.

The conservators agree an annual work programme and budget in January each year for the following financial year and monitor the implementation at its meetings.

The management plan and further details of the work of the Mousehold Conservators can be found at **www.norwich.gov.uk/mouseholdheath**

3. People

Volunteering

An impressive 4,367 hours of volunteer time were recorded for the site in the last year – an increase of 247 hours on last year's total. This activity was organised and supervised by the wardens, making sure that the practical works were implemented in a safe working environment and adhering to management plan objectives.

It involved a wide range of practical management tasks including bracken and grass-cutting and raking, path maintenance, coppicing, woodland thinning, tree safety works, litter-picking, installation of bollards and benches, sapling pulling, wildlife surveys and more.

This work does much to increase community involvement with the site, Norwich's largest open space. Not only does it help to deliver the management plan objectives but it also improves people's understanding and enjoyment of the site, build up a sense of ownership and pride in it and brings benefits relating to physical and mental health.

The following groups carried out work this year:

- The Conservation Volunteers (TCV)
- Norwich Community Green Gym
- Mousehold Heath mousketeers
- Citizens Volunteer Service
- Mousehold Heath Defenders
- The Assist Trust
- Norwich City College Duke of Edinburgh group
- Easton College Foundation student group
- Easton College work placement student
- Students from George White School
- City College student group
- City College work placement
- Duke of Edinburgh Gold Award work placement.
- Norwich High School for Girls
- Many individual volunteers from the community

A new volunteer group – The Mousehold Heath mousketeers

In late 2016, The Norwich Community Green Gym volunteer group disbanded. The group had provided an opportunity for local people to get involved in conservation management work on a number of sites in the city. Mousehold Heath is one of the sites that the group worked on regularly.

The loss of the group removed one of the opportunities for people to be active in the natural environment along with the associated health benefits. There was also an impact on the delivery of management works through the loss of the group.

The Mousehold wardens identified an opportunity to support the development of a new volunteer group to ensure all the benefits of volunteering could continue to be realised. In January 2017 the Mousehold Heath mousketeers was formed. The group undertakes two practical tasks a month, supervised by the wardens.

Since the group was formed, it has made a significant contribution to woodland and heathland management work. Debris left by Storm Doris has also been cleared, along with maintenance and vegetation clearance from footpaths.

Group birch pulling

The Mousehold Wardens have organised and supervised over 31,000 hours of volunteer work on the heath in the past nine years. These works have significantly contributed to improving people's lives, as well as meeting objectives set out in the management plan and Higher Level Stewardship agreement.

Group woodland copse

Community involvement

Through guided walks, education activities, volunteer work days and other activities, there has been an increase in partnership working this year. The community groups, business and education organisations that have been worked on and used the heath include Norwich High School for Girls, Norwich School, City College Norwich, George White/Mousehold Avenue/Parkside schools, Assist Trust, Citizen Volunteer Service, Horning Walking Group.

Corporate community action days involving employees from Amey,RBS and the Naked Wine Company, have seen the completion of practical tasks to improve the site for people and wildlife.

The site, with its accessible city location, is an ideal environment for children to experience the 'great outdoors'.

The conservators' ongoing development of environmental education has continued this year.

There has been continued support to encourage and implement forest school activities with pupils from Mousehold Avenue Infants and Parkside and George White Middle schools. These events continue to be popular with the pupils and parents.

A number of community based Wild4 Wellies activities took place, providing environmental education and play for children.

Additional environmental activities involving pupils from local schools are to be initiated by the wardens through 2017-18 and also through the inclusion of professional conservation organisations including the RSPB and local experts providing community education workshops.

These activities increase involvement, understanding and enjoyment for local children and local community groups regarding nature conservation and its importance.

Partnership working

This year has seen an increase in camping on the heath by those who are homeless, possibly due to an increase in those without accommodation rather than an increase in the popularity of the site as a place to stay. The wardens have worked on a number of occasions with the council's homeless/rough sleeper co-ordinator to provide support. This included site visits resulting in temporary accommodation being found until a more permanent arrangement could be made.

A missing child alert was initiated by the police regarding a young child missing from home overnight. The wardens were involved with the police search, which lasted for several hours. The incident resulted in a positive outcome when the child was found at Catton Park.

Travellers gained access onto the Greater Norwich Development Project (GNDP) area (map location 1), adjacent to Mousehold. The site is owned by Norfolk County Council (Education) and used by Open Academy students as an educational resource for carrying out practical heathland restoration and management (which also includes the establishment and management of a wild flower meadow around the outskirts of the field).

Following their departure, the wardens worked with officers from Norwich City Council's parks and open spaces department to clean adjacent areas of the heath.

During their stay, the pitch and putt course, (map location 2) was closed due to public health and safety concerns. At the same time the interpretation panel on the site of the GNDP area was vandalised (map location 1).

At a site visit by the conservators on their itinerant meeting, it was agreed to fund the installation of a replacement panel to be installed within the GNDP project area.

As this is a restricted area, it was thought to be a good idea to install a duplicate panel on the fencing of the GNDP area(map location 1) adjacent to the track leading to the pitch and putt course, so that the information about heathland management was also accessible to visitors to the heath.

A number of fly-tipping incidents occurred across the site – on one occasion two bollards were removed to gain access from Gertrude Road onto Gilman Road,(map location 3) ,resulting in a large amount of household rubbished being dumped on the wildflower area adjacent to the wildlife pond(map location 3). The wardens worked in partnership with Norwich City Council environmental services and highways officers to reinstall the damaged bollards – to ensure the future security of the site was maintained – and to remove the fly-tipped items.

During a similar incident bollards were illegally removed and damaged, resulting in the wardens working with the council's highways department to order a repair of the bollards and secure the site (map location 4).

Bollard removed to gain access onto Gilman Road

Gilman Road fly tipping

Fly tipping, Gilman Road

On a day-to-day basis, to ensure that the site is safe and accessible to members of the community, the wardens work closely with Norwich Norse (Environmental) Ltd, various Norwich City Council departments and other contractors.

Activities and events

While the heath is used considerably for informal recreation, the conservators have continued to ensure it is available for events and activities – including organised guided walks and volunteer days – aimed to widen residents' understanding and knowledge of its local history and nature conservation management.

A guided walks programme organised and led by the wardens and local naturalists, was delivered to increase involvement, understanding and enjoyment of the site. Walks this year have included, four seasonal community wildlife watch walks, fungi forays, a dawn chorus, butterfly management, site management and four moth survey evenings.

A number of additional walks were led by the wardens for specific groups and members of the community throughout the year on request, including walks for Parkside School, Horning Walking Group and Norwich Community Green Gym.

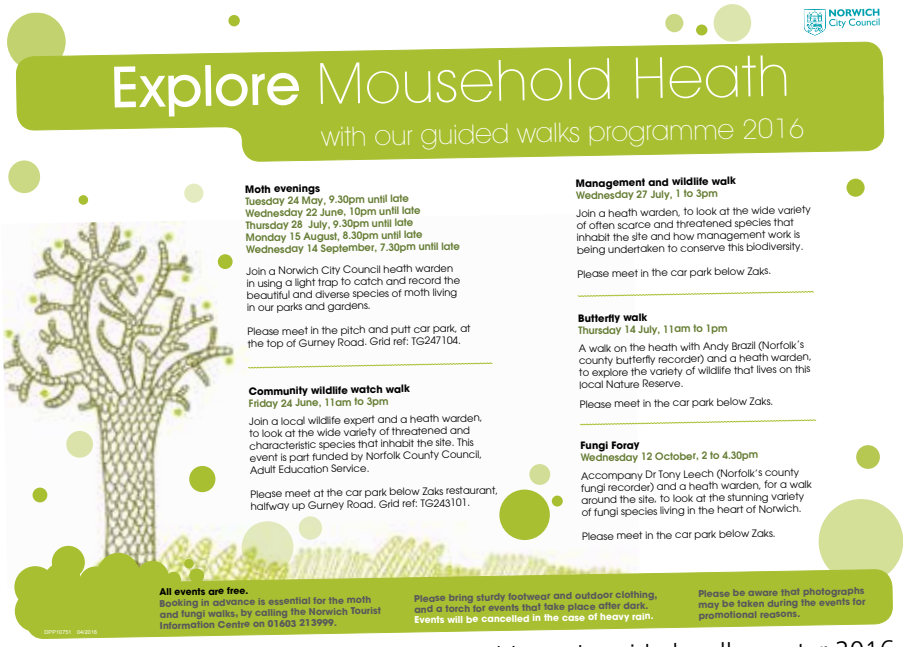
The wardens were approached by the RSPB which has developed a community outreach project delivering events to connect families to nature in green spaces in and around Norwich including the heath, where five events took place. This project is funded by the supermarket chain Aldi.

The family events officer for the RSPB provided all the equipment and resources required todeliver simple wildlife activities such as mini-beast hunts, bird watching, scavenger hunts and trails. This provided

RSPB free family activity events

families the opportunity to join in with an activity for a short period of time (approximately 30 minutes) while visiting or attending organised events.

A number of guided walks organised by the wardens took place including moth evenings, as well as a number of impromptu events advertised for the local community and volunteers.



Mousehold Heath guided walks poster 2016.

Two brass band concerts took place at the Fountain Ground on June 26 and 10 July and these were free for the public to attend (map location 5).

Promotion of Band Concerts for 2017.

Seasonal wildlife watch walks were organised in partnership with Norfolk County Council Adult education in addition to our guided walks programme – and these events were very well attended.

A Playdays event was organised by the council's events team on 25 July, on the Fountain Ground, and this included environmental education activities with the RSPB, face-painting and other organised outdoor activities. This was very well supported and enjoyed by local residents(map location 5).

The Common Lot Theatre Company toured the city with their production of Ketts Rebellion. A production took place on July 10 at Gilman Road Open Space and thankfully the weather was bright and dry ensuring a large audience (map location 6).

The Common Lot Theatre Company

Playdays event

On 11 November 2016, an Armistice Day memorial service arranged by the Mousehold Defenders took place at the Airmen's Memorial, Gurney Road (Map location 7).

Armistice day-Airmens memorial

A winter solstice gathering, organised by the Mousehold Defenders to mark the shortest day and longest night of the year, was held on 21 June 2016, adjacent to the wildflower meadow, Gilman Road (map location 8).

Two Norwich HEART Heritage weekend walks were organised. The first was a geological themedwalk, superbly led by Tim Holt-Wilson, supported by the wardens. The second was a fascinating social and landscape history walk, focussing on the stories of St William's Chapel and Kett's Rebellion by local historian Colin Howey. Both walks were fully booked and a great success.

An additional geodiversity walk was organised and led by Tim Holt-Wilson and the wardens as part of the Norfolk Walking Festival, which attracted over thirty members of the community.

A total of 317 members of the community attended these walks and events.

Earth Heritage Trail Walk

Sports

Football Pitch

A full-sized football pitch is available at the Fountain Ground sports pitch, Gurney Road, including changing rooms, showers and toilets (map location 5).

29 senior matches and one junior match were held at the Fountain Ground in the 2016/17 season with the income from the facility totalling £1672.05. Five fixtures were cancelled by clubs.

The cost per booking for the 2016-17 season was £60.80 (standard charge) or £50.67 (VAT exempt).

The facility can be booked via Norwich Norse (Environmental) by calling 01603 894140 or emailing sportsbookings@norwichnorse.co.uk

Football, Fountain Ground Sports Pitch

4. Nature

Heathland management

Lowland heathland is a scarce and threatened habitat and only a sixth of the heathland that was present in England in 1800 now remains.

However, Britain still has 20 per cent of the world's total area of heathland and this makes it important to conserve the existing areas and look for opportunities to extend them.

The government's United Kingdom Biodiversity Action Plan (UK BAP) includes targets for establishing more lowland heathland to provide space for wildlife and open access to members of the community.

Similar declines have been seen in acid grassland habitat. Both of these habitats can be found at Mousehold and provide a home to a high number of scarce and threatened species.

Heather is an important nectar source for many insects such as bees, butterflies and hoverflies. A survey of solitary bee and wasps found a number of scarce and threatened species on heather and bare ground inhabiting the heath.

Butterflies such as small heath, small copper, common blue, and green hairstreak are only found in the heathland and acid grassland areas.

One of the priority management objectives is to address the reduction of open heathland and acid grassland across the site, which has been happening over the last 40 years. Of the total area of 88 hectares, only 8.66 hectares of Mousehold is covered by heathland.

In 2012, Norwich City Council secured - on behalf of the conservators – grant funding from Natural England's Higher Level Stewardship Scheme (HLS), to restore and conserve areas of heathland and acid grassland over a 10-year period.

A grant of £30,600 was awarded to be paid in equal annual payments until the year 2022. This funding has been allocated to restoring heathland and acid grassland, removing scrub, mowing with a tractor-mounted Rytec mower, grinding stumps and stripping humus, giving heather seeds in the seed bank a chance to grow. This has resulted in existing heathland areas being enlarged and linked up.

Tractor-mounter Rytec mower

The funding has enabled the conservators to access specialist contractors to achieve this objective as part of the HLS agreement.

Volunteer community action group undertaking bracken control management.

Ongoing habitat conservation improvements were carried out through the HLS agreement during 2016-17.

This year, a further 0.6ha of poor quality, degenerating heathland habitat, covered in dense bracken and bramble growth was restored.

Removal of encroaching trees, scrub and bracken from existing heathland areas has been carried out. This work is usually done by volunteers, in compliance with the Higher Level Stewardship (HLS) agreement. It also includes humus stripping and the use of a cut and collect machine to control nutrient enrichment of soil, in line with management plan objectives.

Future management will increasingly move from heathland restoration to maintenance as areas in the agreement are restored.

Grassland management

Important areas of acid grassland were also included inthe HLS agreement, with the Desert (map location 8), ant hills, (map location 9), St. James Hill(map location 10) and the area adjacent to the wildlife pond (map location 3) cut once a year, in early to late autumn, depending on weather conditions.

Royal Bank of Scotland volunteers clearing bracken

Ant Hill management

All arisings are removed from site, minimising nutrient enrichment of the soil. These management techniques provide and maintain acidic soil conditions required by specialist grasses and wildflowers found on the heath.

The Conservation Volunteers and Duke of Edenborough volunteers cutting and raking the Desert wildflower meadow

The removal of any encroaching scrub and trees also takes place – following regular plant surveys carried out with the help of volunteers to monitor potential problem weed species (ragwort, thistles etc) – if present in large numbers.

Where present, the conservation of ant hills is ensured through sympathetic management techniques.

Natural England, which is overseeing the HLS agreement, carried out an annual habitat condition assessment and complimented the quality and quantity of the works undertaken this year and the progress of the agreement to date.

Woodland management

Mousehold today is largely covered in secondary woodland and scrub, consisting mainly of oak and birch, with some rowan and sycamore. These are species which readily invade open areas.

Natural woodland regeneration is encouraged, rather than the importation of new trees, which ensures the trees within the woodland are of local provenance, minimising the spread of pests and disease.

Woodland areas were managed through a number of techniques to diversify and enhance the habitat through ride creation, coppicing, and pollarding.

Clearance work has restored woodland glades to provide a more diverse structure to the vegetation and to increase biodiversity.

A section of woodland adjacent to Gilman Road was restored through the clearance of dead and overgrown vegetation and tree thinning. This work is important in improving access for the community to a formally impenetrable area; as well as to improve biodiversity (map location 11).

City College clearing Gilman Haw copse

There has been a large amount of woodland management work carried out by the Mousehold wardens and volunteers. See Appendix 1: Woodland management, for detailed information on the progress made in delivering the woodland management objectives.

Tree safety management

Due to exceptionally high winds experienced through parts of 2016-17 and particularly during Storm Doris, an above average number of tree works were carried out by the wardens to make dangerous trees safe, especially next to and over main pathways. Over one hundred individual tree issues were identified by the wardens on tree safety surveys, routine patrols and reported by members of the community.

Storm Doris tree blocking path

Tree surveys carried out by the wardens on a six monthly basis, in September 2016 and March 2017, identified a total of 59 trees (see map 2: Tree survey map, page 22), adjacent to or blocking pathways, which were dead, dying or dangerous and requiring, in some cases, urgent attention or ongoing monitoring.

Help from a Duke of Edenborough volunteer after completion of tree safety works

Where possible, dead/dying trees were retained to encourage a diverse structure to the woodland and ensure there is a supply of dead and decaying wood for those specialist species that require it. Trees identified as posing an unacceptable level of safety risk were removed.

Norwich Norse (Environmental) Ltd, the council's contractor, carried out essential tree safety works along Gurney Road (map location 12) and adjacent to the pavilion at the Fountain Ground (map location 13).

Beech Drive

Two large beech trees situated on Beech Drive were blown over into adjacent gardens during Storm Doris. These were cleared by Norwich Norse (Environmental) Ltd (map location 14, page 22).

The space created by the fallen trees exposed a near-by beech tree. Following an inspection by a council arboriculture officer, it was decided that the tree required immediate works to reduce the crown. The larger wood was left on site to provide a good dead wood habitat for insects, while making the area safe for the general public.

Aquatic habitats

The vinegar pond (map location 15) and wildlife pond (map location 3) are the only source of water on the heath. These habitats are continually monitored to identify any unwanted imported plants needing removal along with collecting debris.

Since the installation of clay linings in each of the above ponds, water levels have remained high, even in prolonged dry weather conditions providing an ideal environment for spawning common frogs.

These conditions have also resulted in the presence of common newts, which can be seen in the margins, along with a wide variety of damsel and dragonfly species. The ponds are also important as bathing and drinking resource for birds and mammals.

Ecological surveys and species monitoring

Butterflies

Two butterfly conservation butterfly monitoring scheme (BMS) transects were surveyed by the wardens, on a weekly basis, between April and October.

The BMS is the largest and longest running biological survey in the country (established in 1976). Data is collected from over 1,200 sites in the UK, with 29 sites surveyed in Norfolk.

Butterflies are uniquely placed among British terrestrial insects and other invertebrate groups to act as indicators of the state of the environment. The results of the surveys are used by the national government to assess the impacts of climate change and the progress of governmental policy initiatives such as the UK Biodiversity Action Plan and Higher Level Stewardship (HLS) schemes.

Not only are butterflies biologically suitable as indicator species – having rapid lifestyles and, in many cases, high sensitivity to environmental conditions – but the recording and monitoring volunteer and datasets built up by Butterfly Conservation and the Centre for Ecology and Hydrology enable accurate assessment of their trends.

Frogs spawning in the Vinegar Pond

When taking into consideration that butterfly numbers nationally and in Norfolk decreased in 2016, it is pleasing to see that butterfly numbers on Mousehold – when taking into account annual weather fluctuations and national population changes – are increasing.

There were 474 butterflies recorded during the survey on the western side of Gurney Road (Appendix 2, chart 1). Sections 1, 11, which are through woodland glades and sections 2, 5, 7, through heathland/acid grassland areas show high abundance of butterflies (Appendix 2, chart 2).

Recently restored open habitat areas, such as section 7, the heathland area near Wingfield, have seen a significant increase in abundance this year (Appendix 2, chart 3). All western transect route numbers are marked on the map in Yellow 1 to 11.

The Mousehold Heath east BMS transect survey recorded a total of 528 butterflies, mainly in the recently managed and restored areas of the anthills (section 1) and heathland (sections 4, 5 and 6). (Appendix 2, chart 4). All eastern transect route numbers are marked on the map in pink 1 to 9.

Ringlet

The average upward trend (illustrated on charts with a dotted line) of butterfly abundance over a number of years, (Appendix 2, charts 1 and 3), suggests that management work to provide open habitats such as heathland, acid grassland and woodland glades, has had a positive effect, resulting in increased sunlight and nectar producing plants and an the abundance and diversity of butterfly species.

Over 70 members of the community were involved in the surveys.

Moths

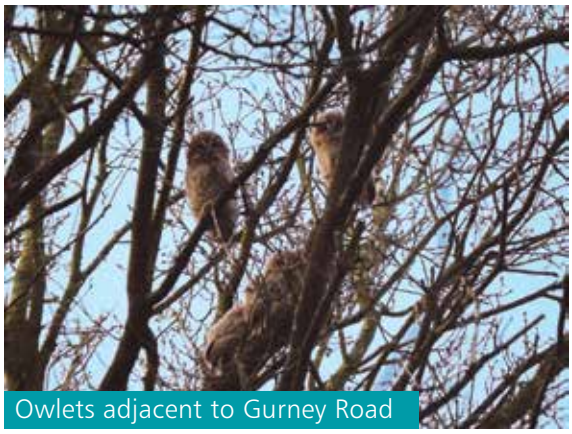
Four public moth survey evenings, along with ad hoc surveys have been completed. Over 100 moths were recorded during the surveys, including 7 species new to the site. Many colourful and characteristic heath species were recorded during the surveys, including an impressive Black Arches viewed on 15.08.16 and an attractive Small Dusty Wave recorded on 12.09.16

These surveys have taken place adjacent to Gilman Road and Gurney Road resulting in the site species list increasing to 220 species. All moth survey locations marked on the map in white number 1 to 5.

Birds

A Common Bird Census (CBC) survey was carried out by the wardens with the help of volunteers. 30 species of bird were recorded as having breeding territories based on the CBC methodology. There was a general increase in territories during the 2016 nesting season, with Blackbirds, Greenfinches, Long tailed tits, Tree creepers and Great spotted woodpeckers, having a particularly good year, see Appendix 4. The gradual increase in the total number bird territories, suggests that conservation management work undertaken to increase habitat diversity, age and structure, along with an increasing dead wood habitat, is having a positive effect.

Two of the many highlights out on site this year, has been watching two young Kestrels fledge from an owl box which had been put up by the Mousehold Defenders and wardens some years ago. Also four Tawny Owlets were viewed freshly emerged from trees close to the ring road.


Owlets adjacent to Gurney Road

Plants

A monthly plant survey on St James' Hill, Map location 10, was carried out by members of the Mousehold Heath Defenders and wardens (Appendix 5).

Two further monthly surveys in the New Pond/Hawthorn Glade (Appendix 6) Map location 3, and the Desert wildflower area, (Appendix 7) Map location 8, have been carried out by members of the Mousehold Heath Defenders, recording a wide variety of nectar providing wild flowers.

The surveys provide important data to site managers to monitor and inform habitat conservation and management decisions. The data also increases interest, understanding and enjoyment of the site by visitors.

Bumblebees

A monthly survey was carried out by a member of the defenders and a Mousehold warden on St James Hill. The Bumblebee Conservation Trust transect survey recorded a number of bee species, including buff-tailed bumblebee, white-tailed bumblebee, re-tailed bumblebee and common carder bee. Bee numbers increased along the transect route in 2016 suggesting that habitat management work such as opening up the Cavalry Track and clearing scrub from St James Hill, to conserve grassland, is having a positive effect, Map location 10.

Damselflies and dragonflies

A good number of species have been recorded such as large red, common blue, azure damselflies along with the Norfolk hawker, red darter and emperor dragonflies, with over 120 migrant hawkers been recorded feeding over heathland vegetation in August. The Norfolk hawker, which is a nationally threatened and scarce British Red Data Book species, was recorded for the third year in succession. Its nearest breeding site is Thorpe Marshes so they are presumably venturing up to the heath to feed on the abundance of insects in open habitats.

Many species are now seen near Vinegar Pond which following its restoration a few years ago, is now holding water throughout the year, Map location 15.

Reptiles and amphibians

The common lizard was recorded in good numbers throughout spring and summer months, with many seen basking in recently restored open heathland and grassland habitats.

Frogs had a very productive year with many adults being seen in early March and frog spawn and tadpoles in the Vinegar and New Pond, Map location 3/15.

There were ad hoc sightings of both slow worm and grass snake at various locations across the site.

Common Lizaed on Volunteer

5. Heritage
Landscape

St William's Chapel

Following interpretation panel installation last year, it was apparent that the site needed to be managed; with the intention of visitors being able to visibly see key areas of the chapel's remaining earthworks from the information panel. This would involve removing vegetation from the boundary markers and areas of the chapel.

Thee wardens worked in close partnership with David Robertson, the historic environment officer for Norfolk County Council, to develop a management plan which was adopted by the Mousehold Conservators in January 2016.

The aims and objectives involved the removal of vegetation and scrub from selected areas of the site to improve interpretation and access.

The first stage of these works was carried out this year involving many local volunteer groups, supervised closely by the wardens.

Map 1 outlines the banks and ditches that were to be cleared and the main pathways leading to and through the site itself, to be cleared and maintained.

The dense vegetation clearance and thinning work carried out this year has resulted in a major improvement in the access and interpretation of the site.

A fully booked Heritage Open Day walk visited the chapel site, with a local historian discussing the story of St William in detail which the participants thoroughly enjoyed.

Interpretation

The installation of a perspex panel and metal frame for the St Williams Chapel interpretation board was completed in early April, map location 16.

St. Williams Chapel Interpretation panel

TCV clearing St Williams Chapel

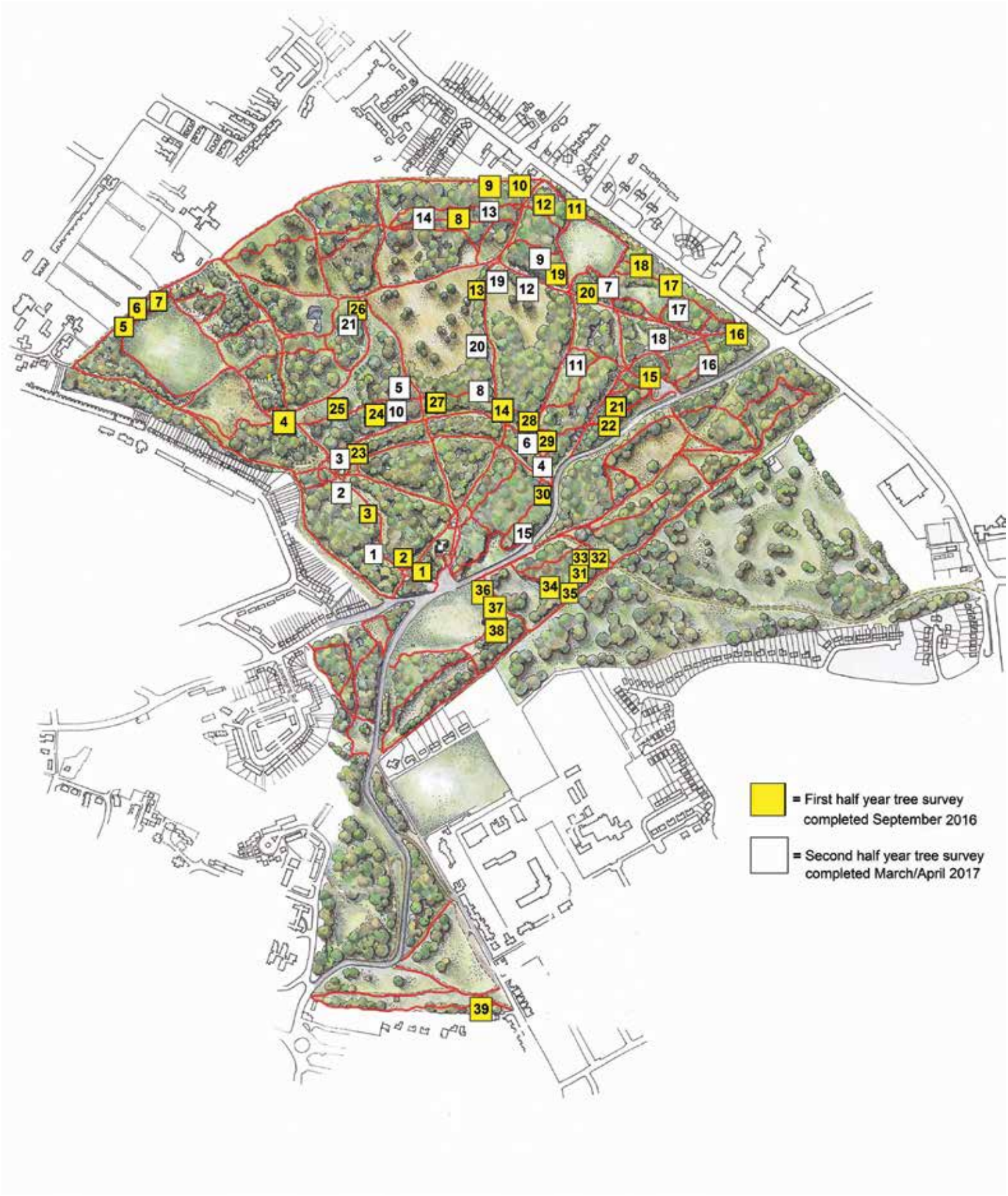
St Williams chapel after veg. clearing works

A proposal for a bid to the Heritage Lottery Fund for funding to develop a project to investigate and interpret the brick making history of the heath from a third party was considered by the conservators, but subsequently withdrawn by the applicant.

N
Cilman Rd.
Open space
Lavenger Rd
Popular Sports Group
1
2
3
4
5
6
7
8
9
10
11
13
14
15
18b
18
© Crown Copyright and database right 2014. Ordnance Survey 100019747.
Scale: 1:5,500

Wingfield
Open Space
16
17
18a
12
1
2
3
4
5
6
7
8
9

Map 2: Tree survey map



6. Infrastructure

Access

A number of main pathways were cleared during the year of overhanging vegetation, across the whole site including the site of St Williams Chapel. Earth mounds identified in the inner and outer boundary of the chapel were also included to improve the interpretation of the site in conjunction with the new interpretation panel.

The four corner marker stones were also revealed after the clearance of vegetation identifying the extent of the chapel's perimeter, map location 16.

A 25 metre section of Breedon gravel surfacing needed repairing along the disabled pathway leading to the Mottram Memorial due to erosion. The repair included the importation of fresh Breedon gravel to complete the works, map location 10.

Repair to Breedon gravel pathway

Maintenance works to improve disabled access

To compliment these works, substantial clearance of encroaching vegetation was cleared from either side of the disabled access pathway at St. James Hill to protect the surface and maintain open access, map location 10.

A large build-up of mud had collected along a stretch of the Tram Track used daily by visitors to the heath, impeding access. This was addressed by the use of a mini digger carefully scraping away the top surface of mud whilst causing minimal disturbance to the underlying sandy gravel base resulting in a clean hard surface, map location 17.

Improving public access by clearing mud from Tram track

Due to a steep gradient and high usage the path around the southern edge of St James Hill started to erode making it an increasing difficult traverse to reach Spitalfields on Kett's Hill. With the help of TCV volunteers, the Mousehold wardens purchased and installed timber to stabilise and make the path safe to walk along, map location 10.

TCV repairing St.J.Hill path

Car parks

The success of Britannia Café has seen a substantial increase in pressure on Britannia Road public car park due to increased visitor numbers. Issues caused by people parking on the verge of Britannia Road have included restricting access for the Norwich tour bus and local residents.

The conservators have put considerable resources into the issues relating to Britannia Road and the car park. Not only in terms of short term repairs to the heath carpark but also in engaging in the consultation process. A decision needs to be made relating to the highway issues and also the cafe access, which is outside the control of the conservators. Further consultation is planned by the council's highways department. The conservators will continue to play a role in that consultation process. Once a scheme has been decided upon the conservators will then be able to determine the best form of management for the car park on the heath.

At the main entrance to the Britannia Road car park uncut gravel was used to try and stabilize the condition of the surface to protect erosion problems this seems to have had a positive effect, map location 18c.

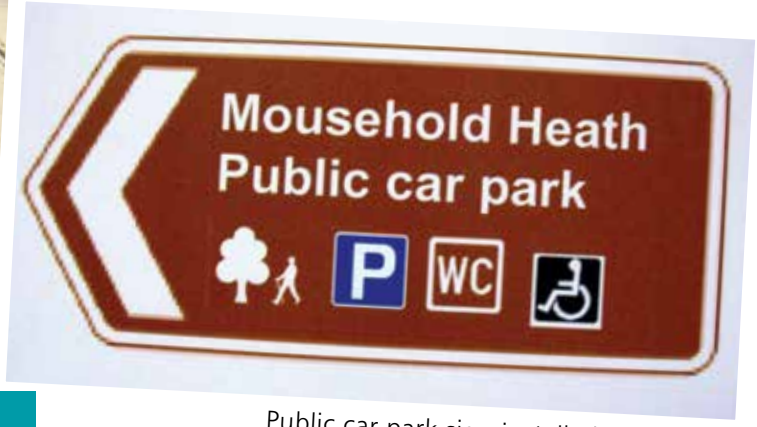
Installation of un cut natural gravel at main entrance

Regular maintenance and regrading works were carried out at the pitch and putt, Britannia Road and pavilion car parks, to the surface to maintain safe conditions for vehicles and pedestrians, map location 18a,b,c.

Britannia Road car park maintenance works

Signage

As requested by the conservators, the blue public car parking sign mounted on the lamp post adjacent to the public car park in front of the pavilion was replaced with a more informative sign including symbols indicating public and disabled toilet facilities and the inclusion of a woodland walk, map location 18b.



Public car park sign installed at pavilion.

Security

A section of chain link fencing was repaired along with a new pedestrian gate installed at the Fountain Ground sports pitch on Gurney Road, map location 5.

New gate and fencing posts at the Fountain Ground

A number of bollards and benches were repaired and replaced throughout the year. In an effort work more effectively and efficiently, these works were carried out by Mousehold wardens with the help of a Duke of Edinburgh Award (DofE) student, who was keen to develop his work experience and practical skills. This method reduced budget spends and also gave the student a sense of achievement and vital skills for future employment.

Gas pipe line marker installation by National Grid

Installation/access permissions

An application was submitted by National Grid to highlight a gas supply pipe line which runs along the highway of Britannia Road and the public car park.

National Grid were given permission to install marker posts to highlight the gas main to ensure contractors working on the site are aware of the location. Map location 18c.

DofE student helping to replace bench

7. Resources

Employees

Mousehold Heath is looked after on a day-to-day to day basis by two wardens who cover the site seven days a week, except when annual leave, illness and training prevent this. The high level of staff presence on site helps visitors feel safe, and enables a high level of monitoring of the heath which in turn means a swift response to site issues and deters antisocial behaviour; it also provides a consistent point of contact for new and regular visitors to the heath, to report problems to, or to get information from which helps them enjoy their visit.

The wardens have and will continue to support a range of volunteers in delivering works and events on the site to meet the objectives defined in the management plan.

The wardens' in-depth knowledge and understanding of the heath, its users and also site issues is critical in supporting the conservators in their decision making.

Budget

The conservators took into consideration the financial challenges facing local authorities and did not increase their precept to the council for operational items within their control. There was some unavoidable growth relating to salaries, premises cost and recharges.

The conservators also carried out an exercise to look into the works delivered on the site relating to grounds maintenance, cleaning and trees contracts to ensure they were getting value for money.

Looking forward, the financial pressures will continue with no realistic opportunity for major growth in the precept. The management plan review being undertaken in 2017-18 will provide an opportunity to identify any required changes in the management plan, such as a review of football provision – which is currently subsidised by the conservators, continuing and developing volunteer involvement to enable more to be delivered with no increase in budget and also the potential to use the capital receipt held to reduce pressure on the revenue budget.

Facilities

Mousehold Heath is very important as a haven for wildlife and recreation contained within an urban area. The management of a site containing nationally declining habitats, a wide range of biodiversity, local historical importance and a range of different users with different needs is complex and challenging.

Public access points, infrastructure and on-site facilities also require continued maintenance and upkeep which has an impact on the budget and this work will need to continue. The cost of equipment and works will need to be considered alongside the life expectancy of the installation. All projects must factor in the need to design out future costs as part of their development.

While major change to the management plan is neither needed nor affordable improvements to 'access hubs' and on site signage must be made, when necessary. A review of the access points and works required will be informed by the aims and objectives of the new management plan.

8. Contacts and further information

Contacts

If you have any queries about this document, Mousehold Heath or wish to report a problem on the heath, please **visit www.norwich.gov.uk** or call 0344 9803333.

Further information

Mousehold Heath

For the management plan, more information about the heath, details of guided walks and events:
www.norwich.gov.uk/mouseholdheath

Hiring Mousehold Heath for an event
www.norwich.gov.uk/parksandopenspacesforhire

Other city parks and open spaces
www.norwich.go.v.uk/parks

County Wildlife Sites
www.norfolkwildlifetrust.org.uk

Local Nature Reserves
http://www.lnr.naturalengland.org.uk

Scheduled Ancient Monuments
https://www.historicengland.org.uk

Appendix 1
Progress on woodland management objectives set out in Management Plan 2008 - 2018.

Management Plan objective/project name	Area	Work undertaken or to be undertaken	Work carried out by	Date start/ finish
9.2 (i): Create rides and glades	The Dip/ Hawthorne Glade	Has been cut back and restored over the last four years. A new pond was installed in November 2012 and wild flower seed was spread in spring 2013. The glade is presently a flower rich habitat which is cut and raked annually in Autumn. Dead material is removed to increase sward diversity and easy access. Flower surveys are currently being undertaken by members of the Mousehold Heath Defenders who have recorded over 40 species.	Mousehold Heath mousketeers TCV, Mousehold Defenders, Mousehold wardens.	Restoration work to finish March 2018. Annual autumn cutting and raking ongoing
9.2 (iv): Increase amount of available dead wood habitat	Whole site	During glade restoration, tree safety works, heathland restoration, etc. large amounts of dead wood are left in piles to provide wildlife habitats and hibernation places for frogs, lizards and other reptiles. In recent years this has greatly increased the amount of available dead wood. This is particularly important when considering the young age and lack of dead wood when comparing the site to older woodlands.	Mousehold wardens, volunteer groups, contractors.	Ongoing
9.2 (vi): Monitor spread of Sycamore and other non-native invasive species	Whole site	**Sycamore:** This species is increasing across the site. In managed areas seedlings and saplings are removed. In secondary woodland, young Sycamores could be managed by a Woodland Grant Scheme, by Easton College and other volunteers groups to reduce their impact on native species. **Laurel:** a recent survey has found a significant increase in Laurel across the site. This is particularly concerning when considering the damage and cost of controlling of Laurel in nearby Lion Wood. All Laurel will be mapped and removed by March 2016. **Rhododendron:** A large specimen near Gilman Road has been monitored with no evidence of it spreading.	Easton College and other volunteer groups, Mousehold wardens. Mousehold wardens, Green Gym, TCV. Mousehold wardens	2015-23. After HLS felling has finished. March 2015. Ongoing. Ongoing monitoring.

Management Plan objective/project name	Area	Work undertaken or to be undertaken	Work carried out by	Date start/ finish
9.2 (v): Retain creepers such as honeysuckle and ivy on trees.	Whole site.	Creepers have been left (unless safety considerations dictate otherwise), with good quantities along Gilman Road and on paths near the Vinegar Pond. There has been an increasing trend in associated butterfly species such as White Admiral and Holly Blue. Breeding birds such as Song/Mistle Thrush and winter migrants such as Redwings and Fieldfares have been recorded feeding on their berries.		Ongoing.
9.2 (iii): Identify key specimen trees and woodland features such as Beech Drive.	Whole site.	Specimen trees such as Turner's and Mother Oak, Giant Redwood, etc. have been identified and any required protective measures (i.e. log boundary around Turner's Oak to protect it from car tyre compaction), have been put in place. These trees are monitored on a regular basis. **Beech Drive:** this picturesque avenue has been encroached upon by scrub. This will be cut back in 2017/18 to conserve views, allow easy access and help dry out the surface by allow sunlight to penetrate. A large Beech tree dying due to a fungal infection has resulted in light penetrating ground level allowing nectar bearing plants to grow and a woodland glade to naturally develop. A large number of butterfly species including the scarce White Admiral have subsequently been recorded in the new sheltered micro climate. It is recommended that new planting of Beech is not undertaken unless a large number of mature trees are lost and the avenue structure is compromised.	Mousehold wardens Mousehold wardens	Ongoing. 2015. Ongoing.
9.3 (vi): Coppice area.	Adjacent to Gilman Road	A 0.5 – this 1ha area of dense mainly hawthorn woodland has been identified (see map) for coppicing. Active management and opening up this area has taken place in 2016/17, with most of the area restored. This has helped to reduce anti-social activity taking place as well as increasing biodiversity.	Easton College, City College, TCV, Green Gym, Mousehold wardens.	2016/17. Ongoing.
Tree safety inspections	Whole site	Due to the age and structure (pioneer birch being replaced by high canopy oak trees) of secondary woodland, there has been and will continue to be an increase in tree management required, especially adjacent to highways and paths. The wardens have implemented a new 6 month tree inspection survey, which takes a pro-active approach to tree and public health & safety.	Mousehold wardens, Tree contractors	Every 6 months. Ongoing.

Appendix 2
Butterfly Monitoring Scheme (BMS): Butterfly Data Charts

Chart 1: Mousehold West transect: Total butterfly numbers recorded. (Dotted line shows average upward trend line of butterfly abundance since survey started in 2004.)

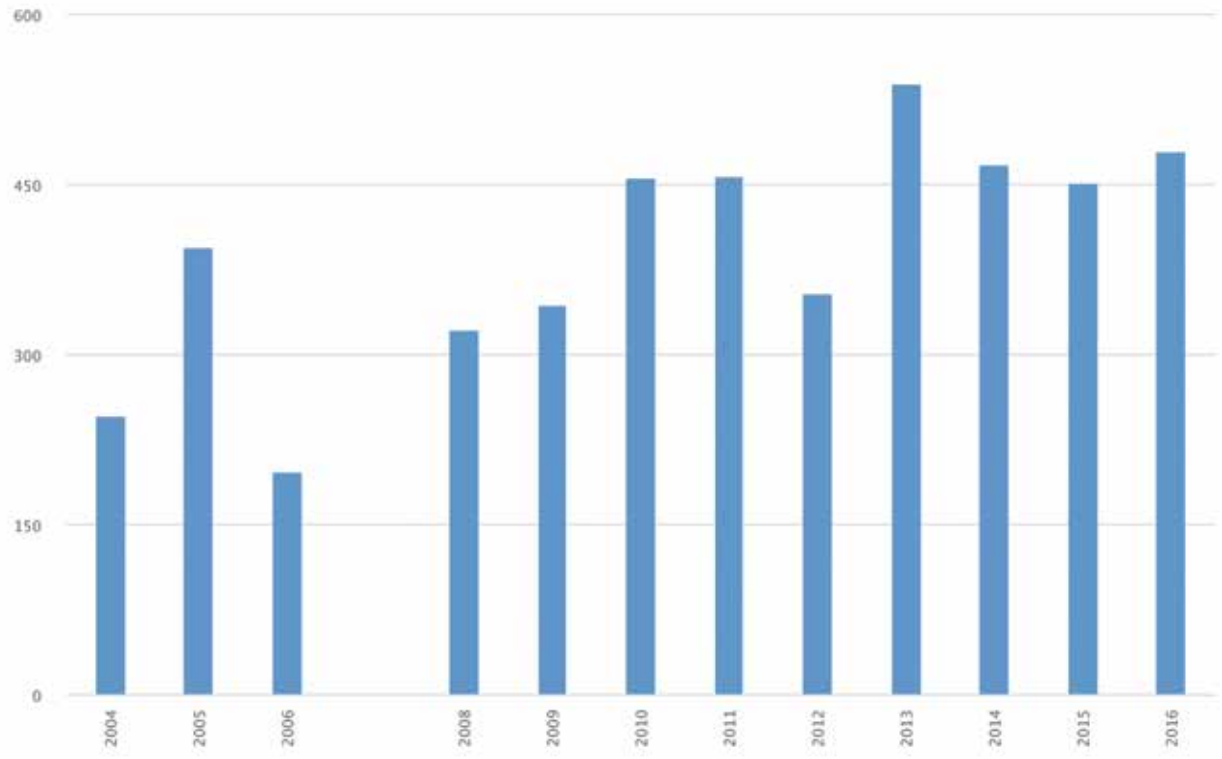
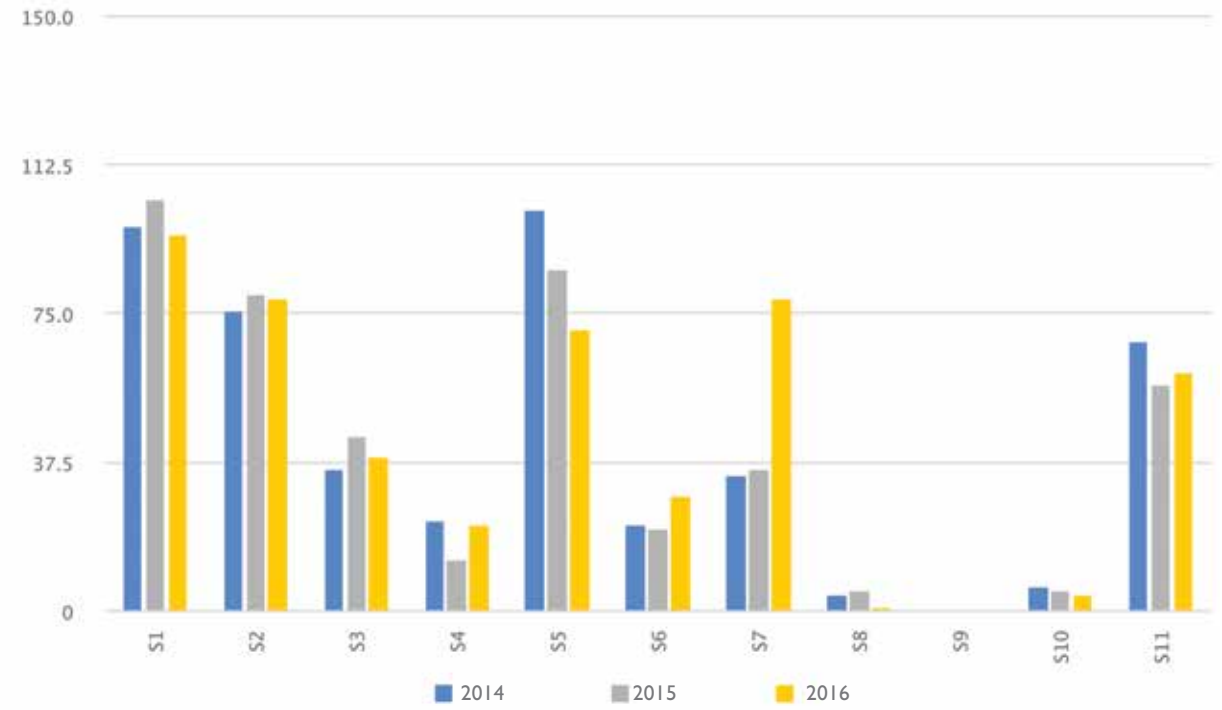


Chart 2: Mousehold West transect: Variation in butterfly abundance in different transect sections



Sections S8, S9, S10 are through shaded scrub and secondary woodland

Chart 3: Mousehold West transect: Butterfly numbers recorded in section 7 (heathland restoration area near Wingfield). (Dotted line shows average upward trend line of butterfly abundance since survey started in 2004.)

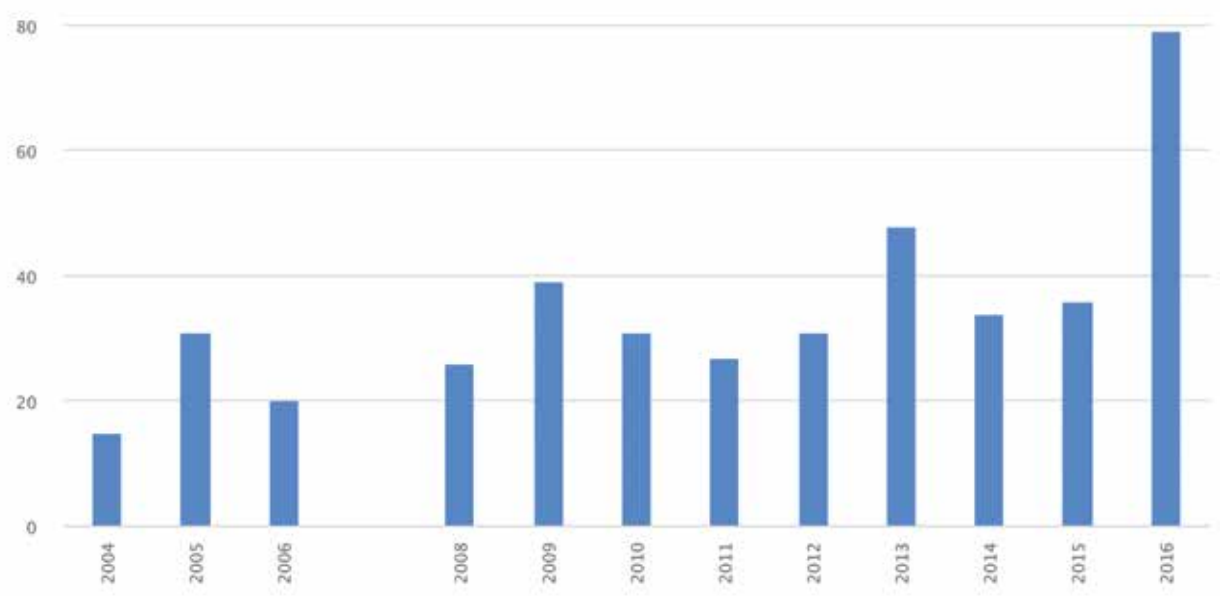
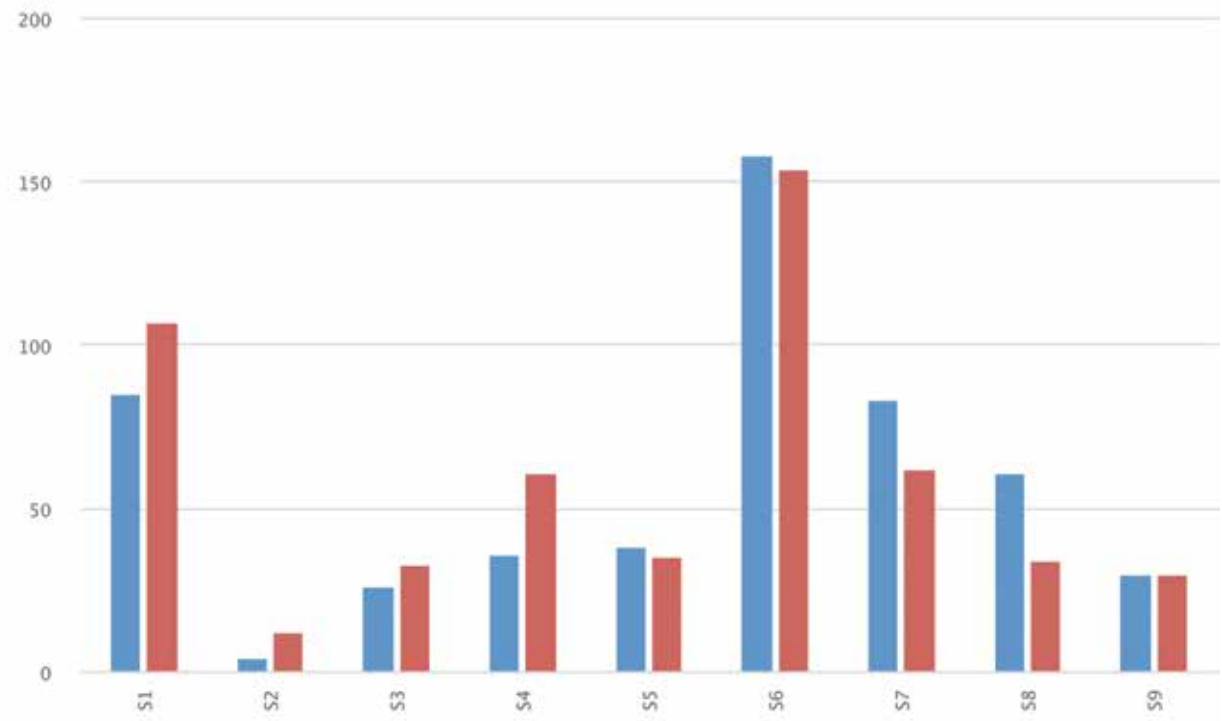


Chart 4: Mousehold East transect: Variation in butterfly abundance in different transect sections



Appendix 3
Butterfly species recorded during 2016-17

Species	Distribution/Status	Habitat: Egg/Caterpillar Foodplants
Comma, Polygonia c-album	Resident	Hop, Common Nettle, Bramble etc.
Essex Skipper, Thymelicus lineola	Resident	Various grasses: Cocks-foot, Creeping Soft-grass and Tor grass.
Small Skipper, Thymelicus sylvestris	Resident	Grasses; Yorkshire Fog and Creeping Soft grass.
Large Skipper, Ochlodes venata	Resident	Various grasses.
Common Blue, Polyommatus icarus	Resident	Open habitats. Legumes.
Holly Blue, Celatrina argiolus	Resident	Holly, Ivy and variety of other plants.
Small Copper, Lycaena phlaeas	Resident	Open ground. Common and Sheep's Sorrel.
Green Hairstreak, Callophrys rubi	Resident. Local.	Heathland. Gorse and Broom.
Brown Argus, Aricia agestis	Resident. Local.	Common Rock-rose.
Large White, Pieris brassicae	Resident	Brassicas and Crucifers.
Small White, Pieris rapae	Resident	Brassicas and Crucifers.
Green-veined White, Artogeia napi	Resident	Damp, grassy and flowery places. Various Crucifers.
Orange-tip, Anthocharis cardamines	Resident	Crucifers.
Purple Hairstreak, Neozephyrus quercus	Resident	Oak trees.
Gatekeeper, Pyronia tithonus	Resident	Various grasses.
Meadow Brown, Maniola jurtina	Resident	Various grasses
Ringlet, Aphantopus hyperantus	Resident	Various grasses, shrubs and bramble.
Peacock, Inachis io	Resident	Common Nettle.
Painted Lady, Vanessa cardui	Migrant	Thistles.
Red Admiral, Vanessa atalanta	Resident. Migrant	Common Nettle.
Brimstone, Gonepteryx rhamni	Resident	Alder Buckthorn.
Speckled Wood, Pararge aegeria	Resident	Woodland glades. Grasses.
Small Heath, Coenonympha pamphilus	Resident. Near Threatened	Dry grassland and heaths. Grasses.
White Admiral, Limenitis camilla	Resident. Vulnerable	Woodland glades. Honeysuckle.
White-letter Hairstreak, Satyrium w-album	Resident. Endangered	Elms.

Appendix 4
Common Bird Census (CBC) Survey results 2010 - 2016. Number of territories recorded along transect – Pitch & putt car park to St James' Hill.

Bird species recorded	Spring 2010	Spring 2011	Spring 2012	Spring 2013	Spring 2014	Spring 2015	Spring 2016
Blackbird	22	17	12	17	17	29	33
Blackcap	6	9	4	6	11	8	8
Blue Tit	12	9	9	10	15	19	17
Chaffinch	16	8	13	13	13	16	17
Chiffchaff	3	6	5	6	12	7	12
Coal Tit	2	2	3	4	2	3	3
Common Whitethroat	2	2	2	2	2	2	2
Dunnock	4	6	10	6	8	12	10
Garden Warbler	0	1	1	0	0	0	
Goldcrest	4	2	4	2	3	2	4
Goldfinch	0	1	1	0	21/03/14	14/05/15	14/06/17
Greater Spotted Woodpecker	3	0	2	2	3	2	3
Great Tit	9	11	9	9	10	9	9
Greenfinch	3	0	3	1	2	3	4
House Sparrow	1	1	1	2	4	3	3
Jay	2	1	2	2	2	2	3
Long Tailed Tit	6	5	2	2	2	4	5
Mistle Thrush	1	1	1	1	1	0	1
Robin	29	29	40	22	30	35	33
Song Thrush	3	2	4	4	6	5	9

Bird species recorded	Spring 2010	Spring 2011	Spring 2012	Spring 2013	Spring 2014	Spring 2015	Spring 2016
Sparrowhawk	1	0	0	0	0	07/04/15 13/05/15 04/06/15	18/04.16 17/05/16
Tree Creeper	2	2	1	1	3	2	4
Willow Warbler	2	1	1	1	1	1	2
Wren	19	28	28	20	23	42	41
Kestrel	17/03/10, 19/04/10 & 26/04/10	25/03/11 & 15/05/11	07/05/12	29/04/13	12/04/14 & 29/04/14	24/03/15 07/04/15 21/04/15 02/06/15	1 territory
Magpie	31/03/10 & 19/04/10	23/03/11 & 02/06/11	12/05/12	29/04/13	29/04/14 & 03/06/14	13/04/15 21/04/15 19/05/15 09/06/15	1 territory
Marsh Tit	26/04/10					0	
Carrion Crow				17/04/13, 18/04/13, 14/05/13, 21/05/13		1 territory	4 territory

(Date): Species recorded without evidence of territories

Appendix 5
Plant species recorded on St. James' Hill, Mousehold Heath, by the Mousehold Heath Defenders in 2016.

Fat-hen (Chenopodium album)
Rosebay willowherb (Chamenerion angustifolium)
Broad-leaved willowherb (Epilobium montanum)
American willowherb (Epilobium ciliatum)
Grounsel (Senecio vulgaris)
Heath grounsel (Senecio sylvaticus)
Common ragwort (Senecio jacobaea)
Tansy (Chrysanthemum vulgare)
Wormwood (Artemisia absinthum)
Mugwort (Artemisia vulgaris)
Common poppy (Papaver rhoeas)
Scarlet pimpernel (Anagallis arvensis)
Common field speedwell (Veronica persica)
White campion (Silene alba)
Red campion (Silene dioica)
Yarrow (Achillea milleofolium)
Ox-eye daisy (Leucanthemum vulgare)
Dandelion (Taraxacum agg.)
Goat's-beard (Tragopogon pratensis agg.)
Greater celandine (Chelidonium majus)
Creeping thistle (Cirsium arvense)
Spear thistle (Cirsium vulgare)
Canadian golden-rod (Solidago Canadensis)
Common chickweed (Stellaria media)
Common mouse-ear (Cerastium holosteoides)
Red dead-nettle (Lamium purpureum)
White dead-nettle (Lamium album)
Common nettle (Urtica dioica)
Sheep's sorrel (Rumex acetosella)
Broad-leaved dock (Rumex obtusifolius)
Pineappleweed (Marricaria matricarioides)
Wild radish (Raphanus raphanastrum)
Wild rose (Rosa canina agg.)
Dove's-foot Crane's-bill (Geranium molle)
Small-flowered crane's-bill (Geranium pusillum)
Herb Robert (Geranium robertianum)
Common stork's-bill (Erodium cicutarium)
Ivy (Hedera helix)
Hogweed (Heracleum sphondylium)
Spanish bluebell (Hyacinthoides hispanica)
Cleavers (Galium aparine)

Perforate St. John's wort (Hypericum perforatum)
Common Cat's-ear (Hypochaeris radicata)
Broom (Cytisus scoparius ssp. Scoparius)
White bryony (Bryonia dioica)
Hop (Humulus lupulus)
Hawthorn (Crataegus monogyna)
Silver birch (Betula pendula)
Apple (Malus domestica)
Travellers joy (Clematis vitalba)
Meadow Saxifrage (Saxifraga granulate)
Meadow Buttercup (Ranunculus acris)
Ribwort plantain (Plantago lanceolata)
Greater plantain (Plantago major)
Field bindweed (Convolvulus arvensis)
Horse-radish (Armoracia rusticana)
Garlic mustard (Alliaria petiolata)
Hedge mustard (Sisymbrium officinale)
Foxglove (Digitalis purpurea)
Common mallow (Malva sylvestris)
Black horehound (Ballota nigra)
Hedge woundwort (Stachys sylvatica)
Wild strawberry (Fragaria vesca)
Bramble (Rubus spp)
Gorse (Ulex europaeus)
Hare's-foot clover (Trifolium arvense)
Green alkanet (Pentaglottis sempervirens)
Shepherd's purse (Capsella bursa-pastoris)
Wild cherry (Prunus avium)
Elder (Sambucus nigra)
Black medick (Medicago lupulina)
Wild cabbage (Brassica oleracea)
Black nightshade (Solanum nigrum)
Wall lettuce (Mycelis muralis)
Rowan (Sorbus aucuparia)
Oak (Quercus robur)
Elm (Ulmus minor agg)
Lime (Tilia x europaeus agg)
London plane (Platanus x hispanica)

Appendix 6
Plant species recorded in the recently restored new pond glade area by members of the Mousehold Heath Defenders in 2016

Broad-leaved Dock (Rumex obtusifolius)
Bramble (Rubus spp)
Mugwort (Artemisia vulgaris)
Cleavers (Galium aparine)
Yarrow (Achillea millefolium)
Rosebay Willowherb (Chamaenerion angustifolium)
Pineappleweed (Matricaria matricarioides)
Common Cat's-ear (Hypochoeris radicata)
Common Ragwort (Senecio jacobaea)
Ribwort plantain (Plantago lanceolata)
Shepherd's Purse (Capsella bursa-pastoris)
Green Alkanet (Pentaglottis sempervirons)
Sheep's Sorrel (Rumex pulcher)
Small-flowered Crane's-bill (Geranium rotundifolium
Milk Thistle (Silybum marianum)
White Bryony (Bryonia dioica)
Redshank (Persicaria hydropiper)
Nipplewort (Lapsana communis)
Germander Speedwell (Veronica chamaedrys)
Red Deadnettle (Lamium purpureum)
White Dead-nettle (Lamium album)
Red Campion (Silene dioica)
White Campion (Silene alba)
Corn Chamomile (Anthemis arvensis)
Kidney Vetch (Anthyllis vulneraria)
Greater Burnet-saxifrage (Pimpinella major)
Ragged-Robin (Lychnis flos-cuculi)
Common Knapweed (Centaurea nigra)
Canadian Goldenrod (Solidago Canadensis)
Hawkweeds Hieracium (spp)
Oxeye Daisy (Leucanthemum vulgare)
Meadow Vetchling (Lathyrus pratensis)
Tansy (Tanacetum vulgare)
Meadow Buttercup (Ranunculus acris)
Common Mallow (Malva sylvestris)
Pineappleweed (Matricaria discoidea)
Hedge Bindweed (Calystegia sepium)
Broom (Cytisus scoparius)
Herb-Robert (Geranium robertianum)
Devils-bit Scabious (Succisa pratensis)

Appendix 7
Plant species recorded in Desert Wildflower area by members of the Mousehold Heath Defenders in 2016.

White clover (Trifolium repens),
Ribwort Plantain (Plantago lanceolata)
Creeping Buttercup (Ranunculus repens)
Black Medick (Medicago lupulina)
Slender Trefoil (Trifolium micranthum)
Common Mouse-ear (Cerastium holosteoides)
Yarrow (Achillea millefolium)
Smooth Cat's-ear (Hypochoeris glabra)
Daisy (Bellis perennis)
White Bryony (Bryonia dioica)
Common Nettle (Urtica dioica)
Elder (Sambucus nigra)
Large-leaved Lime (Tilia platyphyllos)
Cleavers (Galium aparine)
Buddleia (Buddleja Davidii)
Bramble (Rubus spp)
Upright Hedge-parsley (Torilis japonica)
Dog Rose (Rosa canina)
Common Ragwort (Senecio jacobaea)
Black Horehound (Ballota nigra)
Creeping Thistle (Cirsium vulgare)
Spear Thistle (Cirsium vulgare)
Hedge Bindweed (Convolvulus arvensis)
White Dead Nettle (Lamium album)
Hemlock (Conium maculatum)
Broad-leaved Dock (Rumex sanguineus)
Wood Avens (Geum urbanum)
Goat's-beard (Tragopogon pratensis)
Field bindweed (Convolvulus arvensis)
Prickley Sow Thistle (Sonchus asper)
Mare's-tail (Hippuris vulgaris)
Dove's-foot Crane's-bill (Geranium molle)
Sheep Sorrel (Rumex acetosella)
Silverweed (Potentilla anserine)
Rosebay Willowherb (Chamaenerion angustifolium)
Shepherd's Purse (Capsella bursa-pastoris)
Small-flowered Buttercup (Ranunculus parviflorus)
Ox-eye Daisy (Chrysanthemum leucanthemum)
Mouse-ear Hawkweed (Pilosella officinarum)

Notes

communication for all

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