

Worth Park conservation report 2023/24

*Conserving and
increasing biodiversity
at Worth Park*





Upper Italian terrace

Worth Park in brief

Worth Park is a well-used park of 8.5 hectares in Crawley.

The park's complete restoration using Heritage Lottery, Big Lottery Fund and other funding sources in 2013 provided the catalyst and inspiration to create and develop this important community and destination as an environmental and conservation centre of excellence.

The project's aspiration was the conservation of the park's natural (plus built and social) heritage so it can be appreciated and loved by park users today and in future.

Seven years post-restoration, the twin underlying benefits of the park's central position and strong community connections have strengthened this ambition, helping the park create new partnerships, initiatives and activities that are continuing to extend sustainability measures and messages beyond the park's boundaries.

*Did you know?
The park was originally a medieval deer park and formed part of the larger Forest of Worth.*

Key points on conserving and increasing biodiversity at Worth Park

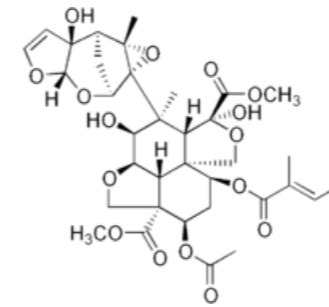
Worth Park has had a zero-pesticide (pesticide, herbicide and fungicide) practice in place since April 2019.

- Many pesticides have an effect on pollinators and other wildlife, they also have a negative effect on soil ecology that would lead to alterations to plant health
- We use alternative methods to pesticides such as plant diversity, which means a better, healthier eco-system that not only provides home and food for our pollinators but can also encourage predatory insects that will feed on unwanted pests
- Insects like ladybirds and their larvae, hoverfly larvae and lacewing larvae as well as beetles, parasitic wasps, birds, reptiles and more (all of which are a form of pest control that nature intended)
- The beautiful daytime flowering moth called the cinnabar moth 'Tyria jacobaeae' is a form of natural control (biocontrol) for the ragwort (weed)
- Neem oil (bio-pesticide) is also used to control aphids, especially on our rose bushes
- Neem oil does not kill the rose aphid 'macrosiphum rosae' but merely puts it off its food and disrupts its breeding cycle but does not affect the predatory insects or birds that may feed on them



Cinnabar moths help control ragwort

- Surprisingly neem oil has many other benefits as well (**diagram below**).



Azadirachtin

Agriculture

Fertiliser
Coated urea

Pest control
Insecticide
Repellent

Health

Medicine
Malaria
Ulcers

Veterinary medicine
Biocide

Cosmetics
Face masks
Sunscreen

We don't use artificial fertilisers to feed our plants; instead we use organic matter like leaf mulch, which has a perfect carbon ratio between 30-80 parts carbon to one part nitrogen (30-80:1). We also use spent coffee as a soil conditioner which can accelerate the composting process.

Worth Park now recycles approximately 80 per cent of its green waste through the process of composting, which includes grass clippings, small prunings, edgings and leaves.

Once the compost is of good quality (humus rich) we use this on our herbaceous borders and rose borders to improve the soil's health.

Healthy soil can lock in three times more carbon than a tree. Basically it is (carbon sequestration) – the process of capturing and storing atmospheric carbon dioxide.



Worm composting



Caterpillar of the cinnabar moth feeding on ragwort



Plants such as cornus and salix are cut back at their correct times and are shredded, the chippings from this process are used as a form of mulch that it is placed around the plants.

The mulch is then placed back onto the borders and dug in; this process will enrich the condition of the soil.

Remember good soil management means better, healthier plants that are more resilient to pests and diseases.



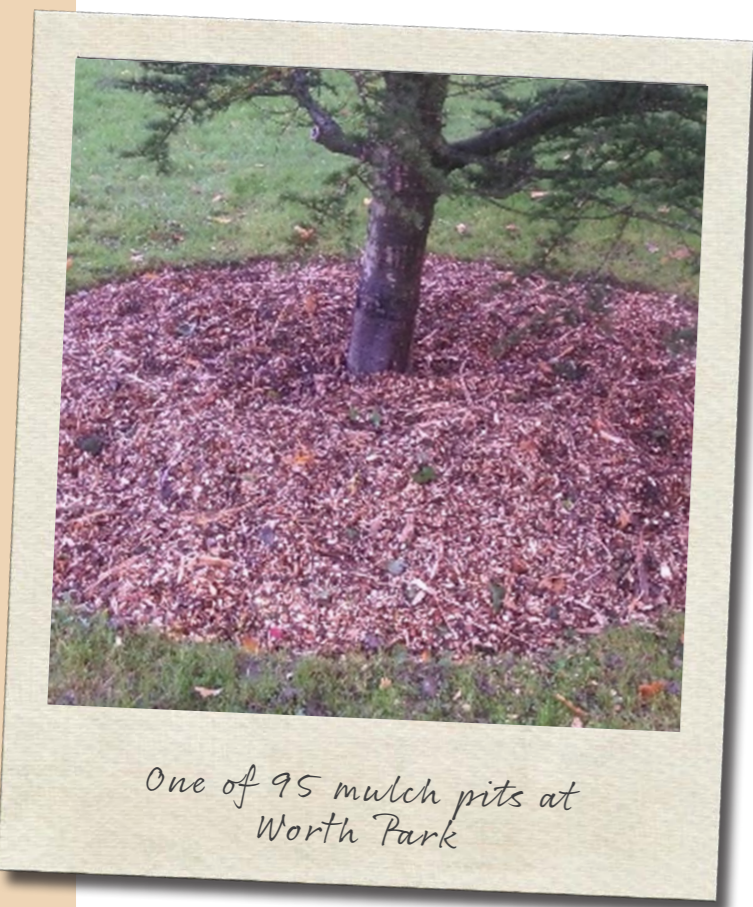
Making mulch from lavender

Mulch

We mulch some of our borders, trees and plants and the reason for doing so is to impede weed growth, retain moisture, to promote better root growth and at the same time it gives a professional appearance.

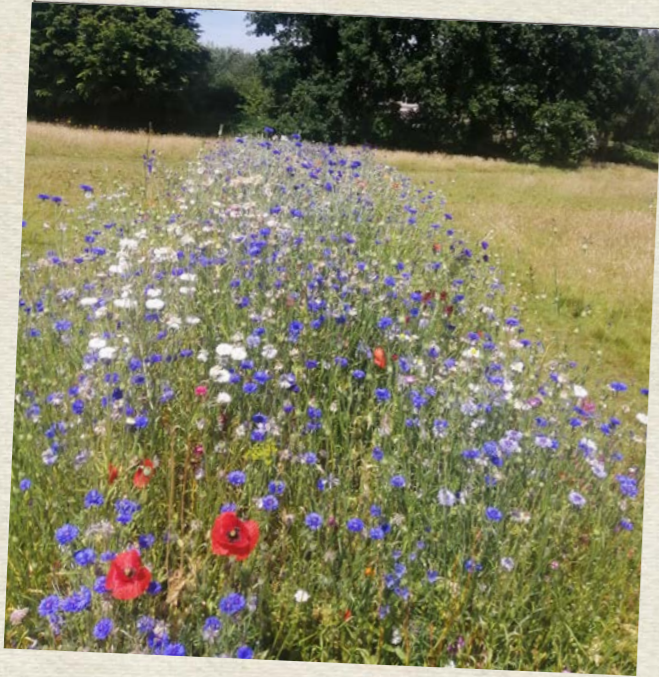
Mulch will provide a home for many soil macro and micro-organisms as well as fungi and insects that will slowly convert this mulch into a humus-rich soil.

Certain mulches, such as willow bark and eucalyptus could be beneficial to the trees as they contain phytoncides (phytoncides work by preventing attacks by bacteria, fungi and insects).



One of 95 mulch pits at Worth Park

*Did you know?
Worth Park now recycles approximately 80 per cent of its green waste through composting clippings, prunings and leaves.*



Meadow flowers

If we don't take action, the collapse of our civilisation and extinction of much of the natural world is on the horizon.

Sir David Attenborough



Providing an essential food source for pollinators via our planting is one of the top priorities here at Worth Park

*Did you know?
Weeds such as dandelions,
clovers and common thistles
are in fact an essential
pollen and nectar source
for pollinators.*



Cirsium vulgare



Taraxacum officinale



Cichorium intybus

Pollinators

There is no doubt that our pollinators worldwide are in drastic decline and face an uncertain future and possible extinction.

That is why we are increasing plant diversity at Worth Park to provide our essential pollinators with food (maximise the period when pollen and nectar are available) and home they deserve.

So far, we have increased plant diversity of flowering trees, shrubs, herbaceous perennials and wildflowers by 45 per cent and diversity means a better, healthier eco-system. A healthier ecosystem means that it is more effective at carbon sequestration.

Herbaceous plants absorb approximately 3.21 kg carbon m² out of the air per year.

There is also an increase in no-mow zones by approximately 15-18 per cent and this will in turn be beneficial for providing a home and food for pollinators and other wildlife.

An area of lawn that is no longer mowed or cut can increase biodiversity by 30-35 per cent.

Weeds

What people classify as weeds, such as dandelion, clover, chicory, common thistle, knapweed, yarrow etc., are in fact an essential pollen and nectar source for pollinators.

Spear thistle

‘Cirsium vulgare’ for example is a plant that produces a great amount of nectar for pollinators and is ranked in the top 10 for most nectar production. The seeds from this plant are eaten by greenfinches, goldfinches and linnets.

Dandelion

‘Taraxacum officinale’ are perfect for pollinators such as bumblebees, hover flies, butterflies, honey bees and day flying moths, especially in early spring when there are fewer floral pickings.

Chicory

‘Cichorium intybus’ is a great plant for pollinators with its long flowering period from late spring to early autumn and is featured within the RHS perfect for pollinator list. It can also make a great addition to any herbaceous border planting scheme.

In fact, we now include many wildflowers within our new border designs to demonstrate that these plants can go grow well with any cultivar plant and provide an essential service for pollinators, plus they provide visual delight to members of the public.

In early 2020 we planted 250 achilleas of 10 different varieties within a gravel area adjacent to the croquet lawn. Not only do they provide a colour-changing tapestry of flowers but are perfect for pollinators, especially for butterflies and hover flies as they have ideal landing platforms.



*This border contains knapweed,
yarrow and chicory plants*



*Achilleas are great
for pollinators*



Box tree moth

Pests and diseases

Climate change is increasing pest and fungal pathogens that are affecting our plants, therefore we have to be more vigilant and keep up-to-date on new threats.

At Worth Park we keep up-to-date on pests and diseases via the Department for Environment, Food and Rural Affairs and the Animal and Plant Health Agency websites as well as other sources.

Effective biosecurity methods at Worth Park:

- Enhanced skills in pest and diseases recognition
- Early detection and reporting to increase the chances of effective control
- Sourcing plants via recommended nurseries (plant passport)
- Good husbandry of tools (clean and disinfect) on a regular basis to minimise spread of plant diseases
- Plant diversity and adaption to climate change
- Good soil management.

Trees

We have planted 91 new trees of approximately 18 different varieties in the last two years to increase tree diversity and to expand our arboretum. Trees are so beneficial to our ecosystems and our health.

- Trees can absorb 22 tonnes of carbon dioxide in their trunks, branches and roots in their lifetime
- Trees act as air filters by removing dust and absorbing dangerous pollutants such as carbon monoxide, sulphur dioxide and nitrogen dioxide
- Every day in summer, trees can release 29 tonnes of oxygen into the air per square mile of forest
- Trees are motherships of biodiversity with their unique habitats of birds, insects, lichen, fungi, plants and other wildlife
- The fallen leaves make excellent compost that enriches the soil and this in turn means better, healthy trees and plants
- Flowering trees provide a great food source for pollinators.



Ginkgo biloba
(Maidenhair tree)



Arbutus unedo
(Strawberry tree)



Cercis siliquastrum
(Judas Tree)



Pinus halepensis
(Aleppo pine)



Gleditsia triacanthos f. inermis 'sunburst'
(Honey locust sunburst)



Corylus colurna
(Turkish hazel)



Acer saccharinum
(Silver maple)



Acer rubrum
(Red maple)



Nyssa Sylvatica
(Black gum tree)



Quercus rubra
(Oak)



Calocedrus decurrens
(Incense cedar)



Trachycarpus fortunei
(Chusan palm)

*Did you know?
Trees can absorb 22 tonnes of carbon dioxide in their trunks, branches and roots in their lifetime.*



Did you know?

Worth Park Gardens has been completely pesticide-free since April 2019.

Future plans and aspirations

- Increase plant and tree diversity
- Provide home and food for pollinators and other wildlife
- To engage with the wider public on the importance of pollinators
- To encourage gardening the natural way without the use of pesticides
- Increase onsite composting
- Increase propagating of onsite plants via division, hardwood cuttings and other methods (biosecurity)
- To have more wildflower (meadow) areas
- To decrease the use of petrol machines and go electric
- To increase climate change planting projects.



One of many welcome visitors to the park



Verbena bonariensis (purple top)





Worth Park formal gardens

Climate change

Sometimes by relinquishing control of certain areas, increasing plant diversity and doing things more horticulturally and ecologically correct we can not only create more friendly areas for nature to return but it can also have a positive impact on CO2 levels and wellbeing. Worth park is now a nexus of biodiversity, climate and pollution resilience.

Dead hedging

The concept of dead hedging is to hammer in upright wooden poles into the ground about 30-50cm apart and then slowly fill it up with organic matter such as clippings, leaves and dead wood.

The dead hedge then becomes a great location for insects to make their home in (bug hotel), while fungi, small mammals, bumble bees and birds can pillage from it to make nests.

It's a great way to recycle and reuse your green waste.



Bumblebee



Dead hedging



Camellia japonica 'Finlandia Variegated' with Plant Guardian Status

Plant Heritage

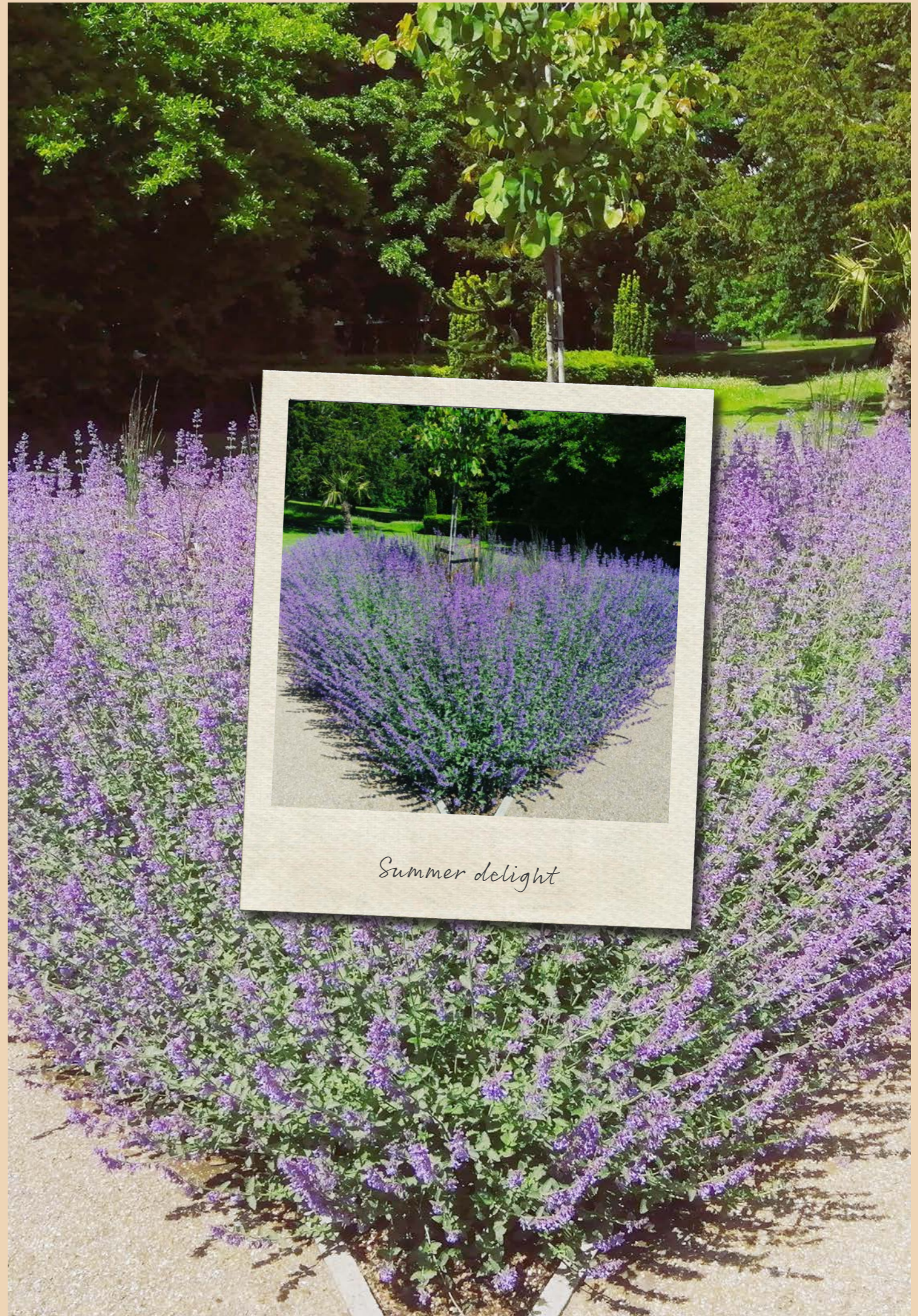
In 2022 we investigated our camelias to see if any of them could have conservation status due to their history, so with careful study (taxonomy) and working with Plant Heritage and the Camelia Society we discovered that we had some of the rarest cultivars here in England and probably the world.

The camelias in question have now obtained the classification of Plant Guardian (Threatened in cultivation) status.

Worth Park is now on the path on conserving these rare specimens via a partnership with Architectural Plants, where they have a micro-propagation unit and other facilities.

The conservation strategy aims to:

- Increase the number of cultivated plants conserved
- Develop and maintain good standards of curation (Persephone online plant database)
- Inform and engage others with our conservation work
- Influence global thinking on issues around plant conservation.



Summer delight

The park

Worth Park has beautiful formal gardens, including the camellia walk; a restored Pulhamite rockery and Victorian fountain; arboretum; herbaceous borders; a lake surrounded by many species of trees and wildflowers; croquet lawns and a tennis court, and Kelly's Coffee.

The park is open 24 hours a day. Toilets and parking are available at the Visitor Centre in Ridleys Court.

Our award-winning trees

To find out more about British and Ireland Champion Trees visit treeregister.org



Achillea bed

What's on

Crawley Croquet Club

Between April and October at the lawns. For further information contact Anne Jenkinson on **01293 884469**.

Worth Park Friends

Ambassadors of the park, raising awareness of the history of the gardens and organising clean up days and fundraising events. For more information on biodiversity and other news visit worthparkfriends.org or call **01293 882275**.

Worth Park Gardening Club

Every Wednesday from 10am at Ridleys Court. No experience needed, all ages welcome and tools will be provided.

Worth Park History Society

Third Tuesday of the month, 2-4pm (no meeting in August) at Ridleys Court. Discover and explore the history of Worth Park and surrounding areas.

Worth Park Wanders and wellbeing walks

Both are free and start from Ridleys Court with refreshments afterwards. For more information visit crawley.gov.uk/worthpark