



The level Conservation Report 2019

Conservation methods are taken seriously at the Level, to safeguard many species of insects (pollinators), which have declined in many areas, town and rural areas.

Thus at the Level, measures are taken to increase biodiversity, restore and protect their natural habitats.

This can be done through certain measures:

- **Good plant diversity, such as a wide range of perennials and wild flowers makes a better healthier ecosystem for pollenating insects, as well as other beneficial insects.**

Honey bees visiting catmint (*Nepeta x frassenii*)



The *cirsium vulgare* (Common thistle)



The Level is a pesticide free zone, which is better for the environment and for the well-being of all. Instead we use Neem oil for controlling pests and diseases, such as greenfly or blackspot. Neem oil itself comes from a tree in India *Azadirachta indica* and has been used for years as a form of natural pest control. Another name for this tree is Margosa.



Zero pesticide

You are entering a natural area

For the respect of the environment
and well-being of all, we do not use
pesticides in this park.



Habitats for pollinators = Healthier world



- No peat based materials are used (organic material only) such as leaves from autumn, grass trimmings, spent coffee grounds; wood ash from the pizza oven, as well as tea leaves.

All of this organic matter (organic mulches) are beneficial as they add nutrients back into the soil as they slowly decay, as well as improving the soils structure by creating an environment for organisms that are very beneficial for the soil.



Coffee grounds on one of the borders

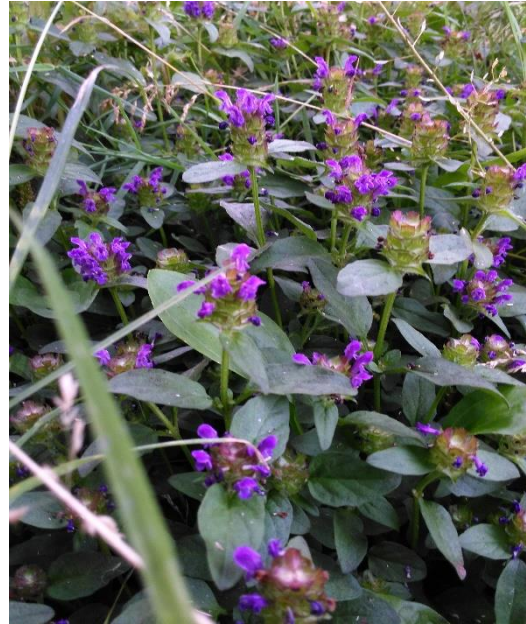
Coffee grounds are beneficial to the plants, because they slowly release nitrogen as they decompose, as well as improving the soils structure; it also encourages more earthworms to be present and keeps pests at bay, such as slugs and snails.

- Designated areas, such as the perimeter of the park have been left to grow so that it may provide another stepping stone for wildlife, which in turn will give a 30% to 35% increase to the biodiversity of the park.

In October 2015 we planted over 20 thousand Native Bluebells around the perimeter of the park.



Common centaury



Selfheal

These wildflowers and many others provide great habitats for wildlife.

Companion planting: Some species of plants have beneficial effects to neighbouring plants, commonly known as Dynamic Accumulators or mining plants that gather certain Micronutrients & Macronutrients, such as achilleas and stinging nettles which can mine for Sodium, Sulphur, Nitrogen ,Calcium, Potassium, Iron & Copper which can improve the neighbouring plants defence against pests and diseases.

The nettle can also be used to make a natural liquid feed.



Also there are clumps of stinging nettle (*Urtica dioica*) that provide food and shelter for more than 40 species of insects, which are completely or partially dependent on nettles.



Certain butterflies for example, Red Admiral, Small Tortoiseshell, Peacock and the Comma are dependent on nettles.

- **Ornamental grasses not only give a living bouquet effect to any border, but also provide a valuable hibernating place for beneficial insects, such as ladybirds.**



Fountain grass in winter (a great hiding place for insects)

- **Over 95% of green waste is recycled on site; such as grass trimmings, leafs and of course pruning's. The prunings them selfs are scatted under the native hedge row, which surrounds the Sothern side of the park. This provides nitrogen to the hedge row as it decays, a place for the insects; which in turn provides food for foraging birds and the remnants of the prunings provide nesting materials for them in spring and summer.**



Green waste (prunings) decomposing under the native hedge row

- We also propagate about 50% to 60% of the plants from The Level to sustain the levels diverse planting; this is done through many forms of propagation, such as division, hardwood cuttings, semi-hardwood cuttings, soft tip cuttings and of course, from seed.

Young plants being grown on at The Levels yard



- We also started a seed bank herbarium (Collection of preserved plant specimens) in august 2016, where the seeds are contained in envelopes or old coffee jars and kept at a temperature of 1 degree.



The Levels mini seed bank herbarium

Seeds collected

Centaurea macrocephala
Digitalis pupurea
Echinops ritro
Crocosmia 'lucifer'
Dispsacus fullonum
Lychnis coronala
Eupatorium cannabinum
Papaver rhoeas

Plus, many more.

- Information: Informing the public about the plants of the Level through the level plant database, which informs them about the plants flowering at that specific time and if they are suitable for pollinators?



The level Plant database



Salvia x sylvestris 'caradonna'

Family: Labiatae / Lamiaceae (Sage family)

Common Name: Caradonna sage

**More than 800 species are widely distributed throughout the world
(North and South America, Africa, Asia and Europe)**



- Flowering: Late spring, early summer.**
- Position: Full sun.**
- Hardiness: Hardy.**
- Propagation: propagate by division in spring.**
- Pests & Diseases: Generally trouble free, but low temperatures could cause stunted growth on young plants.**
- Cultivation: Cut back to ground level in winter.**



Many types of salvia attract pollinators especially bees, plus some sages have medicinal or culinary use.



**Scan here for text info about this plant
An example from the Level plant database.**



- As well as having plant databases for the public, there is also Level Garden News which informs them about new projects (such as the butterfly bed) and also specific plants of interest, such information can be found on the Level web site and is also displayed on certain information boards at the Level.



The park's Butterfly Bed which is situated between the café and the MacLaren pavilion is now complete with its new explanatory sign and new planting, of which 50% are propagated at the park itself, from seed, cuttings and plant division .



(New explanatory sign)

Some of the new plants that have been added to this bed are:

Verbena bonariensis



Centaurea montana



Centaurea macrocephala



Echinops



5 varieties of Buddleja



Hemp agrimony



An example of The Level Garden News

- **Herb rock gardens provide a great habitat for insects; due to their diverse planting, such as Basil, Chives, Tarragon, Thyme, Mint, Rosemary, Oregano, Marjoram, Coriander and Sage. The rocks also provide a place for certain insects to hide and for lichens to grow on.**



The herb rock garden (above) at the level, that not only provides a habitat but also gives culinary delight to the café.

- A ‘bee bed’ has been established in the north west corner of the park, as part of ongoing collaboration through the Brighton & Lewes Downs Biosphere programme to improve urban green spaces. This showcases to the public the attractive garden plants that people can grow themselves to benefit a variety of pollinators, an initiative with the University of Sussex’s Laboratory of Apiculture and Social Insects (LASI). We also collect data of the pollinators and the plants they visit, this data is then sent back to the university, in order to gain better understanding of the pollinators and the plants they visit.**

Making a Bed for the Bees to give Nectar Rewards!

**Before you is a flower bed of garden plants specially selected to demonstrate which varieties are attractive to bees.
You can grow these plants in your own garden, to provide summer colour and nectar rewards for a diversity of pollinating insects.**

These little creatures play a vital role in helping to produce many of our food crops, especially fruits such as apples – we turn need to help the bees get enough of their food, by growing garden flowers that provide them with nectar and pollen.

Growing here are more than a dozen types of garden plants. Most - but not all! - are highly attractive not just to our eyes but also to the taste of pollinators. The plant varieties around the outside are attractive to pollinators, whereas for comparison those in the centre are not (see pictures right).

Take a look at each plant when they are in flower and see if you can tell which works best for different pollinating insects, by counting the numbers of each type of insect (see pictures top right) visiting each variety of plant.

Research has shown that garden flowers vary by more than 100 times in the number of insects that they attract. Different varieties attract a different mix of insects, for example borage is visited mostly by honey bees and lavender by bumble bees.

Then why not grow a few bee-friendly plant varieties in your own garden to help out? You'll find them easy to grow, suitable for a mixed border and widely available from local garden centres.

This bee bed has been created by Brighton & Hove City Council Parks department working with Professor France Naultels of the University of Sussex's Laboratory of Apiculture and Social Insects (LASI) as part of their research under the "Sussex Plan for Honey Bee Health & Well Being".

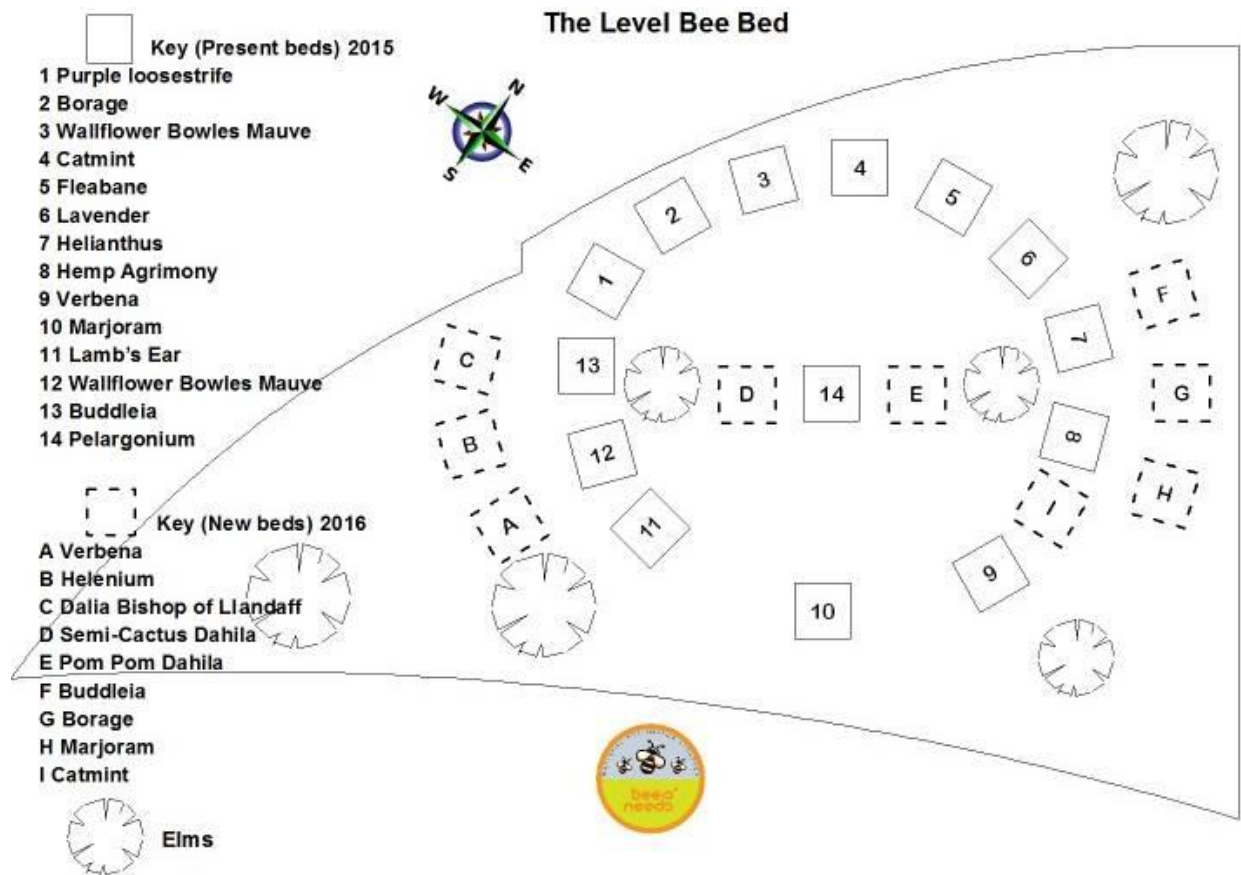
This initiative is part of the Brighton & Lewes Downs Biosphere's mission to connect people and nature, by improving urban green spaces to benefit both.

Brighton & Hove City Council

LASI
LABORATORY OF APUICULTURE
AND SOCIAL INSECTS

US
University of Sussex
Life Sciences

Brighton & Hove City Council



New interpretation signs were made up for this project
 This diagram above demonstrates beds established in 2015 as well as 2016.

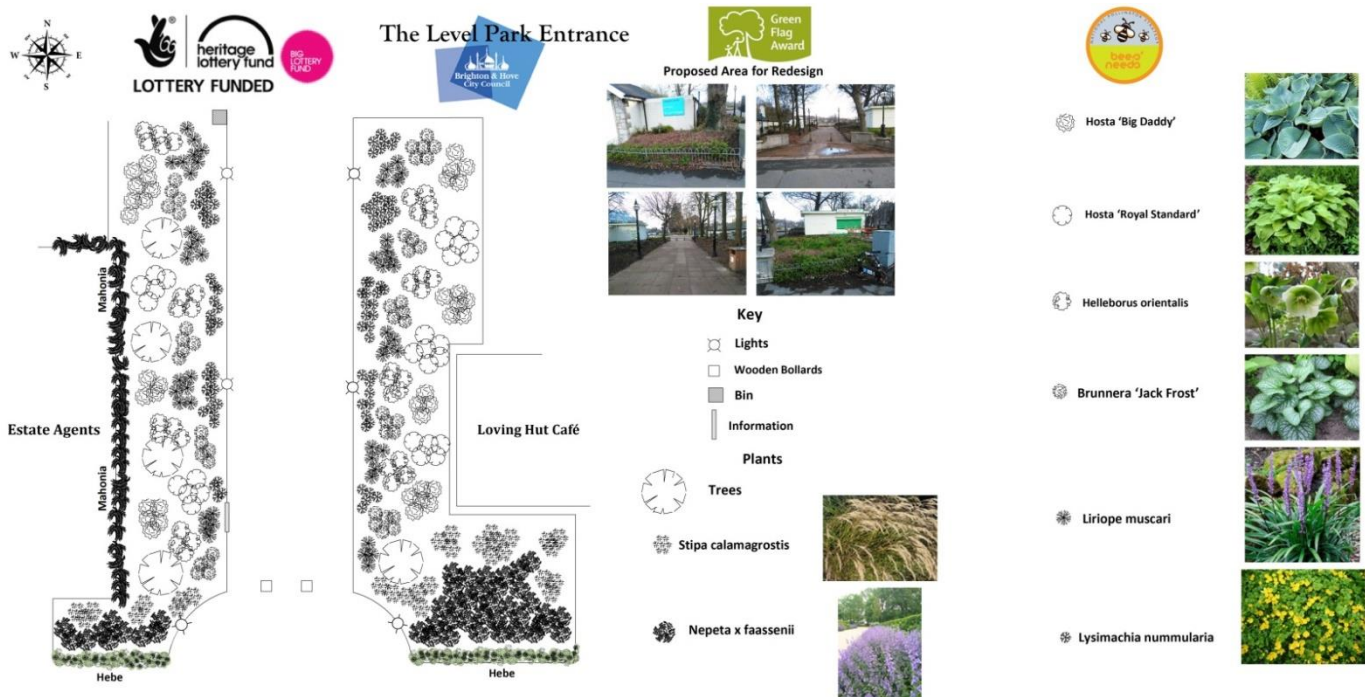
- A new butterfly bed situated near the café, complete with its new explanatory sign and new planting, is for the benefit of butterflies and other pollinators. The plants that we have selected are Echinops (Globe thistle), Verbena bonariensis, Verbena hastata, Penstemon, Nepeta (Cat mint), Mullein, Centaurea montana, Hemp agrimony and some buddlejas Royal red, Black night, white profusion, Empire blue and Nanho blue, as well as some clumps of stinging nettle.



Butterfly bed

This flower bed was created to provide a habitat for butterflies, moths and other pollinating insects. It helps them provide an essential service to people too.

- The front entrance of the park has also been landscaped with more attractive shade tolerant plants.



Above, the plan for the south entrance 2016

- We have also replanted two beds near the café with drought tolerant plants to demonstrate to the public the changing effects of our climate, and that we need to make better plant choices for the future.
(Plant diversity creates a better healthier ecosystem)

Plant list



Achillea 'Coronation Gold'
 Achillea 'Summer Wine'
 Achillea 'Lachschorheit'
 Centaurea 'Dealbata'
 Centaurea 'Macrocephala'
 Centaurea 'Macrocephala'
 Cichorium intybus
 Echinops 'arctic glow'
 Eryngium Variifolium
 Lychnis chalcidonica
 Physostegia virginiana 'vivid'
 Rudbeckia hirta
 Rudbeckia fulgida 'goldsturm'
 Scabiosa lucida

Verbascum chaixii
Verbena bonariensis
Verbena hastata 'rosea'

All the plants selected for this project are all beneficial for pollinators.

The success of the new planting in these areas helped increase food for pollinators by 20%, due to fact that, some plants have a longer flowering period. Such as:



Cichorium intybus



Echinops 'arctic glow'



Verbena bonariensis



- A new Bee Bed was created at the open market in 2017 with the help of volunteers from The Level and also the open market, turning a so-called brown area into a green area, linking the two sites together. This in turn provides another stepping stone for wildlife.

THE OPEN MARKET BEE GARDEN

IN PARTNERSHIP WITH THE LEVEL AND BRIGHTON & HOVE CITY COUNCIL

Our little garden space has been turned into a bee friendly zone with the help of volunteers from The Level Conservation Initiative.

This Bee Garden is a pesticide free zone, which is better for the environment and for the well-being of all. Instead we use Neem Oil for controlling pests and diseases, such as greenfly or blackspot. Neem oil itself comes from a tree in India. *Azadirachta Indica* and has been used for years as a form of natural pest control. Another name for this tree is Margosa.

No peat based materials are used (organic material only) such as leaves from autumn, grass trimmings, spent coffee grounds; wood ash from the pizza ovens, as well as tea leaves. All of this organic matter or organic mulches are beneficial as they add nutrients back into the soil as they slowly decay, as well as improving the soils structure by creating an environment for organisms that are very beneficial for the soil.

Companion planting: Some species of plants have beneficial effects to neighbouring plants, commonly known as **Dynamic Accumulators** or mining plants that gather certain **Micronutrients & Macronutrients**, such as *Achilleas* and *Stinging Nettles* which can mine for **Sodium, Sulphur, Nitrogen, Calcium, Potassium, Iron & Copper** which can improve the neighbouring plants defence against pests and diseases.

The plants that you see before you can be planted in your own garden to provide summer colour and nectar rewards for the diversity of pollinating insects. 40% to 50% of the plants are propagated at The Level to sustain diverse planting; this is done through many forms of propagation, such as division, hardwood cuttings, semi-hardwood cuttings, soft tip cuttings and, of course, from seed.

For more information please visit:

www.brightonopenmarket.co.uk

www.brighton-hove.gov.uk/thelevel

Special thanks to the following traders in the market for their support:

Market Florist Unit 4, The Food Shed Unit 9,
Miniature & Moss Unit 10, Tea and Honey Unit 31,
Beth Radish of The Artpothecary Unit 20 for designing this sign
and to Steven Peters, Garden Manager of The Level



In November 2018 the park was awarded with bees' needs award in conjunction with the open market bee bed for providing home and food for pollinating insects.



(Supported by DEFRA and the National Pollinator Strategy)

The National Pollinator Strategy: for bees and other pollinators in England November 2014

This 10 year Strategy aims to deliver across five key areas:

1. Supporting pollinators on farmland

- Working with farmers to support pollinators through the CAP and with voluntary initiatives to provide food, shelter and nesting sites.
- Minimising the risks for pollinators associated with the use of pesticides through best practice, including Integrated Pest Management (IPM).³

2. Supporting pollinators across towns, cities and the countryside

- Working with large-scale landowners, and their advisers, contractors and facility managers, to promote simple changes to land management to provide food, shelter and nest sites. Working with large-scale landowners, and their advisers, contractors and facility managers, to promote simple changes to land management to provide food, shelter and nest sites.
- Ensuring good practice to help pollinators through initiatives with a wide range of organisations and professional networks including managers of public and amenity spaces, utility and transport companies, brownfield site managers, local authorities, developers and planners.
- Encouraging the public to take action in their gardens, allotments, window boxes and balconies to make them pollinator-friendly or through other opportunities such as community gardening and volunteering on nature reserves.

3. Enhancing the response to pest and disease risks

- Working to address pest and disease risks to honey bees whilst further improving beekeepers' husbandry and management practices to strengthen the resilience of bee colonies.
- Keeping under active review any evidence of pest and disease risks associated with commercially produced pollinators used for high-value crop production.

4. Raising awareness of what pollinators need to survive and thrive

- Developing and disseminating further advice to a wide range of land owners, managers and gardeners as part of Bees' Needs.
- Improving the sharing of knowledge and evidence between scientists, conservation practitioners and non-government organisations (NGOs) to ensure that actions taken to support pollinators are based on up-to-date evidence.

5. Improving evidence on the status of pollinators and the service they provide

- Developing a sustainable long-term monitoring programme so we better understand their status, the causes of any declines and where our actions will have most effect.
- Improving our understanding of the value and benefits pollinators provide, and how resilient natural and agricultural systems are to changes in their populations.

In taking action across these five areas, we want to achieve the following outcomes:

- **More, bigger, better, joined-up, diverse and high-quality flower-rich habitats (including nesting places and shelter) supporting our pollinators across the country.**
- **Healthy bees and other pollinators which are more resilient to climate change and severe weather events.**
- **No further extinctions of known threatened pollinator species.**
- **Enhanced awareness across a wide range of businesses, other organisations and the public of the essential needs of pollinators.**
- **Evidence of actions taken to support pollinators.**

The award, which is run through DEFRA and Keep Britain Tidy, is for Green Flag award winning parks and green spaces in England that have made great improvements for providing habitats for our beloved pollinators.

Since the awards began in 2015, The Level Park has won the Bees' Needs Award 3 times.

Bees' Needs Award 2015



Bees' Needs Award 2016



Bees' Needs Award 2018



It is worth remembering that without pollinators, we would have no flowers, fruit, cotton, chocolate, silk, coffee, fewer spices, almost no meat and almost no dairy.

Remember that habitats for pollinators = a healthier world!



Green Roof

• **The Green Roof at The Level has many benefits:**

- 1) Provides a more pleasing habitat.**
- 2) It is a modular system of pre-grown trays of wild flowers**
- 3) They provide a habitat for plant species, animals, birds and insects**
- 4) Sustainable drainage (absorbing about 60-70% of rainwater)**
- 5) Insulation-reduce cost of heating and cooling**
- 6) Sound attenuation**
- 7) Carbon Footprint reduction (Urban Heat Reduction) The ability to trap particles and gases (CO₂)**
eg: Can absorb around 100g (3oz) of particulate pollutants per square meter (of one car) = 3oz per sq yd per year



Photo of the green roof plus its solar panels (south side)

The Level Rain Garden



In spring 2017 we made a rain garden next to the café, in order to absorb excess rain water (75%) from the new flat roof, this new addition to the Level will prevent semi-flooding to this particular area and in addition to this we have also planted some particular plants that can cope with such conditions, such as:

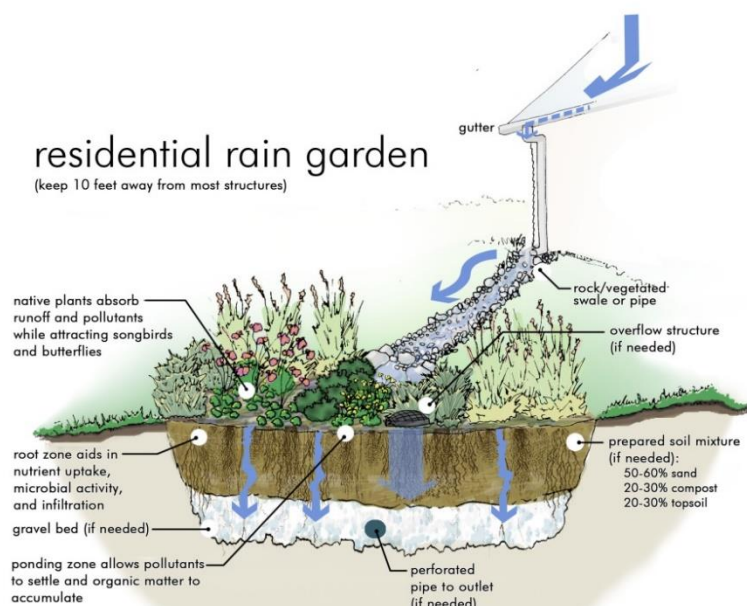
***Eupatorium cannabinum* (Hemp agrimony)**

Which is also very good for pollinators



There are also some varieties of grasses, *Stipa calamagrostis* (Needle grass) and *Stipa arudinacea* (Feather grass) that can also deal with the damp conditions, thus making this particular bed more sustainable and more attractive to the eye.

This diagram below shows a very good example for a successful rain garden, that can be implemented to any garden.



Volunteer development at The level Park

For the past five years we have been running a volunteer garden club each Thursday morning.

The idea for the gardening clubs is for people to understand more about the world of horticulture, biodiversity and conservation.

- This would include a weekly plant ID to build one's knowledge of the plants we have at the level.
- Propagation skills, such as hardwood cuttings, plant division, softwood cuttings, layering and sowing seeds. (All this promotes a form of sustainability for the park)
- Plant care in which the volunteers learn how to look after the plants, such as pruning skills.
- Planting skills (what plant where and why?)
- Beneficial planting to encourage pollinators.
- Companion planting.
- Encourage environmental knowledge.
- How to garden without the use of pesticides.

Over 50% of the individuals that have participated in the garden club have gone on to study horticulture (RHS 1,2 and 3, & landscape design)

This is a positive outcome as it helps to close the horticulture skills gap.



Volunteers working in one of the borders at the level

Other benefits of the gardening clubs are:

- To make new friends.
- Feel that you are doing your part for the wellbeing of the park.
- To become park ambassadors.
- An aspect of eco therapy for all.
- To enjoy through learning.
- Enhancing health and wellbeing



Working with City College students

In 2014, we worked with the students from City College to promote the level as a great place to be for them to learn things, such as:

- Encouraging environmental knowledge through guided talks on biodiversity and sustainability of the level.
- Teaching the students the importance of sustainability and what they can do at home and at college. (Making a wildflower area for example)
- Additionally, doing such things in the park as a group, builds their self-awareness, confidence, communication skills and makes them better aware of the environment that surrounds them.
- Doing regular bee counts throughout May and June for students to identify most commonly seen bees and build up a database with the results.

For example the flowers which attracted the most bees that year were:

Nepeta x frasseni (catmint), *Salvia x sylvestris* 'caradonna', *Allium schoenoprasum* (chives), and a favourite with the bumble bees was *Tymus Vulgaris*.



Left *Nepeta x frasseni* (catmint)

No1 for bees due to its long flowering period of 6 to 8 weeks.



BRIGHTON & HOVE
GREEN SPACES FORUM

In November 2017 the Green Spaces Forum was launched

Brighton & Hove Green Spaces Forum (BHGSF) is a volunteer organisation set up to provide an independent voice and communication hub for community groups working in Brighton & Hove's parks and open spaces.

Benefits of joining the Brighton & Hove Green Spaces Forum

Coming together as one community helps improve communication between those involved in caring for our parks and open spaces. Specifically the BHGSF aims to facilitate:

- Communication between green spaces voluntary groups and other agencies.
- A mechanism to help green spaces volunteer groups mutually support one another.
- Visibility and access to different funding opportunities that are available.
- Easy access to available volunteer training opportunities.
- One voice for green space community groups whether large or small.

Mission Statement:-

"We seek to bring together volunteer groups concerned with the management of Brighton & Hove green spaces to exchange information, advice and knowledge: Communicating and working in partnership with similar groups and organisations to maximise environmental improvement and conservation."



Community composting at The Level Park February 2018



After a long wait, community composting started at The Level Park

Community compost schemes are designed for residents who are unable to compost at home and don't have room for their own compost bin, to dispose of their uncooked vegetable peelings, tea bags, coffee grounds and cardboard in an eco-friendly way

Good Composting

- Uncooked fruit and vegetable waste
- Tea bags and coffee grounds
- Flowers
- Egg boxes, toilet rolls and card torn to size of a postcard
- Don't forget the perfect mix- add a 50-50 of card and food waste.

Bad Composting

- Cooked food
- Scraps from your plate
- Meat
- Pasta
- Bread
- Rice
- Dairy
- Plastic, glass or metal

For more information please contact: info@bhfood.org.uk

Targets for 2019

- ❖ Brighton & Hove Green Forum Spring Seminar at the:
Brighthelm Centre, North Road
Brighton BN1 1YD
On Wednesday 6th March 2019 5pm-8pm
The purpose of the seminar is to find out more about how to encourage biodiversity in your green space.
Keynote speakers:
Dave Goulson, School of Life Sciences university Of Sussex
Stephen Peters, Garden Manager, The Level Park Brighton
- ❖ University of Sussex field studies into pollinating insects within urban Parks
May, June and July at the The Level Park.
- ❖ Planting of 50 to 60 plants (*Cichorium intybus*) Chicory along the rose walk to encourage more pollinators and beneficial insects.
- ❖ More eco-tours of the park to encourage environmental knowledge to all.

Eco-quote of the year



“ 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
December 2018
On climate change