

Birmingham Nature Recovery Strategy 2022 – 2030

Current Position

The City Council is responsible for the care and maintenance of over 3700 hectares of open space and over 8600 roads. The current work programmes include weed control on both the hard and soft landscape and the regular mowing of grass.

The weed control has been historically chemical based. Herbicide usage has been controlled and reduced by moving to the spot treatment of weeds using Glyphosate.

On the highways the maintenance contractor has moved from using Glyphosate to pelargonic acid. This will be monitored for its effectiveness as it acts as a contact herbicide and does not kill the weed roots or seeds. It is also identified as a moderate risk to earthworms so its usage is kept to hard surfaces only in Birmingham.

Grass cutting has been reducing, more areas of grass have been left unmown and some areas actively managed as new meadow to encourage pollinators. Regular amenity mowing has reduced from 14 cuts per year down to 10.

There are many authorities within the UK reviewing their position on the use of Herbicides and moving towards a more pollinator friendly maintenance programme. This draft strategy aims to identify what Birmingham City Council can do within existing resources.

Aim of the Strategy

In line with one of the Cabinet Member for Environment's key priorities, the Nature Recovery Strategy is an operational response to take action to improve our nature offer and increase the pollinator population. We will achieve this by linking into the Birmingham and Black Country Wildlife Trust Strategy (BBWT) 'Working for Nature's Recovery' and will seek to protect and enhance the quality of habitat on land the Council owns whilst also increase the hectareage of land dedicated to nature recovery.

The City Council will use this strategy to set out how such habitats will be improved for pollinators and clarify our stance on chemical use in horticulture.

The BBWT strategy has 3 strategic goals that will be mirrored in this strategy. This will provide a strategic link to the wider region and ensure a joined-up approach to tackling nature recovery.

1. Nature is in recovery, with abundant, diverse wildlife
 - a. Review our current horticultural practices
 - b. Manage our sites to enhance nature conservation and increase habitats
 - c. Influence partners to join in to increase diverse habitats

2. People are taking positive action to protect nature and tackle the impact of climate change
 - a. Provide education and information on nature opportunities
 - b. Inspire others to follow nature recovery principals
 - c. Work with communities to get active involvement in the management of our assets
3. Nature is playing a central and valued role in helping to address local and global problems.
 - a. Ensure all new development provides a positive impact on biodiversity
 - b. Ensure the maintenance and planting schemes have a positive impact on the future climate

The Importance of Pollinators

Pollinators play a vital role in improving our biodiversity. Many of our plants and food crops rely on these insects to pollinate their flowers to produce seed. There are over 4000 species of insect that carry out this function in the UK including bees, butterflies, moths, beetles, wasps and flies.

Pollinators need our help because there is a loss of their natural habitat. They need food/nectar throughout the period of the year when they are active. Native plants, often referred to as 'weeds' can be a good source of food for such insects, including Dandelions and Thistles. Nesting sites are important too as they provide shelter, protection from predators and a place to lay their eggs. These habitats can range from small solitary sites to large swarm underground shelters. Popularity is growing in the use of purpose built insect hotels and log piles. Over wintering in dense vegetation is equally important.

In order to support pollinators, the City Council has reviewed its current weed spraying and grass cutting programmes.

National Pollinator Strategy

A National Pollinator strategy was published in 2014 with an implementation plan launched in 2018. The Strategy asks local authorities to take a lead in improving habitats and setting an example for all to follow.

The UK Government's 25 year Environment Plan 2018 reinforced the need to improve habitats and the Environment Bill (2021) also has an emphasis on improving biodiversity.

1. Nature is in recovery, with abundant, diverse wildlife

In order to encourage a diverse wildlife population in Birmingham we need to review our current assets and horticultural practices.

Integrated Weed Control Management

The City Council acknowledges the need to review our use of pesticides.¹

In the late 1970/80s the Council had a maintenance programme that ensured a very sterile environment with close mown grass with no pests, diseases or weeds. At this time invasive weeds such as Japanese Knotweed were not as commonly known as they are today. To achieve this look, a wide range of pesticides were used as a way to maintain standards and they were used extensively. It was in the early 1990s when the implications of the use of chemicals were identified commonly used products such as Simazine and Atrazine, used to keep streets and beds weed free, were found in water supplies. This was the start of the reduction in chemical use but the rise in the use of spot treatment using Glyphosate.

The basis for integrated weed control is focussed on:

Prevention

Monitoring and Identification of pests, diseases and weeds.

In addition, setting thresholds as to when issues should be dealt with.

Methods of control in priority order:

- a. Cultural
- b. Biological
- c. Chemical

Cultural Control

Paths

The paths should be swept as often as possible with a mechanical sweeper. Regular sweeping will remove small weeds and more importantly remove any detritus where weed seeds can germinate. Sweeping should take place along the paths as well as in the channels.

Seasonal Bedding Schemes

The planting of seasonal bedding has a massive impact on park visitors presenting a kaleidoscope of colour that people are drawn to. However, to improve the design the density of planting is at its highest at 25 plants m². At this density the canopy for the plant will in the initial weeks suppress any weed growth. However ultimately weeds do grow and at this point the beds are hand weeded. Even hoeing is not possible at this density. The choice of plants will also be reviewed to ensure that pollinator friendly plants are used.

¹ In the terms of this strategy, we have defined pesticides as chemicals that are used in horticulture.



Planting Densities 25 plants m²



Planting Density 12 plants m²

Shrub Planting

Over time many shrub beds have been planted, and today they are seen as being more sustainable than the seasonal bedding schemes.

The critical aim here is to ensure that whatever is planted establishes as quickly as possible to ensure the plant canopy covers the soil as quickly as possible.

With this type of planting, it is possible to follow a similar format as to what happens in nature for example in a beech wood. Here to have an overall canopy, then sub canopy with medium growing shrubs and then at the edge you have what is known as the edge effect using ground covering plants.

Using a range of plants in this way to establish quickly you need good quality plants at a relatively high density.

In order to keep weeds suppressed mulches can also be used.

We did trials with a range of materials including both synthetic and organic materials, but the organic techniques were better because they were more stable in each situation.



Combination of Plant and Bark mulch

Bark

There are two grades of bark – Fine which after a dry period blows away, but we found that Bark nuggets which can measure 35mm x 40mm held firmly in the soil and would last 2-3 years unlike the fine grades which generally lasted 12 months or less.

Synthetic Materials

Trials were done with these materials and although they suppressed weed growth, aesthetically they were not visually acceptable. When this was identified, bark was spread across the surfacing of the material but what happened is that it was just blown away, exposing the synthetic materials again.

Other techniques for controlling weeds:

Soil Cultivation

Single or Double digging and the incorporation of manure improves not only the soil structure but also the bacterial activity in the soils. The healthier the plants are the quicker they grow and able to provide cover over the soil keeping weed growth to a minimum.

Planting – Purchase high quality Plants that quickly establish and cover the ground effectively preventing/reducing weed growth. In addition, plant highly adaptive and competitive plants.

Timing - Forking/Hoeing weeds before they flower and therefore set seed reduces the amount of seed in the soil seed bank.

Mowing – Controls weeds in grass, particularly annual weeds.

Hoeing - Flower beds etc.

Forking – The issues here is that initially the area looks aesthetically pleasing to the eye, but regrowth of the weeds occurs within 2 -3 weeks.

Biological Controls

As an alternative again to the use of herbicides, biological control in parks is relatively new.

Controlling plants in a Pool

Case Study – At Kings Heath Park, in 2012 the pool was infested with *Azolla filliculoides*. As an alternative to Glyphosate a biological control was used and the *Azolla* weevil was used.

Over a period of 4 to 5 weeks after the application there was very little activity seen in terms of the weevil, but on week 6 all the *Azolla* completely disappeared over night and has never returned to the pool again.



Azolla filiculoides



Azolla Weevil

Invasive Weeds

Plants such as Japanese Knotweed and Himalayan Balsam have provided a challenge in terms of controlling them within parks, and the urban environment generally. The scale of this is increasing every year due to the prohibitive cost of removal and is now having a negative impact on the environment. For example:

Japanese Knotweed

Trials are taking place around the country focusing on the control of Japanese Knotweed which will suppress the plant rather than kill it. This is using *Aphalara itador* which is a psyllid that feeds on Japanese Knotweed. If they are successful, it is certainly a technique that would greatly reduce the amount of herbicide used to control the spread of Japanese Knotweed.



Aphalara itador

Himalayan Balsam

There are also ongoing trials being undertaken by CABI²¹ for the development of a biological control using Rust for the control of Himalayan Balsam.

² CABI is an international, inter-governmental, not-for-profit organization that improves people's lives worldwide by providing information and applying scientific expertise to solve problems in agriculture and the environment.

This plant is so prevalent now that when this control is made available it is certainly something to consider helping reduce this invasive weed.



Rust Control on Himalayan Balsam

Chemical Control

Whilst our focus is still on Cultural and Biological controls, there is still a role for the use of certain pesticides. However, where possible we will use them intelligently and minimally.

They tend to be used on difficult to control weeds such as the Invasive weeds such as Japanese Knotweed or on areas where there is difficulty sweeping due to the erosion of a hard surface in the urban environment and where damage is been caused to the infrastructure such as kerb lines and roads

In addition, to prevent the regrowth of plants such as Ivy, Couch Grass and Japanese Knotweed we have a programme for treating these areas with Glyphosate which is approved for use near water and is applied 3 times per year in May /June, July /August and September /October.

Alternatively, when not near water when controlling Japanese Knotweed, we now use ICADE. This is a very effective herbicide which is only applied once in August, and so far, the results have been very impressive. The benefit of using this is that as a modern herbicide it only requires minimal dilution rates and 1 application per year.

Benefits of Integrated Weed Control Management

- It allows the plants to compete in favour of the weeds.
- Allows more natural methods of weed control.
- No danger of herbicide residual in the soil or plant.
- Suitable for high planting densities.
- Reduced impact on the natural environment.
- Provides a cost-effective way of weed control.

Disadvantages of Integrated Weed Control Management

Cultural Controls

- Some techniques like rotavating, hoeing etc. can damage the soil structure if done continuously and may spread perennial weeds.
- Mulches must be free of weed seed.

Biological Controls

- Expensive.
- Needs to be monitored closely

Chemical Controls

- In terms of pesticide use it requires 2% organic matter in the soil to be effective.
- Direction of spray critical.
- Effects on Natural environment.
- Costs vary.

The City Council will use chemicals as a last resort and intends to adopt more mechanical and cultural methods to maintain the land it owns. This will recognise the importance of some weeds for pollinators

Review Grass Cutting Programmes

The current grass cutting programme is split by area but there are 5 different grass management regimes.

The City Council is responsible for 28 million square metres of grass

- 24 cuts a year (ornamental grass cutting and very limited)
- 10 cuts a year (most common approach)
- 3 cuts a year (tractor cut conservation)
- 1 cut a year (often a cut and collect for conservation reasons)
- No cutting (in some areas of parkland)

The grass cutting season starts in April and concludes in October

No Mow May

Launched in 2019 by the botanical charity Plantlife, No Mow May is a campaign that encourages gardeners to not mow their lawn during the month of May, in order to let wildflowers bloom and provide a nectar feast for pollinators such as bees, butterflies and moths, beetles and flies.

In the last three years, the number of people not mowing their May has trebled.

A Plantlife survey of 2,000 gardeners revealed that the majority mowed their lawns once a fortnight.

The charity's citizen science survey showed that mowing less than this resulted in an increase in the pollen count, with increases in daises, germander, speedwell and creeping buttercup. And by stopping mowing in July as well, there was an increase in white clover, selfheal and bird's foot trefoil.

The campaign doesn't actually mean you have to completely stop mowing in May or avoid mowing all of the grass. The aim of No Mow May campaign is to encourage people to change up their mowing regime therefore mowing less and leaving patches of long grass in places if possible.

Plantlife guidance across the year recommends a layered approach to grass cutting, where shorter grass is complemented by areas of longer grass.

The National Pollinator Strategy asks local authorities to take a lead so we are proposing areas of Parks, central reservations and areas of housing land will take part in no mow May.

All of our grass verges on the side of the road will continue to be cut along with areas of parkland.

2. People are taking action for nature and the climate

The City Council's Role

In order to make the biggest difference we need more people to know what changes they can make to see the positive impact that will have on the environment as a whole. The City Council will provide a leading role in demonstrating environmental practices and working with as many partners as we can to aid nature recovery across the City.

The BBCWT strategy will ensure our partnering authorities will be following the same approach and we will work with the Parks Alliance to ensure the message is sent across the environmental organisations across Birmingham.

Recognising the importance of front and rear gardens we will actively promote the Royal Horticultural Society Sustainability Strategy. This document provides advice and guidance for individual gardeners and what they can do to make a positive impact on climate change

The Ranger Service

The Ranger Service will play an important role to ensure the message is spread as wide as possible. The Ranger Service has a good link into schools with them visiting our sites and them attending schools the environmental message will be made at every opportunity.

Developing an Environmental Youth Group

There is a commitment to develop an environmental youth group to give a voice to young people in the City and allow them to directly get involvement in the management of the City's environment.

Developing a Communication Programme

It is vital that a communication plan is developed alongside this to ensure the message is clearly understood. A change in some horticultural operations will affect the look and feel of the City for the benefit of pollinators and we should expand our current media campaign to Bee Bold Bee Birmingham.

3. Nature is playing a central and valued role in helping to address local and global problems

The Parks Service will work closely with the Planning Service to ensure all new development provides a positive impact on biodiversity. This will ensure a joined-up approach and that nature plays a significant role in the future of City.

Action Plan

Action: to reduce chemical usage by the City Council

Action: to increase areas managed in a pollinator friendly way by []³

Action: to ensure annual flower display use pollinator friendly plants

Action: to increase the perennial plant programme

Action: to increase the tree canopy in each Ward

Action: to increase the amount of wildflower planting across the City

Action: to introduce pollinator pots in urban areas

Action: to work with partners to promote pollinator friendly management of open space

Action: to carry out baseline and then regular eco-surveys

Action: to review the strategy and actions annually

³ Commitment to be completed post review.