

Report of the Director of Place to the meeting of Regeneration and Environment Overview and Scrutiny Committee to be held on 19th March 2024

AG

Subject:

Report on the use of Glyphosate for weed control within Bradford Metropolitan District Council.

Summary statement:

This report presents an update on progress with regards the reduced use of Glyphosate for weed control in the district and includes information on the trial involving no use (or exceptional use) in 3 parks in the Shipley ward. The report also includes work undertaken to identify areas of highest environmental sensitivity to avoid when spraying in the future and information from other Local Authorities on how they are dealing with the issue in their parks and adopted highway. It also provides options and recommendations to further reduce glyphosate across the district including clear, easy to read information signs for the public at sites where it is proposed to stop using the chemical.

EQUALITY & DIVERSITY:

With regards to glyphosates, the proposals included within this report will contribute to the Council's efforts to address the duty, in particular by providing equality of opportunity for people of all protected characteristics to experience and benefit from biodiversity. Particularly by increasing biodiversity in urban areas, where people with some protected characteristics including low-income, ethnicity, age and disability are more likely to live.

David Shepherd
Director of Place

Portfolio: Healthy People and Places

Report Contact: Damian Fisher
Phone: (01274) 437146
E-mail: damian.fisher@bradford.gov.uk

Overview & Scrutiny Area: Regeneration and Environment

1. SUMMARY

1.1 GLYPHOSATE UPDATE

This report presents an update on progress with regards the reduced use of Glyphosate for weed control in the district and includes information on the trial involving no use (or exceptional use) in 3 parks in the Shipley ward. The report also includes work undertaken to identify areas of highest environmental sensitivity to avoid when spraying in the future and information from other Local Authorities on how they are dealing with the issue in their parks and adopted highway. It also provides options and recommendations to further reduce glyphosate across the district including clear, easy to read information signs for the public at sites where it is proposed to stop using the chemical.

2. BACKGROUND

- 2.1 The report presented to this Committee on 31st January 2023 reported that the use of glyphosate is legally permitted until 15th December 2025 unless a decision is made to extend its use. Since then, on 29th November 2023 the European Commission published the 'Implementing Regulation' renewing the approval of glyphosate for a period of 10 years until 15th December 2033. It is likely that the UK will follow suit with this new extension, however this has not yet been agreed by the UK. This report assumes that the UK will follow suit with either the new EU extension or some other extension agreed by the UK. In the unlikely event that an extension is not agreed and the ban is implemented on 15th December 2025 all Local Authorities in the UK will have to find an alternative method of dealing with weeds other than the use of Glyphosate.

The decision for the UK on glyphosate is important not only because of the potential health risk and environmental risks, but because it remains the last proven chemical spray on the market for use in municipal weed control that hasn't been banned.

More recently the House of Lords representative Lord Douglas Miller stated on the 23rd of February 2024 "Glyphosate is currently approved as an active substance for use in pesticide products in Great Britain. As part of its renewal assessment the Health and Safety Executive, as the Government's expert regulator for pesticides, will conduct a thorough and robust scientific risk assessment to determine if the approval of glyphosate should be renewed in line with assimilated Regulation 1107/2009 of the GB plant protection products legislation.

As part of this assessment HSE will consider all data required by the legislation and can request additional data from the approval holder should this be required before reaching its decision." It is unclear when this decision will be made.

2.2 The Recommendations from this Committee last year were.

(1) That, following consideration the solutions set out in Document “V”, that Solution 2: Reduced Use of Glyphosate, be recommended to the Executive for adoption. This would see a reduction in the use of glyphosate, primarily by avoiding those areas of the highest environmental sensitivity, whilst allowing for some form of weed control on the rest of the highway network.

(2) That it be further recommended to the Executive that public engagement and communication regarding the reduced use of glyphosate in some areas be undertaken and that Officers continue to engage with other Local Authorities that are also reducing the use of glyphosate.

(3) That an update report be presented to this Committee by the Strategic Director, Place, in 12 months’ that includes information on the trial involving no use (or exceptional use) of glyphosate within 2 parks within the Shipley ward that is planned for 2023 and learning from other Local Authority areas

2.3 **Update on the Shipley Trials - No use (or exceptional use) of glyphosate**

Shipley ward was chosen for the trial and it was decided to include 3 Parks.

- Northcliffe Park
- Shipley Park
- Crowgill Park

Instead of weed spraying the weeds were strimmed by Parks staff. The trial has gone very well with no complaints from the public and no damage to Parks infrastructure. Although strimming around obstacles takes slightly longer it has the added benefit of not having brown fading foliage for days and weeks after weed spraying improving the aesthetics in the area. Parks staff will continue to closely monitor closely any damage to infrastructure moving forward. An example of an information sign is shown in Appendix 2 at Northcliffe Park.

This year it is the intention to expand the non-use of glyphosate to all Parks and recreation grounds in the Shipley Constituency with easy-to-read signs explaining what we are doing and why. Signs could also provide information on why we are leaving some grassed areas to grow to increase biodiversity.

In the 4 remaining Constituencies, it is proposed to trial 2 or 3 Parks in each area and learn from the trials in Shipley, in particular the need for staff to understand the changes and specifically why the changes are important for the benefit of the environment. If successful, the next step would be to expand this practice to all parks and recreation grounds in the district by the spring of 2025.

2.4 **Highway Weed Spraying - Avoiding spraying areas of environmental sensitivity.**

Officers from the Biodiversity Team have been working to identify sensitive areas where the use of Glyphosate is to be avoided. This includes parks,

green spaces and adopted highway together with areas where there are water courses or places of high biodiversity.

Identification of sensitive sites to be omitted from glyphosate use have been identified using GIS mapping tools to find protected sites like the Special Protection Area and Special Area of Conservation on the moors and Sites of Special Scientific Interest, Local Nature Reserves and Local Wildlife Sites. Other greenspaces have also been identified as sensitive locations such as woodlands and other open spaces. These locations are likely to support flowering plants which attract pollinators like bees and contain soils which support communities of diverse soil invertebrates including earthworms which are all susceptible to the damaging effects of glyphosate.

The current list should be expanded on based on officers identifying further sensitive locations supporting semi-natural and nectar rich habitats as well as other locations of value such as school grounds, playgrounds and sports pitches with landscaped elements.

In terms of the adopted highway (footways and channels) These are currently sprayed by a private contractor and the areas identified will be given to them in good time before spraying starts in April.

A full list of these sensitive sites is available and includes sites designated for nature conservation from Special Protection Areas, Special Areas of Conservation and Sites of Special Scientific Interest, Local Nature Reserves and Local Wildlife Sites and the existing Wildlife Habitat Network. It includes ancient and younger woodland sites, including TPO woodlands, heathland and ecologically valuable grasslands and watercourses. The sites also include public parks and recreation grounds. The sites have been chosen because of their value for a range of invertebrates such as earthworms and bumble bees and of value for aquatic species. The list of sites is based on mapped data for the district and while it provides a functional basis for identifying sites close to which glyphosate use might be stopped, there may be other areas that should be added and some that would be appropriate to remove.

Whilst the mapped sites cover a substantial area of the district, they are generally focussed on rural areas, where glyphosate use is lower. However, the more urban sites are of particular importance due to their value to urban populations of invertebrates. Whilst there may be areas around these urban sites where there could be conflict between the weed growth permitted by the removal of glyphosate and local people's desire to see weed-free footpaths their extent would be limited.

By ward the number of mapped features with sensitivity are presented in the table below. These are not absolute numbers of sites but include designated sites, sections of larger of sites and habitat features mapped, for example in the wildlife habitat network. There will be some duplicated features within these numbers also. The numbers should be viewed as relative to one another and along with the mapping. They illustrate broadly the higher quantity of sensitive sites or features in the more rural wards of the district.

Ward	Number of mapped sensitive sites/ features
Baildon Ward	933
Bingley Rural Ward	819
Bingley Ward	777
Bolton and Undercliffe Ward	123
Bowling and Barkerend Ward	143
Bradford Moor	59
City Ward	102
Clayton and Fairweather Green Ward	136
Craven Ward	766
Eccleshill Ward	123
Great Horton Ward	112
Heaton Ward	238
Idle and Thackley Ward	375
Ilkley Ward	1122
Keighley Central Ward	305
Keighley East Ward	645
Keighley West Ward	215
Little Horton Ward	47
Manningham Ward	103
Queensbury Ward	300
Royds Ward	119
Shipley Ward	339
Thornton and Allerton Ward	251
Toller Ward	167
Tong Ward	260
Wharfedale Ward	502
Wibsey Ward	62
Windhill and Wrose Ward	204
Worth Valley Ward	1455
Wyke Ward	208

Mapping of the above is presented in Appendix 4. Detailed mapping on specific wards can be provided on request.

2.5 Other Local Authority experience.

Responses from 70 local authorities with regards to benchmarking and enquiries to date have not established any clear success stories moving away from glyphosate. Many have carried out trials and reported either poor performance or excessive costs as barriers to permanent adoption of alternative treatments. Some authorities that stopped using glyphosate on the adopted highway have indicated that they have had to reintroduce the use of glyphosate to control the problem due to complaints. However, many have stopped the use in parks using strimming or manual treatment of grass edges/weeds and around obstructions.

The Parks and Cleansing service plans to make further contact with some of the responding local authorities that have introduced reduced-use policies, to

establish if there any practices that could be learnt and adopted.

A recent comparison of alternative treatment on **pavement** weed control was reported in 2022 by Cardiff Council. They trialled three different pavement weed control methods and focused on four key criteria:

- Cost
- Effects on the Environment
- Customer Satisfaction
- Quality

Methods trialled included:

- Glyphosate (applied 3 times a year)
- Hot Foam Herbicides (3 times a year)
- Acetic Acid Herbicides (4 times a year)

These alternative treatments have other environmental impacts due to the use of large amounts of gas / diesel for heating and the increased frequencies of treatment required to deliver a similar level of control, based on industry feedback on lower effectiveness levels.

Efficiency and sustainability results showed quite comprehensively that glyphosate on the highway was the most sustainable being more cost effective, with low environmental and high customer satisfaction and quality. In contrast acetic acid delivered intermediate costs and environmental impacts with low customer satisfaction and quality. Hot Foam generated high costs and environmental impacts but high customer satisfaction and quality.

In summary the use of glyphosate-based herbicide was the most effective for pavement weed control in the UK. The testing and the evaluation report can be found in this link <https://www.bali.org.uk/news/weed-control-report-released-by-advanced-invasives/>

Exploring contacts within the industry as well as via networking organisations like APSE (Association for Public Service Excellence), the service has found no strong advocates for any of the alternative solutions for highway / pavement weed spraying. Several authorities have trialled different techniques but haven't switched over often citing costs or lack of effectiveness as significant obstacles in moving away from glyphosate indicating the general uncertainty within the industry.

Research undertaken by Oxford Economics showed that glyphosate is also the most effective treatment method against some invasive species. The Parks service is aware of two authorities within the Yorkshire and Humber region that switched to alternative methods of weed control but have recently reverted back to glyphosate-based sprays to some extent, highlighting the difficulty in making this transition. Examples of other Local Authority experience is given in Appendix 1.

3. Other Considerations

- 3.1 The use of Glyphosate continues to be debated across the world. There are more who feel it is a safe and cheap option to deal with weeds on the highway and in parks and green spaces. Conversely it is seen by others as a potentially dangerous substance with affects to health and should be banned or massively reduced in use. The issue for all local authorities is that there is no 'silver bullet' to solve the problem. There are few alternatives and the ones trialled up and down the country are reportedly up to 10 times more expensive than glyphosate and many have significant environmental implications themselves.

If the UK does not follow the EU and elects to ban glyphosates, this will come at a high cost. Serious consideration will then need to be given to the alternatives and the significant cost implications.

Of note one of the major manufacturers has recently committed to spend 5.6 billion on weed killer research and have recently agreed exclusive worldwide rights to commercialise pollinator friendly insecticides clearly investigating the use of more natural based products for the future.

Moving forward at this stage it would be recommended to proceed with caution with the use of glyphosate. Any interim policy, until an affordable and affective alternative can be found, is to minimise its use as far as possible and in time away from parks and other sensitive areas mentioned earlier.

3.2 Weeds in the Environment

In a rural and urban environments native weed growth provides food and shelter for insect pollinators such as bumble bees and other species, enhancing biodiversity and supporting ecosystem services. In urban settings weed growth maybe the only available food resource for bees and pollinators. However, in an urban environment the presence of weeds can also cause problems for infrastructure.

- damages highways surfaces
- increases trip/slip hazards.
- creates litter-traps and hinder litter collection.
- encourages detritus accumulations and impede surface-water drainage.
- be aesthetically unappealing to some residents and visitors.

In both the urban and rural environment, the presence of Invasive Non-Native Species (INNS) such as Japanese knotweed or giant hogweed requires urgent targeted action to control and eradicate it where possible. Glyphosate is a useful tool for the management of INNS.

In addition, the Environment Act 2021 included an amendment to the general duty on public bodies, contained in the Natural Environment Rural Communities Act 2006, to conserve biodiversity. This general duty on public

bodies is now to “conserve and enhance” biodiversity. As such the Council is required to consider how it could avoid adverse impacts and protect and enhance biodiversity.

The NERC Act 2006 is amended to:

40(A1) For the purposes of this section “the general biodiversity objective” is the conservation and enhancement of biodiversity in England through the exercise of functions in relation to England.

(1) A public authority which has any functions exercisable in relation to England must from time to time consider what action the authority can properly take, consistently with the proper exercise of its functions, to further the general biodiversity objective.

(1A) After that consideration the authority must (unless it concludes there is no new action it can properly take)—

(a) determine such policies and specific objectives as it considers appropriate for taking action to further the general biodiversity objective, and

(b) take such action as it considers appropriate, in the light of those policies and objectives, to further that objective.

(1B) The requirements of subsection (1A) (a) may be satisfied (to any extent) by revising any existing policies and specific objectives for taking action to further the general biodiversity objective.

A detailed explanation of the impact of glyphosate upon biodiversity has again been provided in Appendix 3.

3.3 Current use of Glyphosate on adopted highway.

Currently the Parks and Cleansing Service employ a contractor who provides three sprays per year to the public highway network. This spraying regime uses specialist equipment that only targets actual weed growth rather than blanket spraying of the highway surface. This means only a few droplets are applied to the target plant and minimise the volume of spray used which provides both environmental and cost benefits. The contractor ensures their staff meet all legal requirements for using a glyphosate, and that the staff know when and where it is suitable to spray.

3.4 Public Health

Public Health welcome the action taken to date and outlined in the paper, to progressively reduce Glyphosate use in sensitive areas, to address the environmental and biodiversity concerns. This action will also support the aim of the District’s Food Strategy to increase the volume of our food that is grown locally, helping to make our food supplies safer, and more sustainable over time, with less chemical exposure. Environmental studies show that its impacts persist in natural environments, and are harmful to some forms of

wildlife, including pollinators, with impacts for food crops that are naturally pollinated.

The commitment to reducing Glyphosate use in 'sensitive' locations for biodiversity, and for the environment in general is welcome. What is good for the environment is also likely to be good for human health. A further step would be to consider 'sensitive end users', to borrow a term from Planning. This means taking steps to protect places where people who we would wish to be protected from exposure are most likely to be found. Sensitive end users could include children and young people, pregnant women, older people, people with respiratory illness - meaning that use close to schools, playgrounds, parks and other well-used greenspaces is progressively reduced and work undertaken with partners to encourage them to review their use in the grounds of care homes and health settings.

The trial in Shipley has shown that local people have supported the approach of reducing spraying, allowing a more natural environment with longer grass and wildflowers to thrive in the trial parks, which then feeds pollinators and local wildlife.

Health benefits could be extended by reducing any Glyphosate use in urban residential areas – allowing wild flowers, birds and pollinators to thrive in those spaces too - being close to nature, bringing nature closer to people in urban areas has mental health benefits. Empowering communities to look after the small spaces in their areas, to green our urban areas, and allow nature back in is one of the ways that we can achieve this.

4. FINANCIAL & RESOURCE APPRAISAL

- 4.1 There are limited financial impacts to either options 1 or 2 apart from the cost of signage estimated at 5k which would be found in base budget. The Shipley trial has shown that it takes slightly longer to trim weeds than to use glyphosate. This will be further assessed over the next 12 months trialling the strimming method in the other 4 areas, if option 1 is approved.

The reduction in quantities of glyphosate used at all sites will also be monitored in this period to predict further reduced glyphosate costs in 2025 and beyond .

- 4.2 The current costs of the weed spraying contract on the adopted highway is currently £200k. If there is no extension to the use of glyphosate after 2025 moving to an alternative treatment is estimated to cost up to 10 times this amount.

5. RISK MANAGEMENT AND GOVERNANCE ISSUES

- 5.1 The Council adheres to the strict training and guidance around the use of glyphosate to ensure that, like all chemicals used within the organisation, they are used only where needed and with health and safety being of the utmost importance.

We are becoming increasingly aware of the adverse effects of glyphosate on biodiversity and the importance a healthy environment provides to citizens and industry.

6. LEGAL APPRAISAL

- 6.1 The future legal position regarding the use of Glyphosate is unclear as it is not known at this stage whether the legal obligations regarding glyphosate under EU law will be incorporated into UK domestic law.
- 6.2 The Council's legal duties as regards biodiversity are referred to in the body of the report.
- 6.3 The Council and its contractors is required to comply with current legislation in the use of herbicides.

7. OTHER IMPLICATIONS

7.1 SUSTAINABILITY IMPLICATIONS

- 7.1.1 A separate annex has been provided to this report specifically addressing the subject of biodiversity in detail in Appendix 3.

7.2 TACKLING THE CLIMATE EMERGENCY IMPLICATIONS

- 7.2.1 Cessation of spraying with no alternative control method put in place may see a small reduction in greenhouse gas emissions based on less travelling by the contractor; however almost all forms of alternative treatments will require more staff and a higher frequency of treatment seeing a net increase in travelling throughout the district. The main alternative treatments also come with their own environmental concerns:
 - one of the alternative treatments requires heating of large volumes of water on site using a gas/diesel generator which would increase the greenhouse gas emissions significantly.
 - another alternative treatment uses flame to kill the weeds and requires the use of portable gas cylinders.
 - manual removal will require increased number of vehicles and staff to be working across the district, though this could possibly be mitigated by purchasing electric vehicles as these teams may not need to carry heavier payloads.
- 7.2.2 Use of glyphosate is associated with ecological changes which reduce the ability of plants, fungi, micro-organisms and the habitats they function within to store carbon.

7.3 COMMUNITY SAFETY IMPLICATIONS

- 7.3.1 The international debate about the use of glyphosate is driven by the

concerns to its risk to humans in particular, therefore its use does have potential community safety implications. Whilst the product remains in use by the Council and its contractor, all legal guidelines around its use are upheld.

The recommendations in this report seek to reduce the use of glyphosate in parks, green spaces, near water courses, places of high biodiversity and environmentally sensitive areas.

7.4 HUMAN RIGHTS ACT

7.4.1 No specific issues.

7.5 TRADE UNION

7.5.1 Staff using glyphosate are fully trained and certified in two nationally defined qualifications and the specific procedures that cover the use of the relevant chemicals and equipment.

7.5.2 Changes to policy or method may require revision of procedures and training for staff, particularly if manual removal becomes the main form of weed control requiring detailed risk assessments to ensure how sustainable it is for long-term employee well-being.

7.6 WARD IMPLICATIONS

7.6.1 The current use of glyphosate affects all Wards in the district.

7.7 AREA COMMITTEE LOCALITY PLAN IMPLICATIONS

7.7.1 Locality plans in all areas have priorities with regards environmental sustainability.

7.8 IMPLICATIONS FOR CHILDREN AND YOUNG PEOPLE

7.8.1 None specific

7.9 ISSUES ARISING FROM PRIVACY IMPACT ASSESMENT

7.9.1 None specific

8. NOT FOR PUBLICATION DOCUMENTS

8.1 None specific

9. OPTIONS

9.1 Option 1

Shipley Area constituency to stop using Glyphosate in all Parks and Cemeteries (except in exceptional use) in April 2024 using strimming as the

control measure. The remaining 4 Areas to trial 2 parks and cemeteries in 2024 with a view to a total cessation by 2025 if successful.
Adopted Highway continues to be weed sprayed but avoiding sensitive areas highlighted within this report.

9.2 Option 2

All Area constituencies to stop using Glyphosate in all Parks and Cemeteries (except in exceptional use) using strimming as the control measure in April 2024

Adopted Highway continues to be weed sprayed but avoiding sensitive areas that are highlighted within this report.

10. RECOMMENDATIONS

- 10.1 That option 1 be approved and that clear signs are placed in all areas explaining what the council is doing.
- 10.2 That officers continue to add areas of high sensitivity to be avoided in the use of glyphosate.
- 10.3 That officers continue to liaise with other Local Authorities re best practice and experiences in the reduced use of glyphosate.

11. APPENDICES

- 11.1 Appendix 1 – Examples of Other Authorities experiences of dealing with weed growth and reducing Glyphosate.
- 11.2 Appendix 2 – Example of Signage used in Shipley.
- 11.3 Appendix 3 – Detailed Impacts of Glyphosate on Biodiversity
- 11.4 Appendix 4 Maps of sensitive areas to be avoided in the weed spraying programme.

12. BACKGROUND DOCUMENTS

- 12.1 Report of the Director of Place to the meeting of Regeneration and Environment Overview and Scrutiny Committee to be held on 31st January 2023. Follow this link 'Document V' ([Public Pack\)Agenda Document for Regeneration and Environment Overview and Scrutiny Committee, 31/01/2023 17:30 \(moderngov.co.uk\)](#))

Appendix 1 Other Local authority experience and comments

Cambridgeshire

Has reversed a ban on chemical weed killing after more than 80% of lower authorities in the area complained that the policy was failing. Locals and councillors

reported trip hazards, damage to paving and road surfaces and scruffiness of streets due to overgrown weeds. In a unanimous vote, councillors at a highways and transport committee meeting decide to reintroduce chemical weed killing in built-up village and town areas with speed limits of 40mph or below, at least twice a year.

Calderdale

No Glyphosate based products used in Parks since 2019 but they have experienced big impacts with weed growth and manually removing the weeds from play surfaces is impacting on the integrity of the surface.

Portsmouth

The use of herbicide to control weed growth on hard surfaces is by far the most common form of pesticide in use by the authority. Weed growth can interfere with visibility for road users and weeds in kerbs or around drains can prevent or slow down drainage. Their growth and moss on pavements may eventually become a trip / slip hazard for footway users. Application of chemical herbicide is used ahead of mechanical weed control due to the ease of application, which often saves on the cost of labour and is carefully targeted to minimise product use. **It remains the most effective and cost-efficient means of weed control.**

Restricted use of selective herbicides are used for the control of weeds on fine turf and sports areas such as cricket squares, bowling greens and golf greens to control broadleaf weeds and retain a safe and uniform playing surface. This is only carried out to affected areas and where it is not practical to manage the control by hand.

Regardless of whichever timescale applies to authorised use of glyphosate, there is a will by all council services to continue reducing dependency on pesticides and using alternative methods to chemical control where these are available and demonstrated to be effective.

The steps the council are currently taking to reduce and minimise the use of pesticides include:

- Restricting use to a minimum - pesticides are only used where they are required - all treatments are targeted with no preventative treatments carried out, whether that be weed or pest control.
- A selective herbicide is no longer applied to any grassed area, other than high amenity sports turf (excluding football pitches).
- Use of weed suppressants - increased mulching of shrub beds and new tree plantings using recycled woodchip from tree works carried out in the city helps to suppress weed growth and the need for treatment.
- Overplanting - an annual winter improvements programme allows for planting beds to be supplemented (gapped-up) or re-planted, not only for their aesthetic and environmental gain, but to reduce areas for weed growth and need for future treatment.
- Maintaining surface integrity - working procedures are in place for surveyors to report surface defects and arrange timely repairs. The efficient reporting of repairs reduces the potential for weeds to grow as they would through damaged paved and hard surfaces. Collaborative working between site

surveyors and design teams influence future decision making around the type of surfacing and street furniture.

- Reduced mowing of grass - to enhance and support biodiversity, teams have relaxed mowing regimes to an increasing number of areas across the city and continue to trial expansion of this. Public response has been favourable where this has been introduced and continues to inform further areas where the right balance can be found between increasing wildlife friendly grassland and scrub and public amenity use and respecting walking desire lines. All sites are on a case-by-case assessment and these changes are being monitored and reported through updates on the Council's greening strategy. Wilder site boundaries mean herbicide is no longer applied along areas such as fence lines.
- Mechanical and manual cultivation - chemical treatment is no longer used when preparing beds for the popular and increasing number of wildflower and meadows seeded areas that have been incorporated across a range of green spaces and adjacent residential housing and highways.
- Mechanical weed ripper machines are used to remove moss and weeds to suitable housing curtilage areas and ball courts.
- Manual weed removal is still employed where relatively small areas are affected and it remains more time-efficient for operatives to undertake the necessary control using hand implements, than for this to be followed up by scheduled herbicide treatment.

Sheffield

Sheffield's main approach going forward is:

- Only using glyphosate on hard surfacing if required until appropriate alternatives are available.
- Relaxing the need to treat around fence lines, obstacles, trees etc and if required planning 2 strims per year to deal with priorities only.
- Signage and comms to inform parks users of the changes and encouraging Friends Of groups to support manual weeding.
- Continuing to use glyphosate to treat invasive weeds and for stump/self-set treatment.

Calderdale

In April 2020. Decided to cease the use of glyphosate completely within parks and verges and to bring a further report to phase it out of hard landscape (highways) to ascertain costs.

Havering

Havering Council currently uses herbicides to control weed growth on highways, council land, parks and open spaces. This allows the Borough to conform to both the Weeds Act (1959) and the Countryside Act (1981).

Herbicides (glyphosate) provide the most effective treatment for controlling weeds, however an integrated approach to weed control helps to limit their usage. Weeds

are required to be controlled for a number of reasons, including aesthetic (they detract from the overall appearance of an area and trap litter) and structural (weed growth can destroy paving surfaces, force apart kerbs and crack walls, therefore increasing maintenance costs)A completely (chemical) herbicide-free alternative could cost between 8 and 10 times the current cost (£0.113m per annum) of controlling weeds in the borough.

Appendix 2 – Example of Signage Use in Shipley



Appendix 3 – Detailed Impacts of Glyphosate on Biodiversity

Provided by David Campbell, Biodiversity Officer, Department of Place

Legislative Background

The Environment Act 2021 included an amendment to the general duty on public bodies, contained in the Natural Environment Rural Communities Act 2006, to conserve biodiversity. This general duty on public bodies is now to “conserve and enhance” biodiversity.

The NERC Act 2006 is amended to:

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(a) determine such policies and specific objectives as it considers appropriate for taking action to further the general biodiversity objective, and

(b) take such action as it considers appropriate, in the light of those policies and objectives, to further that objective.

(1B) The requirements of subsection (1A)(a) may be satisfied (to any extent) by revising any existing policies and specific objectives for taking action to further the general biodiversity objective.

As such, just over a year since the assent of the Environment Act resulted in this amendment, it is a good time to assess Bradford MDC’s use of glyphosate-based herbicides.

Introduction

Glyphosate is widely used for managing undesirable plants (“weeds” – a plant in the wrong place) in agriculture and in public spaces and gardens. It is used in conservation to eliminate robust undesirable plants which dominate habitats where less robust plant species are desired, so it is often used to prepare lands and soils prior to the creation of wildflower meadows. It is also used to remove Invasive Non-Native Species (INNS) such as Japanese knotweed and giant hogweed (both of which occur in the Bradford District).

The popularity of glyphosate is based on the understanding that it inhibits a biochemical process present in plants that is not present in animals. It is also known to be broken down by naturally occurring organisms and adsorbed to (attached to)

soil particles, reducing its ability to move out of the treated area and into the wider environment. As such it is considered to be a relatively safe chemical for weed and habitat management.

However, increasing amounts of data now exists which shows that glyphosate and the other chemicals used in products such as Roundup have adverse effects on animals; that metabolites (products made by the breakdown of glyphosate by organisms in the environment) can have equally severe adverse effects on micro-organisms and higher organisms such as mammals, fish, earthworms and pollinators such as honey and bumble bees (a Bradford Biodiversity Action Plan group of species)¹. It has also become evident that its persistence in soils and water allows it to be freed back into the wider environment from the original treatment location. The effect of glyphosate, to remove weeds also has effects on ecosystems, reducing food abundance for animals, increasing nutrients and altering species composition and diversity.

Biodiversity Emergency and Species Loss

The UK is one of the most nature depleted countries in the world. The 2019 State of Nature Report² highlighted that 41% of UK species had declined due to continued clearance of land for development, agricultural intensification and climate change. Declines of invertebrate abundance across Europe and North America are likely in excess of 75% in protected areas³. Large areas of habitats have been lost with 99.7% of fens, 97% of species-rich grasslands, 80% of lowland heathlands, up to 70% of ancient woodlands and up to 85% of saltmarshes destroyed or degraded⁴. These declines are catastrophic in their own right but also represent a threat to human society and economies as the ecosystem services or natural capital they provided is essential to food production and the maintenance of human standards of living.

Natural Capital and Ecosystem Services

The following is taken from the UK Parliamentary Officer for Science and Technology POSTNOTE 619 March 2020 UK Insect Decline and Extinctions⁵:

“The economic value of pollination to UK crop production is approximately £500 million a year. Dung beetles are estimated to be saving the UK cattle industry £367 million each year and £37.42 per cow through reducing flies and increasing nutrients in the soil. Natural pest control (by ground beetles and parasitoid wasps) of widespread aphid pests is worth up to £2.3 million per year in South East England wheat fields alone. Freshwater insects in their larval stage, such as dragonflies or mayflies, can also filter water, remove pollutants and provide food for bats, birds and

¹ K. Gandhi, S. Khan, M. Patrikar et al. 2021. Exposure risk and environmental impacts of glyphosate: Highlights on the toxicity of herbicide co-formulants. Environmental Challenges 4 (2021)

² <http://www.nbn.org.uk/stateofnature2019>

³ : Hallmann CA, Sorg M, Jongejans E, Siepel H, Hofland N, Schwan H, et al. (2017) More than 75 percent decline over 27 years in total flying insect biomass in protected areas. PLoS ONE 12 (10): e0185809

⁴ Environment Agency, Chief Scientist's Group. (2022). Working with nature.

⁵ <https://post.parliament.uk/research-briefings/post-pn-0619/>

fish (such as salmon and trout). These are services on which economic research has been done, many more are yet to be measured and assessed.”

Whilst the direct and indirect impacts of glyphosate use can have adverse effects on habitats and ecosystems themselves, there is also potential for the ecosystem services, such as pollination, natural flood management and carbon capture to be adversely affected by the presence of glyphosate in the environment.

Whilst the extent of this impact within Bradford District has not been calculated, these ecosystem services are intrinsic elements of life in Bradford District and provide protection from negative impacts on residents and property and are essential elements of agriculture and other industries with social and economic benefits.

In comparison with other pesticides, glyphosate and the products it is used in are currently understood to generate lower adverse environmental effects however, the extensive use and sheer quantities used increases the abundance in the environment and therefore increases their potential for and severity of adverse effects on biodiversity.

Ecological Effects of Glyphosate Use in Bradford District

Whilst the majority of scientific studies focus on agricultural use of glyphosate, where it is used in quantity to treat large areas of arable land, use in Bradford by City of Bradford MDC is likely to cause similar effects on a smaller scale but will result in an overall increase in glyphosate, the chemicals it is combined with and the chemicals it is broken down to, in the environment.

Glyphosate and its metabolite AMPA (Aminomethylphosphonic acid) can be found in honey, soy sauce, cereals, wine and fruit juice as a result of agricultural use. So, any additional glyphosate we spray will add to the environmental, wildlife and human levels of exposure. Glyphosate and its side effects have become a major concern due to widespread use and its concentration in edible products⁶.

Urban and Suburban Environment

As well as use for agriculture and urban and suburban street weed management glyphosate products are available to the public in products such as Roundup and can be used in uncontrolled and unmonitored quantities, increasing the amount of glyphosate, the chemicals it is combined with and the chemicals it breaks down into in the environment, where the risk of interaction with valuable habitats and species is increased.

One direct impact of glyphosate use in urban settings is a result of the intended effect: the removal of flowering plants which, in this setting are often referred to as weeds. Whilst they may often be undesirable in an urban setting these plants provide a valuable resource for pollinating insects often in places without many other sources

⁶ Tarazona, J.V., Court-Marques, D., Tiramani, M., Reich, H., Pfeil, R., Istace, F., Crivellente, F., 2017. Glyphosate toxicity and carcinogenicity: a review of the scientific basis of the European Union assessment and its differences with IARC. Arch. Toxicol. 91 (8), 2723–2743. doi: 10.1007/s00204-017-1962-5.

of food. Whilst food availability for pollinators in urban settings is reduced, these habitats do still have a valuable role to play in wildlife conservation, particularly for bee species.⁷ So with the biodiversity duty of public bodies in mind, it is pursuant on the local authority to consider its use of a pesticide in relation to its likely adverse effect in urban habitats.

The adverse effects of glyphosate on pollinators have been shown by studies such as Motta, E. V. S., Raymann, K., and Moran N. A. Glyphosate perturbs the gut microbiota of honey bees. PNAS (Proceedings of the National Academy of Sciences). October 9, 2018. vol. 115, no. 41, 10305 – 10310. This study found that while glyphosate does not act directly on honey bees, its main pathway of effect can act on the microbes present in honey and bumble bee guts. These microbes were shown to provide protection for bees from disease pathogens and the reduced abundance in the gut of bees exposed to glyphosate, made bees more susceptible to disease and subject to higher levels of mortality than those not exposed to glyphosate. In addition, the study indicates that the depleted gut biota makes bees more susceptible to poor nutrition. One cause of poor nutrition in bees is low food availability which is contributed to by the removal of nectar-bearing plants which is the intended effect of glyphosate use. The absence of nectar-bearing plants is a feature of urban environments and is compounded by the removal of “weeds” for aesthetic purposes.

Spraying with glyphosate has some potential to drift away from the application site, potentially affecting neighbouring sites. This means that the spraying of pavements and roadsides in proximity to ornamental planting beds or parks, gardens or other green space such as woodland or river corridors has the potential to affect bees and other pollinators which are drawn to flowering plants. Whilst the mode of application; spraying with a wand at close proximity to the target plant does reduce opportunity for drift in the air to occur, glyphosate sprayed on hard surfaces can still be carried to more sensitive areas in surface water run-off.

Use of glyphosate close to flowering plants and where it can enter the soil or groundwater increases the risk that it, its co-formulants or metabolites will come into contact with desirable plant species, invertebrates, fish and other animals in the terrestrial or aquatic environment.

Rural Environment Use and Use in Proximity to Valuable Habitats

The main pathway which may result in contact with non-target habitats, plants and animals is through spraying in proximity when particles are carried on the air or transported through groundwater and surface water away from the target area. This is accentuated in windy and wet conditions.

Persistence in soil is dependent on soil condition and oxygen availability, so some of our more valuable Bradford District habitats such as blanket bog (such as those on the South Pennine Moors SAC) and mire (such as at Bingley South Bog SSSI) are

⁷ Baldock, K.C.R., *et al.* 2015 *Where is the UK's pollinator biodiversity? The importance of urban areas for flower-visiting insects.* Proc. R. Soc. B 282: 20142849

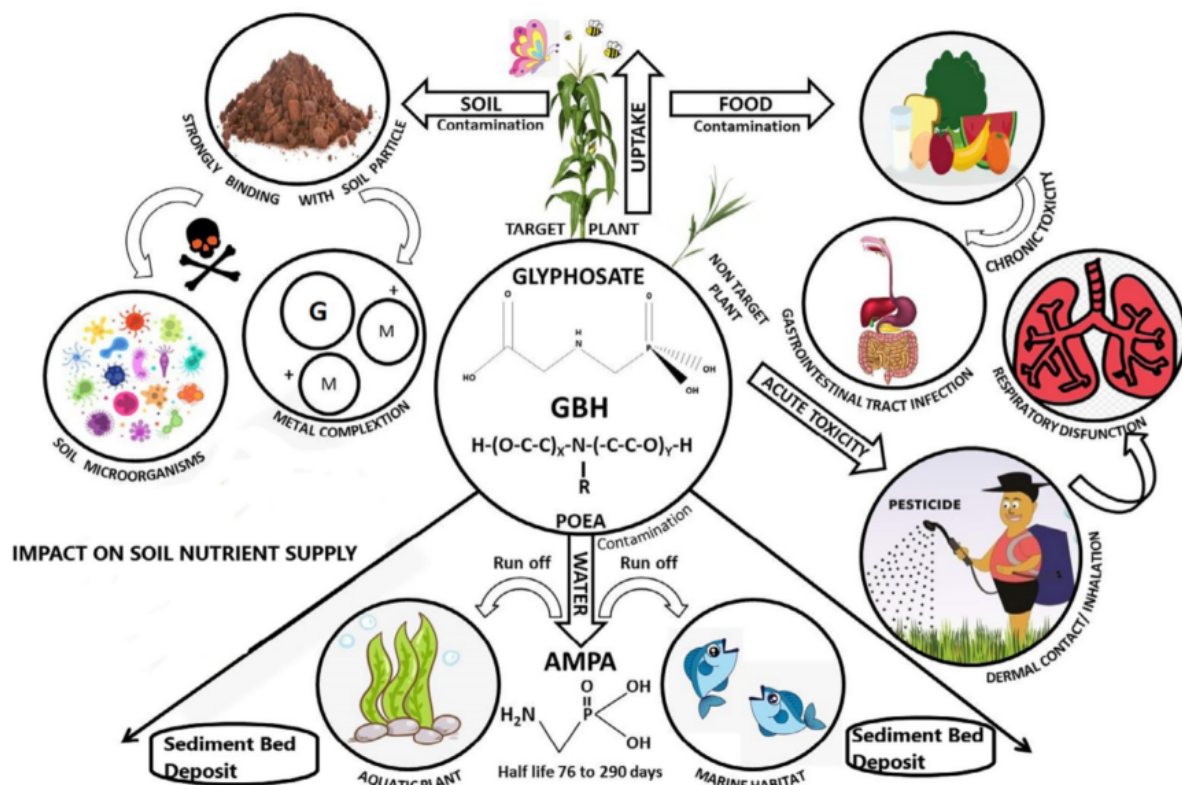
more susceptible to adverse effects due to the increased persistence of glyphosate and the increased mobility in wet habitats.

Due to its low persistence and mobility relative to other pesticides, it is often used close to water and is a useful tool for treating INNS such as Japanese knotweed and giant hogweed in these habitats. However, break down is slower in water than in soils due to reduced oxygen and microorganisms in these habitats. This means that there is potential for co-formulants and metabolites from various sources to accumulate in waterbodies where it can result in adverse impacts on fish and amphibians. Treatment of INNS in Bradford is usually carried out by injecting the stems of the plant, reducing the risk of release into the wider environment.

When glyphosate is broken down the resulting compounds have been shown to result in increases of phosphates and nitrates, which can lead to nutrient enrichment altering aquatic and wetland ecosystems, resulting in increased algal blooms. This is a particular risk to valuable habitats in the Bradford District where low nutrient levels are characteristic of the bog and mire habitats.

In rural settings, there are the same risks to habitats and species such as bees from exposure to glyphosate such as in urban habitats.

Figure 1. Shows the fate of glyphosate following application in different settings for various uses.



Environmental contamination of glyphosate
 G: Glyphosate, M: Metal ion, GBH: Glyphosate Based Herbicide, POEA: Polyoxyethyleneamine, AMPA: Aminomethylphosphonic acid.

From K. Gandhi, S. Khan, M. Patrikar et al. 2021. Exposure risk and environmental impacts of glyphosate: Highlights on the toxicity of herbicide co-formulants.

Glyphosate use in conservation.

Invasive Non-Native Species of plants such as Japanese knotweed and giant hogweed dominate the places they grow to the detriment of native species; they reduce the biodiversity of habitats by excluding other species. They cause damage to property (Japanese knotweed) and can injure people (giant hogweed). INNS of plants, including the two mentioned here are notoriously difficult to eradicate and prevent the spread of due to the resilience and persistence of their rhizomes (Japanese knotweed) and the effective spread of seeds (giant hogweed).

The adverse ecological effects of glyphosate use to remove these and other species has to be weighed against the adverse ecological effects that these species would cause if untreated or removed by other, less effective means. The main mode of application of glyphosate on INNS is injection. Injecting glyphosate into stems presents a lower risk of spreading glyphosate through air and groundwater.

Summary

It is becoming increasingly clear the widespread and often unmonitored use of glyphosate products is having damaging effects on habitats and species worldwide and in the UK. Bradford District is likely seeing some of these adverse effects on habitats, plants and animal species including bees, other pollinators and fish. Unmitigated use of glyphosate to treat roadside and urban weeds and weeds in parks and other green spaces will contribute to ecological damage of terrestrial and aquatic habitats and species.

The extensive use of glyphosate and its adverse effects on biodiversity will be contributing to the erosion of essential ecosystem services that support human agriculture, health and well-being and the economy. This will be true to some extent within Bradford District.

Glyphosate is known to cause increased mortality in honey and bumble bees. Bumble bees are a Biodiversity Action Plan group in Bradford District and with other pollinators provide an essential function.

Glyphosate spraying on roads and footpaths and in green spaces has the potential to alter some of Bradford's most valuable protected habitats in Special Areas of Conservation, Special Protection Areas, Sites of Special Scientific Interest, Local Nature Reserves and Local Wildlife Sites through airborne drift and in surface and groundwater.

Recommendations of the Biodiversity Officer

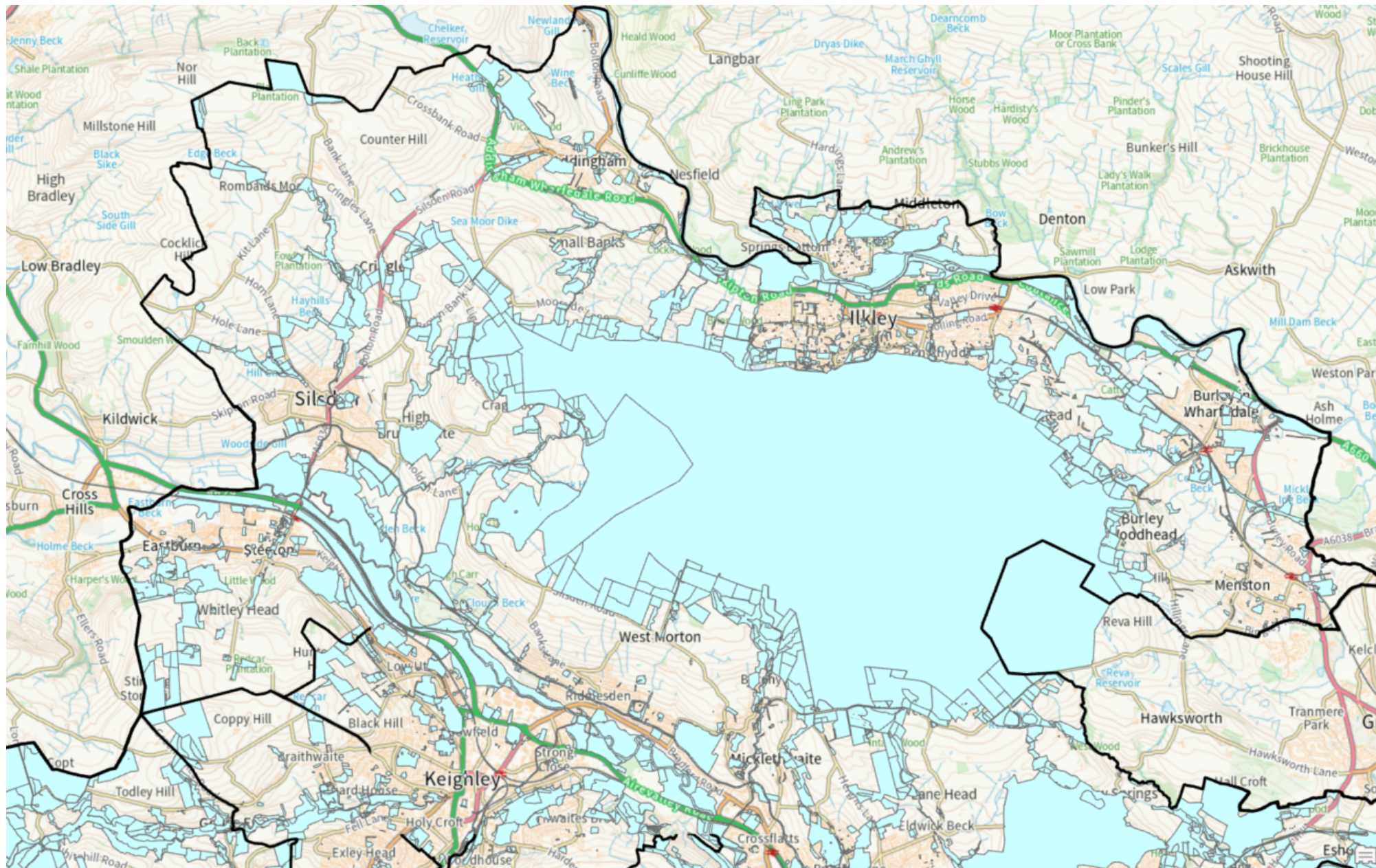
It is the recommendation of the biodiversity officer that City of Bradford MDC should make efforts to cease the use of glyphosate by the council in most circumstances. The extensive use of glyphosate across the district is liable to be contributing to the continued loss of biodiversity in the district, particularly affecting invertebrate pollinators such as bumblebees.

Considering the extent of glyphosate use for maintenance of public space we understand that there would be difficulties in ceasing use entirely and we would support its continued use as a method for managing Invasive Non-Native Species.

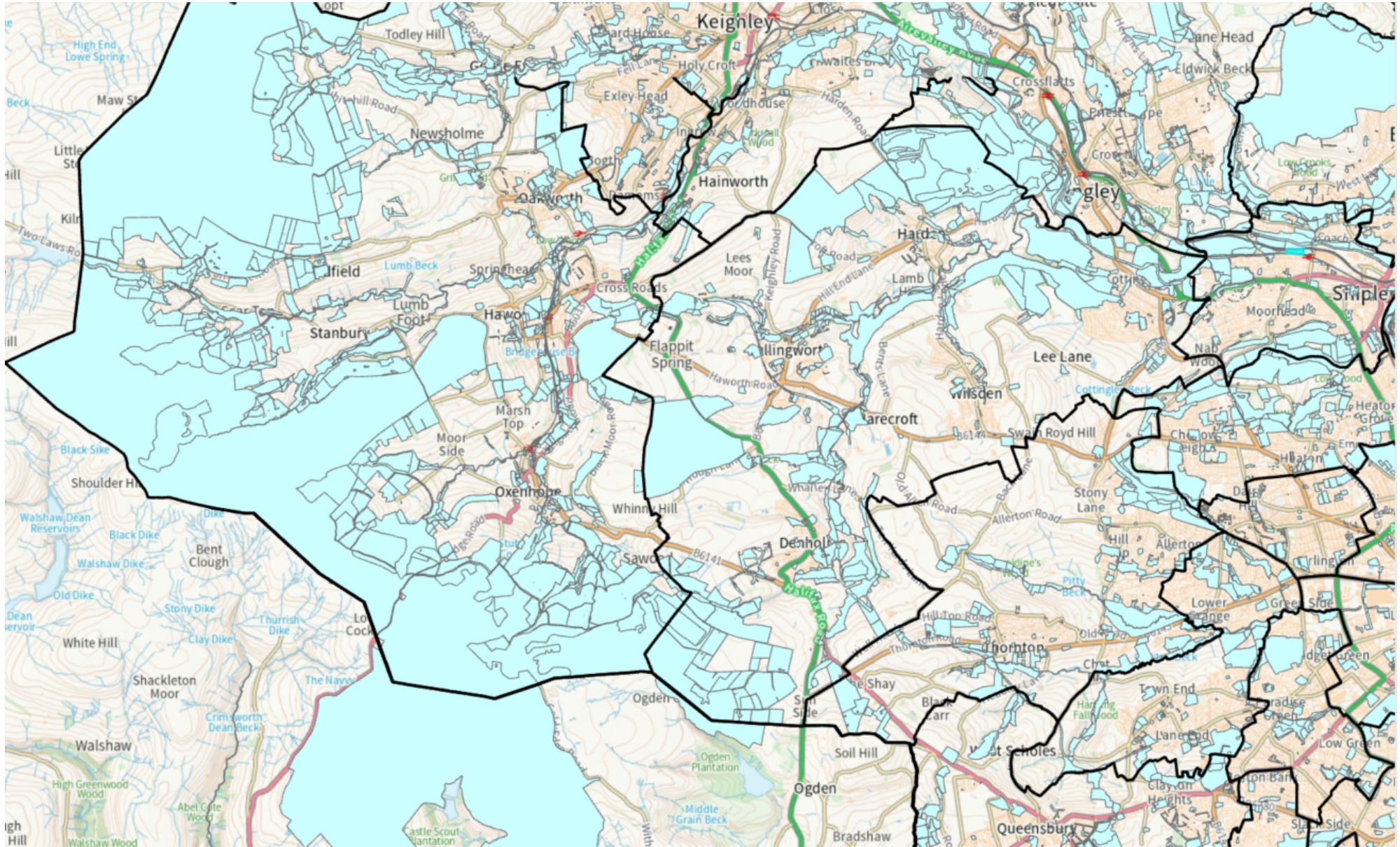
With the above in mind, we recommend that glyphosate use is restricted to urban, hard-surfaced areas away from sensitive ecological features, flowerbeds and ornamental planting beds, parks and wildflower areas and hedgerows that attract honey and bumblebees and other pollinators and where glyphosate may enter the soil and come into contact with earthworms. Its use should be restricted in locations close to watercourses and/ or where surface water runoff would carry mobile glyphosate products into watercourses. The exception to this should be in cases where glyphosate can be directly applied by injection to Invasive Non-Native Species as the conservation benefits of use in this situation and the relative low risk of transport of the pesticide mean it would be an overall benefit.

In order to establish the public reaction to a complete moratorium of use by the council for street scene maintenance, pilot areas should be identified. Local residents should be consulted and involved in the pilot and expectations of changes to the street scene, with an increase in weeds, managed and promoted as a positive step for biodiversity and sustainability.

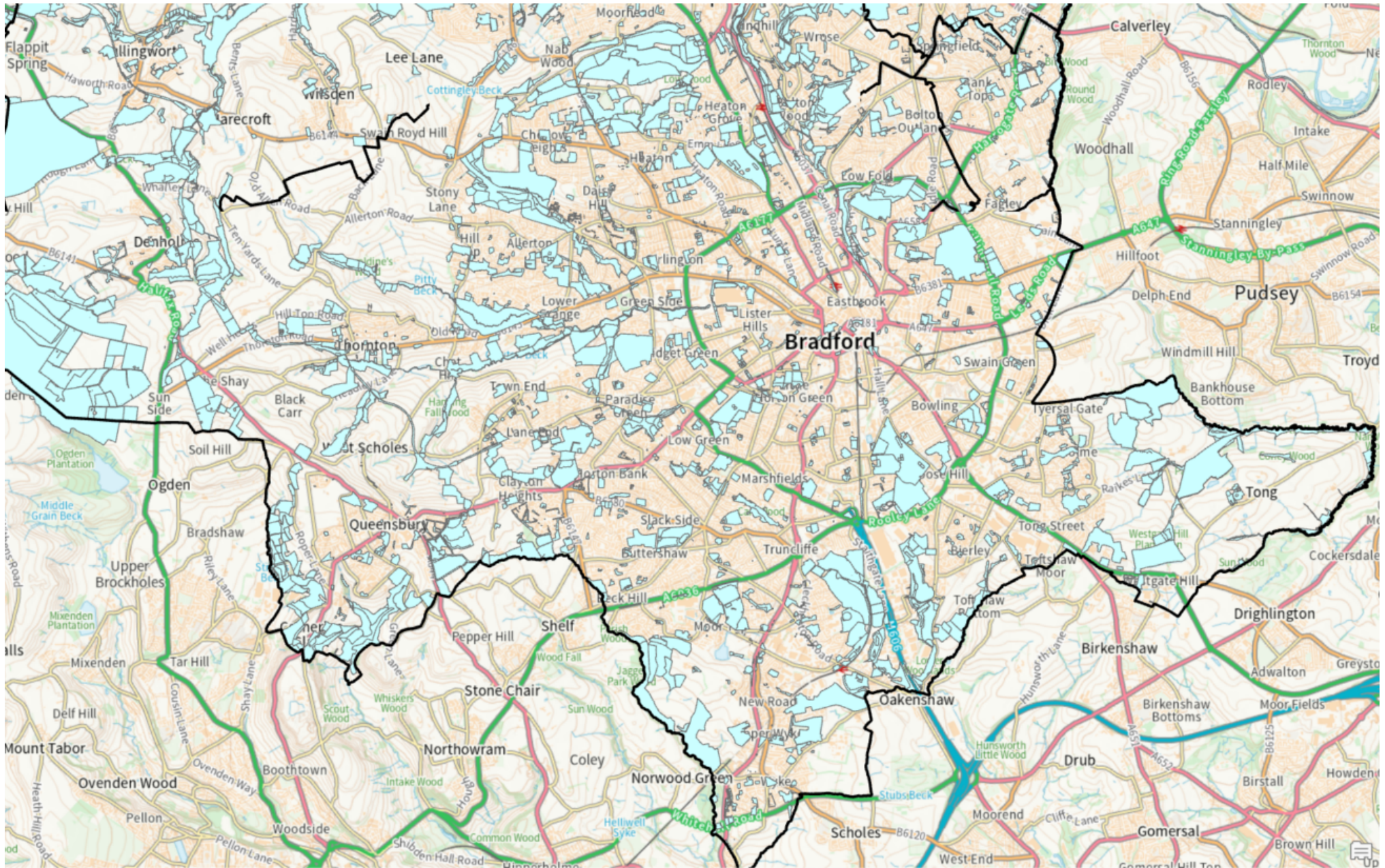
A decision to pro-actively reduce glyphosate use and work with Bradford residents towards cessation of use across the district aligns with legislative requirements of the Environment Act 2021 and the updated Biodiversity Duty in the NERC Act 2006 as well as Bradford's Clean Growth agenda and would respond to the critical situation we are facing with regards biodiversity loss.



Northern district



Western District



South and East District