

# Transport and Environment Committee

10.00am, Thursday, 27 February 2020

## Progress in Implementing the Integrated Weed Control Programme

Executive/routine Wards Council Commitments	Routine All
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### 1. Recommendations

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- 1.1 It is recommended that Committee:
  - 1.1.1 note progress in implementing the Integrated Weed Control Programme;
  - 1.1.2 consider trialling a Foamstream weed control system in Balerno, or other location, for spring/summer 2021, subject to allocated funding; and
  - 1.1.3 note that in the interim period, weeds in Balerno will need to be treated in the same manner as the rest of the city's streets, roads and other hard-standing features.

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## Progress in Implementing the Integrated Weed Control Programme

### 2. Executive Summary

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- 2.1 Following consideration of an Integrated Weed Control Programme in October 2017, this report provides an update on the control of weed growth across the city's public roads, parks, hard-standing areas and other Council maintained open spaces. It highlights that: although the introduction of quad bike applications has significantly improved herbicide application efficiency, unhelpful weather conditions impacted on 2019 operations; alternative methods continue to be deployed or trialled; and trial of the Foamstream system could be piloted in Balerno during 2021 should resources allow.

### 3. Background

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- 3.1 Glyphosate is the active ingredient in most licensed herbicides, preventing plants from making proteins that are needed for growth. Although glyphosate binds tightly to soil it can persist until broken down by bacteria, and although is low in toxicity itself, the herbicide usually contains other toxic ingredients that aid absorption into plants. Potential symptoms of sustained exposure to herbicide include nasal, eye, or skin irritation. Animals may also be at risk if they touch or eat plants that have been recently treated.
- 3.2 Safety concerns over the dangers from glyphosate were raised in a report by the International Agency for Research on Cancer, which determined that glyphosate was "a probable human carcinogen". However, the veracity of this finding has been called into question by regulatory bodies such as the European Food Safety Authority, who argue that glyphosate is safe to use. In short, there is insufficient conflicting and uncertain information for local authorities that undertake weed control operations in public spaces to make scientifically-reasoned policy decisions.
- 3.3 Committee first discussed issues pertaining to the potential effects of glyphosate at its meeting of [1 November 2016](#), agreeing to consider a range of alternatives to the use of glyphosate-based herbicides for the control of weeds, and adopting a policy that (a) seeks to reduce the amount of glyphosate-based herbicide used by the authority to control weeds; (b) limits the use of chemical herbicides only where there

is no effective or reasonable alternative; (c) uses the least harmful product and; (d) is applied in the safest way using the minimal amount of herbicide.

- 3.4 At its meeting of [5 October 2017](#) Committee supported the introduction of an Integrated Weed Control Programme, which identified a wide range of alternative ways to manage weed growth: toleration; designing out the problem; growth barriers; cultural maintenance and mechanical tools; turf edging; thermal treatment; electrical treatment; and the use of alternative chemicals and applicators.
- 3.5 Each year since has seen the introduction of new approaches to weed management and the trialling of alternatives, including replacing the use of glyphosate-based herbicides in parks and green spaces with more frequent mulching of planting beds and mechanically controlling grass growth along footpath edges with mechanical trimmers and “weed rippers”.
- 3.6 Weeds are only able to reach maturity if they have sufficient organic growing medium in which to germinate and grow. Along pavements and roadsides this is usually provided by the build-up of organic detritus caused by the continuing presence of leaf litter, plant material, dirt, mosses and lichens in unsealed joints, cracks, along kerbsides and around traffic islands and other road fittings. When resources have permitted, the Waste and Cleansing Service has coordinated removal following herbicide application and has increased its fleet of small mechanical sweepers to assist in the removal of detritus.
- 3.7 The last two summers has also seen the deployment of quad bikes to enable far quicker and more targeted herbicide application along roadsides, pavements and in hard-standing areas. We have also trialled the use of alternative chemicals, notably acid-based products that are increasingly coming onto the market in response to a general move away from glyphosate-based products.

## **4. Main report**

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- 4.1 A series of actions make up the Integrated Weed Control Programme. Updates on each of these is listed in Appendix 1. Overall, there has been significant progress in introducing alternative weed management approaches in locations that can be maintained without recourse to glyphosate-based herbicide, as well as applying herbicide far more efficiently in locations where no realistic alternatives have yet been identified.
- 4.2 City-wide glyphosate-based herbicide usage for 2019 was 3180 litres, a relatively small volume per street for a city the size of Edinburgh. This compares with 2580 litres in 2018, 2175 litres in 2017, and 4560 litres in 2016. A table of applications per electoral Ward is given in Appendix 2.
- 4.3 The increase in volume used, when compared to 2018 and 2017, can principally be attributed to prevailing weather conditions. Nearly every week of summer 2019 witnessed periods of warm wet weather, the ideal growing conditions for annual and perennial weeds, and the least accommodating conditions for herbicidal effectiveness. Extensive areas would have to be re-applied because rainfall had

washed-off spray droplets from earlier herbicide applications (glyphosate manufacturers suggest that the herbicide is only “rainfast” within 6 - 24hours).

- 4.4 Chemical alternatives continued to be tested in 2019. 415 litres of acetic acid was applied in Currie/Balerno. Although the acid was quick to damage visible vegetation, due to its lack of systemic properties it had no obvious long-lasting effect, particularly on perennial weeds. Operatives estimate that at least five or six applications would be necessary to be as effective as a twice-applied glyphosate-based herbicide. However, it was deemed to be very effective in removing mosses on footpaths.
- 4.5 Under the Nature Conservation (Scotland) Act 2004, the Council has a duty to further the conservation of biodiversity. This biodiversity duty is about taking care of nature all around us, not just in specific protected sites. Tolerating the presence of plants traditionally viewed as “weeds” in our parks, green spaces and streets would support this legal duty and the city’s approach to addressing the global biodiversity crisis. Along with increasing biodiversity, producing oxygen, and sequestering carbon, weeds also contribute to reducing the urban heat island effect, mitigating pollution, building soil, and/or providing food and habitat for urban wildlife – and do so without resource or labour inputs. The [Edinburgh Living Landscape](#) initiative recognises the biodiversity benefits that accrue from a more naturalistic approach to civic maintenance, and reflects growing public recognition of the need for sustainable local actions to help address the global climate emergency and biodiversity crisis.
- 4.6 However, the Council also has a duty under the Wildlife and Countryside Act 1981 (as amended by the Wildlife and Natural Environment (Scotland) Act 2012.) to control the spread of Invasive Non-Native species, such as Japanese knotweed (*Fallopia japonica*), giant hogweed, (*Heracleum mantegazzianum*) and Himalayan balsam (*Impatiens glandulifera*). The spread of these species can currently only be controlled by the continued use of herbicide.

## 5. Next Steps

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- 5.1 During the summer, Council officers received several requests to reduce or stop the application of herbicide treatment, and some residents in Balerno established “Pesticide Free Balerno”, calling on the Council to “*put an end to all pesticide use in all of Balerno, using safe alternatives instead, protecting our health and the health of our environment*”. To date an [online petition](#) has been supported by over 500 signatories. There is also an [online petition](#) to end pesticide use across the whole of Edinburgh. To date this has secured 337 signatures (25/11/2019).
- 5.2 In addition to the trialling of acetic acid-based herbicide, some residents in Balerno volunteered to undertake manual weeding outside of their houses. Community members also organised a demonstration of the “Foamstream” weed control system, previously considered in 2016. This was repeated by officers unable to attend the community-organised demonstration. Essentially, hot water and a

biodegradable foam made from plant oils are combined. The foam acts as thermal insulator, keeping the water hot for a period long enough to cause cellular damage to treated vegetation.

- 5.3 Subject to the approval of a dedicated budget (as set out in 6.1), it would be feasible to trial the Foamstream system across Balerno, or other location, during Spring and Summer 2021. This would enable us to more accurately determine its effectiveness and relative costs in advance of any wider-use of, and investment in, the technology.
- 5.4 In the interim period, weeds in Balerno will need to be treated in the same manner as the rest of the city's streets, roads and other hard-standing features.

## **6. Financial impact**

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- 6.1 It is estimated that a six-month trial of the Foamstream system in Balerno, or another similar size area, would cost £83,217. This sum covers labour, materials, the hire of equipment and vehicles to carry the equipment, and sufficient Scottish Water standpipe licenses. There is presently no budget within Place Management for a trial of this scale.
- 6.2 For comparison, the annual city-wide cost of weed control using glyphosate-based herbicide is estimated to be £152,000. This operational cost is expected to reduce from 2020 onwards following purchase of the quad bikes.

## **7. Stakeholder/Community Impact**

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- 7.1 There has been no consultation with user groups at this point in time.

## **8. Background reading/external references**

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- 8.1 <https://apse.org.uk/apse/index.cfm/members-area/briefings/2019/19-32-glyphosate-where-do-local-authorities-stand/>
- 8.2 [Weedingtech - https://www.weedingtech.com/blog/glyphosate-vs-foamstream-which-form-of-weed-control-is-right-for-your-organisation/](https://www.weedingtech.com/blog/glyphosate-vs-foamstream-which-form-of-weed-control-is-right-for-your-organisation/)

## **9. Appendices**

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- 9.1 Appendix 1 – Integrated Weed Control Programme Actions.
- 9.2 Appendix 2 – Herbicide Applications per Ward (2019).

## Appendix 1 - Integrated Weed Control Programme Actions

**Identify and plot trees requiring weed control at their bases:** 59,536 trees on streets and within parks and cemeteries have been digitally mapped and will be included within the Confirm Connect dataset once this is operational. A further 82,000 trees within properties managed by Facilities Management, Housing and the former City Development account will be fully condition surveyed and mapped between 2020 and 2023.

**Identify and plot shrub/flower beds requiring weed control:** All Council shrub and flower beds have been digitally mapped. The weeds in these beds are now part of a maintenance programme focussed on hand-weeding, mulching, and barrier control. Some spot treatment using herbicide is occasionally necessary, as is the use of herbicide for killing rank or grass vegetation prior to wildflower sowing. Many annual flower beds have been changed to perennial beds to reduce maintenance input requirements.

**Zone weed locations into treatment zones:** Due to the effectiveness of using quad bike mounted operatives we have been able to significantly increase herbicide application coverage along roads, streets and pavements, removing the necessity to zone locations into treatment zones.

**Confirm the operational roles of relevant Council services:** Place Management is confirmed as the service with responsibility for weed management, these responsibilities being led by, but not limited to, Parks, Greenspace and Cemeteries (herbicide application, green space weeds); Waste and Cleansing (detritus removal and mechanical/manual removal on hard surfaces) and; Roads (road, cycle and footpath repair and replacement).

**Clarify available budgets and determine the budgets required of each service to meet treatment needs:** 2019/20 Place Management budgets have been allocated for weed control measures. In addition to staffing costs, these include budgets for herbicide, vehicles, and machinery. The quad bikes are leased for a six-month period.

**Draft and communicate the Council's weed control policy:** The current policy that officers are working to is: (a) reduce the amount of glyphosate-based herbicide used by the authority to control weeds; (b) limit the use of chemical herbicides only where there is no effective or reasonable alternative; (c) use the least harmful product and; (d) apply in the safest way using the minimal amount of herbicide.

**Review and assess alternative weed control treatments to maximise efficiency and environmental gains:** Following a trial of alternative treatments in 2016 (hot water, foam, acids, electrocution, heat, flame, mechanical etc) mechanical "weed rippers" were put into operation in 2017. These have proven to be good at controlling growth along footpath edges in green spaces that were formerly herbicide maintained. In 2018 six quad bikes fitted with herbicide applicators were trialled. Their success in speeding up the application process meant that they were re-used in 2019. Several acid-based herbicides have been trialled over the last two years. Although they impact on contacted plant material their impact is generally short-lived due to their inability to systemically transmit herbicide into the plant's root system. More frequent application periods are therefore required.

**Investigate opportunities to procure some, or all, of the weed control programme under contract:** To date this has not been progressed as the combined efforts of Place Management services were felt to be capable of meeting the city-wide operational challenges.

Appendix 2 – Herbicide Applications per Ward (2019)

Ward	1 <sup>st</sup> Application	2 <sup>nd</sup> Application
1	100%	100%
2	100%	80%
3	100%	100%
4	100%	100%
5	100%	100%
6	100%	100%
7	100%	40%
8	100%	20%
9	100%	0%
10	100%	80%
12	100%	100%
13	100%	100%
14	100%	100%
15	100%	100%
16	100%	90%
17	100%	90%