This Report will be made public on 14 April 2022

Report Number **C/21/106**

To:	**Cabinet**
Date:	**26 April 2022**
Status:	**Non key**
Responsible Officer:	**Alastair Clifford, Chief Officer - Operations**
Cabinet Member:	**Councillor Whybrow, Cabinet Member for the Environment**

SUBJECT: **USE OF PESTICIDES**

SUMMARY: This report gives an update on the work undertaken to reduce the council's use of pesticide and proposes to use budgeted funds to reduce the carbon footprint of the Grounds Maintenance (GM) operational activities.

REASONS FOR RECOMMENDATIONS:
The reduction in pesticide use since 2019 has been significant, and there is a plan to reduce this further in future years. The report recommends that the available budget to complete the trials should be spent on electric machinery used by the Grounds Maintenance (GM) team, and for the officers to continue to keep up to date on latest technology developments.

RECOMMENDATIONS:
1. **To receive and note report C/21/106.**
2. **To agree to use the £35k budgeted funds for pesticide trials to invest in machinery that reduces the carbon footprint from GM activities.**
3. **To write to the Secretary of State outlining the council's opposition to the use of glyphosate based pesticides, drawing on the experience of council trials of potential alternatives.**

1. BACKGROUND

1.1 At the meeting of council, Wednesday 20th November 2019 (proposed by Cllr McConville, Leader of the Labour Party) (item 64) the following motion was resolved.

1.2 Resolved that this council will;

- Move towards phasing out the use of all pesticides and weed killers in council owned parks, gardens and play areas.

- Trial pesticide-free alternatives to control weeds in these areas. These might include; biodegradable foam or hot steam treatments on weeds.

- To report the outcomes of these trials to the Climate and Ecological Emergency working group for discussion and recommendation within 12 months.

- Grant an exception to the above 'phasing out' regarding the control of Japanese knotweed, or other invasive species, where there are currently no effective mechanical techniques available. For these plants glyphosate will be stem-injected, rather than sprayed, to reduce its spread in the environment.

- Grant an exception on sprays only in relation to Giant Hogweed where it's not safe to be dug out or safely removed by other means or where invasive plants are too small to be stem injected.

- It is recognized that herbicides are required for the control of weeds in fine turf such as bowling greens and tennis courts. Any chemical use will be kept to an absolute minimum and alternative methods of control, trialed when and if they become available.

- Write to the secretary of state for the environment to inform the government of this Council's opposition to glyphosate-based pesticides and to call for a UK-wide programme to phase out use once trials have been concluded and viable alternatives have been introduced for weed control across the District.

1.3 Due to the complexity of the review of the pesticide trials and the difficulties caused by BREXIT and the Covid Pandemic this report has been delayed.

1.4 A total £35,000 was allocated to undertake trials of alternative options. To date none of this budget has been spent.

2. CURRENT POSITION

2.1 The Grounds Maintenance department uses the following pesticide and herbicide products;

- Glyphosate (this kills weeds)

- Chikara (this stops seeds germinating)
- Aminopyralid (Invasive species)
- Bendiocarb (wasp nest killer)
- Pyraclostrobin (the bowls greens/tennis etc)
- Triclopyr (Stumps and invasive species)

2.2 Usage of pesticide and herbicide has been minimal within Grounds Maintenance for a number of years. Consumption by year can be seen in the table below (rounded to nearest 0.5l).

Year	2015	2016	2017	2018	2019	2020	2021
Litres	50	70	30	75	17	11	14.5

2.3 Most of the variance between 2015 and 2019 can be explained by the carryover over supply from year to year. Actual use is considered to be stable.

2.4 Since 2019 efforts have been made to use alternative methods and there has been a significant reduction in use for invasive species due to follow best practice techniques and heightened awareness within the council. The additional 3.5l used in 2021 can be explained by treating giant hogweed on Princes Parade. This will be removed as part of the development.

2.5 Between 2019 and 2021 glyphosate usage can be broken down by application as seen in the table below. This does not include herbicide used for stumps, or wasp nest killers.

Application Type	**Glyphosate (L) 2019 to 2021 Total use**
Paths/Hardstanding	17.92
Invasive Weeds	13.15
Cemetery Strips	8.93
Preparing Flower Beds	1.66
Sports Areas	1.2
Total	42.86

3. CURRENT USE

3.1 Pesticides and Herbicides are currently used in the following circumstances where there are no suitable alternatives:

- Invasive Weeds - Herbicides are essential for treating invasive species such as Japanese Knotweed (JK) and Giant Hogweed (GH). These plants can be stem injected if they are big enough, however small plants don't have hollow stems and therefore this method is not suitable. Small plants need to have a foliar herbicide application either by sprayer or can be brushed on if growing in a sensitive location. JK herbicide treatment has been reduced to one application per season (in autumn).

  This treatment is largely effective and JK on our land in the district has been significantly reduced (by around 80%) over last 5 years. Giant Hogweed needs to be treated on a more regular basis – up to 3 times per year to ensure that the plants do not reach maturity and disperse their seeds (each flower head holds about 10,000 seeds). There is no suitable alternative. Giant Hogweed is a serious hazard to human health and will spread voraciously if allowed to do so.

- Sports Areas - selective weed killer (targets broadleaved plants) on bowls greens (i.e. Eland) has no known suitable alternative available. Use of fungicides on bowling greens is used as required, which depends largely on the weather throughout the season and if very wet fungal disease can be a problem and herbicide application will be required to maintain the quality of the playing surface. We don't use any pesticides on the football pitches.

- Trees - Eco plugs are applied to tree stumps to inhibit regrowth where stumps are in locations where they cannot be removed through grinding.

- Wasps/Rats - Pests are treat with pesticides and currently there are no effective alternatives.

3.2 Pesticides and Herbicides are currently used in the following circumstances where there are potential alternatives:

- Paths/Hardstanding - applying glyphosate to hardstanding (washing areas, paths) – especially where paths are slabbed as opposed to tarmac. Physical weeding has proven to be ineffective in these areas. Treating bindweed in shrubs and hedges, where physical methods are largely ineffective as plants grow too quick and break off from the roots if pulled at the base causing the weed to regrow. Killing algae on paths with algaecide which is undertaken as and when required. This can be done mechanically, but is time consuming and the algae tends to return very soon.

- Ponds - used to control blanket weed.

- Cemeteries - applied to grave channels to minimise the weed build up and use of strimmer's.

- Preparing Flower beds – to kill off germinating seedlings that emerge after bed preparation before planting the annual bedding plant.

3.3 At 17.92 litres of glyphosate usage, paths and hardstanding is the largest and most significant application type with the potential to be reduced. This is followed by the use on cemetery strips at 8.93L.

4. ALTERNATIVE OPTIONS

4.1 The following alternative options are available to further reduce our pesticide use and trials of all but the electric thermal application have been undertaken since the council motion was agreed. These trials are indicative to generate this report and have been undertaken over a short time period, changes to recommendation of the report must consider the need to trial over a longer period, or understand the risks to reputation from a change in weed methodology.

4.2.1 Hot Foam – This method works by heating the plant for 98C for at least 2 minutes, the foam acts as an insulator to ensure the heat travels down to the route effectively to kill the plant. It is anticipated each site would need at least 4 visits per annum (pesticide is 1). The foam is biodegradable.

- Capital Costs: £67k diesel/petrol, £99k electric.
    - Hot Foam Machine (diesel driven £25k, no electric version available)
    - Service Mule (£10k for petrol, £15k electric)
    - Trailer (£4k)
    - Van (£28k for diesel, £55k electric)

- Revenue Costs : £20k
    - Seasonal Operative (£14k)
    - Associated costs of running machine and service vehicles (£6k)

4.2.2 Hot Water – This method works similarly to the Hot Foam machine by heating the plant to 98C, but each application takes longer. As the equipment does not use the foam to shield the heating process it means each application is less reliable. This means that further visits would be required, and it is expected there would need to be 7-8 visits per annum.

- Capital Costs: £72k diesel/petrol, £124k electric.
    - Hot Water Machine (diesel driven £30k, electric £50k)
    - Service Mule (£10k for petrol, £15k electric)
    - Trailer (£4k)
    - Van (£28k for diesel, £55k electric)

- Revenue Costs : £19k
    - Seasonal Operative (£14k)
    - Associated costs of running machine and service vehicles (£5k)

4.2.3 Mechanical Removal (hand) – this would constitute a considerable labour increase, anticipated to be in the region of an additional 5 seasonal workers (revenue cost of £74k).

4.2.4 Mechanical Removal (mechanical brush) – this alternative option does not effectively kill roots, so needs considerably more visits and can also cause damage to paths if used incorrectly. As with any rotating equipment consideration must be given to the risk of Hand Arm Vibration Syndrome (HAVS) and the increased use of fuel, thus increasing the carbon footprint. However the machinery is cheap and has excellent access to smaller spaces. Capital cost of £1,200.

4.2.5 Hot Burner – these are relatively cheap and have been on the market for a long time, however due to the naked flame they are considered unsuitable and in use have proven to be ineffective on an industrial scale.

4.2.6 Strimming – this method does not effectively kill the plant, so needs considerably more visits. It takes more time, uses extra petrol so increases carbon footprint, and increases HAVS exposure to operator. However, where staff are already operating and visiting frequently increase is considered to be average.

4.2.7 Mulching – by applying in house generated mulch to flower beds weeds are kept to a minimum. This method is already used to its maximum where possible.

4.2.8 Electric Thermal – A voltage of 8000-15000v is passed through the plant to effectively burn the root. Risks associated with this are considered to be very high, in a similar manner to the hot burner with anticipated visits to be 7-8 per annum.

- Capital Costs: £112k diesel/petrol, £144k electric.
    - Electric Thermal Machine (diesel driven £70k, no electric version available)
    - Service Mule (£10k for petrol, £15k electric)
    - Trailer (£4k)
    - Van (£28k for diesel, £55k electric)

- Revenue Costs : £20k
    - Seasonal Operative (£14k)
    - Associated costs of running machine and service vehicles (£6k)

4.3 All of the alternative options present various drawbacks and costs beyond budget, whether through large capital investment and / or ongoing revenue, increased HAVS exposure risk or safety considerations.

5. PROPOSAL

5.1 It is proposed that the mechanical brush (£1,200) is bought to allow alternative methods to pesticide use in hard to reach areas, such as housing sites. This will have a small decrease in the use of the 17.92 litres of glyphosate currently used on hardstanding.

5.2 The cemetery strips at Hawkinge are currently being filled in at a rate of around 10% per annum (currently 20% complete). This reduces the use of

Shakira on site, and will lead to a total overall reduction of 8.83 litres once complete. It should be noted that this will increase strimmer use and therefore it will have a carbon footprint increase. HAVS will continue to be monitored. The new methodology of plinths at Hawkinge for any new burials removes the need for large amounts of strimming or pesticide use.

5.3 The most effective alternative option for the reduction on use of hardstanding would be the hot foam machine. However with a considerable capital expense of £67k for diesel/petrol and £99k for electric, with an ongoing revenue cost of £20k per annum, this would be a large investment. This would also cause a uplift in the council's carbon emissions. It is not recommended that this option is considered at this time.

5.4 The council motion resolved to *"Move towards phasing out the use of all pesticides and weed killers in council owned parks, gardens and play areas*". The overall reduction in pesticide use since the motion has demonstrated that the council is moving towards phasing out pesticide use, and has a clear plan to further reduce use by the reduction in Shakira in the Hawkinge cemetery. Further to this there is a reduction in requirement to treat invasive species and the investment into the mechanical brush system.

5.5 The motion resolved to *"Trial pesticide-free alternatives to control weeds in these areas. These might include; biodegradable foam or hot steam treatments on weeds*". These trials have been undertaken and the key outcomes reported within section 4 of this report.

5.6 The motion resolved *"to report the outcomes of these trials to the Climate and Ecological Emergency working group for discussion and recommendation within 12 months".* Although there has been delay in reporting the results of the trials (due to Brexit and Covid related issues), it can be evidenced that there has been considerable reduction in the use of pesticides. The Chief Officer – Operations is due to present the data to the working group on the 20th April.

5.7 The motion resolved to *"Grant an exception to the above 'phasing out' regarding the control of Japanese knotweed, or other invasive species, where there are currently no effective mechanical techniques available. For these plants glyphosate will be stem-injected, rather than sprayed, to reduce its spread in the environment".* It can be confirmed that only the stem injection methodology is used, due to the best practice techniques used we are seeing an overall reduction in the amount of treatment needed each year.

5.8 The motion resolved to "*Grant an exception on sprays only in relation to Giant Hogweed where it's not safe to be dug out or safely removed by other means or where invasive plants are too small to be stem injected*." It can be confirmed that only the stem injection methodology is used and hog weed is removed if deemed appropriate, due to the best practice techniques used we are seeing an overall reduction in the amount of treatment needed each year.

5.9 The motion resolved that *"It is recognized that herbicides are required for the control of weeds in fine turf such as bowling greens and tennis courts. Any*

chemical use will be kept to an absolute minimum and alternative methods of control, trialled when and if they become available". There are still no alternative options available. However use from 2019 has been minimal. The GM team will continue to monitor for changes in best practice.

5.10 The motion resolved to *"Write to the Secretary of State for the Environment to inform the government of this Council's opposition to glyphosate-based pesticides and to call for a UK-wide programme to phase out use once trials have been concluded and viable alternatives have been introduced for weed control across the District".* Following cabinet consideration a letter will be written to the Secretary of State for the Environment.

5.11 Since the motion was resolved at council there has been considerable time invested into trialling machinery in GM that reduces the council's carbon footprint.

5.12 The equipment trialled is:

- Electric hedgecutter – limited power (new growth only) and battery life is still an issue.

- Electric blower – limited power and battery life is still an issue. We do have a few of these for some teams.

- Electric Chainsaw – limited power and battery life, we have brought a number of these for teams that use chainsaws infrequently.

- Groomer – cylinder mower and collector which would be good for fine turf (Kingsnorth and sports pitches). Petrol version £7,000 – Electric Version £13,000 (potential to replace 2).

- Power Barrow - Petrol version £3,000 – Electric Version £6,000 (potential to replace 2)

- Zenith Ride Own Mower - Petrol version £23,000 – Electric Version £33,000 (potential to replace 2)
- Mule – Petrol/Diesel version £9000 – Electric Version £15,000 (potential to replace 3)

- STIGA pedestrian mower Petrol/Diesel version £700 – Electric Version £1,500 (early demos deemed not suitable).

- Vans – cost varies, but typically twice the price. This are considerable range and payload difficulties.

5.13 There is a £35k budget available from the corporate initiatives reserve for the trial of pesticide alternatives which has not yet been spent. The intent of the motion continues to be met through the ongoing and demonstrated reduction in use of pesticides. Therefore it is recommended that these funds should be invested into machinery that will reduce our carbon footprint.

6. CONCLUSION

6.1 The data available since 2015 shows a vast reduction in the use of pesticide by the council's GM department.

6.2 There is a clear plan to continue further reducing the council's pesticide use.

6.3 Officers continue to check for new technology and best practice to further reduce pesticide use.

6.4 The council's GM team continue to have a large operational carbon footprint, there are alternative options available to reduce this, and it is recommended that the available budget is more effectively used doing this.

7. RISK MANAGEMENT

7.1 The following risks have been identified:

Perceived risk	Seriousness	Likelihood	Preventative action
Operator Safety when using pesticide & herbicide	Medium	Low	All operators applying pesticide and herbicide are trained and licensed. Method of application is droplet – which is the safest and follows best practice.
Public Safety when pesticide and herbicide are applied, including residual run off into the environment.	Medium	Low	All operators applying pesticide and herbicide are trained and licensed. Method of application is droplet – which is the safest and follows best practice.
Public Perception that pesticide is still being used by the GM team.	Medium	Medium	As per report pesticide use is minimal and has been vastly reduced since 2019. Plans are in place to further reduce use.

8. LEGAL/FINANCIAL AND OTHER CONTROLS/POLICY MATTERS

8.1 Legal Officer's Comments (NM)

There are no legal implications arising directly from this report.

8.2 Finance Officer's Comments (LW)

The financial implications are outlined in the report and proposed cost of the solution can be met from the corporate initiatives reserve.

8.3 **Diversities and Equalities Implications (GE)**

There are no diversities and equalities implications arising from this report.

8.4 **Climate Change Implications (OF)**

The climate change implications arising from use of electric machinery investment should result in a positive impact in the amount of carbon emissions arising from this operational area.

10. CONTACT OFFICERS AND BACKGROUND DOCUMENTS

Councillors with any questions arising out of this report should contact the following officer prior to the meeting

(Alastair Clifford, Chief Officer - Operations)
Telephone: 01303 853 327
Email: Alastair.clifford@folkestone-hythe.gov.uk