

APSE Parks Seminar Glyphosate and the Alternatives

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The Highland Council

Where, What, How...



- **Where** are Highland now within the ongoing glyphosate debate
- The effects of the partial ban
- **What** alternatives used in Highland
- **How** we are developing an integrated weed control strategy and action plan
- Questions

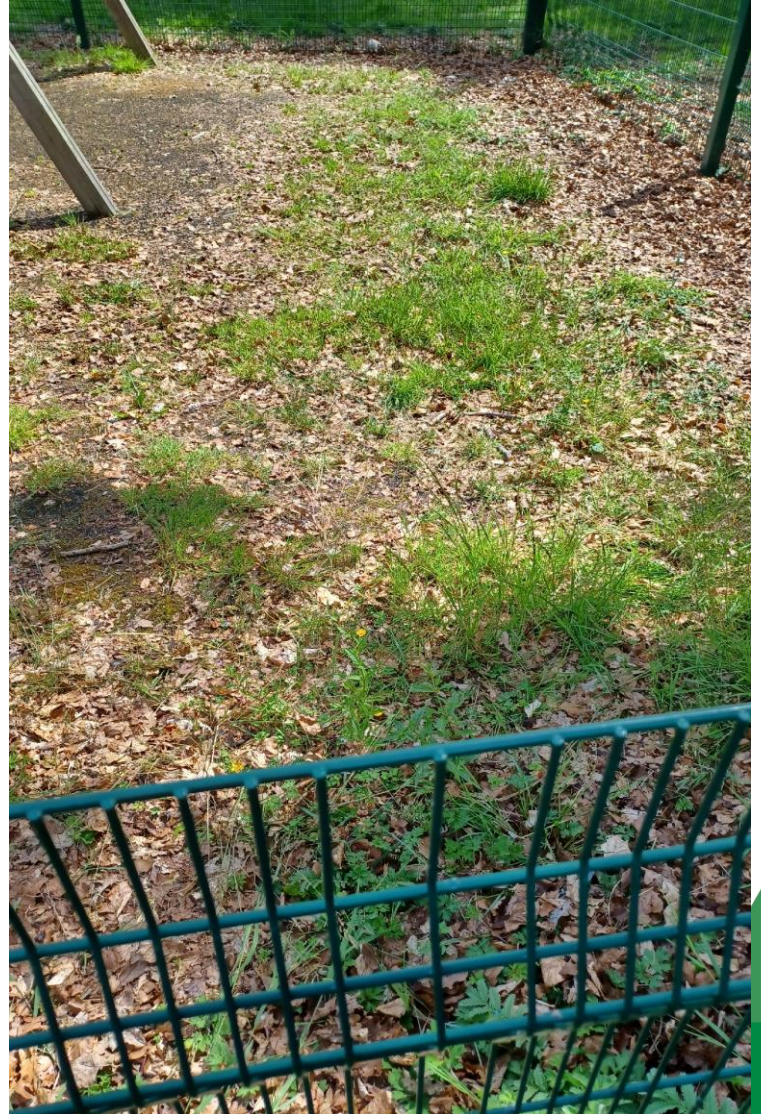
Background

- 'Probable human carcinogen'
- #MEPee tests
- EU approval until December 2033
- UK approval until December 2025
- Highland Council Motion; partial ban in June 2019
- Limited use to control invasive species, reduce strimming and HAVS, protect infrastructure



Consequences of the Motion

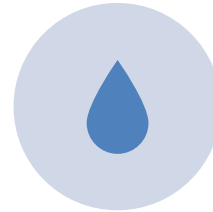




Some Alternatives



Electrical;
Touch Pro



Hot water;
Multevo



Thermal; Foam
Stream



Chemical
control

Foam Stream

WHICH MACHINE IS
RIGHT FOR YOU?
COMPARE OUR
RANGE

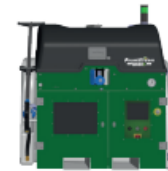
Foamstream
L12



Foamstream
M600



Foamstream
M600H



Flow Rate	12 l/m	6 l/m	6/m
Foam Usage (V4 @ 20C)	2.8 l/h	1.7 l/h	1.7 l/h
Fuel Source	Diesel and petrol	Diesel and propane	Diesel and electric
Additional Hose Length	+ 60 m	+ 60 m	+ 60 m
Battery Option	N	N	Y
HMI Screen / FSS*	N	Y	N
Super High Pressure	Y	N	N
Rinse Mode*	Y	N	N
UTV Compatible	Y**	Y	Y

What is Foamstream Software System?

Weedingtech's Proprietary Foamstream Software System: (Incorporated into the M600 & M1200)

- + Automated temperature at lance
- + Level sensors for Foamstream diesel and water
- + Automatic safety mode
- + Service notifications
- + Boiler diagnostics
- + Relay diagnostics
- + Flow switch diagnostics
- + Pressure switch diagnostics

** L12 requires specialist UTVs.

Foam Stream Demo



Foam Stream Results



Total Droplet Control Nomix Dual



Total Droplet Control Nomix Dual

- Weighs 75% less
- Less lifting and twisting
- Reduced back injuries and fatigue
- No down time
- No water required
- Less operator exposure
- Safer for people, animals and the environment
- No drift



Nomix DUAL

Spring application

Glyphosate Only

Nomix Dual application

Glyphosate application



SEED BED

www.nomixenviro.co.uk

- Any weed that grows to the point of seeding, adds to the “seed bank” on the ground.
- Any addition to the “seed bank” adds to the weed pressure for many years.

Nomix DUAL

+ 2 months

Glyphosate Only

Nomix Dual continues to control re-growth

Further glyphosate application required

Residual barrier controlling regrowth

Glyphosate only application has no effect on regrowth

Germination is controlled

New growth is emergent

www.nomixenviro.co.uk

- Use of a residual herbicide reduces seeds returned to the ground, lessens the “seed bank”, and therefore weed pressure for subsequent years.

Nomix DUAL

Nomix Dual still working to reduce regrowth



+ 4 months

Glyphosate Only

Further regrowth requiring reapplication of Glyphosate



SEED BED

- Repeated annual use of a residual herbicide will reduce the “seed bank”, visibly reducing weed pressure and growth substantially for future years.

Reduced Glyphosate Application

	Spray 1 <i>Spring</i>	Spray 2 <i>Summer</i>	Spray 3 <i>Autumn</i>	TOTAL
Conventional Application	360g/l <i>Glyphosate</i> 5ltr/ha. = 1800g/ ha.	360g/l <i>Glyphosate</i> 5ltr/ha. = 1800g/ ha.	360g/l <i>Glyphosate</i> 5ltr/ha. = 1800g/ ha.	5400g/ ha Glyphosate applied
Nomix TDC	Nomix Dual (120g/l glyphosate) 9ltr/ha. = 1080g/ ha.	<i>No spray required</i>	Hilite (144g/l glyphosate) 10ltr/ha. = 1440 g/ ha.	2520g/ ha Glyphosate applied

- 52% reduction in glyphosate applied through spray programme
- Application cycles reduced from 3 to 2

Reduced Glyphosate Application

	Spray 1 <i>Spring/Summer</i>	Spray 2 <i>Autumn</i>	TOTAL
Conventional Application	360g/l <i>Glyphosate</i> 5ltr/ha. = 1800g/ ha.	360g/l <i>Glyphosate</i> 5ltr/ha. = 1800g/ ha.	3600g/ ha Glyphosate applied
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- 70% reduction in glyphosate applied through spray programme

Reduced Glyphosate Application

	Spray 1 <i>Spring/Summer</i>	Spray 2 <i>Autumn</i>	TOTAL
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Nomix TDC	Nomix Dual (120g/l glyphosate) 9ltr/ha. = 1080g/ ha.	No spray required	1080g/ ha Glyphosate applied

- 70% reduction in glyphosate applied through spray programme
- Application cycles reduced from 2 to 1

Cost Comparison

Herbicide	Cost £	Pack size (ml/g)	Amount required per m2	Cost £ per 200 m2	Cost £ per 10000 m2	Time to Apply	Applications per year	Permeable/Non Permeable	Residual
Provantage	54.60	5000	0.375	0.82	41.00	Any time of year	N/A	Both	No
Roundup Proactive (glyphosate)	47.30	5000	0.50	0.95	47.30	Any time of year	N/A	Both	No
Finalsan	79.00	10000	17.24	27.23	1,361.50	March to November	4	Permeable	No
Katoun Gold	127.00	5000	2.25	11.43	571.50	March to November	4	Permeable	No
Valdor Flex	120.00	500	0.05	2.40	120.00	February to June	1	Permeable	Yes
Spot on Pro (acetic acid)	31.00	5000	25.00	31.00	1,550.00	March to October	6	Both	No
Nomix Dual	138.50	5000	0.90	4.96	248.00	February to June	1	Both	Inc Residual
Nomix G	65.26	5000	0.90	2.34	117.00	Any time of year	N/A	Both	No

Pesticide Policy, Compliance and Enforcement Workshop

August 2023

Cross service representation

Update on HSE regulations and enforcement

Develop a weed control decision matrix

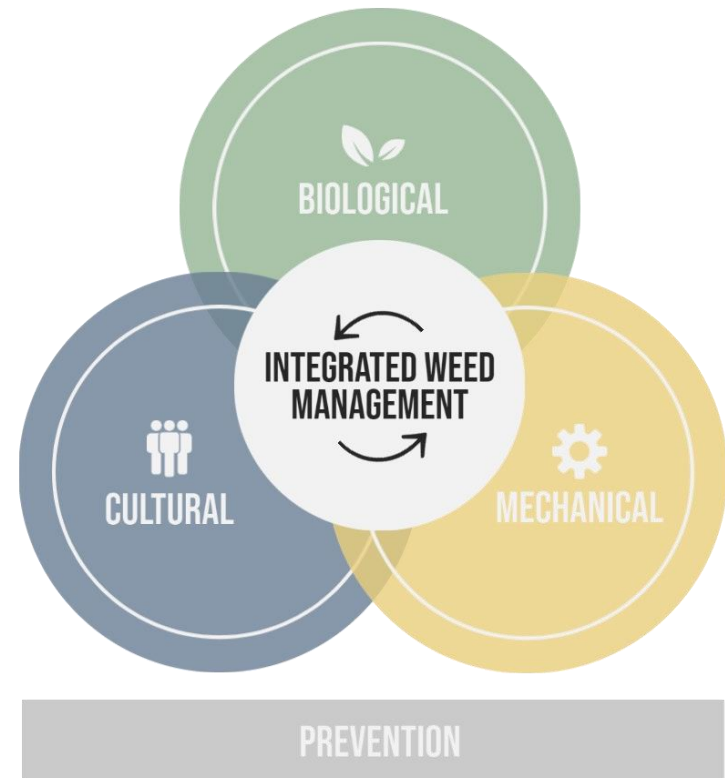
Create an integrated weed control strategy and action plan

Establish a working group to deliver actions

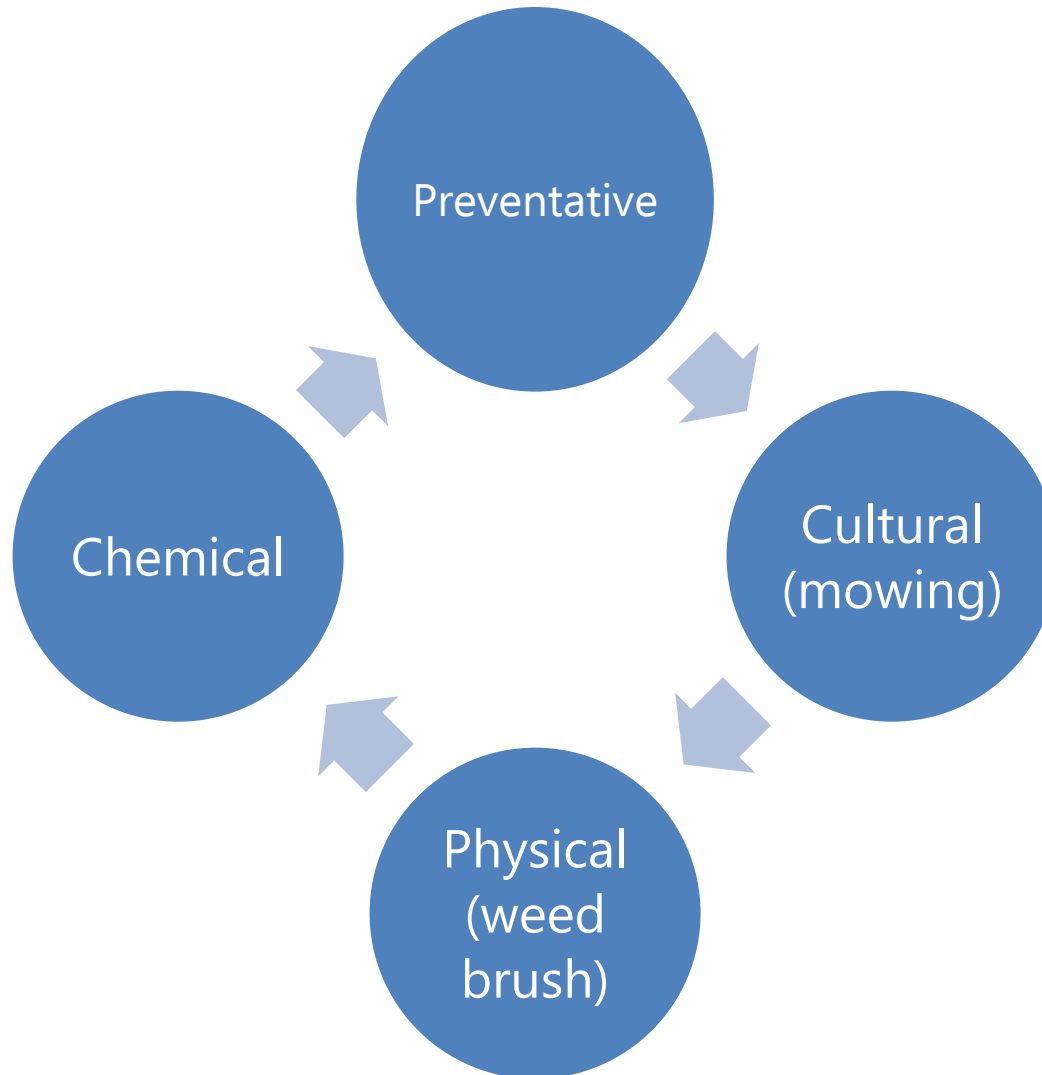
Integrated Weed Control

Long-term management approach using;

- Physical control
- Chemical control
- Organic control
- Thermal control



Proposed Matrix



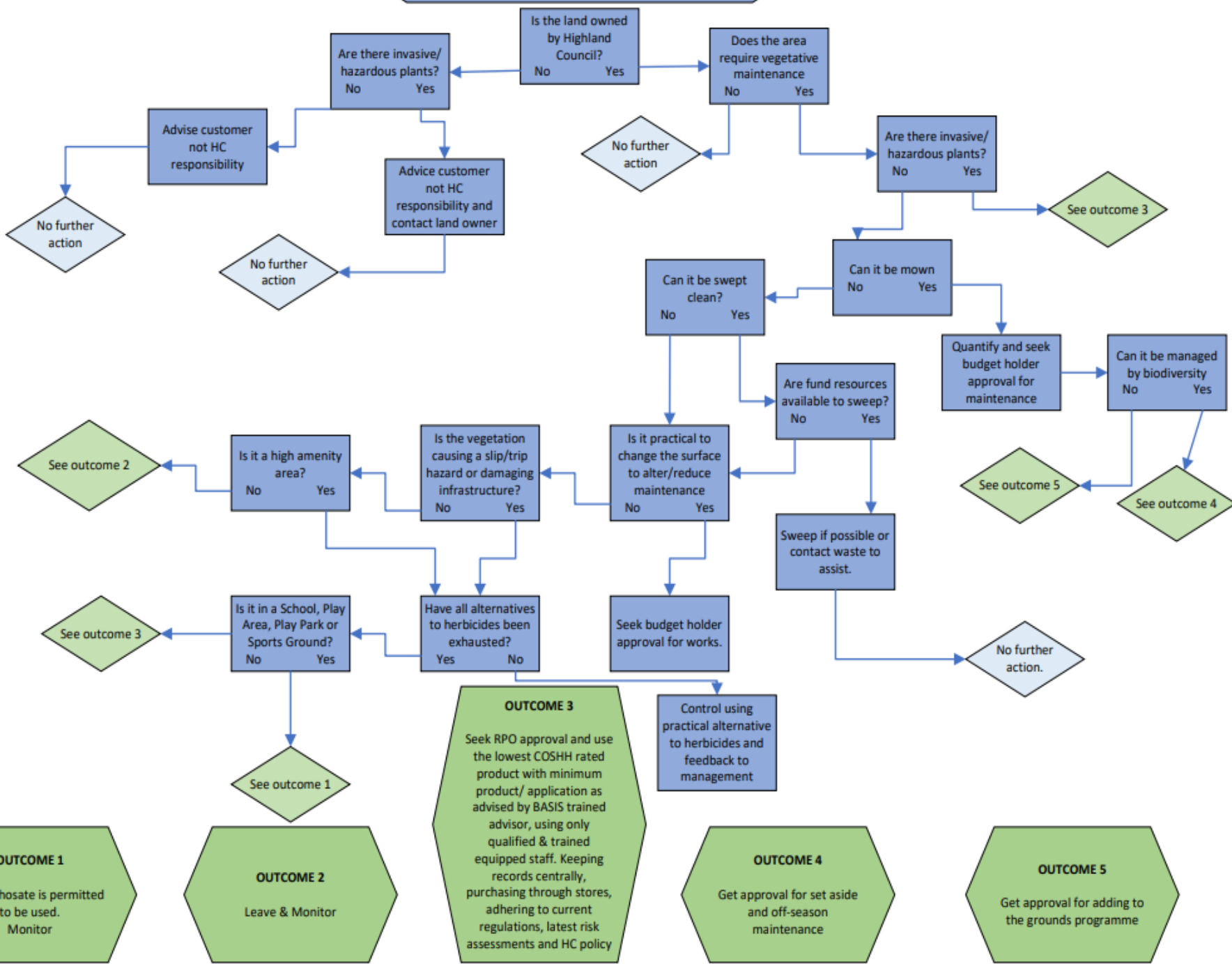
Decision Matrix

Developed to allow a consistent approach across Areas and Services

Five Outcomes of the Matrix

- No glyphosate permitted
- Leave and monitor
- Lowest COSHH product used
- Set aside, off-season maintenance
- Add to programme

Weed Control Decision Matrix



OUTCOME 1
No Glyphosate is permitted to be used. Monitor

OUTCOME 2
Leave & Monitor

OUTCOME 3
Seek RPO approval and use the lowest COSHH rated product with minimum product/ application as advised by BASIS trained advisor, using only qualified & trained equipped staff. Keeping records centrally, purchasing through stores, adhering to current regulations, latest risk assessments and HC policy

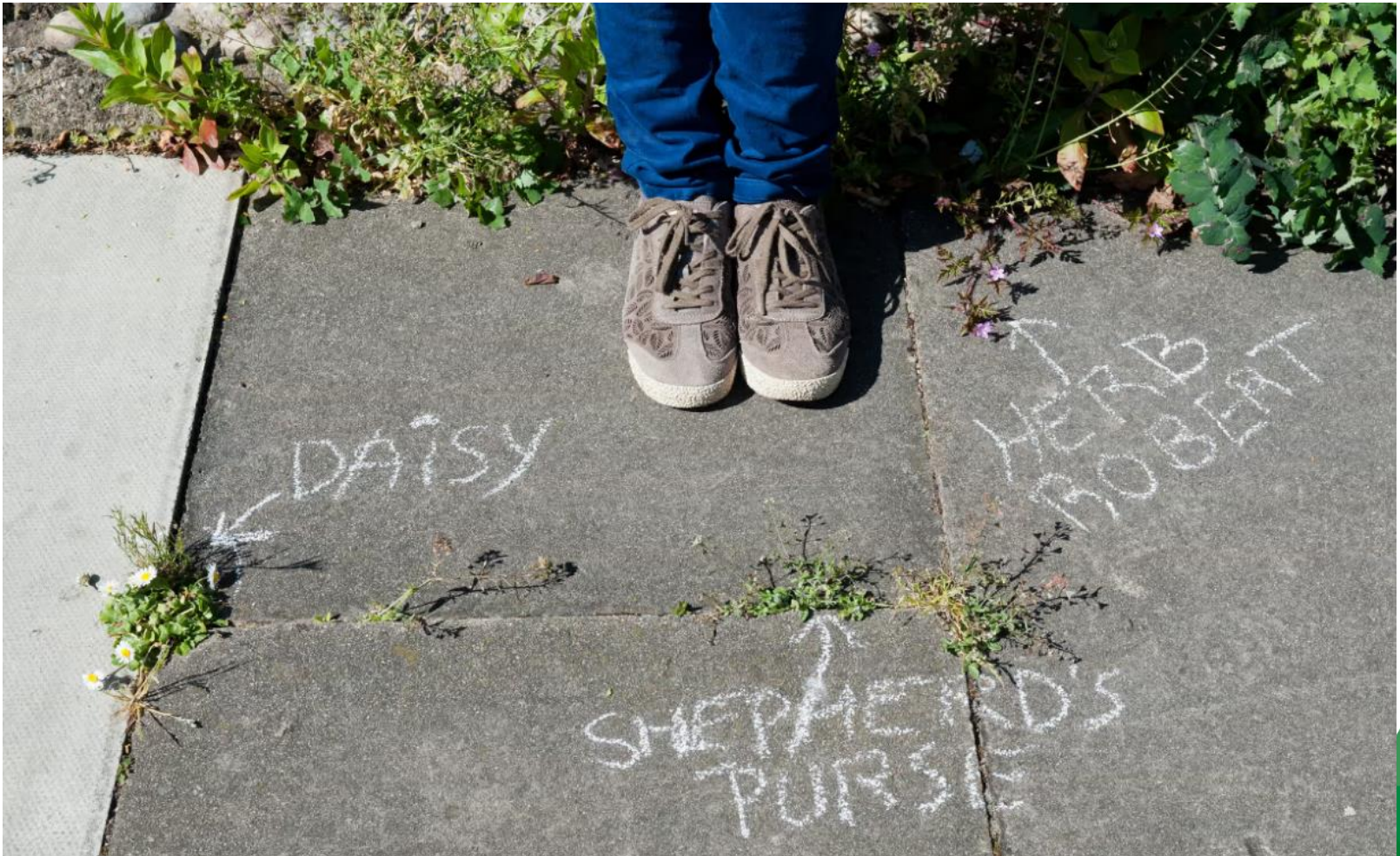
OUTCOME 4
Get approval for set aside and off-season maintenance

OUTCOME 5
Get approval for adding to the grounds programme

Developing a Tolerance



Education and Understanding



Embrace the Wildflower



Integrated Weed Control

Advantages

Reduced
resilience

Long term weed
management
plan

Reduced extent
of weeds and
weed seed stock

Considerations when developing our Strategy and Policy



Logistics



Climate



Some chemical control



Sustainability



Environmental effects



Cost

Summary



Glyphosate most Efficient



More Tolerance of Weeds



Advice and Education



Rural vs Urban Environment



Integrated Approach

Thank You

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