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File 13821E TRIM Doc No: D19/137796

Shoalhaven City Council Weed Management Plan – Blackberry
Common name: Blackberry
Botanic name: *Rubus fruticosus* spp. agg
South East Regional Priority Weed Objective – Asset protection
Land managers should mitigate the risk of new weeds being introduced to their land. Land managers should mitigate spread from their land. The plant should not be bought, sold, grown, carried or released into the environment.

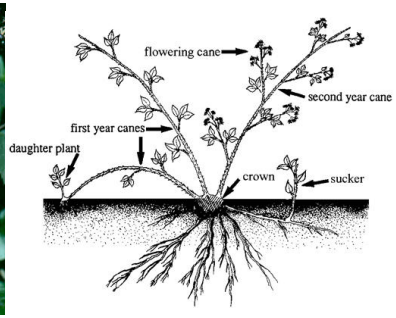
Blackberry grows vigorously and can infest large areas quickly. Negative impacts include:

- reduced available grazing land (most livestock find blackberry unpalatable) and restricted livestock access to water (when growing densely around waterbodies)
- reduced productivity of land caused by shading out of pastures and crops, and competition for soil moisture and nutrients
- problems in forestry such as the prevention of regeneration of hardwood forests and reduced capacity of plantation softwood and hardwood seedlings to establish and grow. Thickets of blackberry also hinder access for forest operations
- degradation of natural environments by displacing native plants and reducing habitat for native animals
- devaluation of visual and recreational aspects of public land, parks and reserves
- provision of harbour for vermin such as rabbits and foxes, and seasonal food for exotic animals such as starlings, blackbirds and foxes. These pest species also disperse blackberry seed, acting as vectors that spread blackberry infestations
- increased fire hazard caused by dead blackberry material and obstruction of access to fire trails and water for controlling fires.

General Biosecurity Duty
*All plants are regulated with a **general biosecurity duty** to prevent, eliminate or minimise any biosecurity risk they may pose. Any person who deals with any plant, who knows (or ought to know) of any biosecurity risk, has a duty to ensure the risk is prevented, eliminated or minimised, so far as is reasonably practicable*

Prohibition on Dealings: Must not be imported into the State or sold. **All species in the *Rubus fruiticosus* species aggregate have this requirement, except for the varietals Black Satin, Chehalem, Chester Thornless, Dirksen Thornless, Loch Ness, Murrindindi, Silvan, Smooth Stem, and Thornfree**

The ***Biosecurity Act 2015*** and the ***Biosecurity Regulation 2017*** set out a range of penalties for non-compliance with the provisions of the legislation. Penalties range from $1,000.00 on the spot fines, through to court imposed penalties of up to a maximum of $220,000 for individuals or $440,000 for corporations for failing to discharge a biosecurity duty. If an offence is proven to have been committed negligently, the court may impose a penalty of a maximum of $1,100,000 for an individual and $2,200,000 for a corporation.



Chemical control calendar											
January	**February**	**March**	**April**	**May**	**June**	**July**	**August**	**September**	**October**	**November**	**December**
Glyphosate 360 g/L (Roundup®) **NIL Withholding period**									Glyphosate 360 g/L (Roundup®) **NIL Withholding period**		
Glyphosate 835 g/kg + Metsulfuron-methyl 10 g/kg (Trounce®) **Do not apply to bushes with mature fruit.** **NIL Withholding period**									Glyphosate 835 g/kg + Metsulfuron-methyl 10 g/kg (Trounce®) **Do not apply to bushes with mature fruit.** **NIL Withholding period**		
Metsulfuron-methyl 300 g/kg + Aminopyralid 375 g/kg (Stinger™) **Withholding period: 3 - 56 days**									Metsulfuron-methyl 300 g/kg + Aminopyralid 375 g/kg (Stinger™) **Withholding period: 3 - 56 days**		
Metsulfuron-methyl 600 g/kg (Brush-off®) **NIL Withholding period**									Metsulfuron-methyl 600 g/kg (Brush-off®) **NIL Withholding period**		
Picloram 100 g/L + Triclopyr 300 g/L + Aminopyralid 8 g/L (Grazon Extra®) **Withholding period: 12 Weeks**									Picloram 100 g/L + Triclopyr 300 g/L + Aminopyralid 8 g/L (Grazon Extra®) **Withholding period: 12 Weeks**		
Triclopyr 300 g/L + Picloram 100 g/L (Grazon® DS) **NIL Withholding period**									Triclopyr 300 g/L + Picloram 100 g/L (Grazon® DS) **NIL Withholding period**		
Triclopyr 200 g/L + Picloram 100 g/L (Tordon® DSH) **NIL Withholding period**									Triclopyr 200 g/L + Picloram 100 g/L (Tordon® DSH) **NIL Withholding period**		
Triclopyr 600 g/L (Garlon® 600) **NIL Withholding period**									Triclopyr 600 g/L (Garlon® 600) **NIL Withholding period**		
Picloram 20 g/kg (Tordon® Granules) **NIL Withholding period**									Picloram 20 g/kg (Tordon® Granules) **NIL Withholding period**		
Hexazinone 250 g/L (Velpar® L) **NIL Withholding period**									Hexazinone 250 g/L (Velpar® L) **NIL Withholding period**		

Herbicides are a safe and effective method of control as part of an integrated blackberry management plan. Use of herbicides does not stop the need to maintain or establish a competitive pasture. The aim of herbicide treatment is to minimise the establishment of a large thicket of blackberry over time. The longer that blackberry plants live, the more seed they produce, and the larger the clumps grown. A well-timed herbicide application can be very effective in reducing the density of blackberry.

ALWAYS READ THE LABEL AND USE CHEMICALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS

Refer to NSW DPI Weedwise website: http://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=114

Blackberry page: http://weeds.dpi.nsw.gov.au/Weeds/Details/18

Herbicides are the most reliable method for achieving local eradication of blackberry. For best results they should be used in combination with other control methods.
Consider the following when selecting a herbicide for blackberry control:

- proximity of the site to water – this affects the choice of registered herbicides
- selectivity of the herbicide – it is usually best to retain desirable vegetation and groundcover where possible
- cost of herbicides - at their highest application rates, the relative costs of the afore-mentioned herbicides from lowest to highest is: metsulfuron-methyl; triclopyr; picloram; glyphosate; picloram + triclopyr
- level of control - experience has shown that a mixture of triclopyr + picloram used with or without aminopyralid will give the greatest long-term control
- application costs – for large infestations the cost of treatment is often underestimated. The costs of retreatment also need to be considered.

The success of any herbicide application will depend on:

- variation in herbicide application – large bushes are commonly under-sprayed. Foliar treatments must ensure that the inner leaves and canes of bushes are sufficiently wetted along with the outer canopy
- seasonal timing of application – optimal time for treatment is during the active growth stage from flowering to fruiting (usually December to March). Translocated herbicides applied in autumn can achieve better kill rates as long as the plants are actively growing
- the condition of the plant being treated – plants must be free of moisture stress or disease. Check that tips of canes have new, soft leaves
- weather conditions at the time of treatment – temperatures over 30ºC can cause heat stress to plants, limiting uptake of herbicide, particularly when humidity is also high
- the age of the plant – plants in their first year of growth are easier to kill with herbicides. Old, well-established thickets may require a number of treatments. At least 1 m of growth on canes is required for successful treatment
- pre-control activities (e.g. slashing or burning) –after slashing or burning ensure enough regrowth, prior to herbicide applications
- the species of blackberry – some species are more resistant to certain herbicides than others. Correct identification of the species and monitoring the results of the treatment are critical for successful control
- the quality of the water used to mix herbicide – pH, water hardness and dirty water can all affect the results of a herbicide treatment. Use the best quality water available.

Physical control alone is rarely successful because of the root structure of blackberry. These techniques are best used in combination with herbicides. The various methods of physical control are:

- hand removal of top growth and digging up of roots - this method may be suitable for small and isolated infestations. Combining hand removal with cut stump herbicide application gives better results
- mechanical grubbing and scalping - this method can be successful if the hoe or root rake completely removes the plant, including all roots
- cultivation of the ground - because blackberry can reproduce vegetatively as well as sucker, cultivation can simply spread blackberry. However this method may be suitable if it is carried out frequently enough
- using earthmoving equipment or slashing - this method is unlikely to remove root material and may even promote growth but can be useful to gain initial access to heavy infestations for further treatments.

Useful references:

NSW Weedwise: http://weeds.dpi.nsw.gov.au/WeedBiosecurities?AreaId=114
Biosecurity Act 2015: https://www.legislation.nsw.gov.au/acts/2015-24.pdf
Biosecurity Regulation 2017: https://www.legislation.nsw.gov.au/regulations/2017-232.pdf
South East Regional Strategic Weed Management Plan: http://southeast.lls.nsw.gov.au/__data/assets/pdf_file/0006/722706/South-East-Regional-Weed-Mgmt-Plan.pdf