Impact Assessment - Great mullein (Verbascum thapsus) in Victoria (Nox)

Assessment of plant invasiveness is done by evaluating biological and ecological characteristics such as germination requirements, growth rate, competitive ability, reproduction methods and dispersal mechanisms. Assessment of plant impacts, however, is determined by the extent to which a plant affects a land manager's environmental, economic and social resources.

The relative importance of these resources varies depending upon the value people place on them and, as such, the assessment process is subjective. For example, a farmer is likely to place a higher emphasis on the impact of a plant on production (economic resource) than its impact on areas of natural vegetation occurring on the farm. Conversely, a Landcare or Friends group would value environmental or social resources more than economic resources.

Recognising that the value of resources vary between different land tenures, plant impact assessments allow a prioritisation of resources by land managers. Assessments can apply at a local, regional or state level, and the relative values of each resource identified may differ at each level.

The impact assessment method used in the Victorian Pest Plant Prioritisation Process uses three broad resource categories: social, environmental and agricultural, each with a number of related attributes. For example, social resources include such attributes as how the plant affects human access for recreation, or if it creates a health risk due to toxicity or by producing allergens.

Each resource attribute, or criterion, is assessed relative to a list of intensity ratings. Depending upon information found in relation to each criterion, a rating of Low, Medium Low, Medium High or High is assigned. Descriptions of the impact criteria and intensity ratings used in this process can be viewed here.

The following table provides information on the impact of **Great mullein**

A more detailed description of the methodology of the Victorian Weed Risk Assessment (WRA) method can be viewed below:

Victorian Weed Risk Assessment (WRA) method (PDF - 630 KB)
Victorian Weed Risk Assessment (WRA) method (DOC - 1 MB)
To view the information PDF requires the use of a PDF reader. This can be installed for free from the Adobe website (external link).

Common Name: Great mullein
Scientific name: *Verbascum thapsus*

Question	Comments	Reference	Rating
Recreation			
1. Restrict human access?	Erect biennial herb to 2.5 metres high. The population density of the invasion depends upon the level of disturbance of a site. In England, an infestation of 5.2 flowering plants per square metre was observed in coppiced woodland two years after they were cut (i.e. at the peak of the flowering cycle). Lesser infestations are more common. Dense infestations would be a nuisance to people.	P & C (2001) Hoshovsky (1986)[1]	**ML**
2. Reduce tourism?	It invades natural meadow and forest openings. In dense infestations, it may affect some recreational activities such as bushwalking.	Remaley (1998)[2]	**ML**
3. Injurious to people?	"The leaf hairs are said to irritate human skin. However, an admirable recent use is in gardens frequented by blind people where its velvet leaves are pleasing to the touch."	P & C (2001)	**ML**
4. Damage to cultural sites?	The plants are quite noticeable and would impose a moderate negative visual effect on cultural sites. The root comprises a single stout deep taproot, which would not cause structural damage.	P & C (2001)	**ML**
Abiotic			
5. Impact flow?	Terrestrial species.	P & C (2001)	**L**
6. Impact water quality?	Terrestrial species.	P & C (2001)	**L**
7. Increase soil erosion?	In Victoria *V. thapsus* is most often found as small dense patches on roadsides, railway easements, poorer pastures and unimproved native grasslands. Although the plant does not have an extensive root system, the vegetative cover would limit soil erosion from wind.	P & C (2001)	**L**
8. Reduce biomass?	"Seedling growth rates were 4 – 7 times faster on bare soils [than on vegetated soils], producing 2000 times more biomass with the same period." Its presence in poorer pasture and unimproved native grassland would increase biomass.	Hoshovsky (1986)	**L**
9. Change fire regime?	A dense, broad-leaved biennial herb, the dead plant matter may increase the fuel load producing a slight increase in the frequency of fire risk. ("The thick woolly leaves were popular insoles in footwear and were even used as temporary outer soles in hard times.")	P & C (2001)	**ML**
Community Habitat			
10. Impact on composition (a) high value EVC	EVC=Plains grassy woodlands (E); CMA=Glenelg Hopkins; Bioreg=Goldfields; VH CLIMATE potential. "Intolerant of shade…will grow in almost any open area." Occurs in medium to large populations in Victoria. Major impact on grasses and shrubs.	Remaley (1998) Carr *et al* (1992)	**MH**
(b) medium value EVC	EVC=Riparian scrub (E); CMA=Glenelg Hopkins; Bioreg=Glenelg Plain; VH CLIMATE potential. Impact as in 10(a) above.	Remaley (1998) Carr *et al* (1992)	**MH**

(c) low value EVC	EVC=Rock outcrop shrubland (E); CMA=Glenelg Hopkins; Bioreg=Central Victorian Uplands; VH CLIMATE potential. Impact as in 10(a) above.	Remaley (1998) Carr *et al* (1992)	**MH**
11. Impact on structure?	"Once established, it grows more vigorously than many native herbs and shrubs, and its growth can overtake a site in fairly short order." Dense infestations would have a major effect on grasses and forbs.	Remaley (1998)	**ML**
12. Effect on threatened flora?			
Fauna			
13. Effect on threatened fauna?			
14. Effect on non-threatened fauna?	The rosettes are rarely eaten by livestock. Likely that native fauna also rarely use the plant as a source of food. The broad rosettes cover a large area thus reducing available fodder.	P & C (2001)	**ML**
15. Benefits fauna?	No documented benefits		**H**
16. Injurious to fauna?	The leaf hairs are said to irritate the mucous membranes of animals' mouths. Possible reason why animals rarely eat the plant?	P & C (2001)	**ML**
Pest Animal			
17. Food source to pests?	Not known as a food source to pests.		**L**
18. Provides harbor?	Not known to provide harbor for pest animals.		**L**
Agriculture			
19. Impact yield?	Animals rarely eat the rosettes, which cover a large area replacing a considerable amount of pasture. Potential to reduce carrying capacity.	P & C (2001)	**MH**
20. Impact quality?	As a biennial, it does not appear to be a problem in cropping situations. Animals rarely eat the rosettes.	P & C (2001)	**L**
21. Affect land value?	The plant is easily controlled in pasture situations through pasture improvement. Occurrence of the plant in this situation is unlikely to affect land value.	P & C (2001)	**L**
22. Change land use?	The plant is easily controlled in pasture situations through pasture improvement. Land use not greatly affected.	P & C (2001)	**L**
23. Increase harvest costs?	Not a weed of cropping	P & C (2001)	**L**
24. Disease host/vector?	None evident.		**L**

This table can also be viewed as a PDF document (printer friendly).
Impact Assessment Record - Great Mullein (PDF - 35KB)
Impact Assessment Record - Great Mullein (DOC - 62KB)
To view the information PDF requires the use of a PDF reader. This can be installed for free from the Adobe website (external link).