Impact Assessment Record

Scientific Name: *Cryptostegia grandiflora* Common name: rubber vine

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
1. Restrict human access?	"The important properties of rubber vine are its ability to climb over and smother tall trees and to extend into run-down pastures. In such situations it forms dense thickets, particularly along waterways which, being impenetrable to man and beast, restrict access to water" (Parsons & Cuthbertson 2001). Major impediment to access waterways.	**H**	**MH**
2. Reduce tourism?	"…it is a twining vine, smothering vegetation. The Undarra Volcanic National Park in Queensland was affected when rubber vine covered the entrance of the volcanic lava tubes, thus decreasing the appeal of this attraction" (ARMCANZ 2001).	**H**	**MH**
3. Injurious to people?	"Extracts of the stems are…toxic and the plant has been implicated in human as well as animal deaths. Fortunately rubber vine is unpalatable and seldom eaten, so deaths are few" (Tomley 1998). Potentially fatal for humans.	**H**	**MH**
4. Damage to cultural sites?	"In thickets or supported by other vegetation it forms a dense tangled mass, smothering vegetation up to 40 m above the ground" (Tomley 1998). With the smothering habit of rubber vine, infestations on culturally significant vegetation (e.g. historical trees) could have a major impact.	**H**	**MH**
Abiotic			
5. Impact flow?	Terrestrial species (Tomley 1998).	**L**	**MH**
6. Impact water quality?	'.. severely threatens riverine vegetation, and can potentially displace the plants and animals that inhabit riverbanks, thereby affecting the water quality of streams' (CRC for Australian Weed Management 2003). Potential to have minor effects in dissolved O^2.	**ML**	**M**
7. Increase soil erosion?	Rubber vine increases soil erosion due to, "…loss of grasses and other ground covers" (ARMCANZ 2001). It commonly occurs along watercourses (Parsons & Cuthbertson 2001), thus there is a high probability for large scale soil movement.	**MH**	**MH**
8. Reduce biomass?	"Rubber vine invades and dominates…riverine forest, eucalypt woodland and vine thickets" (Tomley 1998). The smothering nature of rubber vine suggests biomass would increase.	**L**	**MH**
9. Change fire regime?	"Heavy grazing and drought reduced the amount of available fuel, and so reduced the frequency and intensity of fires" (Mackey 1996). Although the plant burns vigorously, it requires a significant dry fuel load to cause ignition (Parsons & Cuthbertson 2001). Minor change to frequency of fire.	**ML**	**MH**
Community Habitat			
10. Impact on composition (a) high value EVC	The potential for *C. grandiflora* to establish and naturalise in Victoria is highly unlikely due to ecoclimatic limitations (Mackey 1996). No impact on EVCs in Victoria.	**L**	**M**
(b) medium value EVC	The potential for *C. grandiflora* to establish and naturalise in Victoria is highly unlikely due to ecoclimatic limitations (Mackey 1996). No impact on EVCs in Victoria.	**L**	**M**
(c) low value EVC	The potential for *C. grandiflora* to establish and naturalise in Victoria is highly unlikely due to ecoclimatic limitations (Mackey 1996). No impact on EVCs in Victoria.	**L**	**M**
11. Impact on structure?	"Rubber vine invades and dominates…riverine forest, eucalypt woodland and vine thickets. As a result some of these communities could be largely degraded" (Tomley 1998). "It is a vigorous climber which will smother and kill plants and shade out the ground layer; potential to destroy all deciduous vine thickets in Queensland" (ARMCANZ 2001). Major impact on <60% of the floral strata.	**MH**	**MH**

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QUESTION	COMMENTS	RATING	CONFIDENCE
12. Effect on threatened flora?	The potential for *C. grandiflora* to establish and naturalise in Victoria is highly unlikely due to ecoclimatic limitations (Mackey 1996). No impact on threatened flora in Victoria.	**L**	**M**
Fauna			
13. Effect on threatened fauna?	The potential for *C. grandiflora* to establish and naturalise in Victoria is highly unlikely due to ecoclimatic limitations (Mackey 1996). No impact on threatened fauna in Victoria	**L**	**M**
14. Effect on non-threatened fauna?	See comment in 11 above. "Fauna living in such communities are also threatened. Rubber vine destroys the habitat of the greater glider *Petauroides volans* Kerr and the squirrel glider *Petaurus norfolcensis* Kerr" (Tomley 1998). Reduction in habitat leading to reduced numbers but not local extinction.	**MH**	**MH**
15. Benefits fauna?	No known benefits.	**H**	**MH**
16. Injurious to fauna?	"The plant is highly toxic to cattle, goats, sheep and, especially, horses" (Parsons & Cuthbertson 2001). Potentially injurious to native herbivores.	**H**	**MH**
Pest Animal			
17. Food source to pests?	Not known as a food source to pest animals.	**L**	**MH**
18. Provides harbor?	'Its effects include … harbouring feral animals such as wild pigs' (DNRME 2004). Can provide harbour for minor pest spp.	**ML**	**M**
Agriculture			
19. Impact yield?	"…there is a direct loss of pasture on better soils where rubber vine competes directly with pasture grasses, [with] dense infestations reducing carrying capacity by nearly 100%" (Tomley 1998). Serious impact on yield.	**H**	**MH**
20. Impact quality?	Not a weed of cropping. Not known to affect the quality of other agricultural produce.	**L**	**MH**
21. Affect land value?	"Chippendale (1991) reported that landholders perceived that property values…had dropped …due to infestation by rubber vine. …landholders recognise that rubber vine is a serious enough problem to affect their capital investment" (Tomley 1998).	**H**	**MH**
22. Change land use?	Rubber vine is toxic, it seriously hinders day-to-day stock management of cattle and increases mustering costs (Tomley 1998). With such a serious impact on grazing activities, land may no longer be viable for grazing purposes.	**H**	**MH**
23. Increase harvest costs?	"Mustering costs are almost doubled" (Tomley 1998). Major increase in time and labour to muster animals.	**H**	**MH**
24. Disease host/vector?	None evident.	**L**	**MH**

References cited:

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Tomley, A.J, 1998, '*Cryptostegia grandiflora* Roxb. ex R.Br,' in *Biology of Australian Weeds*, Vol 2, ed. F.D. Panetta, R.H. Groves and R.C.H. Shepherd, R.G. & F.J. Richardson, Meredith, Victoria

Revisions

Date	Revised by	Revision
11 Aug. 05	TDH	Reference Panetta *et al.* (1998) changed to Tomley (1998) and details added to references list
11 Aug. 05	TDH	Wording of impact in EVCs and for threatened flora and fauna changed and new reference cited.
23 Nov 05	TS	New reference cited leading to change in score for question 6 (L to ML) and question 18 (L to ML) (added CRC and DNRME references).