

Impact Assessment Record

Scientific name: *Tradescantia fluminensis* Vell.

Common name: Wandering Creeper

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
1. Restrict human access?	<i>T. fluminensis</i> forms dense mats and carpets the ground; its thin weak shoots may form up to 60cm tall. High biomass mats comprise interlaced shoots and stems (GISD 2006). <i>T. fluminensis</i> may impede or be a nuisance for individuals wanting to gain access to riparian ecosystems.	ML	MH
2. Reduce tourism?	Its ability to form dense mats to 60cm tall in riparian zones (GISD 2006) may deter some people from utilising certain recreation areas. Weeds also reduce the aesthetic value of the land (Singh et. al 1996). Minor effects to recreational uses.	ML	MH
3. Injurious to people?	High biomass mats comprising interlaced shoots and stems (GISD 2006) may cause entanglement. Although no injurious effects to humans have been documented.	L	MH
4. Damage to cultural sites?	<i>T. fluminensis</i> may also reduce the aesthetic value of the land (Singh et. al 1996), literature does not suggest any impact on cultural sites or infrastructure.	L	MH
Abiotic			
5. Impact flow?	Although <i>T. fluminensis</i> occurs within riparian ecosystems (Muyt 2001) no literature is available to suggest water flow is affected by the species.	L	M
6. Impact water quality?	Although <i>T. fluminensis</i> occurs within riparian ecosystems (Muyt 2001) no literature is available to suggest water quality is directly affected by the species. Although indirect impact may occur due to erosion. See below comment.	L	M
7. Increase soil erosion?	<i>T. fluminensis</i> forms dense mats, which smothers native ground cover vegetation and prevent regeneration of trees and shrubs; this has long term consequences for stream banks. Eventually loss of native tree and shrub cover could lead to erosion (ESC 2007), where the weed occurs on stream banks.	ML	MH
8. Reduce biomass?	<i>T. fluminensis</i> may completely dominate the ground layer (Muyt 2001). The plant prevents regeneration of trees and shrubs, increases litter decomposition, altering nutrient cycling (GISD 2006). Kelly and Skipworth (1984) found that there was a significant negative relationship between presence of <i>T. fluminensis</i> and presence of native tree seedlings, indicating that regeneration of natives may be inhibited by the dense ground cover of the plant. In situation where overstorey regeneration is affected this may lead to a more open habitat. There is the potential that over an extended period that <i>T. fluminensis</i> may significantly decrease biomass.	H	MH
9. Change fire regime?	<i>T. fluminensis</i> occurs in riparian, moist woodlands, damp and shaded environments (Muyt 2001) and is not easily burnt due to fleshy nature (McDougall 1994). Negligible effect on fire risk.	L	MH
Community Habitat			
10. Impact on composition (a) high value EVC	EVC= Riparian Forest (V); CMA= West Gippsland; Bioreg= Gippsland Plain; CLIMATE potential=VH. <i>T. fluminensis</i> may completely dominate the ground layer, by forming dense mats, which smothers native ground cover vegetation (Muyt 2001), forming dense monocultures (DiTomaso and Healy 2003).	H	MH

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(b) medium value EVC	EVC= Riparian Forest (D); CMA= East Gippsland; Bioreg= East Gippsland Lowland; CLIMATE potential=VH. <i>T. fluminensis</i> may completely dominate the ground layer, by forming dense mats, which smothers native ground cover vegetation (Muyt 2001), forming dense monocultures (DiTomaso and Healy 2003).	H	MH
(c) low value EVC	EVC= Riparian Forest (LC); CMA= Corangamite; Bioreg= Otway Ranges; CLIMATE potential=VH. <i>T. fluminensis</i> may completely dominate the ground layer, by forming dense mats, which smothers native ground cover vegetation (Muyt 2001), forming dense monocultures (DiTomaso and Healy 2003).	H	MH
11. Impact on structure?	<i>T. fluminensis</i> may completely dominate the ground layer, by forming dense mats, which smothers native ground cover vegetation (Muyt 2001), forming dense monocultures (DiTomaso and Healy 2003). The persistent invasive weed carpets and smothers native ground cover vegetation and prevents regeneration of trees and shrubs (GISD 2006). Kelly and Skipworth (1984) found that there was a significant negative relationship between presence of <i>T. fluminensis</i> and presence of native tree seedlings, indicating that regeneration of natives may be inhibited by the dense ground cover of the plant. Documented to form dense monocultures in some situations.	MH	MH
12. Effect on threatened flora?	Regeneration of natives may be inhibited by the dense ground cover of <i>T. fluminensis</i> (Kelly and Skipworth 1984). No specific effects on any Bioregional Priority or VROT species described.	MH	L
Fauna			
13. Effect on threatened fauna?	Where native vegetation is largely replaced by an adventive species, the structures of invertebrate communities are altered and species richness can decline (Toft et. al 2001). No specific effects on threatened fauna are described.	L	M
14. Effect on non-threatened fauna?	<i>T. fluminensis</i> could impact on invertebrate communities due to its ability to form dense layers of vegetation. It produces a litter that decomposes more readily than leaf litter of a mixed-species environment, altering nutrient availability. Soil moisture is also greater under mats of <i>T. fluminensis</i> than under leaf litter. These factors may change the structure of invertebrate communities and species richness may decline (Standish 2004).	MH	MH
15. Benefits fauna?	<i>T. fluminensis</i> is a suitable habitat for the giant predatory land snail <i>Powelliphanta traverse</i> in New Zealand; it is more suitable for recruitment than its native habitat and provides refuge from predation or desiccation (Standish et. al. 2002). Although research literature does not suggest any benefit to native Australian fauna.	H	M
16. Injurious to fauna?	Causes allergenic reactions in dogs, with skin irritation particularly on the stomach. <i>T. fluminensis</i> is particularly toxic to cattle and causes rapid death if ingested (Blood 2001).	H	MH
Pest Animal			
17. Food source to pests?	No information was found documented to indicate that <i>T. fluminensis</i> provides as a food source to any pest species.	L	M
18. Provides harbour?	Unknown: No information was found documented to indicate that <i>T. fluminensis</i> provides harbour for any pest species	L	M

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Agriculture			
19. Impact yield?	<i>T. fluminensis</i> is not described as being a significant weed of crops (GISD 2006). Although, cattle death has been known to occur due to nitrate poisoning, when grazing on <i>T. fluminensis</i> along creek beds (McBarron and Bryant 2001) this has not occurred in any significant amounts. <i>T. fluminensis</i> has an insignificant effect on quantity of yield.	L	MH
20. Impact quality?	<i>T. fluminensis</i> is not described as being a significant weed of crops (GISD 2006). Not otherwise described as being a weed of agriculture. Insignificant effect on quality of yield.	L	M
21. Affect land value?	Not described as being a weed of agriculture. Has an insignificant affect on land value.	L	M
22. Change land use?	Not described as being a weed of agriculture. The weed will not cause a significant change in land use priority.	L	M
23. Increase harvest costs?	Not described as being a weed of agriculture. The weed will not cause a significant increase in the cost of production.	L	M
24. Disease host/vector?	The weed is not known as a vector for diseases of agriculture.	L	M