Impact Assessment Record

Scientific name: Asparagus declinatus L.

Common name: Pale-berry Asparagus-fern / Bridal Veil

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
1. Restrict human access?	Climbing perennial that grows up to 1m with recurved and zig-zag branches. Can form dense mats. (Bass & Lawrie 2003). Unlikely to restrict human access.	L	MH
2. Reduce tourism?	Introduced as an ornamental species (Lawrie 2004). Therefore may alter aesthetics; however at this stage there is no evidence to support this.	ML	L
3. Injurious to people?	Weed not known to be injurious to people.	L	М
4. Damage to cultural sites?	Introduced as an ornamental species (Lawrie 2004). Therefore may alter aesthetics; however at this stage there is no evidence to support this.	ML	L
Abiotic			
5. Impact flow?	Terrestrial species (Marchant et al 1987).	L	МН
6. Impact water quality?	Terrestrial species (Marchant <i>et al</i> 1987).	L	МН
7. Increase soil erosion?	Tuberous roots (Marchant <i>et al</i> 1987). 'Large plants may have 20-50 tubers and often become entangled with neighbouring plants to produce tuber masses of a square metre consisting of hundreds of tubers' (Bass 2002). Invasion reduces the area of bare ground (Lawrie 2006a). Plants die back during summer (Bass & Lawrie 2003). May have some soil erosion but low probability of large scale soil movement.	L	МН
8. Reduce biomass?	Root systems form dense mats and can account for up to 85% of mass in mature plants. Where established, there is a decline in litter, bare ground and other ground cover' (Bass & Lawrie 2003). Long-term a woodland may be altered to an <i>A.declinatus</i> meadow (Leah 2001). However this would be due to prevention of regeneration and other processes would have to be involved to remove those other species (Lawrie 2006a). Therefore an increase in biomass will largely be observed, largely due to the dense root system.	L	М
9. Change fire regime?	Plant dies back during summer. One study showed that litter in infested areas reduced from 67% to 7%. (Bass & Lawrie 2003). Plant can also establish on bare ground. May cause a minor change to intensity of fire.	ML	MH
Community Habitat			
10. Impact on composition(a) high value EVC	EVC=Parilla Mallee (BCS = E); CMA=Mallee; Bioreg=Lowan Mallee; CLIMATE potential=VH. 'A. declinatus reduces biodiversity between 8% and 71%, reduces the recruitment of woody species by 69% and may alter successional pathways' 'Correlates with woody canopies > 2 m high' Where established, there is a decline in	MH	МН

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	litter, bare ground and other ground cover''approximately 69% less woody plant seedlings in 90 infested quadrats' (Bass & Lawrie 2003). Potential to cause major displacement of dominant species within the lower and middle strata.		
(b) medium value EVC	EVC=Grassy dry forest (BCS = D); CMA=Wimmera; Bioreg=Greater Grampians; CLIMATE potential=VH. 'A. <i>declinatus</i> reduces biodiversity between 8% and 71%, reduces the recruitment of woody species by 69% and may alter successional pathways' 'Correlates with woody canopies > 2 m high' Where established, there is a decline in litter, bare ground and other ground cover''approximately 69% less woody plant seedlings in 90 infested quadrats' (Bass & Lawrie 2003). Potential to cause major displacement of dominant species within the lower and middle strata.	MH	МН
(c) low value EVC	EVC=Heathy woodland (BCS = LC); CMA=Glenelg Hopkins; Bioreg=Glenelg Plain; CLIMATE potential=VH. ' <i>A. declinatus</i> reduces biodiversity between 8% and 71%, reduces the recruitment of woody species by 69% and may alter successional pathways' 'Correlates with woody canopies > 2 m high' Where established, there is a decline in litter, bare ground and other ground cover''approximately 69% less woody plant seedlings in 90 infested quadrats' (Bass & Lawrie 2003). Potential to cause major displacement of dominant species within the lower and middle strata.	MH	МН
11. Impact on structure?	<i>A. declinatus</i> reduces biodiversity between 8% and 71%, reduces the recruitment of woody species by 69% and may alter successional pathways' 'Correlates with woody canopies > 2 m high' Where established, there is a decline in litter, bare ground and other ground cover''approximately 69% less woody plant seedlings in 90 infested quadrats' (Bass & Lawrie 2003). <i>A. asparagoides</i> 'is a major threat to most low shrubs and groundcover plants in mallee, dry sclerophyll forest and heath vegetation' (Weeds CRC 2003). Major effect on lower and middle strata.	MH	МН
12. Effect on threatened flora?	While no specific species are mentioned Winkler & Taylor (2006) report that the species has potential to impact of threatened flora species.	MH	М
Fauna			
13. Effect on threatened fauna?	Plant not documented as posing an additional risk to threatened fauna.	MH	L
14. Effect on non- threatened fauna?	Plant not documented as having an effect on non-threatened fauna species.	L	М
15. Benefits fauna?	⁽ Preliminary seed dispersal observations of <i>A.declinatus</i> in South Australia indicate the main dispersers are medium to large gregarious birds such as <i>Strepera versicolor</i> (Grey Currawong), <i>Gymnorhina tibicen</i> (Australian Magpie) and <i>Anthochaera carunculata</i> (Red Wattlebird). Arboreal mammals, such as <i>Trichosurus vulpecula</i> (Brush-tailed Possum) and <i>Pseudocheirus peregrinus</i> (Common Ringtail Possum) and small rodents' (Bass & Lawrie 2003). Plant may provide some assistance in food to desirable species.	MH	МН

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16. Injurious to fauna?	Plant not documented as being injurious to fauna.	L	Μ
Pest Animal			
17. Food source to pests?	Foxes have been reported to consume the species fruit (Lawrie 2006a).	MH	Н
18. Provides harbor?	Not documented to provide harbour to pest species.	L	М
Agriculture			
19. Impact yield?	May impact upon forestry and some horticulture however at this stage to what extent is unknown. Has 'similar morphology, ecology and impacts as <i>A. asparagoides</i> (Lawrie 2002). <i>A. asparagoides</i> 'causes losses to primary industries by shading citrus and avocado trees and interfering with picking' 'Grows well in citrus orchards and pine plantations' (Weeds CRC 2003).	М	L
20. Impact quality?	Not documented to impact upon quality.	L	М
21. Affect land value?	'Appears to spread more rapidly and better withstand control activities than <i>A. asparagoides</i> '. Possible that land value may be affected if spreads to agricultural areas. Not documented at this stage.	М	L
22. Change land use?	<i>A. declinatus</i> not documented to change priority of land use but if it spreads to agricultural areas has the potential to.	М	L
23. Increase harvest costs?	A. declinatus not documented to increase harvest costs but if spreads to agricultural land may involve more time and labour.	М	L
24. Disease host/vector?	Not documented as a host or vector for disease of agriculture.	L	М