Scientific Name: *Carduus nutans* Common name: Nodding thistle

QUESTION	COMMENTS	REFERENCE	RANKING
Social			
1. Restrict human access?	An erect annual herb commonly 80 cm to 120 cm high. "Nodding thistle grows in dense patches (up to 10 mature plants per square metre)." High nuisance value, but unlikely to restrict access.	P & C (2001)	**ML**
2. Reduce tourism?	An erect annual herb commonly 80 cm to 120 cm high. "Nodding thistle grows in dense patches (up to 10 mature plants per square metre)." Some recreational activities such as bushwalking may be affected.	P & C (2001)	**MH**
3. Injurious to people?	"Dried fragments and spines may cause injury." An annual, spines are present for much of the year.	Groves *et al* (1995)	**MH**
4. Damage to cultural sites?	Dense patches would create a negative visual effect and seriously affect the aesthetics of an area.		**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?	"It is one of the weeds which establishes well on bare ground occurring in pastures at the end of summer." Dense growth habit provides soil cover when other species not present. Not likely to increase erosion.	P & C (2001)	**L**
8. Reduce biomass?	"It is one of the weeds which establishes well on bare ground occurring in pastures at the end of summer. Plants make strong autumn and winter growth, thereby competing at a time when pasture production is at its lowest." Biomass may increase.	P & C (2001)	**L**
9. Change fire regime?	"…research on fire and musk thistle was limited by difficulties in locating a thistle-infested research site where fuel was sufficient to support a fire." Dead material does not alter fire risk.	Heidel (1987)[1]	**L**
Community Habitat			
10. Impact on composition (a) high value EVC	EVC=Plains grassland (E); CMA=Corangamite; Bioreg=Victorian Volcanic Plain; M CLIMATE potential. Occurs in open situations, but establishes best on bare ground. "…grows in dense patches (up to 10 mature plants per metre)." Medium potential for infestation. Minor impact on ground-flora.	P & C (2001)	**ML**
(b) medium value EVC	EVC=Grassy woodland (E); CMA=West Gippsland; Bioreg=Highlands – Southern Fall; M CLIMATE potential. Impact as in 10(a) above.	P & C (2001)	**ML**
(c) low value EVC	Does not appear likely to infest low value EVCs in Victoria.		**L**
11. Impact on structure?	"Little other biomass production [occurred] within one-third of the area occupied by rosettes…[and] a thistle plant has a detrimental effect on pasture growth beyond the perimeter of its rosette." Dense patches would have a major impact on ground-flora, but not known as a weed in natural ecosystems (not recorded in Carr *et al* 1992). Limited impact.	Groves *et al* (1995)	**ML**
12. Effect on threatened flora?			

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QUESTION	COMMENTS	REFERENCE	RANKING
Fauna			
13. Effect on threatened fauna?			
14. Effect on non-threatened fauna?	"Nodding thistle grows in dense patches and is not readily grazed because of its spiny foliage. Its presence also discourages animals from grazing neighbouring pasture plants. Rosettes can occupy a considerable area of pasture." The plant would reduce food source of native fauna.	P & C (2001)	**ML**
15. Benefits fauna?	No benefits.		**H**
16. Injurious to fauna?	"Dried fragments and spines may cause physical injury."	Groves *et al* (1995)	**MH**
Pest Animal			
17. Food source to pests?	Not known as a food source to pest animals.		**L**
18. Provides harbor?	"Dense patches also provide harbour for pest animals, particularly rabbits."	P & C (2001)	**MH**
Agriculture			
19. Impact yield?	Seriously reduces carrying capacity. "Calculated stands of 1000 plants m^{-2} reduced pasture production by 13–14%."	P & C (2001) Groves *et al* (1995)	**MH**
20. Impact quality?	"At maturity, the spiny heads contribute to vegetable fault in wool."	P & C (2001)	**ML**
21. Affect land value?	Control can be readily achieved by cultivation and establishing a "perennial pasture which provides ground cover in late summer to compete with thistle seedlings." Cost of control may reduce the value of land slightly.	P & C (2001)	**M**
22. Change land use?	The plant can be controlled with suitable management techniques. Land use would not change.		**L**
23. Increase harvest costs?	Not a weed of cropping.		**L**
24. Disease host/vector?	None evident.		**L**

[1] Heidel, B., 1987, Carduus nutans, *Musk thistle*, Element Stewardship Abstract, The Nature Conservancy, http://tncweeds.ucdavis.edu/esadocs/documnts/cardnut.html Viewed 11/04/03.