Impact Assessment Record

Scientific Name: *Hymenachne amplexicaulis* Common name: hymenachne, olive hymenachne

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
1. Restrict human access?	Perennial grass to 2.5 metres high. It invades waterways including drains, lagoons, creeks and rivers (Diaz *et al* 2003). Heavy infestations may be a major impediment to access waterways.	**H**	**MH**
2. Reduce tourism?	"Overseas, hymenachne forms floating mats and grass islands" (NRM 2001). Serious impact on water-based recreation.	**H**	**M**
3. Injurious to people?	The plant has no physical or toxic properties that may injure humans. However '…the mats that the plants form create a haven for mosquitoes that are vectors of Ross River Fever and encephalitis' (NRM 2001). Therefore score as medium.	**M**	**M**
4. Damage to cultural sites?	Plant not likely to cause damage to indigenous or cultural European sites.	**L**	**MH**
Abiotic			
5. Impact flow?	"Hymenachne can choke drains and small watercourses, increasing flooding by reducing the flow capacity of the drainage networks" (Diaz *et al* 2003). Major impact on either surface or sub-surface flow.	**MH**	**MH**
6. Impact water quality?	"Heavy infestations reduce the infiltration of sunlight…[and] prevents the exchange of air, which normally occurs on *an open water surface. As plant material decomposes it uses oxygen causing water pollution and stagnation" (*Diaz *et al* 2003). High effects in dissolved O_2.	**H**	**MH**
7. Increase soil erosion?	"Hymenachne can choke drains and small watercourses, increasing flooding" *(*Diaz *et al* 2003). High potential for erosion with offsite implications	**MH**	**MH**
8. Reduce biomass?	Density of infestations suggests biomass would significantly increase. (Cruz & Salazar 1989). In aquatic situations, increase in biomass is a negative attribute.	**H**	**H**
9. Change fire regime?	Occurs in wetland situations (NRM 2001). Unlikely to contribute to fire risk.	**L**	**MH**
Community Habitat			
10. Impact on composition (a) high value EVC	EVC=Swamp scrub (E); CMA=Corangamite; Bioregion=Victorian Volcanic Plain; CLIMATE=M. "Hymenachne can form pure stands that replace native wetland plants." High CLIMATE potential would restrict impact. Unlikely to establish as monoculture, but would still significantly displace grass species.	**MH**	**MH**
(b) medium value EVC	EVC=Damp heathland (D); CMA=Glenelg Hopkins; Bioregion=Glenelg Plain; CLIMATE=M.	**MH**	**MH**
(c) low value EVC	EVC=Wet heathland (LC); CMA=Glenelg Hopkins; Bioregion=Victorian Volcanic Plain; CLIMATE=M. Impact as in 10(a) above.	**MH**	**MH**
11. Impact on structure?	"Hymenachne can form pure stands that replace native wetland plants" (ARMCANZ 2000)	**H**	**MH**
12. Effect on threatened flora?	This species is not documented as posing an additional risk to threatened flora in Victoria.	**MH**	**L**

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QUESTION	COMMENTS	RATING	CONFIDENCE
Fauna			
13. Effect on threatened fauna?	This species is not documented as posing an additional risk to threatened fauna in Victoria	**MH**	**L**
14. Effect on non-threatened fauna?	"A large infestation of hymenachne is a physical barrier for aquatic and semi-aquatic animals, restricting their territorial movements and breeding activities" (NRM 2001). Can 'reduce resources available for feeding, breeding and shelter of native fauna' (Diaz *et al* 2003). Reduction in habitat for fauna.	**MH**	**MH**
15. Benefits fauna?	No known benefits to native fauna.	**H**	**MH**
16. Injurious to fauna?	Not known to be harmful to fauna. It was grown in Queensland for a high-quality ponded pasture grass (NRM 2001) and in Florida (Hill 1996).	**L**	**MH**
Pest Animal			
17. Food source to pests?	Not known as a food source to pest animals.	**L**	**MH**
18. Provides harbor?	Not known to provide harbor for pest animals.	**L**	**MH**
Agriculture			
19. Impact yield?	Originally grown in Queensland for a high-quality ponded pasture grass, the species would have no negative impact on yield in grazing situations. It may restrict access to watering points, and its capacity to occur in irrigation channels may impact on the yield of irrigated crops (NRM 2001). However, there is no data to support the level of impact.	**M**	**L**
20. Impact quality?	No data on effect on quality of produce.	**M**	**L**
21. Affect land value?	No data available to determine impact on land value.	**M**	**L**
22. Change land use?	No data available to suggest change in land use.	**M**	**L**
23. Increase harvest costs?	Does not affect harvesting activities.	**L**	**MH**
24. Disease host/vector?	None described	**L**	**MH**

References cited:

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Revisions

Date	Revised by	Revision