Scientific Name: *Alternanthera philoxeroides* Common name: Alligator weed

QUESTION	COMMENTS	REFERENCE	RANKING
Social			
1. Restrict human access?	Prostrate, semi-prostrate or ascending plant in both terrestrial and aquatic situations. Restricts access on land and can seriously affect access to waterways.	P & C (2001)	**H**
2. Reduce tourism?	"In water dense mats…extend for 15 m or more." Major impact on water-based recreation and creates a dangerous hazard for swimming.	Muyt (2001) Ensbey (2001)[1]	**H**
3. Injurious to people?	Not toxic through physical contact. The plant has been cultivated and consumed in Australia in the mistaken belief it is the culinary herb *A. sessilis*, known commonly as Mukunu-wenna. The plant does contain calcium oxalate crystals.	Muyt (2001) P & C (2001)	**ML**
4. Damage to cultural sites?	An "aggressive, invasive species." In terrestrial situations it develops extensive root systems and is very persistent. Infestation could seriously affect historic or cultural feature. In attempting to eradicate the weed extensive excavation may need to be undertaken.	Muyt (2001)	**H**
Abiotic			
5. Impact flow?	"The prolific growth restricts flow, increases sedimentation, aggravates flooding and acts as a barrier."	Groves *et al.* (1995)	**H**
6. Impact water quality?	"…the thick mats…restrict light penetration…and create anaerobic conditions." "The mats restrict light, thereby reducing primary productivity and anoxic conditions may result."	P & C (2001) Groves *et al* (1995)	**H**
7. Increase soil erosion?	Terrestrial plants have thickened, dense roots to depths of 0.5 m. Soil erosion not increased as a result of infestation.	Muyt (2001)	**L**
8. Reduce biomass?	In aquatic situations biomass is increased significantly. Little effect in terrestrial situations	Groves *et al* (1995)	**L**
9. Change fire regime?	In both aquatic and terrestrial situations the plant does not die back leaving dry matter to support fire.	Gunasekera (pers comm.)[2]	**L**
Community Habitat			
10. Impact on composition (a) high value EVC	EVC=Plains Grassy Wetland (E); CMA=Port Phillip; Bioreg:= Central Victorian Uplands; VH CLIMATE potential. Although not known as an invasive weed in Victorian natural ecosystems, it has the potential to invade riparian vegetation, freshwater wetland (seasonal and permanent). "It has a low light requirement." In aquatic situations it has the capacity to form monocultures, but less so on land.	Groves, *et al*. (1995) P & C (2001)	**MH**
(b) medium value EVC	EVC=Sedgy riparian woodland (D); CMA= Port Phillip; Bioreg:= Central Victorian Uplands; VH CLIMATE potential. Similarly invasive as above.	Groves, *et al.* (1995) P & C (2001)	**MH**
(c) low value EVC	EVC=Wet forest (LC); CMA= Port Phillip; Bioreg:= Central Victorian Uplands; VH CLIMATE potential. As in 10(a).	Groves, *et al.* (1995) P & C (2001)	**MH**
11. Impact on structure?	"Floating mats of *A. philoxeroides* are generally monocultures but other species occur close to the bank. In wet terrestrial situations, it may occur as the only emergent species but is more often associated with clover, grasses or common rush."	Groves *et al* (1995)	**MH**
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?	Due to its invasive habit in waterways and its potential to create anoxic conditions, it is likely to reduce the habitat and threaten aquatic fauna. "…affects fish and other organism habitat."	Groves *et al* (1995) Blood (2001)	**MH**
15. Benefits fauna?	"Alligator weed provides no benefits to Australia."	Groves *et al* (1995)	**H**
16. Injurious to fauna?	No evidence of harm to fauna although, "In New Zealand and Australia alligator weed causes photosensitisation of skin in light pigmented cattle resulting in cancerous lesions."	Ensbey (2001)	**H**
Pest Animal			
17. Food source to pests?	Not evident, but some herbivorous insects do feed on plant.	Groves *et al* (1995)	**ML**
18. Provides harbor?	May provide harbour for minor pest species (birds).	Groves *et al* (1995)	**ML**
Agriculture			
19. Impact yield?	It is a strong competitor in rice fields and pastures prone to waterlogging. "Alligator weed has eliminated small crops and turf farming from parts of the Lower Hunter (NSW)."	P & C (2001) Ensbey (2001)	**H**
20. Impact quality?	"If present, land and associated production can be quarantined and sales restricted due to W1 weed status."	Ensbey (2001)	**H**
21. Affect land value?	As above.	Ensbey (2001)	**H**
22. Change land use?	In terrestrial situations it is difficult to eradicate. The plant is resistant to herbicide treatment and mechanical removal is difficult due to the depth of the root system. Excavation of up to 2 m is recommended. Significant change to use is dictated. See also comment in Q21 above.	Groves *et al* (1995) Muyt (2001)	**H**
23. Increase harvest costs?	Occurrence of the weed in water supplies for irrigation and the need to control it can increase production costs.	Ensbey (2001)	**M**
24. Disease host/vector?	"Provides habitat for disease vectors such as mosquitoes."	Blood (2001)	**M**

[1] Ensbey, R. 2001. *Alligator weed*, Agfact P7.6.46, 2nd ed. NSW Agriculture.
[2] Gunasekera, L. personal communication 12/03/2003. Scientist, Victorian Department of Primary Industries, Keith Turnbull Research Institute.