Impact Assessment Record

Scientific Name: *Mimosa pigra* Common name: mimosa

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
1. Restrict human access?	"This aggressive prickly shrub forms impenetrable thickets 4 to 5 metres high, making infested areas inaccessible to man" (Parsons & Cuthbertson 2001). "Traditional hunting areas have been choked by mimosa, so that people can no longer hunt [in some Aboriginal communities in NT]' (CRC for Weed Management 2005). Dense infestations would create a major impediment to humans.	**H**	**MH**
2. Reduce tourism?	Infestations of *M. pigra* create, "…perceptions of degraded natural landscapes; reduced wildlife attractions; reduced area and access for tourism activities; reduced access to fishing, hunting and scenic areas" (ARMCANZ 2001). Dense infestations would have serious implications for recreational activities.	**H**	**MH**
3. Injurious to people?	"Stems are armed with broad-base prickles to 7 mm long" (Groves *et al* 1995). Prickles exist throughout the year. Potential for minor injury.	**MH**	**MH**
4. Damage to cultural sites?	"…perceptions of degraded natural landscapes; reduced wildlife attractions; reduced area and access for tourism activities; reduced access to fishing, hunting and scenic areas" (ARMCANZ 2001). Infestations would create a moderate visual effect.	**ML**	**MH**
Abiotic			
5. Impact flow?	Terrestrial species invading, "…sedgeland and grassland communities on open floodplains" (Groves *et al* 1995).	**L**	**MH**
6. Impact water quality?	Terrestrial species.	**L**	**MH**
7. Increase soil erosion?	"A large central taproot penetrate 1 – 2 m into the soil, together with a lateral root system that extends up to 3.5 m from the stem" (Groves *et al* 1995). Unlikely to contribute to soil erosion.	**L**	**MH**
8. Reduce biomass?	The plant invades,"…sedgeland and grassland communities on open floodplains," and can grow to a height of 6 m (Groves *et al* 1995). Biomass would increase.	**L**	**MH**
9. Change fire regime?	Mimosa is fire resistant (Marko 1999). In dense infestations, it would decrease horizontal continuity, thereby decreasing fire frequency and extent (Brooks et al 2004). Minor change to frequency of fire.	**ML**	**H**
Community Habitat			
10. Impact on composition (a) high value EVC	Climate modelling predicts that this species is not likely to establish as a weedy species in Victoria. No impact on EVCs in Victoria.	**L**	**H**
(b) medium value EVC	Climate modelling predicts that this species is not likely to establish as a weedy species in Victoria. No impact on EVCs in Victoria.	**L**	**H**
(c) low value EVC	Climate modelling predicts that this species is not likely to establish as a weedy species in Victoria. No impact on EVCs in Victoria.	**L**	**H**
11. Impact on structure?	"In Australia, a largely intact natural landscape has been completely altered. Some 450 km^2 of floodplain and swamp forest have been covered by dense monospecific stands of *M. pigra* which have little understorey except for seedlings and suckers of *M. pigra*" (Groves *et al* 1995).	**H**	**MH**

Impact Assessment Record

Scientific Name: *Mimosa pigra* Common name: mimosa

QUESTION	COMMENTS	RATING	CONFIDENCE
12. Effect on threatened flora?	The potential for *M. pigra* to establish and naturalise in Victoria is highly unlikely due to ecoclimatic limitations. No impact on threatened flora in Victoria.	**L**	**MH**
Fauna			
13. Effect on threatened fauna?	The potential for *M. pigra* to establish and naturalise in Victoria is highly unlikely due to ecoclimatic limitations. No impact on threatened fauna in Victoria.	**L**	**MH**
14. Effect on non-threatened fauna?	"Braithwaite *et al.* (1989) found that *M. pigra* thickets had fewer birds and lizards" (Groves *et al* 1995). Reduces habitat for fauna species.	**MH**	**MH**
15. Benefits fauna?	"…the rare marsupial mouse *Sminthopsis virginiae* (Tarragon) has become more abundant as a result of *M. pigra.* It probably shelters from predators in the dense thickets" (Groves *et al* 1995). Provides some assistance to desirable species.	**MH**	**MH**
16. Injurious to fauna?	Not documented as causing injury. Not toxic.	**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 to pest animals.	**L**	**MH**
Agriculture			
19. Impact yield?	"Occurring, as it does, in damp situations along riverbanks and billabongs, mimosa interferes with stock watering, [and] irrigation projects. It also moves out onto the drier floodplains away from rivers, where it smothers pastures, [and] reduces the available grazing area" (Parsons & Cuthbertson 2001). "The rate of population increase in river systems is rapid, with infestations able to double in area every 1.2 years" (Groves *et al* 1995). Major impact on carrying capacity.	**MH**	**MH**
20. Impact quality?	Not known to affect quality of produce.	**L**	**MH**
21. Affect land value?	Primarily a weed of natural ecosystems, in the Northern Territory, it does occur on grazing land (ARMCANZ 2001). As an aggressive shrub that can spread rapidly reducing grazing and water resources, land prices may be somewhat affected.	**M**	**MH**
22. Change land use?	"If mimosa continues to spread, large stands could develop very quickly in pastoral and agricultural areas of eastern Queensland and in the Ord River region of Western Australia. The cost of mimosa control under these circumstances would be exorbitant" (ARMCANZ 2001). Land use may be seriously affected.	**H**	**MH**
23. Increase harvest costs?	Infestations make stock management and mustering difficult. Increase in time and labour to harvest animals (ARMCANZ 2001).	**M**	**MH**
24. Disease host/vector?	None evident	**L**	**MH**

References cited:

Agriculture and Resource Management Council of Australia & New Zealand, Australian & New Zealand Environment & Conservation Council and Forestry Ministers, (2001) *Weeds of National Significance Mimosa (Mimosa pigra) Strategic Plan.* National Weeds Strategy Executive Committee, Launceston.

Brooks, M.L., D'Antonio, C.M., Richardson, D.M., Grace, J.B., Keeley, J.E., DiTomaso, J.M., Hobbs, R.J., Pellant, M. & Pyke, D. 2004, 'Effects of invasive alien plants on fire regimes', *BioScience*, vol. 54, no. 7, pp. 677-688.

CRC for Weed Management (2005), *Indigenous weed warriors join the fight*, Press release, Cooperative Research Centre for Australian Weed Management, November 18.

Groves, R. H., Shepherd R.C.H. & Richardson, R.G. (eds) (1995) *The Biology of Australian Weeds Vol ,* R.G and F.J.Richardson Publications, Melbourne.

Marko, M (1999) Controlling invasion of the exotic shrub (*Mimosa pigra*) in tropical Australian wetlands. In; *Restoration & Reclamation Review, Vol 4 – Spring 1999: International Restoration Efforts.* University of Minnesota. Available: http://www.hort.agri.umn.edu/h5015/rrr.htm Accessed 14/07/03.

Parsons, W.T. & Cuthbertson, E.G. (2001) *Noxious weeds of Australia*, 2nd edn, CSIRO publishing, Collingwood.

Thorp, JR & Lynch, R (2000) *The Determination of Weeds of National Significance.* National Weeds Stragety Executive Committee, Launceston.

Revisions

Date	Revised by	Revision