Impact Assessment Record

Scientific Name: *Chromolaena odorata* Common name: Siam weed

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
1. Restrict human access?	Forms dense impenetrable thickets between 1.5 to 5m high. Much-branched shrub (Parsons & Cuthbertson 2001). 'Engulfs native vegetation especially along river banks and on forest fringes' (Bilowol 2005). High nuisance value with access to areas difficult.	**MH**	**MH**
2. Reduce tourism?	Found in North Queensland and concern that the weed may interfere with tourism activities including white water rafting, bushwalking, camping and fishing (DNRM 2005b). Some recreational uses affected.	**MH**	**M**
3. Injurious to people?	'May cause skin complaints and asthma in allergy-prone people' (DNRM 2005a). 'Hand weeding of *Chromolaena* reportedly caused skin allergy in a number of plantation workers … and the dry stumps left after weeding operation caused poisonous wounds in the feet of the workers' (Ambika & Jayachandra 2001).	**MH**	**MH**
4. Damage to cultural sites?	Weeds occur in the Wet Tropics which is considered part of a "living cultural landscape" by Rainforest Aboriginal peoples to whom it is has spiritual, social, economic and historic significance (Wet Tropics Management Authority 2002). Not likely to cause structural damage but may have moderate visual effect.	**ML**	**M**
Abiotic			
5. Impact flow?	Terrestrial species	**L**	**MH**
6. Impact water quality?	Terrestrial species	**L**	**MH**
7. Increase soil erosion?	Fibrous root system extending up to 30cm. Although the above-ground foliage dies off, the dense mass of leaf stems would provide soil cover (Parsons & Cuthbertson 2001). Unlikely that the weed would contribute to large-scale soil movement.	**L**	**MH**
8. Reduce biomass?	'Forms dense stands which prevent the establishment of other species' (ISSG 2000). Where the plant occurs on pastures, clearings, riverine or wetland areas, biomass would increase significantly.	**L**	**MH**
9. Change fire regime?	'Cause more frequent and intense bushfires as dry Siam weed stalks burn hotter and flames go higher into trees than a pure grass fire' (DNRM 2005a).	**H**	**M**
Community Habitat			
10. Impact on composition (a) high value EVC	The potential distribution of *Chromolaena odorata* excludes Victoria (Kriticos, Yonow & McFayden 2005). No impact on EVCs in Victoria.	**L**	**H**
(b) medium value EVC	The potential distribution of *Chromolaena odorata* excludes Victoria (Kriticos, Yonow & McFayden 2005). No impact on EVCs in Victoria.	**L**	**H**
(c) low value EVC	The potential distribution of *Chromolaena odorata* excludes Victoria (Kriticos, Yonow & McFayden 2005). No impact on EVCs in Victoria.	**L**	**H**
11. Impact on structure?	'In the establishment phase can choke out (plantation) crops as well as young forest trees' (Parsons & Cuthbertson 2001). 'Forms dense thickets that persist and prevent the establishment of all other species' (Weber 2003). The plant would have a major effect on all layers.	**H**	**MH**

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QUESTION	COMMENTS	RATING	CONFIDENCE
12. Effect on threatened flora?	No information available.	**MH**	**L**
Fauna			
13. Effect on threatened fauna?	The plant affects the Nile crocodile nesting areas by shading and cooling riverbanks skewing the sex balance toward females (Leslie 2001). Potential to do same in Australia but not relevant in Victoria as establishment of weed shown to be highly unlikely and fauna species not in Victoria.	**L**	**MH**
14. Effect on non-threatened fauna?	'Could completely replace pasture grasses, leaving native wildlife with nothing to eat' (Bilowol 2005). As the plant replaces all other species, has the potential to reduce habitat for fauna.	**MH**	**MH**
15. Benefits fauna?	No known benefits to fauna.	**H**	**MH**
16. Injurious to fauna?	Toxic to stock 'killing more than 3000 cattle annually in the Philippines. Also causes abortions' (Parsons & Cuthbertson 2001). Potential to affect non-threatened native fauna.	**H**	**MH**
Pest Animal			
17. Food source to pests?	Not a known source of food to pests.	**L**	**MH**
18. Provides harbor?	'In some countries dense thickets harbour wild pigs and rodents' (Parsons & Cuthbertson 2001). Has the potential to provide harbour for minor pest spp.	**ML**	**MH**
Agriculture			
19. Impact yield?	A major pest of crops in Asia and Africa and 'some agricultural areas in South-East Asia have been abandoned because Siam weed has taken over pasture and crops' (CRC for Weed Management 2003).	**H**	**M**
20. Impact quality?	'..carry a number of seed borne fungi, like *Fusarium culmorum*, *F. moniliforme*, *F. semisecturm* and *F. solani* have been reported as pathogens of food crops' (Ambika & Jayachandra 2001). Fusarian Head Blight (FHB) is caused by several species of Fusaria. "FHB infected grain may be downgraded at the market' (McMullen & Stack 1999). Has the potential to have a minor impact on quality of produce.	**ML**	**MH**
21. Affect land value?	' ..it was estimated the weed would cost more than $14.5 million annually to manage within the agriculture sector if allowed to take hold in Australia' (Bilowol 2005). No documented evidence to show that the weed affects land value but with the high costs associated with management in places where it has affected plantations it has the potential to decrease land value.	**M**	**MH**
22. Change land use?	A major pest of crops in Asia and Africa and 'some agricultural areas in South-East Asia have been abandoned because Siam weed has taken over pasture and crops' (CRC for Weed Management 2003). Risk that the presence of this weed could change land use.	**H**	**M**
23. Increase harvest costs?	No documented evidence but as the plant 'forms dense tangled thickets' (Ambika & Jayachandra 2001) it is assumed that there would be some increase in the cost of harvesting in both time and money. Potential for thickets to interfere with hand harvesting of crops.	**M**	**MH**
24. Disease host/vector?	'Alternative host for fungal diseases' (Parsons & Cuthbertson 2001).	**M**	**MH**

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References cited:

Ambika, S.R. & Jayachandra 2001, *The problem of Chromolaena weed*, Chromolaena odorata, Biocontrol in the tropics, Charles Darwin University, Darwin, viewed 11 Nov 2005, http://www.ehs.cdu.edu.au/chromolaena/pubs/problem.html

Bilowol, J 2005, Devastating plant threatens coast, *The Australian* [online] 10 November, viewed 11 Nov 2005, http://www.theaustralian.news.com.au/common/story_page/0,5744,15891895%255E30417,00.html

CRC for Weed Management 2003, *'Weed management guide: Siam weed or chromolaena (Chromolaena odorata)*, CRC for Australian Weed Management, Commonwealth Department of Environment and Heritage, viewed 09 Nov 2005, http://www.weeds.crc.org.au/documents/wmg_siam_weed.pdf

Department of Natural Resources and Mines 2005a, *Siam weed: Chromolaena odorata*, Department of Natural Resources and Mines, Queensland Government, Brisbane, viewed 09 Nov 2005, http://www.nrm.qld.gov.au/pests/weeds/declared_plants/siam_weed.html

Department of Natural Resources and Mines 2005b, Siam weed found in rafting area, media release, 12 July, Department of Natural Resources and Mines, Brisbane, viewed 11 Nov 2005, http://www.nrm.qld.gov.au/about/media/jul/12_siam_weed.html

Invasive Species Specialist Group 2000, *Chromolaena odorata (herb)*, Global Invasive Species Database, Aukland, viewed 09 Nov 2005, http://www.issg.org/database/species/ecology.asp?si=47&fr=1&sts=

Kriticos, D.J., Yonow, T. & McFayden, R.E. 2005, 'The potential distribution of *Chromolaena odorata* (Siam weed) in relation to climate', *Weed Research*, vol. 45, pp. 246-254.

Leslie, J 2001, *Journal Watch: Invasive plants threaten Nile crocodile*, Conservation in Practice, vol. 2, no. 3, viewed 09b Nov 2005, http://www.conbio.org/cip/article23inv.cfm

McMullen, M.P. & Stack, R.W. 1999, *Fusarium head blight (Scab) of small grains*, North Dakota State University Extension Service, NDSU, viewed: 14 Nov 2005, http://www.ext.nodak.edu/extpubs/plantsci/smgrains/pp804w.htm

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

Weber, E. 2003, *Invasive plant species of the world: a reference guide to environmental weeds*, CABI Publishing, Wallingford.

Wet Tropics management Authority 2002, *Rainforest Aboriginal heritage*, World Heritage: Wet Tropics, Environment Protection Authority, Cairns, viewed 11 Nov 2005, http://www.wettropics.gov.au/rah/rah_default.html

Revisions

Date	Revised by	Revision