Impact Assessment Record

Scientific name: *Euphorbia lathyris* L. Common name: Caper spurge

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
1. Restrict human access?	Unknown; The species is reported to occur near waterways and due to its toxic nature could be of high nuisance value to people (Parsons & Cuthbertson 2001). It is unknown however if the species naturally forms dense enough infestations to become such an issue.	**M**	**L**
2. Reduce tourism?	Unknown; the species toxic nature and occurrence near waterways may have impact on recreational activities (Parsons & Cuthbertson 2001). The species may also have some impact on aesthetics as it has been grown as an ornamental and is also considered a garden weed (Conner 1977; Parsons & Cuthbertson 2001).	**M**	**MH**
3. Injurious to people?	The species has toxic sap and fruits which can cause irritation and dermatitis to the skin and eyes and severe gastro-enteritis and vomiting if ingested and the fruits can be mistaken for capers (Shepherd 2004). The toxins of the plant can also be pasted into goat's milk if grazed (McBarron 1977). After contact with the sap a two and a half year old girl suffered from blistering and the lesion persisted for more than 5 months (Hausen 2005). Can cause death (Bayley 1941). Therefore the species is considered extremely toxic.	**H**	**H**
4. Damage to cultural sites?	The species may have some impact on aesthetics as it has been grown as an ornamental and is also considered a garden weed (Conner 1977; Parsons & Cuthbertson 2001).	**ML**	**MH**
Abiotic			
5. Impact flow?	A herb species not reported to grow in flowing water *E. lathyris* is unlikely to have any significant impact upon water flow.	**L**	**M**
6. Impact water quality?	Extracts from dried plant material of this species was found to be highly toxic to amphibians and has also been reported to be toxic fish (Paulov 1993). The species is reported to occur close to rivers and streams (Parsons & Cuthbertson 2001). Therefore The species is considered to have the potential to have as significant impact on water quality as eutrophication and if fish and frog kills occur, eutrophication may result.	**H**	**H**
7. Increase soil erosion?	Parsons & Cuthbertson (2001) report the species to be an annual to biennial species with a root system comprised of a taproot and fibrous laterals. Therefore the species is unlikely to contribute to decreasing or increasing the probability of soil erosion.	**ML**	**MH**
8. Reduce biomass?	As a reasonably large herb species *E. lathyris* is not reported to cause major displacement of other species and is therefore unlikely to reduce biomass. Invasion by this species is likely to result in direct replacement of biomass.	**ML**	**M**
9. Change fire regime?	Unknown.	**M**	**L**

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Community Habitat			
10. Impact on composition (a) high value EVC	EVC= Riverine Grassy Woodland (V); CMA= Goulburn Broken; Bioreg= Murray Fans; VH CLIMATE potential. There is little evidence reported on this species impact in natural systems. In a study to determine the species potential as a biomass crop, it was determined to be a poor competitor with other weeds (Garcia-Baudin *et al* 1985). Therefore at the most the species is considered to have the potential to cause some minor displacement the herb layer and lower strata,	**ML**	**MH**
(b) medium value EVC	EVC= Grassy Riverine Forest (D); CMA= North Central; Bioreg= Murray Fans; VH CLIMATE potential. There is little evidence reported on this species impact in natural systems. In a study to determine the species potential as a biomass crop, it was determined to be a poor competitor with other weeds (Garcia-Baudin *et al* 1985). Therefore at the most the species is considered to have the potential to cause some minor displacement the herb layer and lower strata,	**ML**	**MH**
(c) low value EVC	EVC= Riparian Forest (LC); CMA= Corangamite; Bioreg= Otway Ranges; VH CLIMATE potential. There is little evidence reported on this species impact in natural systems. In a study to determine the species potential as a biomass crop, it was determined to be a poor competitor with other weeds (Garcia-Baudin *et al* 1985). Therefore at the most the species is considered to have the potential to cause some minor displacement the herb layer and lower strata,	**ML**	**MH**
11. Impact on structure?	The species is reported to invade riparian vegetation and warm temperate rainforest (Carr, Yugovic & Robinson 1992). There has not however evidence of the species having a significant effect on the flora of invaded ecosystems. In a study to determine the species potential as a biomass crop, it was determined to be a poor competitor with other weeds (Garcia-Baudin *et al* 1985). Therefore at the most the species is considered to have the potential to cause some minor displacement within the lower strata, which would be relatively insignificant.	**L**	**MH**
12. Effect on threatened flora?	Unknown.	**MH**	**L**
Fauna			
13. Effect on threatened fauna?	Extracts from dried plant material of this species was found to be highly toxic to amphibians, at higher doses death can occur but even at lower concentrations the growth and development of frogs can be inhibited (Paulov 1993). This may not permanently alter habitat but could be seen to cause a reduction in habitat as a proportion becomes toxic and a reduction of individuals could occur from lethal levels of the toxin or from the inhibition of metamorphosis. There are a number of VROT frog species that this plant may impact upon, however it has currently not been reported.	**MH**	**M**
14. Effect on non-threatened fauna?	Extracts from dried plant material of this species was found to be highly toxic to amphibians, at higher doses death can occur but even at lower concentrations the growth and development of frogs can be inhibited (Paulov 1993). This may not permanently alter habitat but could be seen to cause a reduction in habitat as a proportion	**MH**	**MH**

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	becomes toxic and a reduction of individuals could occur from lethal levels of the toxin or from the inhibition of metamorphosis. This has not however been reported in the field.		
15. Benefits fauna?	A herb to 1.5m and highly toxic, the species is therefore unlikely to offer any significant shelter. It may be pollinated by some insect species (von der Ohe 1991). The species is only reported to be eaten by goats (Fuller & McClintock 1986).	**H**	**H**
16. Injurious to fauna?	Extracts from dried plant material of this species was found to be highly toxic to amphibians and has also been reported to be toxic fish (Paulov 1993). Used to deter or potentially kill gophers and moles in the United States, with reported varying results (Dave's Garden 2007)	**H**	**H**
Pest Animal			
17. Food source to pests?	Goats are reported to consume the species (Fuller & McClintock 1986). Due to the species toxic nature this is not thought to occur in significant amounts.	**L**	**M**
18. Provides harbour?	Due to the species toxic nature and form it is considered unlikely to harbour pest species.	**L**	**M**
Agriculture			
19. Impact yield?	There have been reports of livestock poisoning and death, however this is uncommon (Bayley 1941; Connor 1977; Parsons & Cuthbertson 2001).	**M**	**M**
20. Impact quality?	The species is considered a weed of cultivation and the plant material is toxic even after drying (Connor 1977; Webb, Sykes & Garnock-Jones 1988). Therefore species may pose a dangerous contamination risk. The toxins can be passed into goat's milk if the plant is consumed (McBarron 1977). This could contaminate several days production and make it unfit for human consumption and therefore sale. This has not however been reported to have occurred.	**M**	**M**
21. Affect land value?	Unknown.	**M**	**L**
22. Change land use?	Unknown.	**M**	**L**
23. Increase harvest costs?	Unknown.	**M**	**L**
24. Disease host/vector?	The species has been reported as a host of *Macrophomina phaseolina* which can affect clover and soybeans along with some other soil borne pathogens (Wrather, Kendig & Tyler 1998; Young & Alcorn 1982; Young & Alcorn 1984; Zahid *et al* 2001).	**M**	**H**