Impact Assessment Record

Scientific Name: *Centaurea maculosa* Common name: spotted knapweed

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
Restrict human access?	Weed grows up to 1.5 metres (USFS 2004). Forms monocultures but no evidence to suggest that human access would be restricted.	**L**	**MH**
Reduce tourism?	Weed has a purple flower and capable of forming monocultures (USFS 2004). Weed would have minor effect on aesthetics of site.	**ML**	**MH**
Injurious to people?	'The sap of spotted knapweed can cause skin irritation in some people' (CWMA n.d.).	**ML**	**M**
Damage to cultural sites?	No evidence to suggest weed has more than a negligible effect on aesthetics or structure of cultural sites.	**L**	**MH**
Abiotic			
Impact flow?	'Surface water runoff and stream sediment yield were 56 and 192% higher respectively for spotted knapweed-dominated sites compared to bunchgrass-dominated sites' (Sheley *et al* 1998). Minor impact on surface flow.	**ML**	**H**
Impact water quality?	'Surface water runoff and stream sediment yield were 56 and 192% higher respectively for spotted knapweed-dominated sites compared to bunchgrass-dominated sites ' (Sheley *et al* 1998). Noticeable but minor effects.	**ML**	**H**
Increase soil erosion?	'.. contributes to increased surface run-off and soil erosion' (MacDonald et al 2003). 'Surface water runoff and stream sediment yield were 56 and 192% higher respectively for spotted knapweed-dominated sites compared to bunchgrass-dominated sites ' (Sheley *et al* 1998). High probability of large scale soil movement with minor off-site implications.	**MH**	**H**
Reduce biomass?	Displaces other plants, especially grasses (MacDonald et al 2003). Likely that the biomass would increase.	**L**	**H**
Change fire regime?	'.. dense knapweed infestations can change the fire regime by changing the fuel characteristics and thus reducing the fire return interval at a given site' (USFS 2004). Minor change in the frequency of fire risk.	**ML**	**MH**
Community Habitat			
Impact on composition (a) high value EVC	EVC= Plains grassy woodland (E); CMA=Corangamite; Bioreg=Victorian Volcanic Plain; CLIMATE potential=VH. 'Reduces or displaces desirable plant species'(CWMA n.d.). Major displacement of some dominant species within a vegetation layer.	**MH**	**M**
(b) medium value EVC	EVC= Grassy dry forest (D); CMA=Goulburn Broken; Bioreg=Central Victorian Uplands; CLIMATE potential=VH. 'Reduces or displaces desirable plant species'(CWMA n.d.). Major displacement of some dominant species within a vegetation layer.	**MH**	**M**
(c) low value EVC	EVC= Heathy dry forest (LC); CMA=Corangamite; Bioreg=Victorian Volcanic Plain; CLIMATE potential=VH. Reduces or displaces desirable plant species'(CWMA n.d.). Major displacement of some dominant species within a vegetation layer.	**MH**	**M**
Impact on structure?	'Reduces or displaces desirable plant species'. Usually found in open, disturbed sites, replacing ground cover and capable of forming monospecific stands (CWMA n.d.). Likely to have a major effect on lower layer of the strata.	**MH**	**M**

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QUESTION	COMMENTS	RATING	CONFIDENCE
Effect on threatened flora?	No information available.	**MH**	**L**
Fauna			
Effect on threatened fauna?	No information available.	**MH**	**L**
Effect on non-threatened fauna?	'Large-scale infestations can impede access to more desirable forage for livestock and wildlife' (MacDonald et al 2003). 'Large reductions in available forage and wildlife use have been reported on knapweed-infested range' (USFS 2005). Likely to lead to a displacement of native animals, leading to reduction in number of animals.	**MH**	**H**
Benefits fauna?	Although both livestock and wildlife may eat it (USFS 2005), it provides very little support to desirable species.	**H**	**MH**
Injurious to fauna?	Not known to be injurious to fauna.	**L**	**MH**
Pest Animal			
Food source to pests?	No evidence that plant is food source to pest species (Alper 2004).	**L**	**H**
Provides harbor?	Not known to provide harbour for pests.	**L**	**MH**
Agriculture			
Impact yield?	Reduces the productivity of desirable forage plants. 'It invades pastureland and renders huge tracts commercially useless, because cattle, horses and most other animals turn up their noses at it' (USFS 2005). 'In Montana alone, it covers some 4.5 million acres and costs ranchers more than $40 million annually in herbicide and lost productivity' (Alper 2004). Major impact on quantity.	**MH**	**H**
Impact quality?	No evidence to suggest the weed would impact upon quality.	**L**	**MH**
Affect land value?	In America it 'invades pastureland and renders huge tracts commercially useless, because cattle, horses and most other animals turn up their noses at it'. 'Tough for native plants to grow back when spotted knapweed has been eliminated' (Alper 2004). Potential to also invade pastureland in Australia.	**M**	**H**
Change land use?	In America 'it invades pastureland and renders huge tracts commercially useless, because cattle, horses and most other animals turn up their noses at it', although sheep may eat it. 'Tough for native plants to grow back when spotted knapweed has been eliminated' (Alper 2004). Potential to have same effect in Australia and lead to a major detrimental change and significant loss for agricultural usage.	**MH**	**H**
Increase harvest costs?	'In Montana alone, it covers some 4.5 million acres and costs ranchers more than $40 million annually in herbicide and lost productivity' (Alper 2004). Increase in time and labour.	**M**	**H**
Disease host/vector?	Not a known host / vector of disease.	**L**	**MH**

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Revisions

Date	Revised by	Revision