Impact Assessment Record

Scientific Name: *Parkinsonia aculeata* L. Common name: Jerusalem thorn

QUESTION	COMMENTS	RANKING	CONFIDENCE
Social			
1. Restrict human access?	A branching spiny shrub or small tree of irregular habit, from 2 to 8 m high. "It may form dense thickets especially along creeks and rivers…limiting access to watering points" (Parsons & Cuthbertson, 1992). "Parkinsonia can form dense impenetrable thickets making areas of land inaccessible for people" (van Rangelrooy & Flanagan, 1999).	**MH**	**MH**
2. Reduce tourism?	"The value of the outback tourism industry is increasing and Parkinsonia infestations reduce this natural attraction." ARMCANZ (2001). "Thickets can be up to several kilometres across" (van Rangelrooy & Flanagan, 1999). Serious impacts to aesthetics.	**MH**	**MH**
3. Injurious to people?	"Each leaf is subtended by a needle-sharp spine 5-15mm long" (Parsons & Cuthbertson, 1992). Thorns present at all times of the year.	**MH**	**MH**
4. Damage to cultural sites?	"Some colonies along rivers are many kilometres in length" (Parsons & Cuthbertson, 1992). Moderate visual effect.	**ML**	**MH**
Abiotic			
5. Impact flow?	Terrestrial species (Parsons & Cuthbertson, 1992). "Watercourse infestations can cause stream course alteration in subsequent floods by diverting the water flow contributing to erosion and inhibiting flood mitigation" (ARMCANZ, 2001). Weed may have a minor impact on surface or subsurface flow.	**ML**	**MH**
6. Impact water quality?	Terrestrial species (Parsons & Cuthbertson, 1992).	**L**	**MH**
7. Increase soil erosion?	"Watercourse infestations can cause stream course alteration in subsequent floods by diverting the water flow contributing to erosion and inhibiting flood mitigation" (ARMCANZ, 2001). High probability of large scale soil movement with major off-site implications. However, in Victoria, chance of flooding events is reduced.	**MH**	**MH**
8. Reduce biomass?	"It may form dense thickets" (Parsons & Cuthbertson, 1992). Where the plant occurs on open grassland, riverine or wetland areas biomass would increase significantly.	**L**	**MH**
9. Change fire regime?	No data available.	**L**	**L**
Community Habitat			
10. Impact on composition (a) high value EVC	EVC= Parilla Mallee (V); CMA=Mallee; Bioreg=Lowan Mallee; CLIMATE potential=VH. "Formation of thickets seriously affects ground vegetation through competition for light, water and nutrients." (ARMCANZ, 2001). Major displacement of some dominant species within the groundcover layer.	**MH**	**MH**
(b) medium value EVC	EVC= Riverine Chenopod woodland (D); CMA=Mallee; Bioreg=Murray Mallee; CLIMATE potential=VH. "Formation of thickets seriously affects ground vegetation through competition for light, water and nutrients." (ARMCANZ, 2001). Major displacement of some dominant species within the groundcover layer.	**MH**	**MH**
(c) low value EVC	EVC= Loamy Sands Mallee (LC); CMA=Mallee; Bioreg=Murray Mallee; CLIMATE potential=VH. "Formation of thickets seriously affects ground vegetation through competition for light, water and nutrients." (ARMCANZ, 2001). Major displacement of some dominant species within the groundcover layer.	**MH**	**MH**
11. Impact on structure?	"Formation of thickets seriously affects ground vegetation through competition for light, water and nutrients. It may in time displace trees such as the coolibah (*Eucalyptus microtheca*) and river red gum (*E. camaldulensis*)" (ARMCANZ, 2001). Major impact on <60% of the floral strata.	**MH**	**MH**

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QUESTION	COMMENTS	RANKING	CONFIDENCE
12. Effect on threatened flora?	No information found.	**MH**	**L**
Fauna			
13. Effect on threatened fauna?	No information found.	**MH**	**L**
14. Effect on non-threatened fauna?	"Infestations eliminate or reduce open water areas. These wetlands are waterbird habitats of national significance, as they provide refuges and breeding grounds and they may buffer against drought and habitat losses in other areas of Australia" (ARMCANZ, 2001). Reduction in habitat for fauna spp. leading to reduced populations.	**MH**	**MH**
15. Benefits fauna?	Birds and animals eat the seed, which enhances its germination capacity (Parsons & Cuthbertson, 1992). This suggests that fauna do not gain much from eating the seed.	**H**	**MH**
16. Injurious to fauna?	"Each leaf is subtended by a needle-sharp spine 5-15mm long" (Parsons & Cuthbertson, 1992). Thorns present at all times of the year.	**MH**	**MH**
Pest Animal			
17. Food source to pests?	Not documented in ARMCANZ (2001) as a food source to pest animals	**L**	**MH**
18. Provides harbor?	In Northern Australia, feral pigs use the thickets as harbour (ARMCANZ, 2001).	**MH**	**MH**
Agriculture			
19. Impact yield?	"Impedes access to water by stock; Reduces pasture production and carrying capacity lowering cattle and wool production" (ARMCANZ, 2001). Impact >5% reduction.	**MH**	**MH**
20. Impact quality?	Not documented in ARMCANZ (2001) to impact quality.	**L**	**MH**
21. Affect land value?	"All control programs require several years of follow-up treatments and many years of vigilance, which increases the cost several fold. The long-term costs may cause control of large dense infestations to be uneconomic. The current poor financial performance of agricultural industries and low land values of infested areas extenuate this" (ARMCANZ, 2001). As infestations may be uneconomical to control land value would drop further.	**M**	**MH**
22. Change land use?	See comments in 19 and 21 above. In time infested land may become useless for pastoral activities.	**H**	**MH**
23. Increase harvest costs?	"Increased difficulty and expense of mustering" (ARMCANZ, 2001). Increase in both time and labour.	**M**	**MH**
24. Disease host/vector?	None documented in ARMCANZ (2001).	**L**	**MH**

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