

Impact Assessment Record

Scientific Name: *Ambrosia artemisiifolia*

Common name: annual ragweed

QUESTION	COMMENTS	RATING	CONFIDENCE
Social			
Restrict human access?	Grows to 350cm but usual height is between 50 and 200cm. A much branched, hairy herb (Parsons & Cuthbertson 2001). The height may impede individual access – low nuisance value.	ML	MH
Reduce tourism?	Most species are ‘so ordinary in appearance that they are rarely noticed despite their abundance’. However, as they are serious contributors to hay fever in US, some places advertise as ‘ragweed free’ (Parsons & Cuthbertson 2001). At certain times of the year, ragweed has the potential to have a major impact on recreation.	H	MH
Injurious to people?	‘Most important hay-fever producing plant in North America’. Also associated with asthma and can cause contact dermatitis (Parsons & Cuthbertson 2001). Serious problem in autumn and as an annual herb dies off after flowering.	ML	MH
Damage to cultural sites?	Not known to cause structural damage. Little or negligible effect on aesthetics.	L	MH
Abiotic			
Impact flow?	Terrestrial species (Parsons & Cuthbertson 2001).	L	MH
Impact water quality?	Terrestrial species (Parsons & Cuthbertson 2001).	L	MH
Increase soil erosion?	Plants have a robust taproot system with ‘numerous branching fibrous roots’ (Parsons & Cuthbertson 2001). Unlikely that the species would contribute to large-scale soil erosion.	L	MH
Reduce biomass?	Likely that biomass would slightly increase as ‘exhibits a high degree of morphological and reproductive plasticity in response to encroachment by neighbouring plants’ (Sprague 2002).	L	H
Change fire regime?	Herbaceous plant. Unlikely that it would change the frequency or intensity of fires.	L	MH
Community Habitat			
Impact on composition (a) high value EVC	EVC= Low rises woodland (BCS =E); CMA=Wimmera; Bioreg=Lowan mallee; CLIMATE potential=VH. Weed doesn’t occur in healthy, well-established ecosystems. Occurs mostly in open, disturbed areas where less than 3 strata are present (Parsons & Cuthbertson 2001). Minor displacement of some dominant species within the lower stratum.	ML	MH
(b) medium value EVC	EVC= Shallow sands woodland (BCS =D); CMA=Wimmera; Bioreg=Lowan mallee; CLIMATE potential=VH. Weed doesn’t occur in healthy, well-established ecosystems. Occurs mostly in open, disturbed areas where less than 3 strata are present (Parsons & Cuthbertson 2001). Minor displacement of some dominant species within the lower stratum.	ML	MH
(c) low value EVC	EVC= Shrubby woodland (BCS =E); CMA=Wimmera; Bioreg=Lowan mallee; CLIMATE potential=VH. Weed doesn’t occur in healthy, well-established ecosystems. Occurs mostly in open, disturbed areas where less than 3 strata are present (Parsons & Cuthbertson 2001). Minor displacement of some dominant species within the lower stratum.	ML	MH

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Impact on structure?	Weed doesn't occur in healthy, well-established ecosystems. Occurs mostly in open, disturbed areas where less than 3 strata are present (Parsons & Cuthbertson 2001). Likely to have a minor effect on plants in the lower stratum.	ML	MH
Effect on threatened flora?	No information available.	MH	L
Fauna			
Effect on threatened fauna?	No information available.	MH	L
Effect on non-threatened fauna?	Annual ragweed is 'unpalatable to horses' (digester class) but cattle (fermenter class) can eat it so likely that native fauna (usually fermenters) can also (Parsons & Cuthbertson 2001). Tends to grow in ruderal sites so assume that there is no reduction in food for non threatened fauna.	L	MH
Benefits fauna?	In the US the seed 'provides food for pheasants, quail, dove, grouse, prairie chicken and songbirds..attract insects..provide browse for deer and rabbits' (Scott 2001). Possible that provides some assistance to desirable species in Victoria eg. quails, doves, ground-dwelling birds.	MH	H
Injurious to fauna?	Beaked and spined seed attach to sheep and furred animals but no documented evidence that it impacts upon health of animal (Parsons & Cuthbertson 2001).	L	MH
Pest Animal			
Food source to pests?	In the US provides browse for rabbits (Parsons & Cuthbertson 2001). Therefore possible that rabbits also browse weed in Victoria.	MH	MH
Provides harbor?	Not likely that it provides harbour for pest spp.	L	MH
Agriculture			
Impact yield?	In US, shown to impact upon sweet corn yield. Also serious competitor in 'cereals, maize, vegetables, sunflowers, soybeans and tobacco'. Competes for nutrients in orchards. 'Grows densely to detriment of crops and pasture'. 'Annual ragweed densities in excess of 0.5 plants per metre reduce soybean yields significantly' (Williams & Masiunas 2004).	H	H
Impact quality?	Shown to effect several quality traits in corn (green ear mass, husked ear mass, ear length and width, kernel mass, depth and kernels per row) (Williams & Masiunas 2004)..	MH	H
Affect land value?	No information on whether or not the weed affects land value. Numerous studies on effect of annual ragweed on cropping systems but no references made to land values.	L	MH
Change land use?	Even though the weed does affect crop yield and quality there is no reference made to a change in priority of land use. Assume that there would be little or no change.	L	MH
Increase harvest costs?	Spined seeds difficult to remove from wool so added costs in acid carbonate used for removal (Williams & Masiunas 2004)..	MH	H
Disease host/vector?	Acts as an 'alternate host in the development of sclerotinia rot of cabbages' (Scott 2001).	MH	MH

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References cited:

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

Scott, R. 2001, 'Ragweed: *Ambrosia artemisiifolia*', *Progressive Farmer*, vol. 116, no. 4, p. 80, Birmingham, viewed: 07 Nov 2005, Proquest Database.

Sprague, C. 2002, 'Taming the two giants', *Crop Sciences*, University of Illinois, viewed 8 Nov 2005, <http://www.cropsci.uiuc.edu/classic/2002/Article2/>

Williams, M.M., Masiunas, J.B. 2004, *Effect of giant ragweed interference on sweet corn yield and quality* [abstract]. *North Central Weed Science Society Proceedings*. vol. 59, p. 162, viewed 07 Nov 2005, http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=177642

Revisions

Date	Revised by	Revision
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