Impact Assessment Record

Scientific name: Agrostis capillaris L., Agrostis castellana Boiss. & Reuter

Common name: bent grass

* Refer to 'Note' at end of document acknowledging confusing species identification and nomenclature.

QUESTION	COMMENTS	RATING	CONFIDENCE		
Social					
1. Restrict human access?	Perennial grass of height 20-80 cm (Tutin et al 1980). There is no information to suggest that <i>A. castellana</i> would restrict human access.	L	МН		
2. Reduce tourism?	There is no information to indicate it would reduce tourism, and as a grass species (Edgar & Forde 1991) it is not likely to be obvious as a weed to the 'average' visitor.	L	М		
3. Injurious to people?	Nothing was found in the literature to indicate that <i>A. castellana</i> possesses any injurious properties.	L	М		
4. Damage to cultural sites?	Perennial grass of height 20-80 cm (Tutin et al 1980). No information found to suggest it would cause damage to cultural sites.	L	М		
Abiotic			·		
5. Impact flow?	As a terrestrial species it is unlikely to impact on water flow.	L	М		
6. Impact water quality?	As a terrestrial species it is unlikely to impact on water quality.	L	М		
7. Increase soil erosion?	It produces rhizomes (Batson 1998) so may decrease the probability of erosion in some situations.	L	MH		
8. Reduce biomass?	When displacing native vegetation (DECC 2004), there is potential for direct replacement of biomass, as it would most likely replace other grass species.	ML	М		
9. Change fire regime?	Produces thick dry mats of coarse grass that are very sensitive to fire (Bernaldez 1991). Potential to increase fire frequency in some of the less fire prone ecosystems it invades, with a likely varying level of impact.	Μ	МН		
Community Habitat					
10. Impact on composition (a) high value EVC	EVC= Plains Grassland (BCS= E); CMA= West Gippsland; Bioreg= Gippsland Plain; CLIMATE potential=VH. Described as a 'very serious threat' to several vegetation formations in Victoria (Carr et al 1992), and as displacing native vegetation (DECC 2004). Thick dry mats suppress annual herbs in pasture (Bernaldez 1991) and a similar affect is likely in natural systems, as it is documented dominating large areas of permanent grassland (Hubbard 1968). Potential for major displacement of some dominant species within the ground layer.	МН	МН		

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QUESTION	COMMENTS	RATING	CONFIDENCE
(b) medium value EVC	EVC= Grassy Dry Forest (BCS= D); CMA= Corangamite; Bioreg= Central Victorian Uplands; CLIMATE potential=VH. Described as a 'very serious threat' to several vegetation formations in Victoria (Carr et al 1992) and as displacing native vegetation (DECC 2004). Thick dry mats suppress annual herbs in pasture (Bernaldez 1991) and a similar affect is likely in natural systems, as it is documented dominating large areas of permanent grassland (Hubbard 1968). Potential for major displacement of some dominant species within the ground layer.	MH	МН
(c) low value EVC	EVC= Coastal Tussock Grassland (BCS= LC); CMA= West Gippsland; Bioreg= Gippsland Plain; CLIMATE potential=VH. Described as a 'very serious threat' to several vegetation formations in Victoria (Carr et al 1992) and as displacing native vegetation (DECC 2004). Thick dry mats suppress annual herbs in pasture (Bernaldez 1991) and a similar affect is likely in natural systems, as it is documented dominating large areas of permanent grassland (Hubbard 1968). Potential for major displacement of some dominant species within the ground layer.	MH	МН
11. Impact on structure?	Displaces native vegetation (DECC 2004). Thick dry mats suppress annual herbs in pasture (Bernaldez 1991) and a similar affect is likely in natural systems, as it is documented dominating large areas of permanent grassland (Hubbard 1968). Potential for major effect on <60% of the floral strata.	MH	MH
12. Effect on threatened flora?	Described as a 'very serious threat to one or more vegetation formations in Victoria' (Carr et al 1992) and as displacing native vegetation (DECC 2004). Its affect specific to threatened flora was not described.	MH	L
Fauna			
13. Effect on threatened fauna?	Described as a 'very serious threat to one or more vegetation formations in Victoria' (Carr et al 1992) and as displacing native vegetation (DECC 2004). Its affect on native flora is likely to lead to reduced habitat availability, however the possible impact on native fauna was not documented.	MH	L
14. Effect on non- threatened fauna?	Described as a 'very serious threat to one or more vegetation formations in Victoria' (Carr et al 1992) and as displacing native vegetation (DECC 2004). Its affect on native flora is likely to lead to reduced habitat availability, however the possible impact on native fauna was not documented.	MH	L
15. Benefits fauna?	Though described as having relatively low agricultural value (Hubbard 1968) and only nutritious to stock for part of the year (Hill et al 1996) it is likely to provide some food source to native grazing animals such as macropods.	MH	Μ
16. Injurious to fauna?	No information to suggest it would be injurious to fauna.	L	Μ
Pest Animal			
17. Food source to pests?	Grazed by rabbits (Gillham 1955 in HDRA 2006). Supplies food to one serious pest.	MH	MH
18. Provides harbor?	Not described providing harbour to pests, and unlikely to being a relatively low growing grass (Tutin et al 1980).	L	М

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QUESTION	COMMENTS	RATING	CONFIDENCE
Agriculture			
19. Impact yield?	'bent grass has become one of the worst pasture weeds of the high rainfall zone of Victoria. It was estimated to dominate over 1 million hectares (Siefert 1971) and, after rapid spread recently the authors consider that it now restricts production on a further 1 million hectares (Hill et al. 1996)'. 'It is not unusual for a perennial ryegrass and phalaris pasture dominated by bent grass to have its capacity to produce meat, milk or wool reduced by one-third (Lamp et al). Potential to decrease yield by >20%	Н	МН
20. Impact quality?	No information found to suggest it would impact on the quality of agricultural yield.	L	Μ
21. Affect land value?	Described as one of the worst pasture weeds of the high rainfall zone of Victoria (Hill et al 1996), it could affect the land value of grazing properties due to its capacity to restrict production, however, no specific reference was found in the literature.	Μ	L
22. Change land use?	As a serious pasture weed (Hill et al 1996), and with significant effort and outlay required to renovate infested pastures (Batson 1998b) some pastures would be utilised less than others and there is potential for a downgrade of their priority land use to occur to one with less agricultural return.	Μ	М
23. Increase harvest costs?	It is recommended that heavily infested pasture >40%), undergo full renovation consisting of cutting, spraying, cultivating, re-sowing and fertilising (Batson 1998b), resulting in considerable time and cost outlay. In addition because stocking capacity is significantly reduced (Hill et al 1996), increased time allocation for stock movement would also be required. Potential for major increase in production costs.	Н	МН
24. Disease host/vector?	Not found described as a host of agricultural disease or vector.	L	М

Note: Literature relevant to both *A. castellana* Boiss. & Reuter and *A. capillaris* has been used to complete this assessment. This is due to the considerable debate about the identity of the most common bent grass species that exists in Victoria. There is debate about the presence or otherwise of *A. castellana* in Victoria (not listed in the current 'Census of the Vascular Plants of Victoria (Walsh & Stajsic 2007)'). Some authors consider it to be present (Batson 1998, Hill et al 1996), others acknowledge *A. capillaris* and/or two varieties of this species (Walsh & Entwiste 1994). It is also recognised that introgression and hydridisation readily occur between *A. capillaris* and *A. castellana* (Pers. Com. N. Walsh & A. Brown). In addition, the two species are documented as being similar (Hafliger & Scholz 1982).