Designation = High Risk
WRA Score = 17

Family: ***Fabaceae***

Taxon: ***Acacia saligna***

Synonym: *Acacia cyanophylla Lindl.*
Racosperma salignum (Labill.) Pedley
Mimosa saligna Labill. (basionym)

Common Name: Blue leaf wattle
Port Jackson wattle
Port Jackson willow
weeping wattle
golden wreath wattle

Questionaire : current 20090513 **Assessor:** Chuck Chimera **Designation:** H(HPWRA)
Status: Assessor Approved **Data Entry Person:** Chuck Chimera **WRA Score 17**

101	**Is the species highly domesticated?**	**y=-3, n=0**	**n**
102	**Has the species become naturalized where grown?**	**y=1, n=-1**	
103	**Does the species have weedy races?**	**y=1, n=-1**	
201	**Species suited to tropical or subtropical climate(s) - If island is primarily wet habitat, then substitute "wet tropical" for "tropical or subtropical"**	**(0-low; 1-intermediate; 2-high) (See Appendix 2)**	**High**
202	**Quality of climate match data**	**(0-low; 1-intermediate; 2-high) (See Appendix 2)**	**High**
203	**Broad climate suitability (environmental versatility)**	**y=1, n=0**	**y**
204	**Native or naturalized in regions with tropical or subtropical climates**	**y=1, n=0**	**n**
205	**Does the species have a history of repeated introductions outside its natural range?**	**y=-2, ?=-1, n=0**	**y**
301	**Naturalized beyond native range**	**y = 1*multiplier (see Appendix 2), n= question 205**	**y**
302	**Garden/amenity/disturbance weed**	**n=0, y = 1*multiplier (see Appendix 2)**	**n**
303	**Agricultural/forestry/horticultural weed**	**n=0, y = 2*multiplier (see Appendix 2)**	**n**
304	**Environmental weed**	**n=0, y = 2*multiplier (see Appendix 2)**	**y**
305	**Congeneric weed**	**n=0, y = 1*multiplier (see Appendix 2)**	**y**
401	**Produces spines, thorns or burrs**	**y=1, n=0**	**n**
402	**Allelopathic**	**y=1, n=0**	**n**
403	**Parasitic**	**y=1, n=0**	**n**
404	**Unpalatable to grazing animals**	**y=1, n=-1**	**n**
405	**Toxic to animals**	**y=1, n=0**	**n**
406	**Host for recognized pests and pathogens**	**y=1, n=0**	
407	**Causes allergies or is otherwise toxic to humans**	**y=1, n=0**	**n**
408	**Creates a fire hazard in natural ecosystems**	**y=1, n=0**	
409	**Is a shade tolerant plant at some stage of its life cycle**	**y=1, n=0**	

410	**Tolerates a wide range of soil conditions (or limestone conditions if not a volcanic island)**	**y=1, n=0**	**y**
411	**Climbing or smothering growth habit**	**y=1, n=0**	**n**
412	**Forms dense thickets**	**y=1, n=0**	**y**
501	**Aquatic**	**y=5, n=0**	**n**
502	**Grass**	**y=1, n=0**	**n**
503	**Nitrogen fixing woody plant**	**y=1, n=0**	**y**
504	**Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)**	**y=1, n=0**	**n**
601	**Evidence of substantial reproductive failure in native habitat**	**y=1, n=0**	**n**
602	**Produces viable seed**	**y=1, n=-1**	**y**
603	**Hybridizes naturally**	**y=1, n=-1**	
604	**Self-compatible or apomictic**	**y=1, n=-1**	**n**
605	**Requires specialist pollinators**	**y=-1, n=0**	**n**
606	**Reproduction by vegetative fragmentation**	**y=1, n=-1**	**y**
607	**Minimum generative time (years)**	**1 year = 1, 2 or 3 years = 0, 4+ years = -1**	**>3**
701	**Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)**	**y=1, n=-1**	**y**
702	**Propagules dispersed intentionally by people**	**y=1, n=-1**	**y**
703	**Propagules likely to disperse as a produce contaminant**	**y=1, n=-1**	**n**
704	**Propagules adapted to wind dispersal**	**y=1, n=-1**	**n**
705	**Propagules water dispersed**	**y=1, n=-1**	**y**
706	**Propagules bird dispersed**	**y=1, n=-1**	**y**
707	**Propagules dispersed by other animals (externally)**	**y=1, n=-1**	**y**
708	**Propagules survive passage through the gut**	**y=1, n=-1**	**y**
801	**Prolific seed production (>1000/m2)**	**y=1, n=-1**	**y**
802	**Evidence that a persistent propagule bank is formed (>1 yr)**	**y=1, n=-1**	**y**
803	**Well controlled by herbicides**	**y=-1, n=1**	**y**
804	**Tolerates, or benefits from, mutilation, cultivation, or fire**	**y=1, n=-1**	**y**
805	**Effective natural enemies present locally (e.g. introduced biocontrol agents)**	**y=-1, n=1**	

Designation: H(HPWRA) **WRA Score** **17**

Supporting Data:

101	2011. WRA Specialist. Personal Communication.	[Is the species highly domesticated? No] No evidence
102	2011. WRA Specialist. Personal Communication.	NA
103	2011. WRA Specialist. Personal Communication.	NA
201	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Species suited to tropical or subtropical climate(s) 2-high] "Region of origin - Australasia - southwest Australia. Native climate - subtrop. Arid."
202	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Quality of climate match data 2-high] "Region of origin - Australasia - southwest Australia. Native climate - subtrop. Arid."
203	1983. Duke, J.A.. Handbook of Energy Crops - Acacia saligna. http://www.hort.purdue.edu/newcrop/duke_energy/acacia_saligna.html	[Broad climate suitability (environmental versatility)? Yes] "Acacia saligna can grow throughout the tropical and the warm temperate regions of the world (NAS, 1980a). In its native habitat, the summer temperature ranges from about 23°–36°C, winter temperatures from 4°–9°C. The plant does not withstand frost and grows best where the winter and summer means are between 13° and 30°C respectively. Grows from near sea level to about 300 m, with isolated occurrences at higher elevations. Particularly drought hardy, it grows where annual rainfall is as low as 250 mm, though it probably does better with 350–600 mm. It grows well where annual rainfall is as high as 1,000 mm."
203	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Broad climate suitability (environmental versatility)? Yes] "In Australia, A. saligna has its main occurrence in the warm, sub-humid and humid climatic zones, but it extends into the higher rainfall parts of the semi-arid zone. The mean maximum temperatures of the hottest month show a considerable range from about 23°C on parts of the south coast to nearly 30°C at Perth, to 32-36°C for northern and inland locations. The mean minimum of the coolest month shows a smaller range, being mainly within the limits of 4.5-9°C. Most situations on the coast are frost-free, especially from Perth northwards, but inland there is an average of 1-6 frosts per year. The mean annual rainfall for the humid zone is 750-1000 mm, with an abrupt drop for the sub-humid zone to 450- 500 mm, and as low as 280 mm in the semi arid zone (Doran et al., 1997)."
204	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Native or naturalized in regions with tropical or subtropical climates? No] "Region of origin - Australasia - southwest Australia. Native climate - subtrop. Arid." [Suitable for more Mediterranean type climates, although capable of tolerating subtropical dry conditions]
204	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Native or naturalized in regions with tropical or subtropical climates? No] "A. saligna grows poorly in tropical areas, except at high altitudes. In the tropics a similar species, A. ampliceps, which tolerates alkaline and saline soil conditions and has potential as a fodder tree, may prove to be more suitable (Doran et al., 1997)."
205	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Does the species have a history of repeated introductions outside its natural range? Yes] "Acacia saligna has been extensively cultivated outside its native range, both for its horticultural value and as a source of tannin>"
301	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Naturalized beyond native range? Yes] "It has become naturalized or invasive in the following areas: Africa - South Africa (invasive) [127, 180, 265]; North America - California (naturalized) [143]."
301	2004. Bar (Kutiel), P./Cohen, O./Shoshany, M.. Invasion rate of the alien species Acacia saligna within coastal sand dune habitats in Israel. Israel Journal of Plant Sciences. 52(2): 115-124.	[Naturalized beyond native range? Yes] "Throughout the world, Acacia saligna is considered an invasive species that has negative impact on natural ecosystems. The aim of the present study was to quantify the rate of the biological invasion process (arrival, establishment, and spreading rates) of Acacia in Israeli Mediterranean coastal dunes, and to characterize the distribution patterns and trends within various habitats in the ecosystem. Black-and-white aerial photographs from five points in time (1965, 1974, 1982, 1990, and 1999) were analyzed using field observations, GIS (geographic information system), and remote sensing methods. The results indicate that over the 34 years studied, the area covered in Acacia grew by 166% at an annual growth rate of 2.92%. The "Arrival Stage" lasted for 20 years, and the "Establishment Stage" lasted another eight years. Since 1990, Acacia has spread over the coastal dunes (the "Spreading Stage"). Spreading was dictated primarily by optimal soil moisture regime. Acacia invaded disturbed habitats, such as sand quarries and depressions between dunes, but never shifting sand dunes. "
302	2011. WRA Specialist. Personal Communication.	[Garden/amenity/disturbance weed? No] Environmental weed

303	2011. WRA Specialist. Personal Communication.	[Agricultural/forestry/horticultural weed? No] Environmental weed
304	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Environmental weed? Yes] "Acacia saligna is include here as an example of one of the worst woody invaders, a plant that has run amuck in a threatened biome, rich in endemic plant species…From Australia, Acacia saligna was introduced to the Cape in about 1833 and planted to bind drifting sand dunes. From there is had spread to mountain fynbos, lowland fynbos, eastern Cape forest, southern forest, succulent karoo, grassveld and to the southern margins of the karoo…The spread of Acacia saligna is threatening several species cited as threatened by IUCN [241], such as Restio acockii, Chondropetalum acockii, Serruria ciliata, Leucadendron verticillatum and Gladiolus aureus. In areas it is replacing native vegetation. It is ranked as the most serious plant invader in the fynbos biome on the grounds of both the extent of its current infestation and its potential to spread [179]."
304	2008. Cohen, O./Riov, J./Katan, J./Gamliel, A./Bar (Kutiel), P.. Reducing Persistent Seed Banks of Invasive Plants by Soil Solarization—The Case of Acacia saligna. Weed Science. 56(6): 860-865.	[Environmental weed? Yes] "The Australian legume shrub Acacia saligna is known to be an extremely invasive species in Mediterranean ecosystems, such as those existing in Israel (Bar et al. 2004), Cyprus (Hadjikyriakou and Hadjisterkotis 2002), South Africa (Yelenik et al. 2004), and Australia (Emms et al. 2005). Its invasion commonly causes an alteration of the ecosystem composition, structure, and function (French and Major 2001; Holmes and Cowling 1997a,b; Manor et al. 2008; Musil 1993; Yelenik et al. 2004). These ecological alterations are manifested in the loss of landscape values and biodiversity."
305	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Congeneric weed? Yes] "Acacia melanoxylon…Where invasive, it forms dense thickets, competing for water and light and replacing native vegetation." [A. baileyana, A. cyclops, A. dealbata, A. longifolia, A. mearnsii, A. nilotica, and A. pycnantha also profiled in book]
401	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Produces spines, thorns or burrs? No] "Dense shrub or small tree, 2-6 m tall (in South Africa reaches 9 m…; bark smooth, gray to red-brown becoming dark gray and fissured with age."
402	2004. Yelenik, S.G./Stock,W.D./Richardson, D.M.. Ecosystem Level Impacts of Invasive Acacia saligna in the South African Fynbos. Restoration Ecology. 12(1): 44-51.	[Allelopathic? No. But does alter soil nutrients] "The alteration of N availability by acacias was shown to increase growth rates of the weedy grass Ehrharta calycina, suggesting that secondary invasions by nitrophilous weedy species may occur after clearing N2 fixing alien species in the fynbos. It is suggested that managers use controlled burns, the addition of mulch, and the addition of fynbos seed after clearing to lower the levels of available N in the soil and initiate the return of native vegetation."
403	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Parasitic? No] "Dense shrub or small tree, 2-6 m tall…"
404	1983. Duke, J.A.. Handbook of Energy Crops - Acacia saligna. http://www.hort.purdue.edu/newcrop/duke_energy/acacia_saligna.html	[Unpalatable to grazing animals? No] "The leaves, or phyllodes, are palatable to livestock when fresh or dried into hay, especially used as supplementary feed for sheep and goats. Crushed seeds have been fed to sheep without ill effects. Regrowth of established bushes is so good that Acacia saligna can be completely grazed off without harming the plants."
404	2011. Mousa, M.R.M.. Effect of Feeding Acacia as Supplements on the Nutrient Digestion Growth Performance, Carcass Traits and Some Blood Constituents of Awassi Lambs under the Conditions of North Sinai. Asian Journal of Animal Sciences. 5(2): 102-117.	[Unpalatable to grazing animals? No. Used as fodder] "This study indicates that feeding Awassi lambs on diets including up to 40% of the TDN requirements from acacia did counter act their feedlot performance. Therefore, the use of acacia tested in the current experiment can be recommended for use by local farmers for lamb production under North Sinai conditions which should reduce their cost of meat production. During the dry season acacia remain green and maintain a relatively high crude protein content and is commonly used as protein and energy supplements for small ruminants during this period. This is supported by the findings of Youssef et al. (2003) who reported that acacia saligna shrubs showed a great potentiality as fodder for growing sheep under arid and saline conditions of Egyptian desert."
405	2011. Agroforestry Tree Database - Acacia saligna. PROSEA, http://www.worldagroforestrycentre.org/sea/Products/AFDbases/AF/asp/SpeciesInfo.asp?SpID=106	[Toxic to animals? No] "The phyllodes, young shoots, pods and seeds, whether fresh or dry, are rich in protein and are non-toxic and palatable to both sheep and goats. They are particularly valuable seasonally when other forage is scarce."
405	2011. Mousa, M.R.M.. Effect of Feeding Acacia as Supplements on the Nutrient Digestion Growth Performance, Carcass Traits and Some Blood Constituents of Awassi Lambs under the Conditions of North Sinai. Asian Journal of Animal Sciences. 5(2): 102-117.	[Toxic to animals? No. No evidence, and used as fodder] "This is supported by the findings of Youssef et al. (2003) who reported that acacia saligna shrubs showed a great potentiality as fodder for growing sheep under arid and saline conditions of Egyptian desert."

406	1983. Duke, J.A.. Handbook of Energy Crops - Acacia saligna. http://www.hort.purdue.edu/newcrop/duke_energy/acacia_saligna.html	[Host for recognized pests and pathogens? Potentially] "Acacia saligna supports a diverse and abundant range of herbivores that cause damage to the plant. Among pests cited are Icerya purchasi (Hemiptera) and Euproctis fasciata (Lepidoptera) (NAS, 1980a) and Meloidgogyne sp. (Nematoda) "
406	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Host for recognized pests and pathogens? Potentially] "Early interest in the protection of A. saligna as a valuable dryland plantation species for fuel or fodder has now been replaced by the assessment of species-specific pests and pathogens for use in controlling A. saligna as an invasive weed. For example, it was noticed that older plants are susceptible to the gall rust Uromycladium tepperianum and various gall-exploiting insects. More than 90% of A. saligna trees bear conspicuous woody galls in parts of the native range in Western Australia (van den Berg, 1978). U. tepperianum has been used successfully as a biological control agent for A. saligna in South Africa (de Selincourt, 1992) and Morris (1999) recorded a reduction in populations to 5-10% of original tree densities at eight sites after 7-8 years. Arthropod natural enemies of A. saligna in Western Australia have been studied by van den Berg (1980a, 1980b, 1980c, in Whibley and Symon, 1992). The larvae of 36 species of moths and butterflies were found on A. saligna. Those damaging the phyllodes were the most common. The adults or larvae of 55 species of beetles and weevils and the adults and/or nymphs of 40 species of cicadas, plant hoppers, plant lice, scale insects and bugs were also recorded, with those feeding on sap and twigs most abundant. Observations of A. saligna in Western Australia support the hypothesis that the plant has extrafloral nectaries at the base of the phyllodes that provide nutrients or water to ants, which in turn protect against herbivory. Most insects collected were herbivores, along with 19 species of aggressive ants. The spatial and temporal patterns of nectary secretion (very active on new leaves and in the spring and autumn) were consistent with maximizing the protective function of ants (Majer, 1979). Other studies in Western Australia have suggested that A. saligna alleys are of use in agroforestry as they encourage beneficial arthropods in cropping systems (Lyons and Majer, 1999). Other pests noted as attacking A. saligna elsewhere in the world are Scirothrips dorsalis producing 'bunchy-top' symptoms in a glasshouse in Queensland, Australia (Ashwath and Houston, 1990), Odontothrips confusus in Israel (Strassen and Halperin, 1990), the oleander scale, Aspidiotus nerii, and its predators in Turkey (Karaca et al., 1999), Lindingaspis rossi and a parasite (Habrolepis sp.) in Egypt (Swailem et al., 1980) and Icerya purchasi in Ethiopia (Getu, 1996). Termites may also cause serious problems in tropical countries (Michaelides, 1979) and rodents sometimes gnaw and damage the roots."
407	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Causes allergies or is otherwise toxic to humans? No] No evidence
407	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Causes allergies or is otherwise toxic to humans? No] No evidence

408	1985. van Wilgen, B.W./Richardson, D.M.. The Effects of Alien Shrub Invasions on Vegetation Structure and Fire Behaviour in South African Fynbos Shrublands: A Simulation Study. Journal of Applied Ecology. 22(3): 955-966.	[Creates a fire hazard in natural ecosystems? Possibly] "(1) South African fynbos vegetation is fire prone and susceptible to invasion by alien shrubs. Alien shrubs change the nature of the fuel bed and thus affect fire behaviour. (2) Changes in biomass, size and distribution of plant parts as fuel and plant moisture and energy contents were determined at two sites invaded by the important alien shrubs Hakea sericea Schrad. and Acacia saligna (Labill.) Wendl. (3) The data were used to define fuel models and to simulate fire behaviour using Rothermel's fire model. This simulation was used to test the hypothesis that invasion increases fire hazard through increasing fuel loads. (4) Invasion by H. sericea resulted in a 60% increase in fuel load and lowered the moisture content of live foliage from 155 to 110%. Simulated rates of fire spread and intensity were nonetheless lower than in fynbos due to a densely-packed fuel bed. (5) Invasion by A. saligna resulted in a 50% increase in fuel load. The high moisture content of foliage of this shrub (about 270%) effectively reduces the fuel load and fuel bed depth, resulting in low rates of fire spread and intensity in the simulation. (6) Shortcomings in Rothermel's model prevented the accurate simulation of high intensity fires which have occurred in invaded areas under extreme weather conditions. Such fires vigorously consume the increased biomass of shrub crowns, are difficult to content of foliage of this shrub (about 270%) effectively reduces the fuel load and fuel bed Under such conditions, the fire hazard will be increased by invasion.... Most of the live shrub fuel is held aloft in stands of A. saligna, and fires tend to burn only in the litter layer below the canopy. Attempts to clear infestations of A. saligna by burning have failed for this reason (D. M. Richardson personal observation)."
409	1983. Duke, J.A.. Handbook of Energy Crops - Acacia saligna. http://www.hort.purdue.edu/newcrop/duke_energy/acacia_saligna.html	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "...reported to tolerate alkalinity, drought, heavy soil, poor soil, salinity, salt spray, sand, shade, slope, waterlogging, and weeds…"
409	2002. Urban Salinity Revegetation Subcommittee. Water Wise & Salt Tolerant Plants for the Wagga Wagga Region. 4th Edition. http://www.wagga.nsw.gov.au/resources/documents/Water_Wise_and_Salt_Tolerent_Plants.pdf	[Is a shade tolerant plant at some stage of its life cycle? Possibly] "Fast growing in moderately to well-drained soils in partial or full sun."
410	1983. Duke, J.A.. Handbook of Energy Crops - Acacia saligna. http://www.hort.purdue.edu/newcrop/duke_energy/acacia_saligna.html	[Tolerates a wide range of soil conditions? Yes] "Grows mainly on sandy, coastal plains, but is found from swampy sites and riverbanks to small, rocky hills (often granitic) and coastal slopes. It occurs on poor acid or calcareous sands, under the most dry and adverse soil conditions, in moderately heavy clays and a range of podzols (NAS, 1980a). "
410	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Tolerates a wide range of soil conditions? Yes] "A. saligna occurs on many soil types, especially poor and calcareous sands, but also moderately heavy clays and on a range of podzolics. It mainly grows on gentle undulating topography and coastal sand plains, but extends to a wide variety of situations from swampy sites and river banks to small, rocky hills (often granitic) and the slopes of the coastal ranges (Doran et al., 1997)."
411	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Climbing or smothering growth habit? No] "Dense shrub or small tree, 2-6 m tall…"
412	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Forms dense thickets? Yes] "The above-ground biomass of dense Acacia saligna infestations is much greater than that of uninvaded native vegetation in South Africa [409]."
412	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Forms dense thickets? Yes] "Where invasive, the species forms large and impenetrable thickets that replace native vegetation and threaten endangered plant species."
501	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Aquatic? No] "Dense shrub or small tree, 2-6 m tall…" [Terrestrial]
502	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Grass? No] Fabaceae
503	1991. Witkowski, E.T.F.. Effects of Invasive Alien Acacias on Nutrient Cycling in the Coastal Lowlands of the Cape Fynbos. Journal of Applied Ecology. 28(1): 1-15.	[Nitrogen fixing woody plant? Yes] "This study showed that the invasion of the coastal lowlands of the SW Cape by alien acacias results in an increase in the N status of fynbos, and to a lesser extent that of the strandveld, during the early stages of invasion"
503	2003. Weber, E.. Invasive Plant Species of the World. A Reference Guide to Environmental Weeds. CABI Publishing, Wallingford, UK	[Nitrogen fixing woody plant? Yes] "The copious litter production and the ability to fix nitrogen increases soil nitrogen content."

503	2004. Yelenik, S.G./Stock,W.D./Richardson, D.M.. Ecosystem Level Impacts of Invasive Acacia saligna in the South African Fynbos. Restoration Ecology. 12(1): 44-51.	[Nitrogen fixing woody plant? Yes] "The alteration of N availability by acacias was shown to increase growth rates of the weedy grass Ehrharta calycina, suggesting that secondary invasions by nitrophilous weedy species may occur after clearing N2 fixing alien species in the fynbos. It is suggested that managers use controlled burns, the addition of mulch, and the addition of fynbos seed after clearing to lower the levels of available N in the soil and initiate the return of native vegetation."
503	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Nitrogen fixing woody plant? Yes] "The tree nodulates with certain strains of Rhizobium (Roughley, 1987). In common with many other acacias, it forms associations with VA mycorrhizal fungi (Reddell and Warren, 1987). Its efficiency in fixing atmospheric nitrogen as well as mycorrhizal associations are under investigation in Tunisia (Nasr, 1986, cited in El-Lakany, 1987). Nakos (1977) found that the ability of A. saligna to fix nitrogen was greatly reduced by drought, waterlogging, shading or defoliation."
504	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Geophyte (herbaceous with underground storage organs -- bulbs, corms, or tubers)? No] "Dense shrub or small tree, 2-6 m tall (in South Africa reaches 9 m…; bark smooth, gray to red-brown becoming dark gray and fissured with age."
601	1998. Grieve, B.J.. How to know Western Australian wildflowers: a key to the flora of the extratopical regions of Western Australia. Volume 2. UWA Publishing, Nedlands, Australia	[Evidence of substantial reproductive failure in native habitat? No] No evidence
602	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Produces viable seed? Yes] "...Acacia saligna produces large numbers of hard dry seeds and one square metre of canopy can produce 10,500 seeds per year."
603	2008. Miller, M.A.. Acacia saligna as a Sustainable Agroforestry Crop for southern Australia: A Genetic Assessment. PhD Dissertation. The University of Adelaide, Adelaide, South Australia	[Hybridizes naturally? Possibly] Hybridizes with subspecies, but interspecific hybridization unknown
604	2008. Miller, M.A.. Acacia saligna as a Sustainable Agroforestry Crop for southern Australia: A Genetic Assessment. PhD Dissertation. The University of Adelaide, Adelaide, South Australia	[Self-compatible or apomictic? No] "A high level of outcrossing…and little true selfing was found for a planted stand of A. saligna subspecies saligna."
604	2011. Agroforestry Tree Database - Acacia saligna. PROSEA, http://www.worldagroforestrycentre.org/sea/Products/AFDbases/AF/asp/SpeciesInfo.asp?SpID=106	[Self-compatible or apomictic? No] "A. saligna is an out-crossing species."
605	2008. Miller, M.A.. Acacia saligna as a Sustainable Agroforestry Crop for southern Australia: A Genetic Assessment. PhD Dissertation. The University of Adelaide, Adelaide, South Australia	[Requires specialist pollinators? No] "Floral pollinators are thought to include a range of generalized insect species from the Hemiptera, Coleoptera and Diptera orders (Stone et al. 2003) and may include the European honeybee Apis mellifera (Sedgley et al. 1992)."
606	1983. Duke, J.A.. Handbook of Energy Crops - Acacia saligna. http://www.hort.purdue.edu/newcrop/duke_energy/acacia_saligna.html	[Reproduction by vegetative fragmentation? Yes] "This species develops root suckers and coppices freely."
606	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Reproduction by vegetative fragmentation? Yes] "A. saligna is relatively short-lived in cultivation (10-20 years) and suckers to form small colonies (Whibley and Symon, 1992)."
607	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Minimum generative time (years)? <5] "…a variable species [265], which matures early and has a relatively fast growth rate [274]."
607	2000. Mehta, S.. The Invasion of South African Fynbos by an Australian Immigrant: The story of Acacia saligna. Restoration and Reclamation Review. 6(5): 1-10.	[Minimum generative time (years)? <5] "It also has a short juvenile period, less than five years, which means the seed bank will be restored soon after a disturbance."
701	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? Yes] "The seed has also spread in river sand transported for road and dam construction."
702	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Propagules dispersed intentionally by people? Yes] "A. saligna is planted in North Africa, the Middle East and South America for fodder, fuelwood, sand stabilization and as a windbreak. In Australia it is most commonly used as an ornamental, but is being increasingly planted in agroforestry systems for fodder production and soil conservation."

703	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Propagules likely to disperse as a produce contaminant? No] No evidence
704	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Propagules adapted to wind dispersal? No] "The seeds may be bird-dispersed (starlings and doves in South Africa [47]) but most fall directly to the ground [180] and may be transported further by water or people."
705	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Propagules water dispersed? Yes] "The seeds may be bird-dispersed (starlings and doves in South Africa [47]) but most fall directly to the ground [180] and may be transported further by water or people."
706	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Propagules bird dispersed? Yes] "The seeds may be bird-dispersed (starlings and doves in South Africa [47]) but most fall directly to the ground [180] and may be transported further by water or people."
707	1990. Holmes, P.M.. Dispersal and Predation in Alien Acacia. Oecologia. 83(2): 288-290.	[Propagules dispersed by other animals (externally)? Yes] "In Australia, A. saligna is ant-dispersed and A. cyclops is dispersed by both birds and ants (O'Dowd and Gill 1986)."
708	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Propagules survive passage through the gut? Probably yes] "The seeds may be bird-dispersed (starlings and doves in South Africa [47]) but most fall directly to the ground [180] and may be transported further by water or people."
801	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Prolific seed production (>1000/m2)? Yes] "In common with other Acacia species, Acacia saligna produces large numbers of hard dry seeds and one square metre of canopy can produce 10,500 seeds per year."
801	2008. Cohen, O./Riov, J./Katan, J./Gamliel, A./Bar (Kutiel), P.. Reducing Persistent Seed Banks of Invasive Plants by Soil Solarization—The Case of Acacia saligna. Weed Science. 56(6): 860-865.	[Prolific seed production (>1000/m2)? Yes] "Acacia saligna accumulates an enormous persistent seed bank (8,000 to 46,000 m22) under dense stands in South Africa (Holmes et al. 1987) and also in Israel (Cohen 2007). Most seeds are naturally distributed up to a depth of 8 cm in Australia (Tozer 1998), South Africa (Holmes 1990; Milton and Hall 1981), and Israel (Cohen 2007), with the highest density in the upper 3 cm, a depth in which SH is very effective."
802	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Evidence that a persistent propagule bank is formed (>1 yr)? Yes] "Seed oblong (4) 5-6 x (2.5) 3-3.5 mm, dark brown to black, shiny, hard and long-lived. A large seed-bank develops under the mature trees..The large seed-bank of Acacia saligna is a major obstacle to successful control [179], which is possible only if every individual is removed (it is a prolific seed producer) and the seed-bank is reduced to zero."
802	2008. Cohen, O./Riov, J./Katan, J./Gamliel, A./Bar (Kutiel), P.. Reducing Persistent Seed Banks of Invasive Plants by Soil Solarization—The Case of Acacia saligna. Weed Science. 56(6): 860-865.	[Evidence that a persistent propagule bank is formed (>1 yr)? Yes] "Acacia saligna seeds that remain viable during the first year after the seed rain are deeply dormant, relatively more hard-seeded, and represent a high level of persistence for many years (Holmes 1989b; Holmes and Moll 1990). In some Australian Acacia species, it is known that seeds can remain viable in the soil for as long as 50 yr (Farrell and Ashton 1978)."
803	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Well controlled by herbicides? Yes] "If trees are cut, the stumps must be painted with herbicide to avoid regrowth."
803	2010. IUCN SSC Invasive Species Specialist Group. Acacia saligna (Port Jackson willow)-Management and Control. http://www.issg.org/database/species/reference_files/acasal/acasal_man.pdf	[Well controlled by herbicides? Yes] "As mentioned earlier, both 5% Glyphosate in water solution and 1% Triclopyr in water with 0.5% Agripon were used with some effectiveness when painted onto freshly cut stems (MacDonald & Wissel, 1992). Subsequent studies on Glyphosate usage in South Africa determined that application in the late summer required a dose rate of 2880 g/ha using a high surfactant concentration to obtain satisfactory control whereas for the other seasons doses of 720 and 1440 g/ha using a low surfactant concentration controlled plants satisfactorily (Pieterse & McDermott, 1994). Pieterse & McDermott (1994) therefore do not advise applying Glyphosate during hot dry summers."
804	1995. Cronk, Q.C.B./Fuller, J.L.. Plant invaders: the threat to natural ecosystems. Chapman and Hall, London, UK	[Tolerates, or benefits from, mutilation, cultivation, or fire? Yes] "It is tolerant of drought and sprouts readily after cutting or burning, regeneration easily from the large seed-bank that develops under the canopy of mature trees. The seeds germinate readily after fire. They have a water impermeable seed-coat so they remain dormant until heat ruptures the lens (a specialized area of the seed-coat in legumes) allowing water uptake and breaking of dormancy [180]."
805	2006. Sheppard, A.W./Shaw, R.H./Sforza, R.. Top 20 environmental weeds for classical biological control in Europe: a review of opportunities, regulations and other barriers to adoption. Weed Research. 46: 93–117.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Not in Hawaii] "In South Africa, where the timber is economically important, biological control programmes have targeted seed production with gall wasps, weevils and a gallforming rust fungus from Australia (Table 2) and found no non-target impacts (Dennill et al., 1999; Morris, 1999). Spread of A. saligna and A. longifolia was successfully managed…"