GLOBAL INVASIVE SPECIES DATABASE

FULL ACCOUNT FOR: ***Acacia saligna***

Acacia saligna **System:** Terrestrial

Kingdom	Phylum	Class	Order	Family
Plantae	Magnoliophyta	Magnoliopsida	Fabales	Fabaceae

Common name Port Jackson wattle (English), Port Jackson willow (English), orange wattle (English), golden-wreath wattle (English), blue-leaf wattle (English), Port Jackson (English, South Africa), weeping wattle (English)

Synonym *Acacia cyanophylla* , Lindl.
Mimosa saligna , Labill.
Racosperma salignum , Labill.

Similar species *Acacia mearnsii, Acacia melanoxylon, Acacia cyclops, Acacia longifolia, Acacia pycnantha*

Summary Due it its many uses *Acacia saligna*, or the Port Jackson willow, has been globally distributed with up to 300 000 ha planted worldwide and was identified as one of three priority multipurpose species for arid and semi-arid zones by FAO's Silvae Mediterranea Network in 1996. Native to Western Australia and suited to a wide range of enviromental conditions, it is a fast growing tree utilised for soil stabilisation, animal fodder, tannin production, windbreaks, ornamental use and as a source of fuel wood. In areas where it has become invasive *A. saligna* can have a wide range of negative effects on native biodiversity and ecosystems and is difficult to control due to its coppicing ability and the creation of large soil seed-banks.

view this species on IUCN Red List

Species Description
Acacia saligna is a bushy shrub dividing near the base into several stems, resulting in a dense bush that may be wider than high. The shrub form is usually 2 - 5 m tall but it can form a small tree 5 -9 m high, with a short but well-defined main stem (Midgely & Turnbull, 2003). Its natural occurence on the coastal plain of south-western Western Australia is mainly from sea-level up to 300 m and it occurs on many soil types, especially on poor and calcareous sands (Midgely & Turnbull, 2003). *A. saligna* coppices well and fodder biomass production is optimised by regular, annual harvesting, benefitting from fertilisation on infertile soils (Midgely & Turnbull, 2003). In common with many other acacias, *A. saligna* forms associations with VA mycorrhizal fungi (Midgely & Turnbull, 2003). It has an average lifespan of 30 - 40 years (Milton & Hall, 1981; in Wood & Morris, 2007).

Uses
Plantations of *Acacia saligna* in warm-temperate and semi-arid areas provide stock fodder, soil stabilisation, fuelwood and charcoal (Midgley & Turnbull, 2003). In Australia, *A. saligna* has been used as an ornamental plant, for low windbreaks and shade, and is increasingly planted in agroforestry systems for fodder production and soil conservation (Crompton, 1992; in Midgely & Turnbull, 2003). Its fast growing, coppicing ability and capacity to thrive on sands and soils of high pH in subhumid, semi-arid and arid temperaure areas has led to it being planted widely around the world with an estimated 300 000 ha planted globally, being identified as one of three priority multipurpose species for arid and semi-arid zones by FAO's Silvae Mediterranea Network (Midgely & Turnbull, 2003). In Tunisia, it has been successfully processed into particle board, while in the Mediterranean, it is used for vine stakes and small agricultural implements (Michaelides, 1997; in Midgely & Turnbull, 2003). It is also used extensively for sand dune fixation and gully erosion control; planted in Australia to rehabilitate areas mined for coal and minerals (Langkamp, 1987; in Midgely & Turnbull, 2003).

Habitat Description
Acacia saligna is capable of thriving on many soil types, including high pH sands and soils in subhumid, semi-arid and arid temperate areas (Midgely & Turnbull, 2003).

Reproduction
Annual seed production of *Acacia saligna* is about 10 000 seeds per 1 square metre of canopy cover (Milton & Hall, 1981; in Henderson *et al* 1998). While most of these fall straight onto the ground; seeds are dispersed by birds (Henderson *et al* 1998). A large portion of these seeds remain dormant due to a water-impermeable testa (Rolston, 1978; in Henderson *et al* 1998), resulting in a large seed bank build up of about 46 000 seeds per square metre of canopy cover (Holmes *et al* 1987). Dormancy is broken following a fire, allowing for mass regeneration of *A. saligna*; resulting in dense thickets in some parts of its introduced range such as South Africa (Henderson *et al* 1998).

General Impacts
In areas where it has become invasive, *Acacia saligna* is known to form dense monospecific stands, excluding native species and preventing their regeneration (Holmes & Cowling, 1997; Hadjikyriakou & Hadjisterkotis, 2002). It also alters vital ecosystem proceses; changing the soil processes like decomposition and nutrient cycling through incresed nitrogen levels (Witkowski, 1991a; Jovonovic *et al* 2009); altering the fire-regime with large soil seed-banks and more abundant biomass (Holmes, 2002); and impacting on streamflow reduction through incremental water use (Le Maitre *et al* 2000; in Jovonovic *et al* 2009). *A. saligna* is also known as an agricultural pest in some cultivated areas, taking up valuable agricultural space (Hadjikyriakou & Hadjisterkotis, 2002).

Management Info
Physical/Chemical: Physical and chemical control methods are possible but is very labour and cost intensive due to persistent seed banks and the coppicing capability of *A. saligna* (MacDonald & Wissel, 1992). These include cutting at ground level, mattocking, ringbarking and Glyphosate or Triclopyr based herbicides foliarly applied or painted onto cut stems (MacDonald & Wissel, 1992).
The reduction of the seed-bank is an important component of controlling *A. saligna* (Holmes, 1990; in Cohen *et al*., 2008). This is most often achieved with burning, with a slow intense fire more effective than a rapid one (Richardson & Kluge, 2008). Soil solarisation has also been shown to be effective in reducing *A. saligna* seed viability in moist soils and increasing germination rates in dry soils (Cohen *et al* 2008).
Biological: Biological control has been effective in South Africa, with the gall-forming rust fungus *Uromycladium tepperianum* being effective in reducing population density, tree longevity and reproductive output wherever *A. saligna* is found (Morris, 1997; Wood & Morris, 2007). An addtional biological control agent, *Melanterius compactus*, was released in 2001 to target the large seed-banks created before the release of *U. tepperianum* with preliminary monitoring showing success (Impson *et al*., 2009).
Please follow this link for more detailed information on the management of *Acacia saligna*

Pathway
Acacis saligna has been distributed on a global level due to its many uses and ability to thrive in harsh environments (Midgely & Turnbull, 2003).

Principal source:

Compiler: IUCN SSC Invasive Species Specialist Group (ISSG) with support from the Overseas Territories Environmental Programme (OTEP) project XOT603, a joint project with the Cayman Islands Government - Department of Environment

Review: Under expert review

Pubblication date: 2010-06-08

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[2] SPAIN
[1] TUNISIA
[1] UNITED STATES

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Summary: This compilation of information sources can be sorted on keywords for example: Baits & Lures, Non Target Species, Eradication, Monitoring, Risk Assessment, Weeds, Herbicides etc. This compilation is at present in Excel format, this will be web-enabled as a searchable database shortly. This version of the database has been developed by the IUCN SSC ISSG as part of an Overseas Territories Environmental Programme funded project XOT603 in partnership with the Cayman Islands Government - Department of Environment. The compilation is a work under progress, the ISSG will manage, maintain and enhance the database with current and newly published information, reports, journal articles etc.

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