Family:	Platano	aceae				
Taxon:	Platan	us mexicana				
ynonym:	Platanu	s chiapensis Standl. s lindeniana M. Martens & ( s oaxacana Standl.		Name: Mexican sycame	ore	
Questionai	uestionaire : current 20090513 Assessor: Assessor		<b>Designation:</b> L			
Status:		Assessor Approved	Data Entry Pers	son: Assessor	WRA Score 2	
01 Is the s	pecies hig	hly domesticated?			y=-3, n=0	n
)2 Has th	e species b	ecome naturalized where a	grown?		y=1, n=-1	
03 Does th	ne species	have weedy races?			y=1, n=-1	
		tropical or subtropical clin ropical'' for ''tropical or su		marily wet habitat, ther	n (0-low; 1-intermediate; 2- high) (See Appendix 2)	High
02 Quality	y of climat	e match data			(0-low; 1-intermediate; 2- high) (See Appendix 2)	High
03 Broad	climate su	itability (environmental ve	ersatility)		y=1, n=0	У
04 Native	Native or naturalized in regions with tropical or subtropical climates			y=1, n=0	У	
05 Does tl	Does the species have a history of repeated introductions outside its natural range?			y=-2, ?=-1, n=0	?	
01 Natura	lized beyo	ond native range			y = 1*multiplier (see Appendix 2), n= question 205	n
02 Garde	Garden/amenity/disturbance weed			n=0, y = 1*multiplier (see Appendix 2)	n	
03 Agricu	ltural/fore	estry/horticultural weed			n=0, y = 2*multiplier (see Appendix 2)	n
04 Enviro	Environmental weed			n=0, y = 2*multiplier (see Appendix 2)	n	
05 Conge	neric weed	l			n=0, y = 1*multiplier (see Appendix 2)	у
01 Produc	ces spines,	thorns or burrs			y=1, n=0	n
02 Allelop	oathic				y=1, n=0	
03 Parasit	tic				y=1, n=0	n
04 Unpala	Unpalatable to grazing animals			y=1, n=-1		
)5 Toxic (	Toxic to animals			y=1, n=0	n	
06 Host fo	Host for recognized pests and pathogens			y=1, n=0		
07 Causes	Causes allergies or is otherwise toxic to humans			y=1, n=0		
08 Create	Creates a fire hazard in natural ecosystems			y=1, n=0	n	
09 Is a sha	Is a shade tolerant plant at some stage of its life cycle			y=1, n=0	n	
10 Tolera	tes a wide	range of soil conditions (or	limestone conditions if	f not a volcanic island)	y=1, n=0	У

	I	Designation: L WRA	Score 2
805	Effective natural enemies present locally (e.g. introduced biocontrol ag	y=-1, n=1	
804	Tolerates, or benefits from, mutilation, cultivation, or fire	y=1, n=-1	
803	Well controlled by herbicides	y=-1, n=1	
802	Evidence that a persistent propagule bank is formed (>1 yr)	y=1, n=-1	
801	Prolific seed production (>1000/m2)	y=1, n=-1	
708	Propagules survive passage through the gut	y=1, n=-1	
707	Propagules dispersed by other animals (externally)	y=1, n=-1	n
706	Propagules bird dispersed	y=1, n=-1	n
705	Propagules water dispersed	y=1, n=-1	
704	Propagules adapted to wind dispersal	y=1, n=-1	У
703	Propagules likely to disperse as a produce contaminant	y=1, n=-1	n
702	Propagules dispersed intentionally by people	y=1, n=-1	У
701	Propagules likely to be dispersed unintentionally (plants growing in he areas)	avily trafficked y=1, n=-1	n
607	Minimum generative time (years)	1 year = 1, 2 or 3 4+ years = -1	years = 0,
606	Reproduction by vegetative fragmentation	y=1, n=-1	n
605	Requires specialist pollinators	y=-1, n=0	n
604	Self-compatible or apomictic	y=1, n=-1	n
603	Hybridizes naturally	y=1, n=-1	У
602	Produces viable seed	y=1, n=-1	У
601	Evidence of substantial reproductive failure in native habitat	y=1, n=0	n
504	Geophyte (herbaceous with underground storage organs bulbs, corn	ns, or tubers) y=1, n=0	n
503	Nitrogen fixing woody plant	y=1, n=0	n
502	Grass	y=1, n=0	n
501	Aquatic	y=5, n=0	n
412	Forms dense thickets	y=1, n=0	n
411	Climbing or smothering growth habit	y=1, n=0	n

ipporting Data:		
101	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Is the species highly domesticated? No] No evidence
102	2013. WRA Specialist. Personal Communication.	NA
103	2013. WRA Specialist. Personal Communication.	NA
201	2013. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi- bin/npgs/html/index.pl	[Species suited to tropical or subtropical climate(s) 2-High] "Native: NORTHERN AMERICA Northern Mexico: Mexico - San Luis Potosi Southern Mexico: Mexico - Chiapas, Guanajuato, Hidalgo [e.], Oaxaca, Puebla [n.], Queretaro, Veracruz SOUTHERN AMERICA Mesoamerica: Guatemala"
202	2013. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi- bin/npgs/html/index.pl	[Quality of climate match data 2-High]
203	2013. Tropicos.org. Tropicos [Online Database]. Missouri Botanical Garden, http://www.tropicos.org/	[Broad climate suitability (environmental versatility)? Yes] Collected from 175 m to 2400 m elevation and from 15°29'24"N to 23°57'36"N latitude [Elevation range exceeds 1000 m in a tropical climate. Demonstrates environmental versatility]
204	2013. USDA ARS National Genetic Resources Program. Germplasm Resources Information Network - (GRIN). http://www.ars-grin.gov/cgi- bin/npgs/html/index.pl	[Native or naturalized in regions with tropical or subtropical climates? Yes] "Native: NORTHERN AMERICA Northern Mexico: Mexico - San Luis Potosi Southern Mexico: Mexico - Chiapas, Guanajuato, Hidalgo [e.], Oaxaca, Puebla [n.], Queretaro, Veracruz SOUTHERN AMERICA Mesoamerica: Guatemala"
205	2013. Dave's Gardern. PlantFiles: Mexican Sycamore - Platanus mexicana. http://davesgarden.com/guides/pf/go/153901/ [Accessed 20 May 2013]	[Does the species have a history of repeated introductions outside its natural range? Possibly] "This plant has been said to grow in the following regions: Lancaster, California Coushatta, Louisiana Las Vegas, Nevada Brush Creek, Oklahoma Alpine, Texas Austin, Texas (2 reports) Grand Saline, Texas San Antonio, Texas (2 reports) Wyldwood, Texas"
301	2007. Randall, R.P The introduced flora of Australia and its weed status. CRC for Australian Weed Management, Glen Osmond, Australia	[Naturalized beyond native range? No] No evidence in Australia
301	2012. Randall, R.P A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Naturalized beyond native range? No] No evidence
302	2011. González-Espinosa, M./Meave, J.A./Lorea- Hernández, F.G./Ibarra-Manríquez, G./Newton, A.C. (eds.). The Red List of Mexican Cloud Forest Trees. Fauna & Flora International, Cambridge, UK	[Garden/amenity/disturbance weed?] "Found only on riversides - a restricted habitat in Mexico. Also found at disturbed sites." [Colonization of disturbed sites could contribute to potential invasiveness outside its native range]
302	2012. Randall, R.P A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Garden/amenity/disturbance weed? No] No evidence
303	2012. Randall, R.P A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Agricultural/forestry/horticultural weed? No] No evidence
304	2012. Randall, R.P A Global Compendium of Weeds. 2nd Edition. Department of Agriculture and Food, Western Australia	[Environmental weed? No] No evidence
305	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Congeneric weed? Yes] "P. occidentalis is an aggressive colonizer."

305	2007. Council for Watershed Health Invasive Plant Monitoring and Outreach Program. Weed Watch . Los Angeles Regional Invasive Ornamental Plant Guide. http://weedwatch.lasgrwc.org/Matrix_Master_2007 1022.pdf	[Congeneric weed? Yes] "Platanus xacerifolia" "This deciduous tree grows fast to 80 ft tall and tolerates many soil types and pollution. It has been documented to hybridize with the native species Platanus racemosa, western sycamore tree.1 These hybrids have established and are reproducing in some parts of California.2 It has been well documented that non-indigenous species can bring about extinction of native flora by hybridization and introgression either through purposeful introduction by humans or through habitat modification, bringing previously isolated species into contact.3 Platanus acerifolia is not recommended for landscaping adjacent to or near natural areas where it might hybridize with our native species of Platanus, sycamores." "The following species have been documented in southern California as moderately invasive . All plants categorized as 'moderately invasive' in Southern California are documented in at least one site in Southern California and are typically localized invasionsand which are known to have escaped from ornamental plantings. These plants are less likely than those categorized as 'most invasive' to spread great distances. They are generally more localized problems, spreading into adjacent open space. Before selecting or installing plants from this category, use the guide to investigate whether the plants may be potentially invasive in a particular location and site. Planting any invasive species immediately adjacent to open space is always discouraged"
401	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Produces spines, thorns or burrs? No] "Large tree, 15 to 20 meters high, the trunk 1.5 meters in diameter, with broad crown; leaves long-petiolate, 7 to 20 cm. wide, with 5 or more acuminate lobes"
402	2013. WRA Specialist. Personal Communication.	[Allelopathic? Unknown]
403	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Parasitic? No] "Large tree, 15 to 20 meters high" [Platanaceae]
404		[Unpalatable to grazing animals? Unknown] "Useful Woody Plants in Pasture Areas in the Tzotzil North of Chiapas, Mexico" [Platanus mexicana - Uses = 2) Firewood, 3) Wood. Fodder listed for other species, but not for P. mexicana]
404	2009. Anonymous. Native and Adapted Landscape Plant Guide. 4th Edition. Texas AgriLife Extension, Austin, TX	[Unpalatable to grazing animals? Possibly Yes] Listed as usually deer resistant
405	2008. Wagstaff, D.J International poisonous plants checklist: an evidence-based reference. CRC Press, Boca Raton, FL	[Toxic to animals? No] No evidence
406	2011. David, G.P North Texas Trees - an Arborist's Perspective. TreeConsult, LLC, Muenster, TX	[Host for recognized pests and pathogens? Possibly] "Common pest problems: lacebugs, mites. Common disease problems: anthracnose, bacterial scorch."
406	2013. OnlinePlantGuide.com. Platanus mexicana /Mexican Sycamore. http://www.onlineplantguide.com/Plant- Details/2029/ [Accessed 21 May 2013]	[Host for recognized pests and pathogens?] "Susceptible to insects and diseases: Yes"
407	2013. Dave's Gardern. PlantFiles: Mexican Sycamore - Platanus mexicana. http://davesgarden.com/guides/pf/go/153901/ [Accessed 20 May 2013]	[Causes allergies or is otherwise toxic to humans? Possibly to susceptible individuals] "Pollen may cause allergic reaction"
408	2011. González-Espinosa, M./Meave, J.A./Lorea- Hernández, F.G./Ibarra-Manríquez, G./Newton, A.C. (eds.). The Red List of Mexican Cloud Forest Trees. Fauna & Flora International, Cambridge, UK	[Creates a fire hazard in natural ecosystems? No] No evidence
408	2011. Sun City Texas Firewise Group. FireWise Landscaping Plants. Firewise Publication 2. https://www.sctxca.org/export/sites/default/commu nity- association/sites/firewise/publications/EIREW/ISE-	[Creates a fire hazard in natural ecosystems? No] "Recommended large hardwood trees" [P. mexicana recommended for fire prone landscapes]
	association/sites/firewise/publications/FIREWISE- PLANTS-web.pdf	
409	2005. Suárez Guerrero, A.I./Equihua, M Experimental tree assemblages on the ecological rehabilitation of a cloud forest in Veracruz, Mexico. Forest ecology and management. 218(1): 329-341.	species selection criterion was their tolerance or intolerance of shade. Platanus

409	2013. Dave's Gardern. PlantFiles: Mexican Sycamore - Platanus mexicana. http://davesgarden.com/guides/pf/go/153901/ [Accessed 20 May 2013]	[Is a shade tolerant plant at some stage of its life cycle?] "Sun Exposure: Sun to Partial Shade"
410	2013. Treesearch Farms Inc Shade Trees. http://www.treesearchfarms.com/shade.html [Accessed 21 May 2013]	[Tolerates a wide range of soil conditions? Yes] "tolerant of most soil condition"
411		[Climbing or smothering growth habit? No] "Large tree, 15 to 20 meters high, the trunk 1.5 meters in diameter, with broad crown; leaves long-petiolate, 7 to 20 cm. wide, with 5 or more acuminate lobes"
412	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Forms dense thickets? No] "Along watercourses" [No evidence]
412	2011. González-Espinosa, M./Meave, J.A./Lorea- Hernández, F.G./Ibarra-Manríquez, G./Newton, A.C. (eds.). The Red List of Mexican Cloud Forest Trees. Fauna & Flora International, Cambridge, UK	[Forms dense thickets? No] "Found only on riversides - a restricted habitat in Mexico." [No evidence]
501	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Aquatic? No] "Along watercourses" "Large tree, 15 to 20 meters high"
502	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Grass? No] Platanaceae
503	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Nitrogen fixing woody plant? No] Platanaceae
504	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Geophyte (herbaceous with underground storage organs bulbs, corms, or tubers)? No] "Large tree, 15 to 20 meters high, the trunk 1.5 meters in diameter, with broad crown; leaves long-petiolate, 7 to 20 cm. wide, with 5 or more acuminate lobes"
601	Hernández, F.G./Ibarra-Manríquez, G./Newton,	[Evidence of substantial reproductive failure in native habitat? No] "Found only on riversides - a restricted habitat in Mexico. Also found at disturbed sites. Nearly endemic to Mexico, very few specimens are known from outside the country. Widespread in eastern, central and southern Mexico."
602	1994. JC Raulston Arboretum. Plants Distributed to NCAN Nurserymen. Friends of the Arboretum Newsletter. Number 24: .http://www.ncsu.edu/jcraulstonarboretum/publicati ons/newsletters/ncsu_arboretum_newsletters/New s24_94-10.html	
603	Platanus for Documenting Gene Flow among	[Hybridizes naturally? Yes] "Hybridization — Platanus species are known to be highly interfertile despite the once allopatric distribution of species (Ernst, 1963; Rhymer and Simberloff, 1996; Nixon and Poole, 2003; Whitlock, 2003; Grimm and Denk, 2008). Santamour (1972), successfully produced viable seeds between P. racemosa and either P. occidentalis or P. orientalis. He determined the chromosome number of P. racemosa, P. racemosa var. wrightii, P. occidentalis, P. orientalis, P. x acerifolia, and P. mexicana all to be 2n = 42 (Santamour, 1969), which supports a lack of chromosomal barriers among the species."
604	1994. Williams, E.G./Clarke, A.E./Knox, R.B. (eds.). Genetic Control of Self-Incompatibility and Reproductive Development in Flowering Plants. Kluwer Academic Publishers, Dordrecht, The Netherlands	[Self-compatible or apomictic? No] "Other self-incompatible woody genera which show stigma inhibition, and thus may have sporophytic systems. Include Passiflora (Knight and Winters 1962), Ulmus (Ager and Guries 1982) and Platanus (Overton 1985)."
605	1990. Kozlowski, T.T./Kramer, P.J./Pallardy, S.G The Physiological Ecology of Woody Plants. Academic Press, San Diego, CA	[Requires specialist pollinators? No] "Nearly all conifers rely on wind pollination, as do some broad-leaved trees, including Populus, Quercus, Fraxinus, Ulmus, Carya, and Platanus."
606	1994. JC Raulston Arboretum. Plants Distributed to NCAN Nurserymen. Friends of the Arboretum Newsletter. Number 24: .http://www.ncsu.edu/jcraulstonarboretum/publicati ons/newsletters/ncsu_arboretum_newsletters/New s24_94-10.html	

607		[Minimum generative time (years)?] "Mexican Sycamore" - (Platanaceae). A rapid growing deciduous shade tree from northern Mexico which reaches 60' in height in the wild. Came to us from Yucca Do Nursery in Waller, TX from their Mexican plant explorations for adaptation trials. Has been grown so little in cultivation that little is known about it - probably hardy in USDA zone 7 or 8 to 9 - but only testing will tell. Like other sycamores - fast growing."
607	2011. David, G.P North Texas Trees - an Arborist's Perspective. TreeConsult, LLC, Muenster, TX	[Minimum generative time (years)? Unknown] "Growth rate: rapid"
701	2010. Every, J.L.R Neotropical Platanaceae. In: Milliken, W., Klitgård, B. & Baracat, A. (2009 onwards), Neotropikey - Interactive key and information resources for flowering plants of the Neotropics. http://www.kew.org/science/tropamerica/neotropik ey/f	[Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)? No] "Seeds oily, wind-dispersed." [No evidence]
702	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Propagules dispersed intentionally by people? Yes] "Sometimes planted as a shade tree. The wood is used for general carpenter work and for dishes and spoons."
703	2013. WRA Specialist. Personal Communication.	[Propagules likely to disperse as a produce contaminant? No] No evidence that this tree has been grown with or become a contaminant of produce. Unlikely vector of dispersal
704	2008. López-Gómez, A.M./Williams-Linera, G./Manson, R.H Tree species diversity and vegetation structure in shade coffee farms in Veracruz, Mexico. Agriculture, Ecosystems & Environment. 124(3): 160-172.	[Propagules adapted to wind dispersal? Yes] "Appendix A List of tree species recorded in shade coffee farms and forest fragments in the Coatepec Huatusco region in central Veracruz, Mexico ordered alphabetically by family and species" [Platanus mexicana - seed dispersal syndrome = w (wind)]
704	2010. Every, J.L.R Neotropical Platanaceae. In: Milliken, W., Klitgård, B. & Baracat, A. (2009 onwards), Neotropikey - Interactive key and information resources for flowering plants of the Neotropics. http://www.kew.org/science/tropamerica/neotropik ey/f	[Propagules adapted to wind dispersal? Yes] "Seeds oily, wind-dispersed."
705	2011. González-Espinosa, M./Meave, J.A./Lorea- Hernández, F.G./Ibarra-Manríquez, G./Newton, A.C. (eds.). The Red List of Mexican Cloud Forest Trees. Fauna & Flora International, Cambridge, UK	[Propagules water dispersed? Probably Yes] "Found only on riversides - a restricted habitat in Mexico." [Seeds are adapted to wind dispersal, but may be moved along riparian corridors]
706	1922. Standley, P.C Trees and Shrubs of Mexico (Fagaceae-Fabaceae). Volume 23, Part 2. Smithsonian Institution, Washington, D.C.	[Propagules bird dispersed? No] "fruit of nutlets, each surrounded by stiff erect hairs." [No evidence, and unlikely, as not fleshy fruited]
707	2010. Every, J.L.R Neotropical Platanaceae. In: Milliken, W., Klitgård, B. & Baracat, A. (2009 onwards), Neotropikey - Interactive key and information resources for flowering plants of the Neotropics. http://www.kew.org/science/tropamerica/neotropik ey/f	[Propagules dispersed by other animals (externally)? No] "Fruit heads of achenes or nutlets, covered in long trichomes. Seeds oily, wind-dispersed." [Fruits and seeds lack adaptations for external dispersal by animals]
708	2010. Every, J.L.R Neotropical Platanaceae. In: Milliken, W., Klitgård, B. & Baracat, A. (2009 onwards), Neotropikey - Interactive key and information resources for flowering plants of the Neotropics. http://www.kew.org/science/tropamerica/neotropik ey/f	[Propagules survive passage through the gut? Unknown] "Fruit heads of achenes or nutlets, covered in long trichomes. Seeds oily, wind-dispersed."
801	2013. WRA Specialist. Personal Communication.	[Prolific seed production (>1000/m2)? Unknown]
802	2008. Royal Botanic Gardens Kew. Seed Information Database (SID). Version 7.1. http://data.kew.org/sid/	[Evidence that a persistent propagule bank is formed (>1 yr)? Unknown] Most Platanus species identified as having orthodox seeds, but no information listed for P. mexicana, and field longevity of seeds unknown
803	2013. WRA Specialist. Personal Communication.	[Well controlled by herbicides? Unknown\ No information on herbicide efficacy or chemical control of this species

804	2005. CAB International. Forestry Compendium. CAB International, Wallingford, UK	[Tolerates, or benefits from, mutilation, cultivation, or fire? Unknown] "Platanus occidentalis - Ability to regenerate rapidly; coppice""Platanus orientalis - Ability to regenerate rapidly; coppice; pollard" [Unknown for P. mexicana, but related species are able to coppice]
805	2013. WRA Specialist. Personal Communication.	[Effective natural enemies present locally (e.g. introduced biocontrol agents)? Unknown]

## Summary of Risk Traits

## High Risk / Undesirable Traits

- Broad elevation range (exceeds 1000 m)
- Thrives in tropical climates
- Other Platanus species have become invasive
- Pollen may act as an allergen to susceptible individuals
- Tolerates many soil conditions (and potentially able to exploit many different habitat types)
- Seeds dispersed whole by wind and possibly water
- Planted intentionally by people
- Hybridizes with other Platanus species
- Limited ecological information outside its native range makes accurate risk predictions difficult

## Low Risk / Desirable Traits

- No reports of naturalization, invasiveness, or negative impacts have been documented
- Unarmed (no spines, thorns or burrs)
- Non-toxic
- Shade intolerant
- Self-incompatible
- Landscaping and ornamental value
- Timber tree