

Australia/New Zealand Weed Risk Assessment adapted for Florida.

Data used for analysis published in: Gordon, D.R., D.A. Onderdonk, A.M. Fox, R.K. Stocker, and C. Gantz. 2008. Predicting Invasive Plants in Florida using the Australian Weed Risk Assessment. Invasive Plant Science and Management 1: 178-195.

<i>Lonicera japonica (Japanese honeysuckle)</i>			
Question number	Question	Answer	Score
1.01	Is the species highly domesticated?	n	0
1.02	Has the species become naturalised where grown?		
1.03	Does the species have weedy races?		
2.01	Species suited to Florida's USDA climate zones (0-low; 1-intermediate; 2-high)	2	
2.02	Quality of climate match data (0-low; 1-intermediate; 2-high)	2	
2.03	Broad climate suitability (environmental versatility)	y	1
2.04	Native or naturalized in habitats with periodic inundation	?	
2.05	Does the species have a history of repeated introductions outside its natural range?	y	
3.01	Naturalized beyond native range	y	0
3.02	Garden/amenity/disturbance weed	n	0
3.03	Weed of agriculture	y	0
3.04	Environmental weed	y	0
3.05	Congeneric weed	y	0
4.01	Produces spines, thorns or burrs	n	0
4.02	Allelopathic	y	1
4.03	Parasitic	n	0
4.04	Unpalatable to grazing animals	n	-1
4.05	Toxic to animals	n	0
4.06	Host for recognised pests and pathogens	y	1
4.07	Causes allergies or is otherwise toxic to humans	n	0
4.08	Creates a fire hazard in natural ecosystems	n	0
4.09	Is a shade tolerant plant at some stage of its life cycle	y	1
4.1	Grows on infertile soils (oligotrophic, limerock, or excessively draining soils)	y	1
4.11	Climbing or smothering growth habit	y	1
4.12	Forms dense thickets	y	1
5.01	Aquatic	n	0

5.02	Grass	n	0
5.03	Nitrogen fixing woody plant	n	0
5.04	Geophyte	n	0
6.01	Evidence of substantial reproductive failure in native habitat		
6.02	Produces viable seed	y	1
6.03	Hybridizes naturally		
6.04	Self-compatible or apomictic	n	-1
6.05	Requires specialist pollinators	n	0
6.06	Reproduction by vegetative fragmentation	y	1
6.07	Minimum generative time (years)		
7.01	Propagules likely to be dispersed unintentionally (plants growing in heavily trafficked areas)		
7.02	Propagules dispersed intentionally by people	y	1
7.03	Propagules likely to disperse as a produce contaminant	n	-1
7.04	Propagules adapted to wind dispersal	n	-1
7.05	Propagules water dispersed	n	-1
7.06	Propagules bird dispersed	y	1
7.07	Propagules dispersed by other animals (externally)	n	-1
7.08	Propagules dispersed by other animals (internally)	y	1
8.01	Prolific seed production		
8.02	Evidence that a persistent propagule bank is formed (>1 yr)	y	1
8.03	Well controlled by herbicides	y	-1
8.04	Tolerates, or benefits from, mutilation or cultivation	y	1
8.05	Effective natural enemies present in Florida, or east of the continental divide		
Total Score			19

Outcome	Reject*
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*Used secondary screen from: Daehler, C. C., J.L. Denslow, S. Ansari, and H. Kuo. 2004. A risk assessment system for screening out harmful invasive pest plants from Hawaii's and other Pacific islands. *Conserv. Biol.* 18: 360-368.

section	# questions answered	satisfy minimum?
A	7	yes
B	12	yes
C	18	yes
total	37	yes

Data collected 2006-2007

Question number	Reference	Source data
1.01		no evidence of selection for reduced weediness
1.02		
1.03		
2.01	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. Critical Reviews in Plant Sciences 23: 391-400.	"it has become naturalized in many temperate, subtropical, and tropical zones throughout the world...Generally, it thrives in areas where the mean annual precipitation is 1000 mm and mean winter temperatures are at least -1° C, but there are many exceptions."
2.02		
2.03	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. Critical Reviews in Plant Sciences 23: 391-400.	"Its current naturalized distribution includes major portions of North America, Mediterranean and Central Europe, southern Britain, North Africa, South Africa, Australia, New Zealand, the Philippine Islands, the Hawaiian and other Pacific Islands, and most recently Central and South America."
2.04	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. Critical Reviews in Plant Sciences 23: 391-400.	prefers well-drained soils; "often occurs along wetland areas, but not in poorly drained, permanently saturated soils"
2.05	Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA.	" <i>Lonicera japonica</i> is native to East Asia, including Japan and Korea. From this native range it has spread to Hong Kong, England, Wales, Portugal, Corsica, Hawaii, Brazil, Argentina, possibly the Ukraine, and the continental United States, primarily by way of horticultural introductions."
3.01	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history,	"Its current naturalized distribution includes major portions of North

	ecology, and context. <i>Critical Reviews in Plant Sciences</i> 23: 391-400.	America, Mediterranean and Central Europe, southern Britain, North Africa, South Africa, Australia, New Zealand, the Philippine Islands, the Hawaiian and other Pacific Islands, and most recently Central and South America."
3.02		no evidence
3.03	Prine and Starr (1971) Herbicidal control of Japanese honeysuckle in forest stands. <i>Proceedings of the 24th Annual Meeting of the Southern Weed Science Society</i> 24: 298-300.	Japanese honeysuckle is a serious problem in pine plantations.
3.04	1. Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA. 2. Dillenburg, Whigham, Teramura, and Forseth (1993) Effects of below- and aboveground competition from the vines <i>Lonicera japonica</i> and <i>Parthenocissus quinquefolia</i> on the growth of the tree host <i>Liquidambar styraciflua</i> . <i>Oecologia</i> 93:48-54. 3. Roy, Popay, Champion, James, and Rahman (2004) <i>An Illustrated Guide to Common Weeds of New Zealand</i> . 2nd edition. New Zealand Plant Protection Society.	1. " <i>Lonicera japonica</i> damages natural communities it invades by outcompeting native vegetation for both light and below-ground resources, and by changing forest structure...Forests invaded by <i>Lonicera japonica</i> gradually lose their natural structure as canopy openings are invaded, and understory herbs, shrubs, and replacement trees are suppressed and killed by thick mats of honeysuckle." 2. <i>Lonicera japonica</i> impacts the growth of a host tree (sweetgum), primarily due to root competition. 3. "rampant perennial climber twining clockwise, smothering all vegetation beneath" (New Zealand)
3.05	USDA, NRCS. 2005. <i>The PLANTS Database</i> , Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	<i>L. mackii</i> , <i>L. morrowii</i> , <i>L. tartarica</i> , and <i>L. xylosteum</i> are all considered invasive in parts of the U.S.
4.01	Dehgan, B. (1998) <i>Landscape Plants for Subtropical Climates</i> . University Press of Florida.	no description of these traits
4.02	1. Skulman, Mattice, Cain, and Gbur (2004) Evidence for allelopathic interference of Japanese honeysuckle (<i>Lonicera japonica</i>) to loblolly and shortleaf pine regeneration. <i>Weed Science</i> 52: 433-439. 2. USDA, NRCS. 2005. <i>The PLANTS Database</i> , Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	1. "Results indicate that allelopathy plays at least a partial role in Japanese honeysuckle interference with loblolly and shortleaf pine." BUT 2. Not allelopathic.
4.03		no evidence
4.04	Dyess, Causey, Stribling, and Lockaby (1994)	"Japanese honeysuckle...can

	Effects of fertilization on production and quality of Japanese honeysuckle. Southern Journal of Applied Forestry 18: 68-71.	constitute a major portion of the seasonal diet...of white-tailed deer in the Southeast."
4.05	USDA, NRCS. 2005. <i>The PLANTS Database</i> , Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	no toxicity
4.06	Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA.	<i>Lonicera japonica</i> can be a host for several agricultural pests.
4.07	USDA, NRCS. 2005. <i>The PLANTS Database</i> , Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	no toxicity
4.08		no evidence
4.09	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. Critical Reviews in Plant Sciences 23: 391-400.	"It can tolerate heavy shading to less than 5%, but as shading increases it will produce fewer leaves and vegetative runners."
4.1	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. Critical Reviews in Plant Sciences 23: 391-400.	"It will thrive in sandy soils as long as there is available moisture...a lack of soil organic matter and low mineral composition do not appear to have a major effect on Japanese honeysuckle."
4.11	Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA.	" <i>Lonicera japonica</i> is a perennial trailing or climbing woody vine...Once established, the vine may literally engulf small trees and shrubs, which collapse under the weight, and few plants survive beneath the dense canopy."
4.12	1. Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA. 2. Dehgan, B. (1998) Landscape Plants for Subtropical Climates. University Press of Florida.	1. " <i>Lonicera japonica</i> creates dense tangled thickets by a combination of stem branching, nodal rooting, and vegetative spread from rhizomes...Once established, the vine may literally engulf small trees and shrubs, which collapse under the weight, and few plants survive beneath the dense canopy." 2. "...forming dense, tangled mats".
5.01		terrestrial
5.02	USDA, NRCS. 2005. <i>The PLANTS Database</i> , Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	Caprifoliaceae
5.03	USDA, NRCS. 2005. <i>The PLANTS Database</i> , Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	not nitrogen fixing (and Caprifoliaceae)

5.04	USDA, NRCS. 2005. <i>The PLANTS Database</i> , Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA.	not propagated by bulbs, corms, or tubers
6.01		
6.02	1. Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA. 2. USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center, Baton Rouge, LA 70874-4490 USA. 3. Wagner, Herbst, and Sohmer (1999) Manual of the flowering plants of Hawai'i. University of Hawai'i Press/Bishop Museum Press, Honolulu.	1. spreads by seeds 2. propagated by seed BUT 3. "This species does not usually produce fruit in Hawai'i."
6.03		
6.04	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. <i>Critical Reviews in Plant Sciences</i> 23: 391-400.	"Seed set in Japanese honeysuckle is limited by obligate outcrossing."
6.05	Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA.	"In the United States <i>Lonicera japonica</i> is probably pollinated by a variety of insects, due to its extended blooming season and wide geographical range."
6.06	Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA.	"spreads by...underground rhizomes and aboveground runners...Individual vines have numerous long vegetative runners"
6.07	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. <i>Critical Reviews in Plant Sciences</i> 23: 391-400.	"Flowering in Japanese honeysuckle has been observed to begin within a year after germination, but most flowering begins in the second year." [time to vegetative reproduction unknown]
7.01		
7.02	1. Hardt (1986) Japanese honeysuckle: from "one of the best" to ruthless pest. <i>Arnoldia</i> 46: 27-34. 2. Dyess, Causey, Stribling, and Lockaby (1994) Effects of fertilization on production and quality of Japanese honeysuckle. <i>Southern Journal of Applied Forestry</i> 18: 68-71.	Actively planted for erosion control (1), and its growth is promoted for wildlife forage (2).
7.03		no evidence
7.04		produces berries
7.05		no evidence
7.06	1. Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA. 2. Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. <i>Critical</i>	1. "Berries are consumed by a number of birds including robin, turkey, quail, bluebird, and goldfinch, which then disseminate the seeds." 2. "The native

	Reviews in Plant Sciences 23: 391-400.	stitchbirds, bellbirds, and tuis of Tiritiri Matangi Island near Auckland, New Zealand also have been observed consuming the fruits."; "...there is anecdotal evidence that bobwhites and other gallinaceous birds pass viable seeds"
7.07		produces berries - no means of attachment
7.08	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. Critical Reviews in Plant Sciences 23: 391-400.	"...the seeds are distributed by birds and small mammals wherever it occurs"
8.01	Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. Critical Reviews in Plant Sciences 23: 391-400.	"Seed number ranges from 1 to 16 per fruit with a mean of 5.9."
8.02	1. Shelton and Cain (2002) Potential carry-over of seeds from 11 common shrub and vine competitors of loblolly and shortleaf pines. Canadian Journal of Forest Research 32:412-419. 2. Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA.	1. 1-3% of <i>Lonicera japonica</i> seeds were viable after 3 years of field storage (much higher after 1 year). 2. "Once established, <i>Lonicera japonica</i> can develop a large seedbank that germinates when the soil is disturbed." [but no indication of how long seed bank persists]
8.03	Nuzzo, V. (1997) Element Stewardship Abstract for <i>Lonicera japonica</i> . The Nature Conservancy, Arlington, VA.	Application of herbicides, especially just after the first killing frost, can be effective in controlling Japanese honeysuckle, particularly in combination with fire.
8.04	1. Schierenbeck (2004) Japanese honeysuckle (<i>Lonicera japonica</i>) as an invasive species: history, ecology, and context. Critical Reviews in Plant Sciences 23: 391-400. 2. Stransky (1984) Forage yield of Japanese honeysuckle after repeated burning or mowing. Journal of Range Management 37: 237-238.	1. "Above-ground mowing has been found to be ineffective and encourages regrowth...The use of low intensity or even moderately hot fires only encourages resprouting of Japanese honeysuckle." 2. "...yield on the mowed plots was significantly greater than that on the control or burned plots."
8.05		