TIPPC Plant Assessment Form

For use with "Criteria for Categorizing Invasive Non-Native Plants that Threaten Wildlands"
by the California Invasive Plant Council and the Southwest Vegetation Management Association

Version February 2003, modified July 2009 for the Texas Invasive Plant & Pest Council – www.texasinvasives.org

Table 1. Species and Evaluator Information

Species name (Latin binomial)**:**	*Lonicera japonica*
Synonyms:	*Lonicera japonica var. chinensis, Nintooa japonica*
Common names:	Japanese honeysuckle
Evaluation date (mm/dd/yy)**:**	9/25/09
Evaluator #1 Name/Title:	Travis Gallo, Program Coordinator Invaders of Texas Program
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Evaluator #2 Name/Title:	enter text here
Affiliation:	enter text here
Phone numbers:	enter text here
Email address:	enter text here
Address:	enter text here

Section below for list committee use—please leave blank

List committee members:	enter text here
Committee review date:	enter text here
List date:	enter text here
Re-evaluation date(s):	enter text here

General comments on this assessment:
enter text here

Table 2. Criteria, Section, and Overall Scores

Species: enter text here

Region: enter text here

1.1	Impact on abiotic ecosystem processes	B	Rev'd, Sci. Pub'n (4
1.2	Impact on plant community	B	Rev'd, Sci. Pub'n (4)
1.3	Impact on higher trophic levels	C	Rev'd, Sci. Pub'n (4)
1.4	Impact on genetic integrity	U	No Information (0)

Impact

Enter four characters from Q1.1-1.4 below:

BBCU

Using matrix, determine score and enter below:

B

2.1	Role of anthropogenic and natural disturbance	B (2 pts)	Other Pub. Mat'l (3)
2.2	Local rate of spread with no management	B (2 pts)	Rev'd, Sci. Pub'n (4)
2.3	Recent trend in total area infested within state	B (2 pts)	Observational (2)
2.4	Innate reproductive potential Wksht A	A (3 pts)	Rev'd, Sci. Pub'n (4)
2.5	Potential for human-caused dispersal	A (3 pts)	Anecdotal (1)
2.6	Potential for natural long-distance dispersal	B (2 pts)	Other Pub. Mat'l (3)
2.7	Other regions invaded	C (1 pt)	Other Pub. Mat'l (3)

Invasiveness

Enter the sum total of all points for Q2.1-2.7 below:

13

Use matrix to determine score and enter below:

B

3.1	Ecological amplitude/Range	A	Observational (2)
3.2	Distribution/Peak frequency Wksht C	A	Observational (2)

Distribution

Using matrix, determine score and enter below:

A

Plant Score

Using matrix, determine Overall Score and Alert Status from the three section scores and enter below:

Moderate

No Alert

Documentation

Average of all questions

3

Table 3. Documentation (List all references at end of PAF. Short citations may be used in Table 3.)

Impacts

Question 1.1 Impact on abiotic ecosystem processes B Rev'd, Sci. Pub'n back

Identify ecosystem processes impacted: Fire and light.

Climbing Japanese honeysuckle can become ladder fuel. Fire may reach 15 feet or more into the canopy on Japanese honeysuckle vines (Munger, 2002). Non-indigenous species with high productivity that change community structure, resulting in reductions in light availability, have higher evapotranspiration rates than the native vegetation or fix nitrogen. Thus, they are likely to modify competitive interactions (Gordon 1998).

Sources of information:

GORDON, D. R. 1998. EFFECTS OF INVASIVE, NON-INDIGENOUS SPECIES ON ECOSYSTEM PROCESSES: LESSONS FROM FLORIDA, Ecological Applications 8:975-989.

Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 25].

Question 1.2 Impact on plant community composition, structure, and interactions B Rev'd, Sci. Pub'n back

Identify type of impact or alteration: Outcompetes and Displaces Native Species

As Gordon points out, twining of Japanese honeysuckle through canopy eventually leads to the collapse of the native canopy. Climbing can also lead to the restriction of and the toppling of small native saplings causing an opening in a canopy allowing for a monoculture growth of Japanese honeysuckle.

Sources of information: enter text here

GORDON, D. R. 1998. EFFECTS OF INVASIVE, NON-INDIGENOUS SPECIES ON ECOSYSTEM PROCESSES: LESSONS FROM FLORIDA, Ecological Applications 8:975-989.

Question 1.3 Impact on higher trophic levels C Rev'd, Sci. Pub'n back

Identify type of impact or alteration: Decrease in biodiversity

There may be an anecdotal impact due to the loss of biodiversity, but in general the cover created by Japanese honeysuckle offers refuge for various bird species and other vertebrates. Nectar is used by hummingbirds and fruits are eaten by birds. Browsers tend to use it as a food source.

Sources of information: enter text here

RICKETTS, M. S., AND G. RITCHISON. 2009. NESTING SUCCESS OF YELLOW-BREASTED CHATS: EFFECTS OF NEST SITE AND TERRITORY VEGETATION STRUCTURE, The Wilson Bulletin 112**:**510-516.

Question 1.4 Impact on genetic integrity U No Information back

Identify impacts: enter text here

Sources of information: enter text here

Invasiveness

Question 2.1 Role of anthropogenic and natural disturbance in establishment B Other Pub. Mat'l back

Describe role of disturbance:

As both Munger and Starr report not only is Japanese honeysuckle prolific in disturbed areas, it can invader natural areas as well. Long range seed dispersal by birds is common and allows this species to invade various habitats such as prairies, barrens, wetlands, floodplain and upland forests.

Sources of information: enter text here

Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 28].

STARR, F., K. STARR, AND L. LOOPE. 2003. *Lonicera japonica*, Pp. 1-9 (U. S. G. S.-.-B. R. Division and H. F. Station, eds.), Maui, Hawai'i.

Question 2.2 Local rate of spread with no management B Rev'd, Sci. Pub'n back

Describe rate of spread: no information

A growth rates of 1.5 m/year is probably typical according to Leatherman, although Bell et al. recorded a maximum shoot elongation of 4.6 mm/day in Maryland. According to Dillenburg, in one year, *Lonicera japonica* overtopped a three-year old sweetgum (*Liquidambar styraciflua*) trees. *Lonicera japonica* vines spread both vertically and horizontally (Williams 1994).

Sources of information: enter text here

Dillenburg, L.R., D.F. Whigham, A.H. Teramura, and I.N. Forseth. 1993a. Effects of vine competition on availability of light, water, and nitrogen to a tree host (*Liquidambar styraciflua*). American Journal of Botany 80:244-253.

Leatherman, A.D. 1955. Ecological life-history of *Lonicera japonica* Thunb. Ph.D. thesis. University of Tennessee. 97 pp.

Williams, C.E. 1994. Invasive alien plant species of Virginia. Dept. Conservation and Recreation. Richmond, VA.

Question 2.3 Recent trend in total area infested within state B Observational back

Describe trend: Citizen Science data from the Invaders of Texas program is showing that Lonicera japonica is spreading rapidly throughout the state of Texas. However, the actual distribution of L. japonica is unknown throughout the state, so the citizen science data may not be a true representation of the actual spread of the species. Observations from other individuals familiar with the spread of L. japonica also confirm the rapid spread.

Sources of information: enter text here

Personal communication with Dr. Damon Waitt, Senior Botanist, Lady Bird Johnson Wildflower Center and Mike Murphrey from the Texas Forest Service.

Question 2.4 Innate reproductive potential	A Rev'd, Sci. Pub'n back
Describe key reproductive characteristics: Refer to Worksheet A	
Sources of information: Reaches reproductive maturity in 2 years or less: Little, S., and H. A. Somes. 1967. Results of herbicide trials to control Japanese honeysuckle. U.S. Forest Service, Northeast Forest Exp. Sta. Res. Note 62: 18. Dense infestations produce >1,000 viable seed per square meter: Nyboer, Randy. 1992. Vegetation management guideline: Japenese honeysuckle (Lonicera japonica Thunb.). Natural Areas Journal. 12(4): 217-218. Populations of this species produce seeds every year: Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 25]. Seed production sustained over 3 or more months within a population annually: Seeds remain viable in soil for three or more years: Leatherman, A.D. 1955. Ecological life-history of *Lonicera japonica* Thunb. Ph.D. thesis. University of Tennessee. 97 pp. Viable seed produced with *both* self-pollination and cross-pollination: Larson, Katherine C.; Fowler, Sherry P.; Walker, Jason C. 2002. Lack of pollinators limits fruit set in the exotic Lonicera japonica. The American Midland Naturalist. 148: 54-60 Reproduces vegetatively: : Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 25]. Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes: : Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 25]. Fragments easily and fragments can become established elsewhere: Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 25]. Resprouts readily when cut, grazed, or burned: : Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 25].	
Question 2.5 Potential for human-caused dispersal	A Observational back
Identify dispersal mechanisms: enter text here Lonicera japonica is commonly sold at most commercial nursery and landscape retailers throughout the state. It is common practice, in the state of Texas, to plant L. japonica as forage food for white-tailed deer in order to recruit the deers.	
Sources of information: enter text here Personal knowledge by the assessor.	
Question 2.6 Potential for natural long-distance dispersal	B Other Pub. Mat'l back
Identify dispersal mechanisms: enter text here Japanese honeysuckle seeds are frequently dispersed by frugivorous birds and small mammals. Bird dispersal is typically by species that frequent brushy areas, thickets, and forest openings. Birds that frequent forest openings,	

for example, usually fly from 1 opening to another, depositing seeds at each roosting site. This means of seed dispersal generally ensures deposition in a habitat where the seedling has a high probability of success, such as beneath a sapling tree suitable for stem twining.

Sources of information: enter text here

Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 25].

Question 2.7 Other regions invaded C Observational back

Identify other regions: enter text here

Lonicera japonica has invaded all ecoregions of Texas except the Chihuahuan desert. No known records of L. japonica invaded desert ecosystem

Sources of information: enter text here

Invaders of Texas Citizen Science data, USDA Plants Database, and The Atlas of Vascular Plants.

Distribution

Question 3.1 Ecological amplitude/Range A Observational back

Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: enter text here

Refer to Worksheet B

Sources of information: enter text here

Invaders of Texas Citizen Science Program (Accessed 9 May 2011: http://texasinvasives.org/observations/search.php?satellite=&sn=LOJA&cn=).

USDA PLANTS Database (Accessed 9 May 2011: http://plants.usda.gov/java/county?state_name=Texas&statefips=48&symbol=LOJA).

Question 3.2 Distribution/Peak frequency A Observational back

Describe distribution: enter text here

Refer to Worksheet B

Sources of information: enter text here

Invaders of Texas Citizen Science Program (Accessed 9 May 2011: http://texasinvasives.org/observations/search.php?satellite=&sn=LOJA&cn=).

USDA PLANTS Database (Accessed 9 May 2011: http://plants.usda.gov/java/county?state_name=Texas&statefips=48&symbol=LOJA).

References

List full citations for all references used in the PAF (short citations such as DiTomaso and Healy 2007 may be used in table above). **Websites** should include the name of the organization and the date accessed. **Personal communications** should include the affiliation of the person providing the observation. Enter each reference on a separate line; the table will expand as needed.

Examples:

Mitich, L. W. 1995. Intriguing world of weeds: Tansy ragwort. Weed Technology. 9: 402-404.

HEAR. Date unknown. Emex spinosa. Hawaiian Ecosystems at Risk. www.hear.org/pier/species/emex_spinosa.htm. Accessed March 17, 2009

DiTomaso, J. M. Personal communication from Dr. Joe DiTomaso, Dept. of Plant Science, UC Davis. Email received 3/17/09.

Dillenburg, L.R., D.F. Whigham, A.H. Teramura, and I.N. Forseth. 1993a. Effects of vine competition on availability of light, water, and nitrogen to a tree host (*Liquidambar styraciflua*). American Journal of Botany 80:244-253.

GORDON, D. R. 1998. EFFECTS OF INVASIVE, NON-INDIGENOUS SPECIES ON ECOSYSTEM PROCESSES: LESSONS FROM FLORIDA, Ecological Applications 8:975-989.

Larson, Katherine C.; Fowler, Sherry P.; Walker, Jason C. 2002. Lack of pollinators limits fruit set in the exotic Lonicera japonica. The American Midland Naturalist. 148: 54-60

Leatherman, A.D. 1955. Ecological life-history of *Lonicera japonica* Thunb. Ph.D. thesis. University of Tennessee. 97 pp.

Little, S., and H. A. Somes. 1967. Results of herbicide trials to control Japanese honeysuckle. U.S. Forest Service, Northeast Forest Exp. Sta. Res. Note 62: 18.

Munger, Gregory T. 2002. Lonicera japonica. In: Fire Effects Information System, [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory (Producer). Available: http://www.fs.fed.us/database/feis/ [2009, September 25].

Nyboer, Randy. 1992. Vegetation management guideline: Japenese honeysuckle (Lonicera japonica Thunb.). Natural Areas Journal. 12(4): 217-218.

RICKETTS, M. S., AND G. RITCHISON. 2009. NESTING SUCCESS OF YELLOW-BREASTED CHATS: EFFECTS OF NEST SITE AND TERRITORY VEGETATION STRUCTURE, The Wilson Bulletin 112**:**510-516.

Turner, R.L., H. Nichols, G. Denny, O. Doron. 2003. Atlas of the Vascular Plants of Texas. BRIT Press: Fort Worth, Texas.

Williams, C.E. 1994. Invasive alien plant species of Virginia. Dept. Conservation and Recreation. Richmond, VA.

Personal communication with Dr. Damon Waitt, Senior Botanist, Lady Bird Johnson Wildflower Center and Mike Murphrey from the Texas Forest Service.

Worksheet A

Reaches reproductive maturity in 2 years or less	**No: 0 pt**
Dense infestations produce >1,000 viable seed per square meter	**Yes: 2 pts**
Populations of this species produce seeds every year.	**Yes: 1 pt**
Seed production sustained over 3 or more months within a population annually	**Yes: 1 pt**
Seeds remain viable in soil for three or more years	**No: 0 pts**
Viable seed produced with *both* self-pollination and cross-pollination	**No: 0 pt**
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	**Yes: 1 pt**
Fragments easily and fragments can become established elsewhere	**No: 0 pts**
Resprouts readily when cut, grazed, or burned	**Yes: 1 pt**
	6 pts 0
	A (6+ pts)

Note any related traits: Although sexual maturity may not be reached in less than two years, in year 3-6 seed productions is prolific.
Nyboer, Randy. 1992. Vegetation management guideline: Japenese honeysuckle (Lonicera japonica Thunb.).

Notes for Worksheet B - Texas Ecoregions

Question 3.1

Ecological amplitude

Refer to the worksheet and select the one letter below that indicates the number of different ecological types that this species invades in your state.

A. Widespread—the species invades at least three Level III ecoregions **or** at least 22 Level IV ecoregions.
B. Moderate—the species invades two Level III ecoregions 8 Level IV ecoregions.
C. Limited—the species invades only one Level III ecoregion **and** two to six Level IV ecoregions.
D. Narrow—the species invades only one Level IV ecoregion.
U. Unknown.

Worksheet B - Texas Ecoregions (Griffen et al, 2004).
* A. means >50% of type occurrences are invaded; B means >20% to 50%; C. means >5% to 20%; D. means present but ≤5%; U. means unknown

Code	Level III	Level IV	Score
ER01	**Arizona/New Mexico Mountains**	Chihuahuan Desert Slopes	
		Montane Woodlands	
ER02	**Chihuahuan Deserts**	Chihuahuan Basins and Playas	
		Chihuahuan Desert Grasslands	
		Low Mountains and Bajadas	
		Chihuahuan Montane Woodlands	
		Stockton Plateau	
ER03	**High Plains**	Rolling Sand Plains	
		Canadian/Cimarron High Plains	
		Llano Estacado	
		Shinnery Sands	
		Arid Llano Estacado	
ER04	**Southwestern Tablelands**	Canadian/Cimarron Breaks	
		Flat Tablelands and Valleys	
		Caprock Canyons, Badlands, and Breaks	
		Semiarid Canadian Breaks	
ER05	**Central Great Plains**	Red Prairie	
		Broken Red Plains	A
		Limestone Plains	
ER06	**Cross Timbers**	Eastern Crosstimbers	A
		Western Crosstimbers	A
		Grand Prairie	A
		Limestone Cut Plain	A
		Carbonate Cross Timbers	
ER07	**Edwards Plateau**	Edwards Plateau Woodland	A
		Llano Uplift	
		Balcones Canyonlands	A
		Semiarid Edwards Plateau	
ER08	**Southern Texas Plains**	Northern Nueces Alluvial Plains	
		Semiarid Edwards Bajadas	
		Texas-Tamaulipan Thornscrub	
		Rio Grande Floodplain and Terraces	
ER09	**Texas Blackland Prairies**	Northern Blackland Prairies	
		Southern Blackland/Fayette Prairie	A
		Floodplains and Low Terraces	
ER10	**East Central Texas Plains**	Northern Post Oak Savanna	A
		Southern Post Oak Savanna	C
		San Antonio Prairie	
		Northern Prairie Outliers	
		Bastrop Lost Pines	A
		Floodplains and Low Terraces	
ER11	**Western Gulf Coastal Plain**	Northern Humid Gulf Coastal Prairies	
		Southern Subhumid Gulf Coastal Prairies	
		Floodplains and Low Terraces	
		Coastal Sand Plain	
		Lower Rio Grande Valley	
		Lower Rio Grande Alluvial Floodplain	
		Texas-Louisiana Coastal Marshes	
		Mid-Coast Barrier Islands and Coastal Marshes	
		Laguna Madre Barrier Islands and Coastal Marshes	
ER12	**South Central Plains**	Tertiary Uplands	A
		Floodplains and Low Terraces	C
		Pleistocene Fluvial Terraces	A
		Southern Tertiary Uplands	A
		Flatwoods	A

		Red River Bottomland	