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)**:**	Broussonetia papyrifera
Synonyms:	Morus papyrifera, Papyrius papyriferus
Common names:	Paper mulberry
Evaluation date (mm/dd/yy)**:**	07/08/2011
Evaluator #1 Name/Title:	Travis Gallo/Ecologist
Affiliation:	The Lady Bird Johnson Wildflower Center
Phone numbers:	512-232-0116
Email address:	tgallo@wildflower.org
Address:	4801 La Crosse Ave., Austin, Texas 78704
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:
Originally assessed for the City of Austin Invasive Management Plan

Table 2. Criteria, Section, and Overall Scores

Species: enter text here

Region: enter text here

1.1	Impact on abiotic ecosystem processes	**U**	**No Information**
1.2	Impact on plant community	**A**	**Other Pub. Mat'l**
1.3	Impact on higher trophic levels	**B**	**Other Pub. Mat'l**
1.4	Impact on genetic integrity	**D**	**Other Pub. Mat'l**

Impact

Enter four characters from Q1.1-1.4 below:

UABD

Using matrix, determine score and enter below:

B

2.1	Role of anthropogenic and natural disturbance	**A**	**Other Pub. Mat'l**
2.2	Local rate of spread with no management	**A**	**Other Pub. Mat'l**
2.3	Recent trend in total area infested within state	**U**	**Observational**
2.4	Innate reproductive potential Wksht A	**A**	**Other Pub. Mat'l**
2.5	Potential for human-caused dispersal	**B**	**Other Pub. Mat'l**
2.6	Potential for natural long-distance dispersal	**A**	**Other Pub. Mat'l**
2.7	Other regions invaded	**U**	**Observational**

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**	**Other Pub. Mat'l**
3.2	Distribution/Peak frequency Wksht C	**A**	**Other Pub. Mat'l**

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

2.61

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 — U No Information back

Identify ecosystem processes impacted:

Sources of information: enter text here

Question 1.2 Impact on plant community composition, structure, and interactions — A Other Pub. Mat'l back

Identify type of impact or alteration:

Creates a monotypic stand displacing native vegetation.

Sources of information: enter text here

Morgan, EC. 2004. Wildland Weeds: Paper Mulberry, *Broussonetia papyrifera*. Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication # ENY-702.

Langeland, K.A. and K. Craddock Burks. 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. IFAS Publication SP 257. University of Florida, Gainesville. 165 pp.

National Park Service & U.S. Fish and Wildlife Service. 2010. Plant Invaders of Mid-Atlantic Natural Areas.

Question 1.3 Impact on higher trophic levels — B Other Pub. Mat'l back

Identify type of impact or alteration:

Reduces native diversity that birds and wildlife depend on.

Sources of information: enter text here

Morgan, EC. 2004. Wildland Weeds: Paper Mulberry, *Broussonetia papyrifera*. Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication # ENY-702.

Langeland, K.A. and K. Craddock Burks. 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. IFAS Publication SP 257. University of Florida, Gainesville. 165 pp.

Question 1.4 Impact on genetic integrity — D Other Pub. Mat'l back

Identify impacts: enter text here

No native species of *Broussonetia*

Sources of information: enter text here

Waitt, D. 2011. Native Plant Information Network. Accessed 8 July 2011: http://wildflower.org/plants/

Invasiveness

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

Describe role of disturbance: enter text here

Readily invades disturbed areas, but can invade undisturbed areas.

Sources of information: enter text here

Morgan, EC. 2004. Wildland Weeds: Paper Mulberry, *Broussonetia papyrifera*. Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication # ENY-702.

Question 2.2 Local rate of spread with no management	A Other Pub. Mat'l back
Describe rate of spread: no information Will quickly invade an area without management.	
Sources of information: enter text here National Park Service & U.S. Fish and Wildlife Service. 2010. Plant Invaders of Mid-Atlantic Natural Areas.	
Question 2.3 Recent trend in total area infested within state	U Observational back
Describe trend: no information Paper Mulberry is not well documented throughout the state.	
Sources of information: enter text here Observation: T. Gallo	
Question 2.4 Innate reproductive potential	A Other Pub. Mat'l back
Describe key reproductive characteristics: Refer to Worksheet A	
Sources of information: Morgan, EC. 2004. Wildland Weeds: Paper Mulberry, *Broussonetia papyrifera*. Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication # ENY-702. Langeland, K.A. and K. Craddock Burks. 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. IFAS Publication SP 257. University of Florida, Gainesville. 165 pp. National Park Service & U.S. Fish and Wildlife Service. 2010. Plant Invaders of Mid-Atlantic Natural Areas.	
Question 2.5 Potential for human-caused dispersal	B Other Pub. Mat'l back
Identify dispersal mechanisms: enter text here Paper Mulberry is usually discouraged by municipalities do to its quick and weedy growth under power lines, but is still planted as an ornamental and hedge row.	
Sources of information: enter text here Swearingen, JM. 2009. Paper Mulberry. National Park Service, National Capital Region, Center for Urban Ecology, Washington, DC Observation: T. Gallo	
Question 2.6 Potential for natural long-distance dispersal	A Other Pub. Mat'l back
Identify dispersal mechanisms: enter text here Birds and animals eat berries and readily spread seeds.	
Sources of information: enter text here Morgan, EC. 2004. Wildland Weeds: Paper Mulberry, *Broussonetia papyrifera*. Entomology and Nematology Department, Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida. Publication # ENY-702. Langeland, K.A. and K. Craddock Burks. 1998. Identification and Biology of Non-Native Plants in Florida's Natural Areas. IFAS Publication SP 257. University of Florida, Gainesville. 165 pp.	
Question 2.7 Other regions invaded	U Observational back
Identify other regions: enter text here Paper Mulberry is not well documented throughout the state.	

Sources of information: enter text here

Observation: T. Gallo

Distribution

Question 3.1 Ecological amplitude/Range A Other Pub. Mat'l 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 Observations (Accessed 11 July 2011: http://texasinvasives.org/observations/search.php?satellite=&sn=BRPA4&cn=

USDA PLANTS Database (Accessed 11 July 2011: http://plants.usda.gov/java/county?state_name=Texas&statefips=48&symbol=BRPA4)

Question 3.2 Distribution/Peak frequency A Other Pub. Mat'l back

Describe distribution: enter text here

Refer to Worksheet B.

Sources of information: enter text here

Invaders of Texas Citizen Science Observations (Accessed 11 July 2011: http://texasinvasives.org/observations/search.php?satellite=&sn=BRPA4&cn=

USDA PLANTS Database (Accessed 11 July 2011: http://plants.usda.gov/java/county?state_name=Texas&statefips=48&symbol=BRPA4)

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.

enter text here

Worksheet A

Reaches reproductive maturity in 2 years or less	**1**
Dense infestations produce >1,000 viable seed per square meter	**2**
Populations of this species produce seeds every year.	**1**
Seed production sustained over 3 or more months within a population annually	**0**
Seeds remain viable in soil for three or more years	**0**
Viable seed produced with *both* self-pollination and cross-pollination	**0**
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	**1**
Fragments easily and fragments can become established elsewhere	**0**
Resprouts readily when cut, grazed, or burned	**1**
	6 1
	A

Note any related traits: enter text here

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	
		Limestone Plains	
ER06	**Cross Timbers**	Eastern Crosstimbers	
		Western Crosstimbers	A
		Grand Prairie	A
		Limestone Cut Plain	
		Carbonate Cross Timbers	
ER07	**Edwards Plateau**	Edwards Plateau Woodland	
		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	A
		Southern Blackland/Fayette Prairie	
		Floodplains and Low Terraces	C
ER10	**East Central Texas Plains**	Northern Post Oak Savanna	
		Southern Post Oak Savanna	
		San Antonio Prairie	
		Northern Prairie Outliers	
		Bastrop Lost Pines	
		Floodplains and Low Terraces	
ER11	**Western Gulf Coastal Plain**	Northern Humid Gulf Coastal Prairies	A
		Southern Subhumid Gulf Coastal Prairies	
		Floodplains and Low Terraces	C
		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	
		Floodplains and Low Terraces	
		Pleistocene Fluvial Terraces	
		Southern Tertiary Uplands	
		Flatwoods	
		Red River Bottomland	