

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):	Centaurea melitensis
Synonyms:	
Common names:	Malta starthistle, tocalote
Evaluation date (mm/dd/yy):	05/09/2011
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

<p>General comments on this assessment: Originally assessed for the City of Austin Invasive Management Plan</p>
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Table 2. Criteria, Section, and Overall Scores

Species: enter text here

Region: enter text here

1.1	Impact on abiotic ecosystem processes	C	3
1.2	Impact on plant community	B	3
1.3	Impact on higher trophic levels	B	3
1.4	Impact on genetic integrity	B	3

Impact

Enter four characters from Q1.1-1.4 below:

CBBB

Using matrix, determine score and enter below:

B

2.1	Role of anthropogenic and natural disturbance	B	3
2.2	Local rate of spread with no management	A	2
2.3	Recent trend in total area infested within state	B	2
2.4	Innate reproductive potential Wksht A	A	4
2.5	Potential for human-caused dispersal	A	3
2.6	Potential for natural long-distance dispersal	A	3
2.7	Other regions invaded	B	3

Invasiveness

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

18

Use matrix to 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

3.1	Ecological amplitude/Range	A	3
3.2	Distribution/Peak frequency Wksht C	A	3

Distribution

Using matrix, determine score and enter below:

A

Documentation

Average of all questions

3.15

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	C Other Pub. Mat'l back
Identify ecosystem processes impacted: Can reduce soil moisture in areas of high infestations.	
Sources of information: Joe DiTomaso, University of California-Davis, ditomaso@vegmail.ucdavis.edu Weed Records and Information Center (WeedRIC) - Yellow Starthistle: http://wric.ucdavis.edu/yst .	
Question 1.2 Impact on plant community composition, structure, and interactions	B Other Pub. Mat'l back
Identify type of impact or alteration: Can dominate native grasslands and create monocultures.	
Sources of information: Joe DiTomaso, University of California-Davis, ditomaso@vegmail.ucdavis.edu Weed Records and Information Center (WeedRIC) - Yellow Starthistle: http://wric.ucdavis.edu/yst . Donaldson, S. and Dawn Rafferty. 2002. Identification and Management of Malta Starthistle. University of Nevada: Fact Sheet-02-86. Observational - Gallo	
Question 1.3 Impact on higher trophic levels	B Other Pub. Mat'l back
Identify type of impact or alteration: Poisonous to horses. Recreationalist will not go into areas of investment due to spines. Spines can injure mouth of wildlife.	
Sources of information: Joe DiTomaso, University of California-Davis, ditomaso@vegmail.ucdavis.edu Weed Records and Information Center (WeedRIC) - Yellow Starthistle: http://wric.ucdavis.edu/yst . Donaldson, S. and Dawn Rafferty. 2002. Identification and Management of Malta Starthistle. University of Nevada: Fact Sheet-02-86.	
Question 1.4 Impact on genetic integrity	D Other Pub. Mat'l back
Identify impacts: None.	
Sources of information: Joe DiTomaso, University of California-Davis, ditomaso@vegmail.ucdavis.edu Weed Records and Information Center (WeedRIC) - Yellow Starthistle: http://wric.ucdavis.edu/yst .	
Invasiveness	
Question 2.1 Role of anthropogenic and natural disturbance in establishment	B Other Pub. Mat'l back
Describe role of disturbance: Usually found in disturbed areas, both human and natural disturbances, but can also invade undisturbed grasslands.	
Sources of information: Joe DiTomaso, University of California-Davis, ditomaso@vegmail.ucdavis.edu Weed Records and Information	

Center (WeedRIC) - Yellow Starthistle: http://wric.ucdavis.edu/yst .	
Donaldson, S. and Dawn Rafferty. 2002. Identification and Management of Malta Starthistle. University of Nevada: Fact Sheet-02-86.	
U.S. Forest Service. 2010. A field guide to managing Malta Starthistle. United States Agriculture Forest Service. TP-R3-16-1.	
Question 2.2 Local rate of spread with no management	A Observational back
Describe rate of spread: Has not been in Texas as long as other Western states, therefore more areas are being invaded. Local rate of spread is fairly high without management.	
Sources of information: Observational - Gallo	
Question 2.3 Recent trend in total area infested within state	B Observational back
Describe trend: Is spreading in Western and Northwestern portion of state, but not doubling area in less than 10 years.	
Sources of information: Observational - Gallo	
Question 2.4 Innate reproductive potential	A Rev'd, Sci. Pub'n back
Describe key reproductive characteristics: Refer to Worksheet A	
Sources of information:	
U.S. Forest Service. 2010. A field guide to managing Malta Starthistle. United States Agriculture Forest Service. TP-R3-16-1.	
DiTomaso, J.M. and J.D. Gerlach, Jr.. <i>Centaurea melitensis</i> . In, <i>Invasive Plants of California's Wildlands</i> . CalEPPC. UC Press, Berkeley; Gerlach, J.D. Jr. 2000. Ph.D. Dissertation, UC Davis.	
Gerlach, J.D., and K.J. Rice. 2003. Testing life history correlates of invasiveness using congeneric plant species. <i>Ecological Applications</i> 13:167–179.	
Question 2.5 Potential for human-caused dispersal	A Other Pub. Mat'l back
Identify dispersal mechanisms: Seeds and seed head stick to vehicles and machinery. Spread in contaminated seed mixes. Infestations commonly found around electric boxes, sewer entries, and other facilities accessed by vehicles.	
Sources of information: enter text here	
U.S. Forest Service. 2010. A field guide to managing Malta Starthistle. United States Agriculture Forest Service. TP-R3-16-1.	
DiTomaso, J.M. and J.D. Gerlach, Jr.. <i>Centaurea melitensis</i> . In, <i>Invasive Plants of California's Wildlands</i> . CalEPPC. UC Press, Berkeley; Gerlach, J.D. Jr. 2000. Ph.D. Dissertation, UC Davis.	
Donaldson, S. and Dawn Rafferty. 2002. Identification and Management of Malta Starthistle. University of Nevada: Fact Sheet-02-86.	
Observational - Gallo	

Question 2.6 Potential for natural long-distance dispersal	A Other Pub. Mat'l back
Identify dispersal mechanisms: Seeds fall near the parent plant, are dispersed short distances by wind or longer distances by humans, animals, water, and soil movements	
Sources of information: enter text here	
California Department of Food and Agriculture, EncycloWeedia. 2002. Yellow starthistle. Malta starthistle or Tocalote. Sicilian starthistle. <i>Ed by:</i> Healy, E.A., S. Enloe, J.M. DiTomaso, B. Roberson, N. Dechoretz, S. Schoenig, P. Akers, L. Butler, and J. Garvin. Non-Cropland Weed group, UC Extension Service, Weed Science Program, Department of Vegetable Crops, The University of California. Davis, CA. 95616. website: http://pi.cdafa.ca.gov/weedinfo/CENTAUREB2.htm .	
Question 2.7 Other regions invaded	B Other Pub. Mat'l back
Identify other regions: Has invaded coastal prairies and open woodlands in California.	
Sources of information:	
Joe DiTomaso. 2003. Criteria for Categorizing Invasive Non-Native Plants that Threaten Wildlands. California Invasive Plant and Pest Council.	
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:	
Invaders of Texas Citizen Science Observations (Accessed 9 May 2011: http://texasinvasives.org/observations/search.php?satellite=&sn=CEME2&cn=	
USDA PLANTS Database (Accessed 9 May 2011: http://plants.usda.gov/java/county?state_name=Texas&statefips=48&symbol=CEME2)	
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 9 May 2011: http://texasinvasives.org/observations/search.php?satellite=&sn=CEME2&cn=	
USDA PLANTS Database (Accessed 9 May 2011: http://plants.usda.gov/java/county?state_name=Texas&statefips=48&symbol=CEME2)	

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	2
Viable seed produced with <i>both</i> self-pollination and cross-pollination	1
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	0
Fragments easily and fragments can become established elsewhere	0
Resprouts readily when cut, grazed, or burned	0
	7 pts 0
	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	A
		Chihuahuan Desert Grasslands	A
		Low Mountains and Bajadas	A
		Chihuahuan Montane Woodlands	A
		Stockton Plateau	A
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	C
		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	
		Limestone Cut Plain	
		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	A
		Rio Grande Floodplain and Terraces	
ER09	Texas Blackland Prairies	Northern Blackland Prairies	A
		Southern Blackland/Fayette Prairie	
		Floodplains and Low Terraces	
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	
		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	
		Floodplains and Low Terraces	
		Pleistocene Fluvial Terraces	
		Southern Tertiary Uplands	
		Flatwoods	
		Red River Bottomland	

Ecoregions of Texas

- | | | |
|--|---|--|
| <p>23 Arizona/New Mexico Mountains</p> <ul style="list-style-type: none"> 23a Chihuahuan Desert Slopes 23b Montane Woodlands <p>24 Chihuahuan Deserts</p> <ul style="list-style-type: none"> 24a Chihuahuan Basins and Playas 24b Chihuahuan Desert Grasslands 24c Low Mountains and Bajadas 24d Chihuahuan Montane Woodlands 24e Stockton Plateau <p>25 High Plains</p> <ul style="list-style-type: none"> 25b Rolling Sand Plains 25e Canadian/Cimarron High Plains 25i Llano Estacado 25j Shinnery Sands 25k Arid Llano Estacado | <p>26 Southwestern Tablelands</p> <ul style="list-style-type: none"> 26a Canadian/Cimarron Breaks 26b Flat Tablelands and Valleys 26c Caprock Canyons, Badlands, and Breaks 26d Semiarid Canadian Breaks <p>27 Central Great Plains</p> <ul style="list-style-type: none"> 27h Red Prairie 27i Broken Red Plains 27j Limestone Plains <p>29 Cross Timbers</p> <ul style="list-style-type: none"> 29b Eastern Cross Timbers 29c Western Cross Timbers 29d Grand Prairie 29e Limestone Cut Plain 29f Carbonate Cross Timbers | <p>30 Edwards Plateau</p> <ul style="list-style-type: none"> 30a Edwards Plateau Woodland 30b Llano Uplift 30c Balcones Canyonlands 30d Semiarid Edwards Plateau <p>31 Southern Texas Plains</p> <ul style="list-style-type: none"> 31a Northern Neeces Alluvial Plains 31b Semiarid Edwards Bajada 31c Texas-Tamaulipan Thornscrub 31d Rio Grande Floodplain and Terraces |
|--|---|--|

