

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):	<i>Bothriochloa ischaemum var songarica</i>
Synonyms:	<i>Andropogon ischaemum var songaricus</i>
Common names:	King Ranch bluestem
Evaluation date (mm/dd/yy):	10/04/09
Evaluator #1 Name/Title:	Norma Fowler, Professor
Affiliation:	University of Texas at Austin
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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:

Plant Score was not calculated because the guidelines do not contain scoring guidelines for the situation where the distribution score is ‘U’.

A Documentation average is requested but the guidelines do not contain information for quantifying it.

Table 2. Criteria, Section, and Overall Scores

Species: *Bothriochloa ischaemum* var *songarica*

Region: TX

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

Impact

Enter four characters from Q1.1-1.4 below:

UAUD

Using matrix, determine score and enter below:

B

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

Invasiveness

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

15

Use matrix to determine score and enter below:

B

Plant Score

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

Overall Score

Alert Status

3.1	Ecological amplitude/Range	U	U
3.2	Distribution/Peak frequency Wksht C	U	U

Distribution

Using matrix, determine score and enter below:

U

Documentation

Average of all questions

enter text here

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 C back
Identify ecosystem processes impacted: compared to native grassland species: above-ground biomass greater, litter accumulation greater, hence soil temperature likely lower ; likely effects on fire intensity, etc.; possible effects on nitrogen cycle; might increase (due to shading) or decrease (due to uptake) soil moisture.	
Sources of information: pers. obs; T. Basham pers. comm.; T. Basham dissertation, when completed, will address many of these processes	
Question 1.2 Impact on plant community composition, structure, and interactions	A A back
Identify type of impact or alteration: compared to plots dominated by native grassland species, species richness can be greatly reduced. near-monocultures of <i>B. ischaemum var songarica</i> are not uncommon.	
Sources of information: Gabbard and Fowler 2007	
Question 1.3 Impact on higher trophic levels	U U back
Identify type of impact or alteration: unknown, but probably large where <i>B. ischaemum var songarica</i> is abundant	
Sources of information: none, but note that published studies of <i>B. ischaemum var ischaemum</i> further north have documented impacts	
Question 1.4 Impact on genetic integrity	D D back
Identify impacts: according to anecdotal information, it may self –fertilize or be an apomict, and may be an aneuploid series	
Sources of information: D. Overath is working on the genetics of this species; Gould 1975 reports several chromosome numbers for this variety, which suggests aneuploidy and hence apomixis. There are native congeners, so the risk should be investigated	
Invasiveness	
Question 2.1 Role of anthropogenic and natural disturbance in establishment	A A back
Describe role of disturbance: highly fire, grazing, and mowing tolerant, but does not need any of these to form dense monocultures; not restricted to roadsides but often abundant there	
Sources of information: Fowler and Gabbard 2007; Fowler unpublished	
Question 2.2 Local rate of spread with no management	B C back
Describe rate of spread: relatively slow; primarily spreading from established patches	
Sources of information: Fowler unpublished	

Question 2.3 Recent trend in total area infested within state	A D back
Describe trend: my guess is that it continues to increase	
Sources of information: conversations with land managers; casual pers. obs	
Question 2.4 Innate reproductive potential	B B back
Describe key reproductive characteristics: bunchgrass; sets abundant seed, but seed viability often fairly low, apparently due to fungus	
Sources of information: Gabbard 2003 (Ph.D. dissertation) provides excellent demographic data on this species; Alofs unpublished.	
Question 2.5 Potential for human-caused dispersal	A A back
Identify dispersal mechanisms: vehicles; mowing machines are likely. Note that it is sold commercially and deliberately planted, especially for erosion control.	
Sources of information: Gabbard and Fowler 2007	
Question 2.6 Potential for natural long-distance dispersal	C D back
Identify dispersal mechanisms: none known	
Sources of information: the pattern of local spread (Fowler unpublished) strongly suggests that natural dispersal is usually limited to quite short distances; does not stick in socks but might be moved by mud on hooves, paws	
Question 2.7 Other regions invaded	C A back
Identify other regions: based on Turner 2003, this variety has already spread across the southern half of Texas, suggesting a climatic limit. <i>B. ischaemum var ischamum</i> is found in OK, KA, so we can anticipate it spreading across northern TX	
Sources of information: Turner 2003	
Distribution	
Question 3.1 Ecological amplitude/Range	U U back
Describe ecological amplitude, identifying date of source information and approximate date of introduction to the state, if known: we have information only for the eastern Edwards Plateau. In that region, the amplitude would score 'A'	
Sources of information: for the eastern Edwards Plateau only: Gabbard and Fowler 2007; Fowler unpublished; pers comm. from various land managers	

Question 3.2 Distribution/Peak frequency	U U back
Describe distribution: enter text here	
Sources of information: enter text here	
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. <i>Weed Technology</i> . 9: 402-404.	
HEAR. Date unknown. <i>Emex spinosa</i> . 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.	
Gabbard, B. L. 2003. The population dynamics and distribution of the exotic grass, <i>Bothriochloa ischaemum</i> . Ph.D. dissertation, University of Texas, Austin, TX.	
Gabbard, B. L., and N. L. Fowler. 2007. Wide ecological amplitude of a diversity-reducing invasive grass. <i>Biological Invasions</i> 9:149-160.	
Gould, F. W. 1975. The grasses of Texas. Texas A&M University Press, College Station, TX.	
Turner, B. L. 2003. Atlas of the vascular plants of Texas: ferns, gymnosperms, monocots. Brit Press, Fort Worth, TX.	

Worksheet A

Reaches reproductive maturity in 2 years or less	y 1
Dense infestations produce >1,000 viable seed per square meter	n
Populations of this species produce seeds every year.	y 1
Seed production sustained over 3 or more months within a population annually	y 1
Seeds remain viable in soil for three or more years	n
Viable seed produced with <i>both</i> self-pollination and cross-pollination	u
Has quickly spreading vegetative structures (rhizomes, roots, etc.) that may root at nodes	n
Fragments easily and fragments can become established elsewhere	n
Resprouts readily when cut, grazed, or burned	y 1
	4 1 item
	B
Note any related traits: seed has relatively low viability, apparently due to fungus, reducing viable seed/sq m, but this probably varies widely (Alofs per comm.)	

Worksheet B - Texas Ecoregions

(*sensu* Gould 1960)

Code	Ecoregion	Score*
ER01	East Texas Pineywoods	U
ER02	Gulf Coast Prairies and Marshes	U
ER03	Post Oak Savannah	U
ER04	Blackland Prairies	U
ER05	Cross Timbers and Prairies	U
ER06	South Texas Plains	U
ER07	Edwards Plateau	U
ER08	Rolling Plains	U
ER09	High Plains	U
ER10	Trans Pecos	U

* 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 (unable to estimate percentage of occurrences invaded).