



# Chickasaw National Recreation Area

## *Southern Plains Network and Southern Plains Fire Group 2013 Vegetation Monitoring Data Summary*



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### ON THE COVER

Grassland field at Chickasaw NRA. NPS Photo.

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## Introduction

This report contains a data summary of results from all vegetation monitoring conducted by the Southern Plains Network (SOPN) and the Southern Plains Fire Group (SPFG) during 2013 at Chickasaw National Recreation Area (CHIC). Data summaries are used to impart current monitoring data until enough years of data have been collected to facilitate trend analysis. A more detailed synthesis report is scheduled to be produced in 2015.

## Grassland Monitoring Results

Grassland monitoring occurred during late May and mid September, 2013 (Table 1). Data collection in May in the Guy Sandy Area was delayed due to a severe hail storm that stripped the vegetation. Data from the fourteen (14) permanent transects (Figure 2) were collected following the established monitoring protocol *Grassland Monitoring Protocol and Standard Operating Procedures for the Southern Plains I&M Network and Fire Group* (Folts-Zettner et al.) (Figure 1). The protocol calls for a series of permanent 50-meter transects containing five 2x1-meter plots. Species composition, relative cover and ground strata are collected during

**Table 1. Plant community and sampling dates for each transect at Chickasaw NRA in 2013.**

| Group       | Transect  | Plant community | Date  |
|-------------|-----------|-----------------|-------|
| Restoration | NH-LT01   | Old Field       | 09/17 |
|             | NH-LT02   | Old Field       | 09/16 |
| Upland      | LAKE-01   | Upland Grass    | 05/28 |
|             | LAKE-02   | Upland Grass    | 05/28 |
|             | LAKE-03   | Upland Grass    | 05/27 |
|             | LAKE-LT01 | Upland Grass    | 05/25 |
|             | LAKE-LT02 | Upland Grass    | 05/26 |
|             | WH-LT01   | Upland Grass    | 09/14 |
|             | WH-LT02   | Upland Grass    | 09/16 |
|             | WH-LT03   | Upland Grass    | 09/15 |
|             | WH-01     | Upland Grass    | 09/17 |
|             | WH-LT05   | Upland Grass    | 09/14 |
|             | CHIC-01   | Upland Grass    | 09/15 |
| Fire        | ERC-03    | Fire Program    | 05/25 |

annual visits.

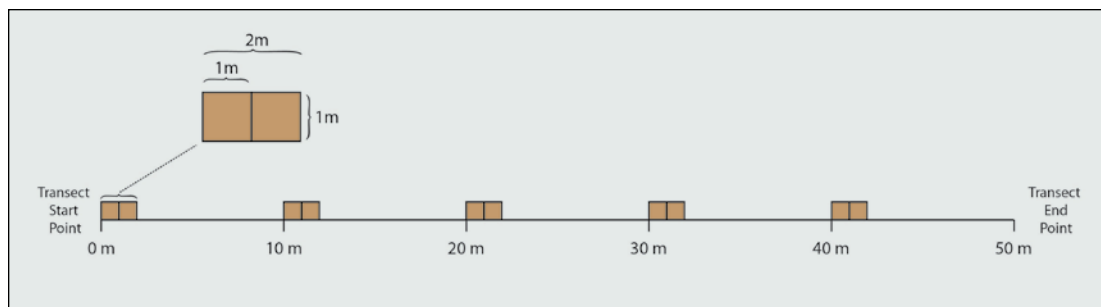


**Figure 1. Layout of plots within each permanent transect.**

Chickasaw NRA Grassland Monitoring  
5/25-5/28/2013 and 9/14-9/17/2013

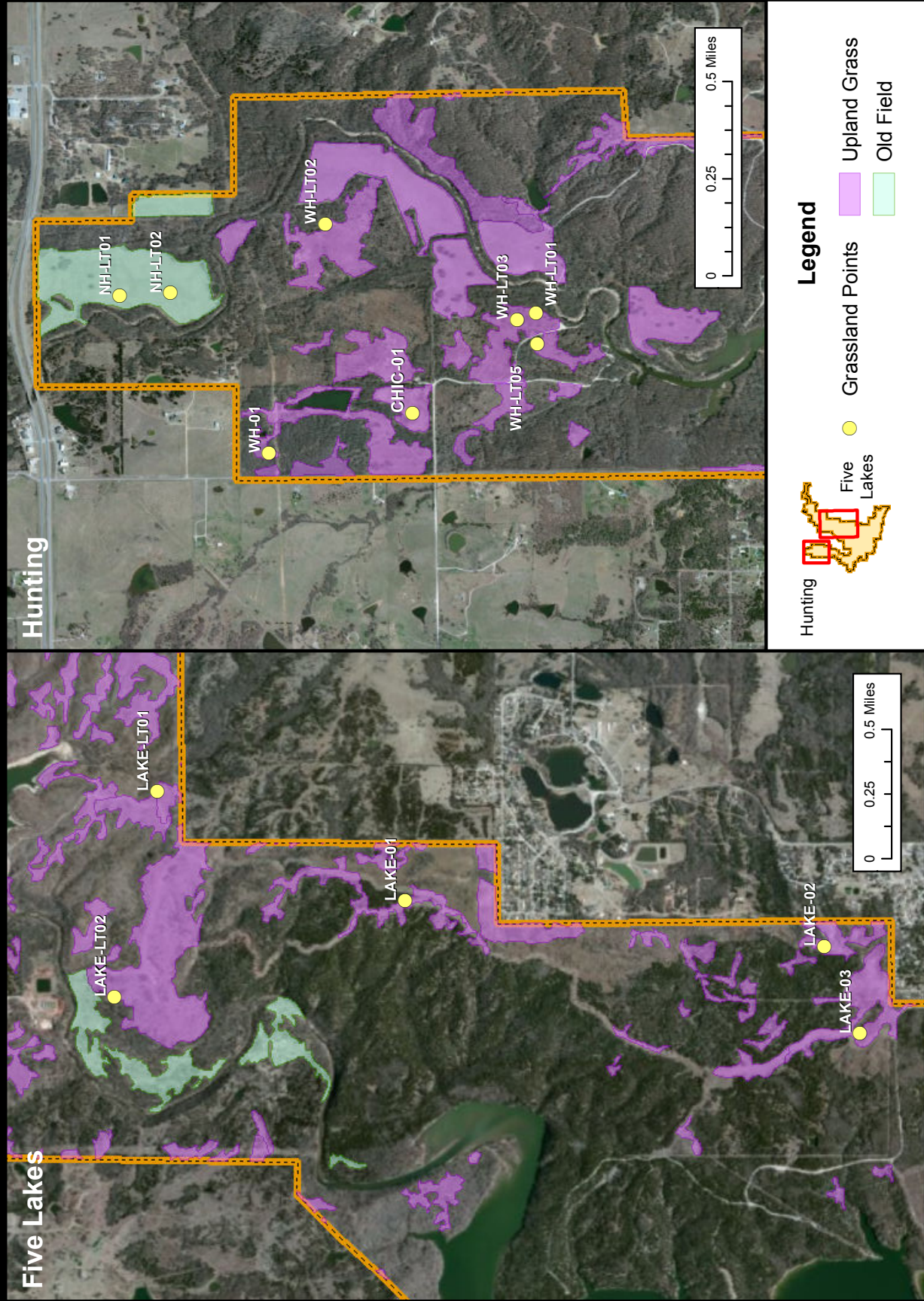


Figure 2. Location of each permanent plot at CHIC monitored in 2013

The type and amount of ground strata (bare soil, litter, rock) influences many aspects of grassland health. The benefits of these influences vary along an east-west gradient. Litter accumulation, for example is considered more beneficial in the western parts of the Southern Great Plains because it protects the soil from erosion by wind and rain, and keeps soil root-zones cooler. These same benefits accrue in the eastern area, but because higher rainfall results in higher vegetative production, the greater accumulation of litter can negatively impact a grassland by limiting seedling recruitment. Ground strata estimates for each transect monitored at CHIC in 2013 can be found in Table 2.

Table 3 contains numerical results of 2013 grassland monitoring at CHIC. Each transect contains five plots. Frequency reflects the number of plots in each transect where a particular species was detected. Exotic plant species are highlighted in pink. Scientific and common names for each plant code, as well as that species attributes can be found in Table 4.

**Table 2. Ground strata type and percentage for each transect monitored at CHIC in 2013.**

| Cover     | Old Field Community |         | Upland Grassland Community |         |         |           |           |
|-----------|---------------------|---------|----------------------------|---------|---------|-----------|-----------|
|           | NH-LT01             | NH-LT02 | LAKE-01                    | LAKE-02 | LAKE-03 | LAKE-LT01 | LAKE-LT02 |
| SOIOPEN   | 5.4                 | 1       | 0                          | 16.4    | 12.8    | 19.6      | 37.8      |
| SOILUNDER | 3.2                 | 27      | 0                          | 8.4     | 6.6     | 4.6       | 2         |
| LITTER    | 91.4                | 72      | 39.4                       | 70.2    | 66.6    | 61.8      | 48        |
| WOOD      | 0                   | 0       | 60.6                       | 4.4     | 14      | 0         | 1.6       |
| ROCKSM    | 0                   | 0       | 0                          | 0.4     | 0       | 10.8      | 5.4       |
| ROCKLG    | 0                   | 0       | 0                          | 0       | 0       | 0.4       | 4.2       |
| LICHEN    | 0                   | 0       | 0                          | 0       | 0       | 0         | 0         |
| MOSS      | 0                   | 0       | 0                          | 0.2     | 0       | 0.8       | 1         |
| CRUST     | 0                   | 0       | 0                          | 0       | 0       | 0         | 0         |

| Cover     | Upland Grassland Community |         |         |       |         |         |        |
|-----------|----------------------------|---------|---------|-------|---------|---------|--------|
|           | WH-LT01                    | WH-LT02 | WH-LT03 | WH-01 | WH-LT05 | CHIC-01 | ERC-03 |
| SOIOPEN   | 1                          | 6.6     | 2.2     | 11    | 0.6     | 13.2    | 29     |
| SOILUNDER | 4.8                        | 4.4     | 2.4     | 37.4  | 2.2     | 5.8     | 8      |
| LITTER    | 92                         | 83.6    | 95      | 47    | 97.2    | 74.4    | 37.6   |
| WOOD      | 2.2                        | 1       | 0.4     | 4.6   | 0       | 1.2     | 4.8    |
| ROCKSM    | 0                          | 0       | 0       | 0     | 0       | 1.2     | 7      |
| ROCKLG    | 0                          | 0       | 0       | 0     | 0       | 0       | 12     |
| LICHEN    | 0                          | 0       | 0       | 0     | 0       | 0       | 0      |
| MOSS      | 0                          | 2       | 0       | 0     | 0       | 0       | 0.6    |
| CRUST     | 0                          | 2.4     | 0       | 0     | 0       | 4.2     | 0.2    |

**Table 3. Species cover sum and frequency for each permanent transect monitored at CHIC in 2013. Exotic species are highlighted in pink.**

| Species Code | Old Field Community |            |           |            | Upland Grassland Community |            |           |            |           |            |           |            |           |            |
|--------------|---------------------|------------|-----------|------------|----------------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
|              | NH-LT01             |            | NH-LT02   |            | LAKE-01                    |            | LAKE-02   |            | LAKE-03   |            | LAKE-LT01 |            | LAKE-LT02 |            |
|              | Cover Sum           | Fre-quency | Cover Sum | Fre-quency | Cover Sum                  | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency |
| Forb         |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| ACAANG       |                     |            |           |            |                            |            | 1.5       | 2          |           |            | 1         | 1          |           |            |
| ACHMIL       |                     |            | 1         | 2          |                            |            | 1         | 2          |           |            | 0.5       | 1          |           |            |
| AMASSP       |                     |            |           |            |                            |            |           |            | 0.5       | 1          |           |            |           |            |
| AMBART       |                     |            |           |            | 0.5                        | 1          | 1         | 2          |           |            | 5         | 4          |           |            |
| AMBPSI       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| AMPDRA       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| APOCAN       |                     |            |           |            |                            |            | 1         | 1          |           |            |           |            |           |            |
| ARESER       |                     |            |           |            |                            |            |           |            | 0.5       | 1          | 0.5       | 1          |           |            |
| ARTCAR       |                     |            |           |            |                            |            | 7         | 1          |           |            | 1.5       | 2          |           |            |
| ASCASP       |                     |            |           |            |                            |            |           |            |           |            |           |            | 3         | 1          |
| BAPALB       |                     |            |           |            |                            |            |           |            |           |            |           |            | 3         | 1          |
| BRIEUP       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| BUGARV       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| CALSER       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| CHAMIS       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| CHANIC       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| CHANUT       |                     |            | 1         | 2          |                            |            |           |            |           |            |           |            |           |            |
| CHAPRO       | 96                  | 4          |           |            |                            |            |           |            |           |            |           |            |           |            |
| CHRPIL       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| CIRUND       |                     |            |           |            | 3                          | 1          |           |            | 3         | 4          | 6         | 2          |           |            |
| CONARV       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| CONCAN       |                     |            |           |            | 0.5                        | 1          | 0.5       | 1          |           |            |           |            |           |            |
| CORTIN       |                     |            |           |            |                            |            |           |            |           |            | 6.5       | 3          | 0.5       | 1          |
| CROGLA       |                     |            | 1         | 2          |                            |            |           |            |           |            |           |            |           |            |
| CROMON       |                     |            | 1.5       | 2          | 0.5                        | 1          |           |            | 1         | 2          |           |            | 1.5       | 3          |
| DALPUR       |                     |            |           |            | 0.5                        | 1          |           |            |           |            | 0.5       | 1          |           |            |
| DELCAR       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| DESILL1      |                     |            |           |            | 0.5                        | 1          |           |            | 1.5       | 2          |           |            |           |            |
| DESSES       |                     |            |           |            |                            |            | 0.5       | 1          | 0.5       | 1          |           |            |           |            |
| ENGPOR       |                     |            |           |            |                            |            | 0.5       | 1          |           |            |           |            |           |            |
| ERILON       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| EUPBIC       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| EVONUT       |                     |            |           |            |                            |            |           |            |           |            |           |            | 1         | 1          |
| FRBLNG       |                     |            |           |            |                            |            | 0.5       | 1          | 0.5       | 1          | 0.5       | 1          | 0.5       | 1          |
| GAIPUL       |                     |            |           |            |                            |            |           |            |           |            | 12.5      | 5          |           |            |
| GALVIR       |                     |            |           |            | 0.5                        | 1          | 0.5       | 1          |           |            | 1.5       | 3          | 1         | 2          |
| GAUCOC       | 14.5                | 4          |           |            |                            |            |           |            |           |            |           |            |           |            |
| GERCAR       |                     |            |           |            |                            |            | 0.5       | 1          | 1         | 2          |           |            |           |            |
| GLABIP       |                     |            |           |            | 0.5                        | 1          | 0.5       | 1          |           |            |           |            | 1.5       | 3          |
| GRILAN       |                     |            |           |            |                            |            |           |            |           |            | 0.5       | 1          | 0.5       | 1          |
| GRIPAP       |                     |            |           |            |                            |            |           |            |           |            | 1         | 2          |           |            |
| HELTEN       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |

**Table 3. Species cover sum and frequency for each permanent transect monitored at CHIC in 2013. Exotic species are highlighted in pink (continued).**

| Species Code | Upland Grassland Community |            |           |            |           |            |           |            |           |            |           |            |           |            |
|--------------|----------------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
|              | WH-LT01                    |            | WH-LT02   |            | WH-LT03   |            | WH-01     |            | WH-LT05   |            | CHIC-01   |            | ERC-03    |            |
|              | Cover Sum                  | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency |
| Forb         |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| ACAANG       |                            |            |           |            |           |            | 1         | 2          | 0.5       | 1          | 1         | 2          |           |            |
| ACHMIL       |                            |            | 0.5       | 1          |           |            |           |            |           |            |           |            |           |            |
| AMASSP       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| AMBART       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| AMBPSI       |                            |            | 28.5      | 5          | 46        | 2          | 20.5      | 5          | 14        | 3          | 1         | 2          | 0.5       | 1          |
| AMPDRA       |                            |            |           |            |           |            |           |            |           |            | 0.5       | 1          |           |            |
| APOCAN       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| ARESER       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| ARTCAR       | 1                          | 2          |           |            | 10.5      | 2          | 0.5       | 1          |           |            |           |            | 0.5       | 1          |
| ASCASP       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| BAPALB       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| BRIEUP       | 3                          | 1          |           |            |           |            |           |            |           |            |           |            |           |            |
| BUGARV       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CALSER       |                            |            |           |            |           |            |           |            |           |            |           |            | 1         | 2          |
| CHAMIS       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CHANIC       |                            |            | 0.5       | 1          |           |            |           |            |           |            |           |            |           |            |
| CHANUT       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CHAPRO       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CHRPIL       |                            |            | 3.5       | 2          |           |            |           |            |           |            |           |            |           |            |
| CIRUND       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CONARV       |                            |            |           |            |           |            |           |            |           |            |           |            | 0.5       | 1          |
| CONCAN       |                            |            |           |            |           |            |           |            | 0.5       | 1          |           |            |           |            |
| CORTIN       |                            |            |           |            |           |            |           |            |           |            |           |            | 0.5       | 1          |
| CROGLA       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CROMON       |                            |            | 1         | 1          |           |            |           |            |           |            |           |            |           |            |
| DALPUR       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| DELCAR       |                            |            |           |            |           |            |           |            |           |            |           |            | 1         | 1          |
| DESILL1      |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| DESSSES      | 1.5                        | 2          | 1         | 2          | 1         | 2          |           |            |           |            |           |            |           |            |
| ENGPER       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| ERILON       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| EUPBIC       |                            |            |           |            |           |            | 1         | 1          |           |            |           |            |           |            |
| EVONUT       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| FRBLNG       |                            |            |           |            |           |            | 0.5       | 1          |           |            |           |            | 0.5       | 1          |
| GAIPUL       |                            |            |           |            |           |            |           |            |           |            |           |            | 49        | 5          |
| GALVIR       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| GAUCOC       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| GERCAR       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| GLABIP       |                            |            |           |            |           |            |           |            |           |            |           |            | 1         | 1          |
| GRILAN       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| GRIPAP       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| HELTEN       |                            |            |           |            | 1.5       | 3          |           |            |           |            | 1         | 2          | 2.5       | 5          |

**Table 3. Species cover sum and frequency for each permanent transect monitored at CHIC in 2013. Exotic species are highlighted in pink (continued).**

| Species Code | Old Field Community |            |           |            | Upland Grassland Community |            |           |            |           |            |           |            |           |            |
|--------------|---------------------|------------|-----------|------------|----------------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
|              | NH-LT01             |            | NH-LT02   |            | LAKE-01                    |            | LAKE-02   |            | LAKE-03   |            | LAKE-LT01 |            | LAKE-LT02 |            |
|              | Cover Sum           | Fre-quency | Cover Sum | Fre-quency | Cover Sum                  | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency |
| HIELON       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| HYMSCA       |                     |            |           |            |                            |            |           |            |           |            | 2         | 4          | 4         | 2          |
| INDMIN       |                     |            |           |            | 3.5                        | 2          |           |            |           |            |           |            | 0.5       | 1          |
| KRALAN1      |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| LACCAN       |                     |            |           |            |                            |            | 0.5       | 1          |           |            |           |            |           |            |
| LACSER       |                     |            |           |            | 0.5                        | 1          | 2         | 4          |           |            |           |            | 2.1       | 4          |
| LEPDEN       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| LESCUN       |                     |            |           |            |                            |            | 0.5       | 1          |           |            |           |            |           |            |
| LESOVA       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| LESPRO       |                     |            |           |            |                            |            | 0.5       | 1          |           |            |           |            |           |            |
| LESVIO       |                     |            |           |            |                            |            | 0.5       | 1          | 1         | 2          |           |            | 0.5       | 1          |
| LESVIR       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| LIAMUC       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| LINLEW       |                     |            |           |            |                            |            |           |            |           |            | 1.5       | 2          | 1         | 2          |
| LINSUL       |                     |            |           |            |                            |            |           |            |           |            | 0.5       | 1          |           |            |
| MEDLUP       |                     |            |           |            |                            |            | 0.5       | 1          |           |            | 17        | 5          |           |            |
| MELOFF       |                     |            |           |            |                            |            |           |            | 4         | 3          |           |            |           |            |
| MOLVER       |                     |            |           |            |                            |            |           |            |           |            |           |            | 1         | 2          |
| MONCLI       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| OXASTR       |                     |            | 1.5       | 3          |                            |            | 1.5       | 3          | 1.5       | 3          |           |            | 0.5       | 1          |
| PARJAM       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| PHYPOL       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| PLAPAT       |                     |            |           |            |                            |            | 0.5       | 1          |           |            | 1.5       | 2          | 1         | 2          |
| PLARHO       |                     |            |           |            | 0.5                        | 1          |           |            |           |            |           |            |           |            |
| PLAVIR       | 0.5                 | 1          |           |            |                            |            | 0.5       | 1          |           |            |           |            |           |            |
| POLNUT       |                     |            |           |            |                            |            |           |            |           |            |           |            | 1.5       | 3          |
| PSEOBT       |                     |            |           |            |                            |            |           |            |           |            | 3         | 1          | 0.5       | 1          |
| PSOTEN       |                     |            |           |            | 1                          | 2          | 1         | 1          |           |            | 1         | 1          | 4         | 2          |
| RUBFLA       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| RUDHIR       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| SIDABU       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| SILANT       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| SOLCAN       |                     |            |           |            |                            |            | 3.5       | 2          |           |            |           |            |           |            |
| SOLCAR       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| SOLDIM       | 1                   | 1          | 3         | 1          |                            |            |           |            |           |            |           |            |           |            |
| SOLELA       |                     |            |           |            |                            |            |           |            |           |            | 0.5       | 1          |           |            |
| SOLMIS       | 3                   | 1          |           |            |                            |            |           |            |           |            |           |            |           |            |
| SOLNEM       |                     |            |           |            |                            |            | 3         | 1          |           |            |           |            |           |            |
| SOLPET       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| SOLULM       |                     |            |           |            |                            |            | 0.5       | 1          |           |            |           |            |           |            |
| STEMED       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| STYBIF       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| SYMERI       |                     |            | 51        | 5          |                            |            |           |            | 0.5       | 1          | 3         | 1          |           |            |

**Table 3. Species cover sum and frequency for each permanent transect monitored at CHIC in 2013. Exotic species are highlighted in pink (continued).**

| Species Code | Upland Grassland Community |           |           |           |           |           |           |           |           |           |           |           |           |           |
|--------------|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|              | WH-LT01                    |           | WH-LT02   |           | WH-LT03   |           | WH-01     |           | WH-LT05   |           | CHIC-01   |           | ERC-03    |           |
|              | Cover Sum                  | Frequency | Cover Sum | Frequency | Cover Sum | Frequency | Cover Sum | Frequency | Cover Sum | Frequency | Cover Sum | Frequency | Cover Sum | Frequency |
| HIELON       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| HYMSCA       |                            |           |           |           |           |           |           |           |           |           |           |           | 2         | 4         |
| INDMIN       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| KRALAN1      |                            |           |           |           |           |           |           |           | 0.5       | 1         |           |           |           |           |
| LACCAN       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| LACSER       | 1                          | 2         |           |           |           |           |           |           |           |           |           |           |           |           |
| LEPDEN       |                            |           |           |           |           |           |           |           |           |           |           |           | 0.5       | 1         |
| LESCUN       | 2                          | 3         |           |           | 6.5       | 3         |           |           | 10        | 5         |           |           |           |           |
| LESOVA       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| LESPRO       | 1                          | 2         |           |           |           |           |           |           |           |           |           |           |           |           |
| LESVIO       | 5.5                        | 4         | 1         | 2         | 2         | 3         |           |           |           |           |           |           |           |           |
| LESVIR       | 1.5                        | 2         |           |           | 26        | 4         |           |           | 0.5       | 1         |           |           |           |           |
| LIAMUC       | 0.5                        | 1         | 3.5       | 2         |           |           |           |           |           |           | 0.5       | 1         |           |           |
| LINLEW       |                            |           |           |           |           |           |           |           |           |           |           |           | 1         | 2         |
| LINSUL       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| MEDLUP       |                            |           |           |           |           |           |           |           |           |           |           |           | 0.5       | 1         |
| MELOFF       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| MOLVER       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| MONCLI       |                            |           | 0.5       | 1         |           |           |           |           |           |           | 1         | 2         |           |           |
| OXASTR       |                            |           |           |           |           |           |           |           | 1         | 2         |           |           |           |           |
| PARJAM       |                            |           | 0.5       | 1         |           |           |           |           |           |           |           |           |           |           |
| PHYPOL       |                            |           |           |           |           |           |           |           |           |           |           |           | 0.5       | 1         |
| PLAPAT       |                            |           |           |           |           |           |           |           |           |           |           |           | 2.5       | 5         |
| PLARHO       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| PLAVIR       | 0.5                        | 1         | 2         | 4         |           |           | 2         | 4         | 2         | 4         | 2         | 4         |           |           |
| POLNUT       |                            |           |           |           |           |           |           |           |           |           |           |           | 1         | 2         |
| PSEOBT       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| PSOTEN       |                            |           |           |           |           |           |           |           |           |           |           |           | 1         | 2         |
| RUBFLA       | 0.5                        | 1         |           |           |           |           |           |           | 1.5       | 2         |           |           |           |           |
| RUDHIR       |                            |           |           |           |           |           |           |           | 0.5       | 1         |           |           | 1         | 1         |
| SIDABU       |                            |           |           |           |           |           |           |           |           |           |           |           | 1         | 1         |
| SILANT       |                            |           |           |           |           |           |           |           |           |           |           |           | 1.5       | 3         |
| SOLCAN       |                            |           |           |           |           |           |           |           | 1.5       | 3         |           |           |           |           |
| SOLCAR       |                            |           |           |           | 0.5       | 1         |           |           |           |           |           |           |           |           |
| SOLDIM       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| SOLELA       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| SOLMIS       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| SOLNEM       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| SOLPET       |                            |           | 0.5       | 1         |           |           |           |           |           |           | 5         | 5         |           |           |
| SOLULM       |                            |           |           |           |           |           |           |           |           |           |           |           |           |           |
| STEMED       |                            |           |           |           |           |           |           |           |           |           |           |           | 2         | 4         |
| STYBIF       | 0.5                        | 1         |           |           |           |           |           |           |           |           |           |           |           |           |
| SYMERI       |                            |           |           |           |           |           | 25        | 5         |           |           |           |           | 0.5       | 1         |

**Table 3. Species cover sum and frequency for each permanent transect monitored at CHIC in 2013. Exotic species are highlighted in pink (continued).**

| Species Code | Old Field Community |           |           |           | Upland Grassland Community |           |           |           |           |           |           |           |           |           |
|--------------|---------------------|-----------|-----------|-----------|----------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|              | NH-LT01             |           | NH-LT02   |           | LAKE-01                    |           | LAKE-02   |           | LAKE-03   |           | LAKE-LT01 |           | LAKE-LT02 |           |
|              | Cover Sum           | Frequency | Cover Sum | Frequency | Cover Sum                  | Frequency | Cover Sum | Frequency | Cover Sum | Frequency | Cover Sum | Frequency | Cover Sum | Frequency |
| SYMPRA       | 12                  | 2         |           |           |                            |           | 0.5       | 1         | 4         | 3         |           |           |           |           |
| TETLIN       |                     |           |           |           |                            |           |           |           |           |           | 1.5       | 2         | 1         | 2         |
| TORARV       |                     |           |           |           |                            |           |           |           | 3         | 4         |           |           |           |           |
| TRABET       |                     |           |           |           |                            |           |           |           |           |           | 0.5       | 1         | 1         | 2         |
| TRIPER       |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| VERBAL       |                     |           |           |           |                            |           |           |           | 5.5       | 2         |           |           |           |           |
| Grass        |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| ANDGER       |                     |           |           |           |                            |           | 1         | 1         | 2         | 2         |           |           |           |           |
| ANDGLO       |                     |           |           |           | 17                         | 4         | 4.5       | 3         | 5         | 4         |           |           |           |           |
| ARIOLI       |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| ARIPUR       |                     |           |           |           |                            |           |           |           |           |           | 3.5       | 2         |           |           |
| BOTISC       |                     |           |           |           | 0.5                        | 1         |           |           |           |           |           |           |           |           |
| BOTLAG       |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| BOUCUR       |                     |           |           |           | 0.5                        | 1         |           |           |           |           |           |           | 1         | 2         |
| BOUHIR       | 0.5                 | 1         |           |           |                            |           |           |           |           |           |           |           |           |           |
| BROJAP       |                     |           |           |           | 5                          | 1         | 16.5      | 3         | 26.5      | 4         | 75.5      | 3         |           |           |
| BUCDAC       |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| CARSSP       |                     |           | 1.5       | 3         |                            |           |           |           |           |           |           |           | 0.5       | 1         |
| CHALAT2      |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| CHLVER       | 16                  | 2         |           |           |                            |           |           |           |           |           |           |           |           |           |
| CYNDAC       |                     |           |           |           |                            |           |           |           |           |           | 0.5       | 1         |           |           |
| CYPESC       | 2                   | 3         | 0.5       | 1         |                            |           |           |           |           |           |           |           |           |           |
| CYPLNG       |                     |           |           |           |                            |           |           |           | 0.5       | 1         |           |           |           |           |
| CYPSSP       |                     |           |           |           |                            |           |           |           | 4.5       | 4         |           |           |           |           |
| DICACU       | 75                  | 3         |           |           |                            |           | 11.5      | 4         | 1.5       | 3         | 3.5       | 2         |           |           |
| DICCLA       | 1.5                 | 2         |           |           |                            |           |           |           |           |           |           |           | 3         | 1         |
| DICLIN       | 1                   | 1         |           |           |                            |           |           |           |           |           |           |           |           |           |
| DICMAL       |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| ECHCRU2      |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| ELYVIR       |                     |           |           |           |                            |           | 1         | 1         |           |           |           |           |           |           |
| ERACAP       |                     |           | 0.5       | 1         |                            |           |           |           |           |           |           |           |           |           |
| ERASPE       | 12                  | 2         |           |           |                            |           |           |           |           |           |           |           |           |           |
| GRSLNG       |                     |           |           |           |                            |           |           |           |           |           | 0.5       | 1         |           |           |
| NASLEU       |                     |           |           |           | 0.5                        | 1         | 0.5       | 1         |           |           | 48        | 2         |           |           |
| PANVIR       |                     |           |           |           |                            |           |           |           |           |           |           |           | 11.5      | 4         |
| PASLAE       |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |
| POAARA       |                     |           |           |           | 3                          | 5         |           |           |           |           |           |           |           |           |
| SCHSCO       |                     |           |           |           | 18                         | 3         | 6         | 2         |           |           | 30        | 3         | 18.5      | 4         |
| SETPAR       |                     |           | 42        | 5         |                            |           |           |           |           |           |           |           |           |           |
| SORHAL       | 40                  | 4         | 253       | 5         |                            |           |           |           |           |           |           |           |           |           |
| SORNUT       |                     |           |           |           | 5                          | 3         | 1         | 2         |           |           |           |           | 0.5       | 1         |
| SPHOBT       |                     |           |           |           |                            |           | 1         | 2         |           |           |           |           |           |           |
| SPOCOM       |                     |           |           |           |                            |           |           |           |           |           |           |           |           |           |

**Table 3. Species cover sum and frequency for each permanent transect monitored at CHIC in 2013. Exotic species are highlighted in pink (continued).**

| Species Code | Upland Grassland Community |            |           |            |           |            |           |            |           |            |           |            |           |            |
|--------------|----------------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
|              | WH-LT01                    |            | WH-LT02   |            | WH-LT03   |            | WH-01     |            | WH-LT05   |            | CHIC-01   |            | ERC-03    |            |
|              | Cover Sum                  | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency |
| SYMPRA       | 1.5                        | 3          | 4         | 5          | 1         | 2          | 3.5       | 2          | 21.5      | 5          | 5         | 5          |           |            |
| TETLIN       |                            |            | 1         | 2          |           |            |           |            |           |            |           |            | 3         | 5          |
| TORARV       |                            |            |           |            |           |            |           |            |           |            |           |            | 0.5       | 1          |
| TRABET       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| TRIPER       |                            |            |           |            |           |            |           |            | 1         | 2          |           |            |           |            |
| VERBAL       |                            |            | 0.5       | 1          |           |            |           |            |           |            |           |            |           |            |
| Grass        |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| ANDGER       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| ANDGLO       | 0.5                        | 1          |           |            |           |            |           |            |           |            |           |            |           |            |
| ARIOLI       |                            |            | 24.5      | 4          |           |            | 0.5       | 1          |           |            |           |            |           |            |
| ARIPUR       |                            |            | 1.5       | 2          |           |            | 1         | 2          | 2.5       | 2          | 4.5       | 3          |           |            |
| BOTISC       |                            |            | 21.5      | 4          |           |            |           |            |           |            | 7.5       | 2          |           |            |
| BOTLAG       | 0.5                        | 1          | 0.5       | 1          |           |            | 0.5       | 1          | 1         | 2          | 0.5       | 1          |           |            |
| BOUCUR       |                            |            |           |            |           |            |           |            |           |            |           |            | 0.5       | 1          |
| BOUHIR       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| BROJAP       |                            |            |           |            |           |            |           |            |           |            |           |            | 0.5       | 1          |
| BUCDAC       |                            |            |           |            |           |            |           |            |           |            | 1.5       | 2          |           |            |
| CARSSP       |                            |            | 1.5       | 3          | 7         | 4          |           |            |           |            | 1.5       | 3          |           |            |
| CHALAT2      |                            |            |           |            |           |            | 0.5       | 1          |           |            |           |            |           |            |
| CHLVER       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CYNDAC       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CYPESC       |                            |            |           |            | 3         | 1          |           |            | 0.5       | 1          |           |            |           |            |
| CYPLNG       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CYPSSP       |                            |            | 3         | 1          |           |            | 0.5       | 1          |           |            |           |            |           |            |
| DICACU       | 1                          | 1          | 4         | 3          | 51.5      | 4          | 40.5      | 5          |           |            | 2         | 4          |           |            |
| DICCLA       |                            |            | 8         | 2          | 7.5       | 2          |           |            |           |            |           |            |           |            |
| DICLIN       |                            |            |           |            |           |            | 4.5       | 4          | 0.5       | 1          |           |            |           |            |
| DICMAL       | 9                          | 3          | 3.5       | 2          | 2         | 2          |           |            | 10        | 4          |           |            |           |            |
| ECHCRU2      |                            |            |           |            | 1         | 1          |           |            |           |            |           |            |           |            |
| ELYVIR       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| ERACAP       |                            |            | 1         | 1          |           |            | 44        | 4          | 0.5       | 1          |           |            |           |            |
| ERASPE       | 30                         | 3          | 2         | 2          |           |            |           |            | 21        | 4          | 10        | 5          |           |            |
| GRSLNG       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| NASLEU       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| PANVIR       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| PASLAE       |                            |            |           |            | 0.5       | 1          |           |            | 1         | 1          | 3         | 1          |           |            |
| POAARA       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| SCHSCO       | 25                         | 4          | 25        | 3          | 7.5       | 4          | 13        | 3          | 28.5      | 4          | 113       | 5          |           |            |
| SETPAR       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| SORHAL       |                            |            |           |            |           |            | 0.5       | 1          |           |            |           |            |           |            |
| SORNUT       | 5                          | 4          | 21        | 3          | 1         | 2          | 24        | 4          | 7.5       | 4          | 13.5      | 5          | 10        | 5          |
| SPHOBT       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| SPOCOM       |                            |            | 7         | 1          | 3         | 1          | 19.5      | 4          | 48.5      | 4          | 0.5       | 1          |           |            |

**Table 3. Species cover sum and frequency for each permanent transect monitored at CHIC in 2013. Exotic species are highlighted in pink (continued).**

| Species Code | Old Field Community |            |           |            | Upland Grassland Community |            |           |            |           |            |           |            |           |            |
|--------------|---------------------|------------|-----------|------------|----------------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
|              | NH-LT01             |            | NH-LT02   |            | LAKE-01                    |            | LAKE-02   |            | LAKE-03   |            | LAKE-LT01 |            | LAKE-LT02 |            |
|              | Cover Sum           | Fre-quency | Cover Sum | Fre-quency | Cover Sum                  | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency |
| SPOCRY       |                     |            |           |            |                            |            |           |            | 2         | 2          | 3.5       | 2          | 10.5      | 3          |
| TRIFLA       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| VULOCT       |                     |            |           |            | 1                          | 1          | 1         | 2          |           |            |           |            |           |            |
| Shrub        |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| CORDRU       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| SYMORB       |                     |            |           |            |                            |            |           |            |           |            |           |            | 3         | 1          |
| Subshrub     |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| ESCVIV       |                     |            |           |            |                            |            |           |            |           |            | 1         | 1          |           |            |
| OPUHUM       |                     |            |           |            |                            |            |           |            |           |            | 1.5       | 2          | 1         | 1          |
| Tree         |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| CERCAN       |                     |            |           |            |                            |            |           |            | 8         | 2          |           |            | 2         | 3          |
| FRAAME       |                     |            |           |            |                            |            | 5         | 1          |           |            |           |            | 0.5       | 1          |
| FRACAR       |                     |            |           |            |                            |            | 3         | 1          |           |            |           |            |           |            |
| FRAPEN       |                     |            |           |            |                            |            |           |            | 31        | 3          |           |            |           |            |
| FRASSP       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| JUNVIR       |                     |            |           |            |                            |            | 3         | 1          |           |            |           |            | 3         | 1          |
| PRUANG       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| PRUSER       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| QUEMAR       |                     |            |           |            |                            |            | 1         | 1          |           |            |           |            |           |            |
| QUEMUH       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| QUESTE       |                     |            |           |            |                            |            | 15        | 4          |           |            |           |            |           |            |
| RHUCOP       |                     |            |           |            |                            |            | 0.5       | 1          | 5         | 2          |           |            |           |            |
| RHUGLA       |                     |            |           |            |                            |            |           |            | 0.5       | 1          |           |            |           |            |
| SALNIG       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| SIDLAN       |                     |            |           |            |                            |            |           |            |           |            |           |            | 0.5       | 1          |
| ULMALA       |                     |            |           |            |                            |            | 7.5       | 4          | 3         | 4          |           |            | 0.5       | 1          |
| ULMAME       |                     |            |           |            | 0.5                        | 1          |           |            |           |            |           |            | 35        | 1          |
| Vine         |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| COCCAR       | 0.5                 | 1          |           |            |                            |            | 1         | 1          |           |            |           |            |           |            |
| CUSSSP       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| PARQUI       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |
| SMIBON       |                     |            |           |            |                            |            | 2.5       | 4          | 14        | 4          | 0.5       | 1          | 0.5       | 1          |
| TOXRAD       |                     |            |           |            |                            |            |           |            | 0.5       | 1          |           |            |           |            |
| VITSSP       |                     |            |           |            |                            |            |           |            |           |            |           |            |           |            |

**Table 3. Species cover sum and frequency for each permanent transect monitored at CHIC in 2013. Exotic species are highlighted in pink (continued).**

| Species Code | Upland Grassland Community |            |           |            |           |            |           |            |           |            |           |            |           |            |
|--------------|----------------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
|              | WH-LT01                    |            | WH-LT02   |            | WH-LT03   |            | WH-01     |            | WH-LT05   |            | CHIC-01   |            | ERC-03    |            |
|              | Cover Sum                  | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency | Cover Sum | Fre-quency |
| SPOCRY       |                            |            |           |            |           |            |           |            |           |            |           |            | 0.5       | 1          |
| TRIFLA       | 1.5                        | 2          | 3.5       | 2          | 10        | 5          | 0.5       | 1          | 8         | 2          |           |            |           |            |
| VULOC        |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| Shrub        |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CORDRU       | 13                         | 2          | 0.5       | 1          | 0.5       | 1          |           |            | 1         | 2          |           |            |           |            |
| SYMORB       | 1                          | 1          |           |            |           |            |           |            |           |            |           |            |           |            |
| Subshrub     |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| ESCVIV       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| OPUHUM       |                            |            |           |            |           |            |           |            |           |            |           |            | 2         | 3          |
| Tree         |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| CERCAN       |                            |            |           |            |           |            | 1         | 1          |           |            |           |            |           |            |
| FRAAME       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| FRACAR       |                            |            |           |            |           |            |           |            |           |            |           |            | 13        | 1          |
| FRAPEN       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| FRASSP       | 0.5                        | 1          |           |            |           |            |           |            |           |            |           |            |           |            |
| JUNVIR       | 13                         | 1          |           |            |           |            |           |            |           |            |           |            |           |            |
| PRUANG       |                            |            |           |            |           |            |           |            | 1         | 2          |           |            |           |            |
| PRUSER       |                            |            |           |            | 1         | 1          |           |            |           |            |           |            |           |            |
| QUEMAR       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| QUEMUH       | 0.5                        | 1          |           |            |           |            |           |            |           |            |           |            |           |            |
| QUESTE       | 10                         | 1          |           |            |           |            |           |            |           |            |           |            |           |            |
| RHUCOP       | 31.5                       | 2          |           |            | 45        | 2          |           |            | 20        | 1          | 3         | 1          |           |            |
| RHUGLA       | 58                         | 2          |           |            |           |            |           |            |           |            | 0.5       | 1          |           |            |
| SALNIG       |                            |            |           |            | 6         | 2          |           |            |           |            |           |            |           |            |
| SIDLAN       |                            |            |           |            |           |            |           |            |           |            |           |            | 10        | 1          |
| ULMALA       | 90                         | 4          | 60.5      | 2          | 38.5      | 3          | 1         | 2          | 15.5      | 2          |           |            |           |            |
| ULMAME       |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| Vine         |                            |            |           |            |           |            |           |            |           |            |           |            |           |            |
| COCCAR       |                            |            |           |            | 5         | 3          |           |            |           |            |           |            |           |            |
| CUSSP        |                            |            |           |            |           |            |           |            |           |            |           |            | 0.5       | 1          |
| PARQUI       | 5                          | 1          |           |            |           |            |           |            |           |            |           |            |           |            |
| SMIBON       | 13.5                       | 4          |           |            |           |            |           |            |           |            |           |            |           |            |
| TOXRAD       |                            |            |           |            | 0.5       | 1          |           |            |           |            |           |            |           |            |
| VITSSP       | 0.5                        | 1          |           |            |           |            |           |            |           |            |           |            |           |            |

**Table 4. All plant species detected during grassland monitoring in 2010 and exotic monitoring in 2010 and 2013 at CHIC. Exotic species are highlighted in pink.**

| Species Code | Life Form | Scientific Name                    | Common Name                | Primary Duration |
|--------------|-----------|------------------------------------|----------------------------|------------------|
| ACAANG       | Forb      | <i>Acacia angustissima</i>         | prairie acacia             | Perennial        |
| ACHMIL       | Forb      | <i>Achillea millefolium</i>        | yarrow                     | Perennial        |
| AEGCYL       | Grass     | <i>Aegilops cylindrica</i>         | jointed goat grass         | Annual           |
| AMASSP       | Forb      | <i>Amaranthus ssp.</i>             | pigweed                    | Perennial        |
| AMARET       | Forb      | <i>Amaranthus retroflexus</i>      | redroot pigweed            | Annual           |
| AMBART       | Forb      | <i>Ambrosia artemisiifolia</i>     | common ragweed             | Annual           |
| AMBPSI       | Forb      | <i>Ambrosia psilostachya</i>       | western ragweed            | Perennial        |
| AMPDRA       | Forb      | <i>Amphiachyris dracunculoides</i> | prairie broomweed          | Annual           |
| ANDGER       | Grass     | <i>Andropogon gerardii</i>         | big bluestem               | Perennial        |
| ANDGLO       | Grass     | <i>Andropogon glomeratus</i>       | bushy bluestem             | Perennial        |
| APOCAN       | Forb      | <i>Apocynum cannabinum</i>         | hemp dogbane               | Perennial        |
| ARESER       | Forb      | <i>Arenaria serpyllifolia</i>      | thymeleaf sandwort         | Annual           |
| ARIOLI       | Grass     | <i>Aristida oligantha</i>          | oldfield threeawn          | Annual           |
| ARIPUR       | Grass     | <i>Aristida purpurea</i>           | purple threeawn            | Perennial        |
| ARTCAR       | Forb      | <i>Artemisia carruthii</i>         | carruth's sagewort         | Perennial        |
| ASCASP       | Forb      | <i>Asclepias asperula</i>          | antelope horns milkweed    | Perennial        |
| BAPALB       | Forb      | <i>Baptisia alba</i>               | white wild indigo          | Perennial        |
| BOTISC       | Grass     | <i>Bothriochloa ischaemum</i>      | kr bluestem                | Perennial        |
| BOTLAG       | Grass     | <i>Bothriochloa laguroides</i>     | silver bluestem            | Perennial        |
| BOUCUR       | Grass     | <i>Bouteloua curtipendula</i>      | sideoats grama             | Perennial        |
| BOUHIR       | Grass     | <i>Bouteloua hirsuta</i>           | hairy grama                | Perennial        |
| BRIEUP       | Forb      | <i>Brickellia eupatorioides</i>    | false boneset brickellbush | Perennial        |
| BROJAP       | Grass     | <i>Bromus japonicus</i>            | japanese brome             | Annual           |
| BROTEC       | Grass     | <i>Bromus tectorum</i>             | cheatgrass                 | Annual           |
| BROPAP       | Tree      | <i>Broussonetia papyrifera</i>     | paper mulberry             | Perennial        |
| BUCDAC       | Grass     | <i>Buchloe dactyloides</i>         | buffalograss               | Perennial        |
| BUGARV       | Forb      | <i>Buglossoides arvensis</i>       | corn gromwell              | Annual           |
| CALSER       | Forb      | <i>Calylophus serrulatus</i>       | halfshrub sundrop          | Perennial        |
| CARSSP       | Grass     | <i>Carex ssp.</i>                  | sedge                      | N/A              |
| CERCAN       | Tree      | <i>Cercis canadensis</i>           | eastern redbud             | Perennial        |
| CHALAT2      | Grass     | <i>Chasmanthium latifolium</i>     | indian wood oats           | Perennial        |
| CHAMIS       | Forb      | <i>Chamaesyce missurica</i>        | prairie sandmat            | Annual           |
| CHANIC       | Forb      | <i>Chamaecrista nictitans</i>      | partridge pea              | Annual/Perennial |
| CHANUT       | Forb      | <i>Chamaesyce nutans</i>           | nodding spurge             | Annual/Perennial |
| CHAPRO       | Forb      | <i>Chamaesyce prostrata</i>        | prostrate sandmat          | Annual           |
| CHEGLA       | Forb      | <i>Chenopodium glaucum</i>         | oakleaf goosefoot          | Annual           |
| CHLVER       | Grass     | <i>Chloris verticillata</i>        | tumble windmill grass      | Perennial        |
| CHRPIL       | Forb      | <i>Chrysopsis pilosa</i>           | soft goldenaster           | Annual           |
| CIRUND       | Forb      | <i>Cirsium undulatum</i>           | wavyleaf thistle           | Biennial         |
| COCCAR       | Vine      | <i>Cocculus carolinus</i>          | carolina snailseed         | Perennial        |
| CONARV       | Forb      | <i>Convolvulus arvensis</i>        | field bindweed             | Perennial        |
| CONCAN       | Forb      | <i>Conyza canadensis</i>           | canada horseweed           | Annual           |

**Table 4. All plant species detected during grassland monitoring in 2010 and exotic monitoring in 2010 and 2013 at CHIC. Exotic species are highlighted in pink. (continued).**

| Species Code | Life Form | Scientific Name                    | Common Name                | Primary Duration          |
|--------------|-----------|------------------------------------|----------------------------|---------------------------|
| CORDRU       | Shrub     | <i>Cornus drummondii</i>           | roughleaf dogwood          | Perennial                 |
| CORTIN       | Forb      | <i>Coreopsis tinctoria</i>         | plains coreopsis           | Annual/Biennial/Perennial |
| CROGLA       | Forb      | <i>Croton glandulosus</i>          | vente conmigo              | Annual                    |
| CROMON       | Forb      | <i>Croton monanthogynus</i>        | oneseede croton            | Annual                    |
| CUSSSP       | Vine      | <i>Cuscuta ssp.</i>                | dodder                     | N/A                       |
| CYNDAC       | Grass     | <i>Cynodon dactylon</i>            | bermudagrass               | Perennial                 |
| CYPESC       | Grass     | <i>Cyperus esculentus</i>          | yellow nutsedge            | Perennial                 |
| CYPLNG       | Grass     | <i>Cyperus seedling</i>            | nutgrass                   | N/A                       |
| CYPSSP       | Grass     | <i>Cyperus ssp.</i>                | nutgrass                   | N/A                       |
| DALPUR       | Forb      | <i>Dalea purpurea</i>              | purple prairie clover      | Perennial                 |
| DELCAR       | Forb      | <i>Delphinium carolinianum</i>     | prairie larkspur           | Perennial                 |
| DESILL1      | Forb      | <i>Desmanthus illinoensis</i>      | illinois bundleflower      | Perennial                 |
| DESSES       | Forb      | <i>Desmodium sessilifolium</i>     | sessileleaf tickclover     | Perennial                 |
| DIAARM       | Forb      | <i>Dianthus armeria</i>            | Deptford pink              | Annual                    |
| DICACU       | Grass     | <i>Dichanthelium acuminatum</i>    | tapered panicgrass         | Perennial                 |
| DICCLA       | Grass     | <i>Dichanthelium clandestinum</i>  | deertongue                 | Perennial                 |
| DICLIN       | Grass     | <i>Dichanthelium linearifolium</i> | slim leaf panicgrass       | Perennial                 |
| DICMAL       | Grass     | <i>Dichanthelium malacophyllum</i> | sodt leaf panicgrass       | Perennial                 |
| ECHCRU2      | Grass     | <i>Echinochloa crus-galli</i>      | barnyardgrass              | Annual                    |
| ELYVIR       | Grass     | <i>Elymus virginicus</i>           | virginia wildrye           | Perennial                 |
| ENGPER       | Forb      | <i>Engelmannia peristenia</i>      | engelmann's daisy          | Perennial                 |
| ERACAP       | Grass     | <i>Eragrostis capillaris</i>       | lacegrass: lace grass      | Annual                    |
| ERACIL       | Grass     | <i>Eragrostis cilianensis</i>      | stinkgrass                 | Annual                    |
| ERASPE       | Grass     | <i>Eragrostis spectabilis</i>      | purple lovegrass           | Perennial                 |
| ERILON       | Forb      | <i>Eriogonum longifolium</i>       | longleaf buckwheat         | Perennial                 |
| EROCIC       | Forb      | <i>Erodium cicutarium</i>          | redstem storksbill         | Annual                    |
| ESCIVV       | Subshrub  | <i>Escobaria vivipara</i>          | spiny star                 | Perennial                 |
| EUPBIC       | Forb      | <i>Euphorbia bicolor</i>           | snow-on-the-prairie        | Annual                    |
| EUPDEN       | Forb      | <i>Euphorbia dentata</i>           | toothed spurge             | Annual                    |
| EVONUT       | Forb      | <i>Evolvulus nuttallianus</i>      | shaggy dwarf morning glory | Perennial                 |
| FRAAME       | Tree      | <i>Fraxinus americana</i>          | white ash                  | Perennial                 |
| FRACAR       | Tree      | <i>Frangula caroliniana</i>        | carolina buckthorn         | Perennial                 |
| FRAPEN       | Tree      | <i>Fraxinus pennsylvanica</i>      | green ash                  | Perennial                 |
| FRASSP       | Tree      | <i>Fraxinus ssp.</i>               | ash                        | N/A                       |
| FRBLNG       | Forb      | <i>Forb seedling</i>               | forb seedling              | N/A                       |
| GAIPUL       | Forb      | <i>Gaillardia pulchella</i>        | indian blanket             | Annual/Biennial/Perennial |
| GALVIR       | Forb      | <i>Galium virgatum</i>             | southwest bedstraw         | Annual                    |
| GAUCOC       | Forb      | <i>Gaura coccinea</i>              | scarlet guara              | Perennial                 |
| GERCAR       | Forb      | <i>Geranium carolinianum</i>       | carolina geranium          | Annual/Biennial           |
| GLABIP       | Forb      | <i>Glandularia bipinnatifida</i>   | dakota mock vervain        | Annual/Perennial          |
| GRILAN       | Forb      | <i>Grindelia lanceolata</i>        | narrowleaf gumweed         | Biennial/Perennial        |
| GRIPAP       | Forb      | <i>Grindelia papposa</i>           | wax gumweed                | Annual/Biennial           |

**Table 4. All plant species detected during grassland monitoring in 2010 and exotic monitoring in 2010 and 2013 at CHIC. Exotic species are highlighted in pink. (continued).**

| Species Code | Life Form | Scientific Name                    | Common Name                      | Primary Duration |
|--------------|-----------|------------------------------------|----------------------------------|------------------|
| GRSLNG       | Grass     | <i>Grass seedling</i>              | grass seedling                   | N/A              |
| HELTEN       | Forb      | <i>Heliotropium tenellum</i>       | pasture heliotrope               | Annual           |
| HIELON       | Forb      | <i>Hieracium longipilum</i>        | hairy hawkweed                   | Perennial        |
| HYMSCA       | Forb      | <i>Hymenopappus scabiosaeus</i>    | carolina woollywhite             | Biennial         |
| INDMIN       | Forb      | <i>Indigofera miniata</i>          | western indigo                   | Perennial        |
| JUNVIR       | Tree      | <i>Juniperus virginiana</i>        | eastern red cedar                | Perennial        |
| KRALAN1      | Forb      | <i>Krameria lanceolata</i>         | trailing ratany                  | Perennial        |
| LACCAN       | Forb      | <i>Lactuca canadensis</i>          | Canada lettuce                   | Annual           |
| LACSER       | Forb      | <i>Lactuca serriola</i>            | prickly lettuce                  | Annual           |
| LATHIR       | Forb      | <i>Lathyrus hirsutus</i>           | singletary pea                   | Annual           |
| LEPDEN       | Forb      | <i>Lepidium densiflorum</i>        | common pepperweed                | Annual           |
| LESCUN       | Forb      | <i>Lespedeza cuneata</i>           | sericea lespedeza                | Perennial        |
| LESOVA       | Forb      | <i>Lesquerella ovalifolia</i>      | ovalleaf bladderpod              | Perennial        |
| LESPRO       | Forb      | <i>Lespedeza procumbens</i>        | trailing lespedeza               | Perennial        |
| LESVIO       | Forb      | <i>Lespedeza violacea</i>          | violet lespedeza                 | Perennial        |
| LESVIR       | Forb      | <i>Lespedeza virginica</i>         | slender lespedeza                | Perennial        |
| LIAMUC       | Forb      | <i>Liatris mucronata</i>           | narrowleaf gayfeather            | Perennial        |
| LINLEW       | Forb      | <i>Linum lewisii</i>               | blue flax                        | Perennial        |
| LINSUL       | Forb      | <i>Linum sulcatum</i>              | grooved flax                     | Annual           |
| LOLARU       | Grass     | <i>Lolium arundinaceum</i>         | tall fescue                      | Perennial        |
| LOLPER       | Grass     | <i>Lolium perenne</i>              | perennial ryegrass               | Annual/Perennial |
| LOLPRA       | Grass     | <i>Lolium pratense</i>             | meadow fescue                    | Perennial        |
| LONJAP       | Vine      | <i>Lonicera japonica</i>           | Japanese honeysuckle             | Perennial        |
| MEDLUP       | Forb      | <i>Medicago lupulina</i>           | black medic clover               | Annual/Perennial |
| MEDMIN       | Forb      | <i>Medicago minima</i>             | burr medic clover                | Annual           |
| MELAZE       | Tree      | <i>Melia azedarach</i>             | chinaberry                       | Perennial        |
| MELALB       | Forb      | <i>Melilotus albus</i>             | white sweetclover                | Perennial        |
| MELOFF       | Forb      | <i>Melilotus officinalis</i>       | yellow sweetclover               | Annual           |
| MOLVER       | Forb      | <i>Mollugo verticillata</i>        | carpetweed                       | Annual           |
| MONCLI       | Forb      | <i>Monarda clinopodioides</i>      | basil beebalm                    | Annual           |
| NASLEU       | Grass     | <i>Nassella leucotricha</i>        | texas wintergrass                | Perennial        |
| OPUHUM       | Subshrub  | <i>Opuntia humifusa</i>            | devils tongue pricklypear cactus | Perennial        |
| OXASTR       | Forb      | <i>Oxalis stricta</i>              | sheep sorrel                     | Perennial        |
| PANVIR       | Grass     | <i>Panicum virgatum</i>            | switchgrass                      | Perennial        |
| PARJAM       | Forb      | <i>Paronychia jamesii</i>          | james nailwort                   | Perennial        |
| PARQUI       | Vine      | <i>Parthenocissus quinquefolia</i> | virginia creeper                 | Perennial        |
| PASLAE       | Grass     | <i>Paspalum laeve</i>              | field paspalum                   | Perennial        |
| PHYPOL       | Forb      | <i>Phyllanthus polygonoides</i>    | knotted leafflower               | Perennial        |
| PLAPAT       | Forb      | <i>Plantago patagonica</i>         | woolly plantain                  | Annual           |
| PLARHO       | Forb      | <i>Plantago rhodosperma</i>        | red-seed plantain                | Annual           |
| PLAVIR       | Forb      | <i>Plantago virginica</i>          | paleseed plantain                | Annual/Biennial  |
| POAARA       | Grass     | <i>Poa arachnifera</i>             | texas bluegrass                  | Perennial        |

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| Species Code | Life Form | Scientific Name                      | Common Name                                 | Primary Duration          |
|--------------|-----------|--------------------------------------|---------------------------------------------|---------------------------|
| POLNUT       | Forb      | <i>Polytaenia nuttallii</i>          | nuttal's prairie parsley                    | Perennial                 |
| PRUANG       | Tree      | <i>Prunus angustifolia</i>           | chickasaw plum                              | Perennial                 |
| PRUSER       | Tree      | <i>Prunus serotina</i>               | black cherry                                | Perennial                 |
| PSEOBT       | Forb      | <i>Pseudognaphalium obtusifolium</i> | rabbit tobacco                              | Annual/Biennial           |
| PSOTEN       | Forb      | <i>Psoralidium tenuiflorum</i>       | slimflower scurfspea                        | Perennial                 |
| QUEMAR       | Tree      | <i>Quercus marilandica</i>           | blackjack oak                               | Perennial                 |
| QUEMUH       | Tree      | <i>Quercus muehlenbergii</i>         | chinkapin oak                               | Perennial                 |
| QUESTE       | Tree      | <i>Quercus stellata</i>              | post oak                                    | Perennial                 |
| RHUCOP       | Tree      | <i>Rhus copallinum</i>               | winged sumac                                | Perennial                 |
| RHUGLA       | Tree      | <i>Rhus glabra</i>                   | smooth sumac                                | Perennial                 |
| RUBFLA       | Forb      | <i>Rubus flagellaris</i>             | whiplash dewberry                           | Perennial                 |
| RUDHIR       | Forb      | <i>Rudbeckia hirta</i>               | blackeyed susan                             | Annual/Biennial/Perennial |
| SALNIG       | Tree      | <i>Salix nigra</i>                   | black willow                                | Perennial                 |
| SALTRA       | Forb      | <i>Salsola tragus</i>                | prickly Russian thistle                     | Annual                    |
| SCHSCO       | Grass     | <i>Schizachyrium scoparium</i>       | little bluestem                             | Perennial                 |
| SETPAR       | Grass     | <i>Setaria parviflora</i>            | knotroot bristlegrass                       | Perennial                 |
| SIDABU       | Forb      | <i>Sida abutilifolia</i>             | prostrate sida                              | Annual/Perennial          |
| SIDLAN       | Tree      | <i>Sideroxylon lanuginosum</i>       | gum bully                                   | Perennial                 |
| SILANT       | Forb      | <i>Silene antirrhina</i>             | sleepy catchfly                             | Annual                    |
| SMIBON       | Vine      | <i>Smilax bona-nox</i>               | saw greenbriar                              | Perennial                 |
| SOLCAN       | Forb      | <i>Solidago canadensis</i>           | canada goldenrod                            | Perennial                 |
| SOLCAR       | Forb      | <i>Solanum carolinense</i>           | carolina horsenettle                        | Perennial                 |
| SOLDIM       | Forb      | <i>Solanum dimidiatum</i>            | western horsenettle: torrey nightshade      | Perennial                 |
| SOLELA       | Forb      | <i>Solanum elaeagnifolium</i>        | silverleaf nightshade                       | Perennial                 |
| SOLMIS       | Forb      | <i>Solidago missouriensis</i>        | missouri goldenrod                          | Perennial                 |
| SOLNEM       | Forb      | <i>Solidago nemoralis</i>            | gray goldenrod                              | Perennial                 |
| SOLPET       | Forb      | <i>Solidago petiolaris</i>           | downy goldenrod                             | Perennial                 |
| SOLULM       | Forb      | <i>Solidago ulmifolia</i>            | elmleaf goldenrod                           | Perennial                 |
| SONASP       | Forb      | <i>Sonchus asper</i>                 | spiny sowthistle                            | Annual                    |
| SORHAL       | Grass     | <i>Sorghum halepense</i>             | johnsongrass                                | Perennial                 |
| SORNUT       | Grass     | <i>Sorghastrum nutans</i>            | indiangrass                                 | Perennial                 |
| SPHOBT       | Grass     | <i>Sphenopholis obtusata</i>         | prairie wedgescale                          | Annual/Perennial          |
| SPOCOM       | Grass     | <i>Sporobolus compositus</i>         | tall dropseed                               | Perennial                 |
| SPOCRY       | Grass     | <i>Sporobolus cryptandrus</i>        | sand dropseed                               | Perennial                 |
| STEMED       | Forb      | <i>Stellaria media</i>               | common chickweed                            | Annual/Perennial          |
| STYBIF       | Forb      | <i>Stylosanthes biflora</i>          | sidebeak pencilflower: endbeak pencilflower | Perennial                 |
| SYMERI       | Forb      | <i>Symphyotrichum ericoides</i>      | white heath aster                           | Perennial                 |
| SYMORB       | Shrub     | <i>Symphoricarpos orbiculatus</i>    | buckbrush                                   | Perennial                 |
| SYMPRA       | Forb      | <i>Symphyotrichum praealtum</i>      | willowleaf aster                            | Perennial                 |
| TAROFF       | Forb      | <i>Taraxacum officinale</i>          | common dandelion                            | Perennial                 |
| TETLIN       | Forb      | <i>Tetaneuris linearifolia</i>       | fineleaf four-nerve daisy                   | Annual                    |

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|--------------|-----------|-------------------------------|------------------------------|------------------|
| TORARV       | Forb      | <i>Torilis arvensis</i>       | spreading hedgeparsley       | Annual           |
| TOXRAD       | Vine      | <i>Toxicodendron radicans</i> | eastern poison ivy           | Perennial        |
| TRABET       | Forb      | <i>Tragia betonicifolia</i>   | betonyleaf noseburn          | Perennial        |
| TRADUB       | Forb      | <i>Tragopogon dubius</i>      | western salsify              | Annual           |
| TRIFLA       | Grass     | <i>Tridens flavus</i>         | purpletop tridens            | Perennial        |
| TRIDUB       | Forb      | <i>Trifolium dubium</i>       | small hop clover             | Annual           |
| TRIPER       | Forb      | <i>Triodanis perfoliata</i>   | clasping venus looking-glass | Annual           |
| ULMALA       | Tree      | <i>Ulmus alata</i>            | winged elm                   | Perennial        |
| ULMAME       | Tree      | <i>Ulmus americana</i>        | american elm                 | Perennial        |
| VERBAL       | Forb      | <i>Vernonia baldwinii</i>     | western ironweed             | Perennial        |
| VICSAT       | Vine      | <i>Vicia sativa</i>           | garden vetch                 | Annual           |
| VITSSP       | Vine      | <i>Vitis ssp.</i>             | grape                        | N/A              |
| VULOCT       | Grass     | <i>Vulpia octoflora</i>       | sixweeks fescue              | Annual           |

## Exotic Monitoring Results

Exotic plant monitoring followed the protocol *Multi-Network Exotic Plant Monitoring Protocol and Standard Operating Procedures* (Folts-Zettner et al. 2013). Methodology requires a series of discreet 50-meter blocks along designated vectors chosen for high-probability of introduction. Exotic species detected within each block are assigned densities, and their proximity to the vector itself is divided into various Distance Classes (Figure 3).

Monitoring occurred May 31 – June 3, 2013 and included the sewage treatment road and two sections of trail south of Veterans Lake (Figure 4). These vectors have been previously monitored May 26-28, 2010. It should be noted that 2010 was a year of above average precipitation, followed by consecutive years of moderate to severe drought, including 2013. Data summarized in this report compares the results of 2013 monitoring to that detected in 2010.

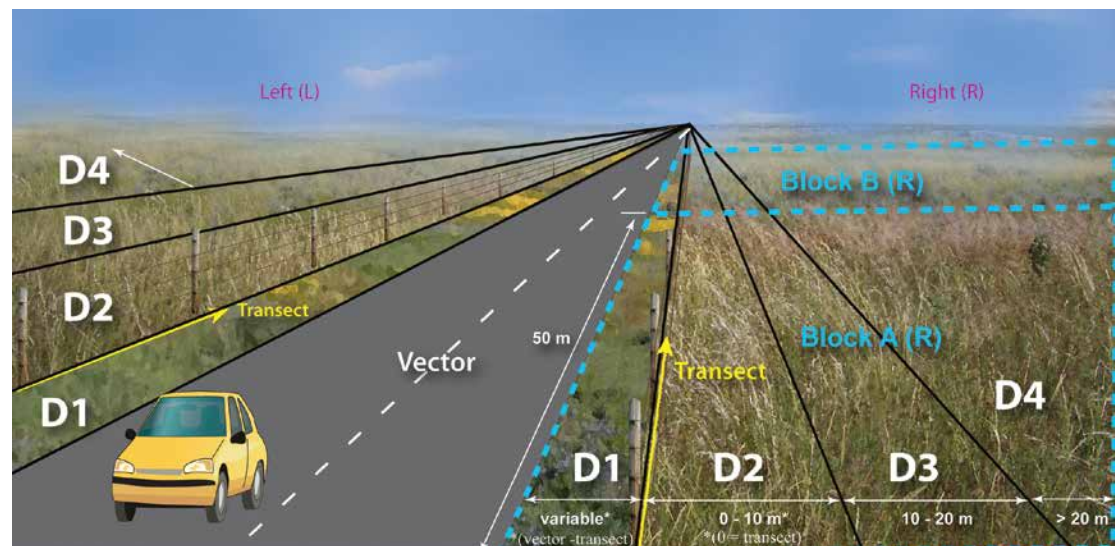


**Figure 3.** Layout of Vector Blocks and Distance Classes along a vector.

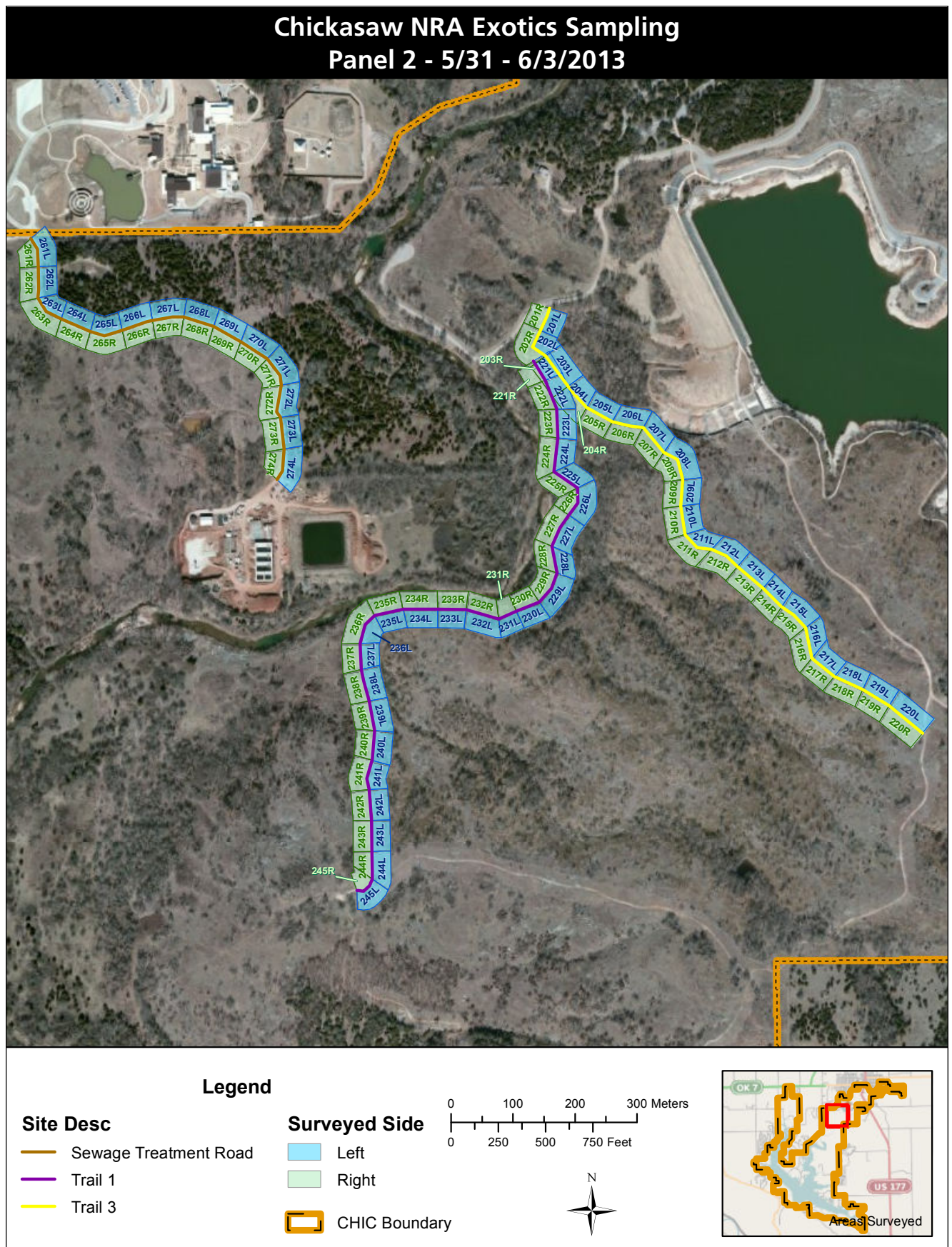


Figure 4. Panel 2 numbered vector blocks monitored at CHIC in both 2010 and 2013.

Table 5 presents all exotic species detected during both exotic and grassland (secondary transects) monitoring in both years as well as the number and percentage of vector blocks (N=118) and transects (N=14) (Figures 5 and 6) in which these species were found.

**Table 5. Number and percentage comparison of unit detections of exotic species found in repeated monitoring of vector blocks and permanent transects at CHIC.**

| Scientific Name                | Common Name             | 2010                   |          | 2013                   |          | 2010                       |          | 2013                       |          |
|--------------------------------|-------------------------|------------------------|----------|------------------------|----------|----------------------------|----------|----------------------------|----------|
|                                |                         | Primary Blocks (N=100) |          | Primary Blocks (N=118) |          | Secondary Transects (N=13) |          | Secondary Transects (N=14) |          |
|                                |                         | Total                  | % Blocks | Total                  | % Blocks | Total                      | % Blocks | Total                      | % Blocks |
| <i>Achillea millefolium</i>    | common yarrow           | -                      | -        | 38                     | 32%      | -                          | -        | -                          | -        |
| <i>Aegilops cylindrica</i>     | jointed goatgrass       | -                      | -        | 15                     | 13%      | -                          | -        | -                          | -        |
| <i>Albizia julibrissin</i>     | mimosa tree             | 40                     | 40%      | -                      | -        | -                          | -        | -                          | -        |
| <i>Amaranthus retroflexus</i>  | redroot amaranth        | 4                      | 4%       | -                      | -        | -                          | -        | -                          | -        |
| <i>Arenaria serpyllifolia</i>  | thymeleaf sandwort      | -                      | -        | -                      | -        | 1                          | 8%       | 2                          | 14%      |
| <i>Bothriochloa ischaemum</i>  | kr bluestem             | -                      | -        | -                      | -        | 1                          | 8%       | 3                          | 21%      |
| <i>Bromus japonicus</i>        | Japanese brome          | 97                     | 97%      | 106                    | 90%      | 2                          | 15%      | 5                          | 36%      |
| <i>Broussonetia papyrifera</i> | paper mulberry          | -                      | -        | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Bromus tectorum</i>         | cheatgrass              | 3                      | 3%       | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Buglossoides arvensis</i>   | corn gromwell           | -                      | -        | -                      | -        | -                          | -        | 1                          | 7%       |
| <i>Chenopodium glaucum</i>     | oakleaf goosefoot       | -                      | -        | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Convolvulus arvensis</i>    | field bindweed          | -                      | -        | -                      | -        | -                          | -        | 1                          | 7%       |
| <i>Cynodon dactylon</i>        | Bermudagrass            | 8                      | 8%       | 31                     | 26%      | 1                          | 8%       | 1                          | 7%       |
| <i>Cyperus esculentus</i>      | yellow nutsedge         | -                      | -        | -                      | -        | -                          | -        | 4                          | 29%      |
| <i>Dianthus armeria</i>        | deptford pink           | -                      | -        | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Eragrostis cilianensis</i>  | stinkgrass              | 57                     | 57%      | -                      | -        | -                          | -        | -                          | -        |
| <i>Echinochloa crus-galli</i>  | barnyardgrass           | -                      | -        | -                      | -        | -                          | -        | 1                          | 7%       |
| <i>Erodium cicutarium</i>      | red stem storksbill     | -                      | -        | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Euphorbia dentata</i>       | toothed spurge          | 4                      | 4%       | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Lactuca serriola</i>        | prickly lettuce         | -                      | -        | 46                     | 39%      | -                          | -        | 4                          | 29%      |
| <i>Lathyrus hirsutus</i>       | singletary peas         | 7                      | 7%       | -                      | -        | 2                          | 15%      | -                          | -        |
| <i>Lespedeza cuneata</i>       | sericea lespedeza       | 33                     | 33%      | 17                     | 14%      | 5                          | 38%      | 4                          | 29%      |
| <i>Lolium arundinaceum</i>     | tall fescue             | 1                      | 1%       | -                      | -        | -                          | -        | -                          | -        |
| <i>Lolium perenne</i>          | perennial ryegrass      | 42                     | 42%      | 33                     | 28%      | 1                          | 8%       | -                          | -        |
| <i>Lolium pratense</i>         | meadow fescue           | 2                      | 2%       | -                      | -        | -                          | -        | -                          | -        |
| <i>Lonicera japonica</i>       | Japanese honeysuckle    | -                      | -        | 2                      | 2%       | -                          | -        | -                          | -        |
| <i>Medicago lupulina</i>       | black medic clover      | 20                     | 20%      | 5                      | 4%       | 1                          | 8%       | 3                          | 21%      |
| <i>Medicago minima</i>         | burr medic clover       | 21                     | 21%      | 37                     | 31%      | -                          | -        | -                          | -        |
| <i>Melia azedarach</i>         | Chinaberry              | 23                     | 23%      | -                      | -        | -                          | -        | -                          | -        |
| <i>Melilotus albus</i>         | white sweetclover       | -                      | -        | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Melilotus officinalis</i>   | yellow sweetclover      | 50                     | 50%      | 9                      | 8%       | -                          | -        | 1                          | 7%       |
| No Plant                       | No Plant                | -                      | -        | 5                      | 4%       | -                          | -        | -                          | -        |
| <i>Salsola tragus</i>          | prickly russian thistle | -                      | -        | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Sida abutilifolia</i>       | prostrate sida          | -                      | -        | -                      | -        | 2                          | 15%      | 2                          | 14%      |
| <i>Sonchus asper</i>           | spiny sowthistle        | -                      | -        | -                      | -        | 1                          | 8%       | -                          | -        |
| <i>Sorghum halepense</i>       | Johnsongrass            | 33                     | 33%      | 43                     | 36%      | 6                          | 46%      | 3                          | 21%      |
| <i>Stellaria media</i>         | common chickweed        | -                      | -        | -                      | -        | -                          | -        | 1                          | 7%       |
| <i>Taraxacum officinale</i>    | common dandelion        | 2                      | 2%       | -                      | 0%       | -                          | -        | -                          | -        |
| <i>Torilis arvensis</i>        | spreading hedge parsley | 73                     | 73%      | 61                     | 52%      | 4                          | 31%      | 2                          | 14%      |
| <i>Trifolium dubium</i>        | small hop clover        | -                      | -        | -                      | -        | 3                          | 23%      | -                          | -        |
| <i>Tragopogon dubius</i>       | western salsify         | 11                     | 11%      | 11                     | 9%       | -                          | -        | -                          | -        |
| <i>Vicia sativa</i>            | garden vetch            | -                      | -        | 7                      | 6%       | -                          | -        | -                          | -        |

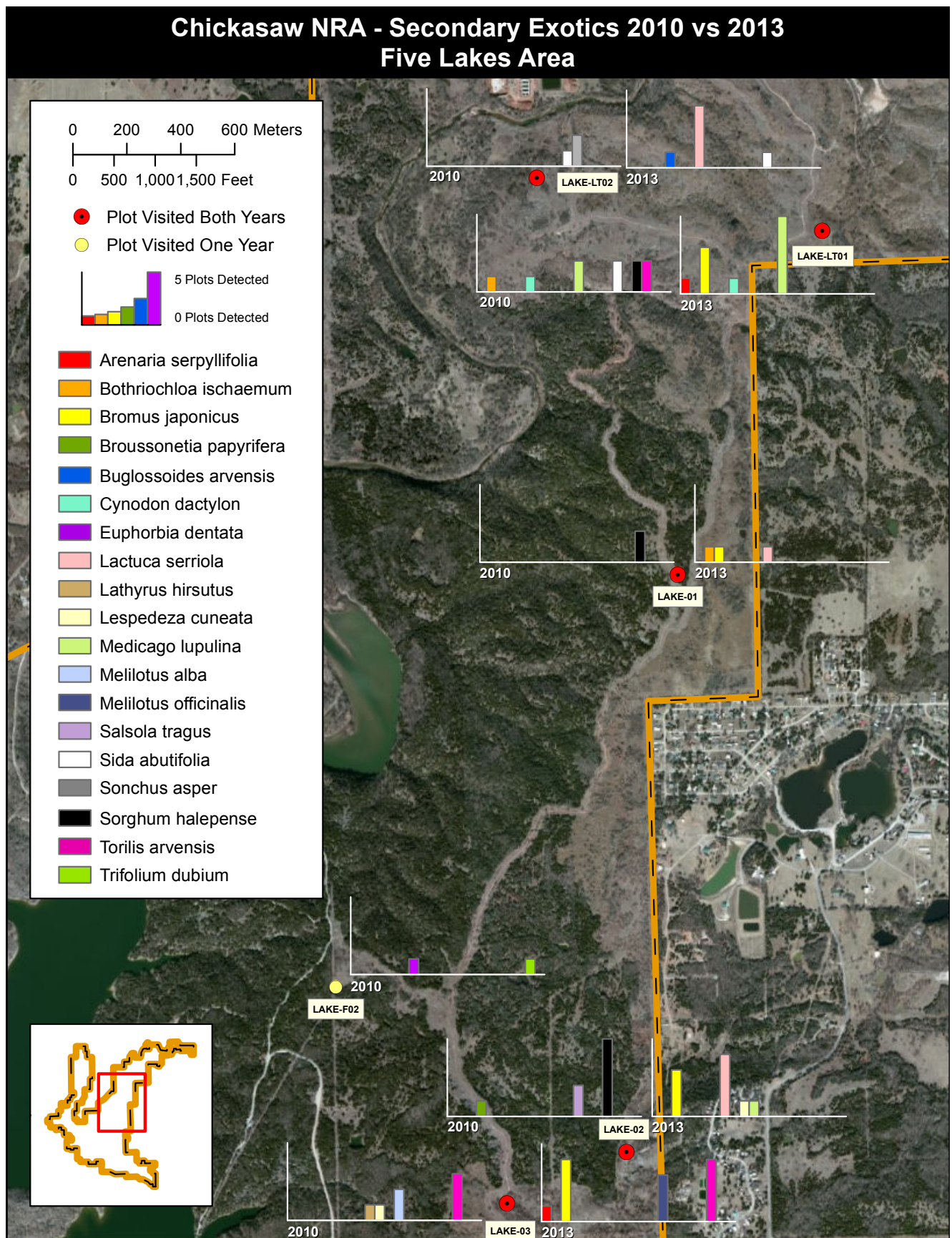
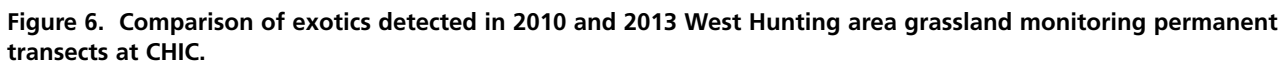


Figure 5. Comparison of exotics detected in 2010 and 2013 Five Lakes area grassland monitoring permanent transects at CHIC.



The density of a detection of any given exotic species informs us of the invasion stage of that area. A Density Code of 1 will point to either a new introduction in an area or a lack of suitable resources for that species to establish and spread. Conversely, a Density Code of 4 denotes a matrix of the exotic species that has successfully colonized the site and pushed out all native species. Table 6 is a comparison of the number of blocks containing that density in 2010 and 2013 in two Distance Classes. Distance Class 1 is from immediately along the vector to 2 meters into the landscape or the depth of the mowed verge (whichever is greater). Distance Class 2 is a constant 10 meters into the landscape beginning at the interior edge of Distance Class 1. This minimum depth of 12 meters will give the resource manager an idea of the ability of a given exotic species to invade into the interior of a landscape.

**Table 6. A comparison of the number of blocks containing a given density in 2010 and 2013 in two Distance Classes.**

| Species Code | Scientific Name               | Common Name          | Density Code | Distance Class 1 |           |          | Distance Class 2 |           |          |
|--------------|-------------------------------|----------------------|--------------|------------------|-----------|----------|------------------|-----------|----------|
|              |                               |                      |              | 2010             | Same 2013 | New 2013 | 2010             | Same 2013 | New 2013 |
| ACHMIL       | <i>Achillea millefolium</i>   | yarrow               | 1            | -                | 9         | 1        | -                | 8         | 2        |
|              |                               |                      | 2            | -                | 10        | -        | -                | 16        | 2        |
| AEGCYL       | <i>Aegilops cylindrica</i>    | jointed goat grass   | 1            | -                | 1         | -        | -                | 1         | 1        |
|              |                               |                      | 2            | -                | 11        | 1        | -                | 4         | -        |
| ALBJUL       | <i>Albizia julibrissin</i>    | mimosa               | 1            | 17               | -         | -        | 10               | -         | -        |
|              |                               |                      | 2            | 10               | -         | -        | 23               | -         | -        |
|              |                               |                      | 3            | -                | -         | -        | 1                | -         | -        |
| AMARET       | <i>Amaranthus retroflexus</i> | redroot pigweed      | 1            | 1                | -         | -        | 1                | -         | -        |
|              |                               |                      | 2            | 2                | -         | -        | 3                | -         | -        |
| BROJAP       | <i>Bromus japonicus</i>       | Japanese brome       | 1            | 21               | 5         | -        | 8                | 2         | 2        |
|              |                               |                      | 2            | 50               | 73        | 28       | 31               | 57        | 20       |
|              |                               |                      | 3            | 19               | -         | -        | 33               | -         | -        |
|              |                               |                      | 4            | 2                | -         | -        | 2                | -         | -        |
| BROTEC       | <i>Bromus tectorum</i>        | cheatgrass           | 1            | 1                | -         | -        | 1                | -         | -        |
|              |                               |                      | 2            | -                | -         | -        | 2                | -         | -        |
| CYNDAC       | <i>Cynodon dactylon</i>       | Bermudagrass         | 1            | 1                | -         | -        | 2                | -         | -        |
|              |                               |                      | 2            | 1                | 3         | -        | -                | -         | 14       |
|              |                               |                      | 3            | 5                | -         | 28       | 1                | -         | -        |
| ERACIL       | <i>Eragrostis cilianensis</i> | stinkgrass           | 1            | 20               | -         | -        | 13               | -         | -        |
|              |                               |                      | 2            | 21               | -         | -        | 27               | -         | -        |
|              |                               |                      | 3            | 4                | -         | -        | 4                | -         | -        |
| EUPDEN       | <i>Euphorbia dentata</i>      | toothed spurge       | 1            | 3                | -         | -        | -                | -         | -        |
|              |                               |                      | 2            | 1                | -         | -        | -                | -         | -        |
| LACSER       | <i>Lactuca serriola</i>       | prickly lettuce      | 1            | -                | 15        | 12       | -                | 14        | 1        |
|              |                               |                      | 2            | -                | 5         | 6        | -                | 1         | 2        |
| LATHIR       | <i>Lathyrus hirsutus</i>      | singletary pea       | 1            | 3                | -         | -        | 2                | -         | -        |
|              |                               |                      | 2            | -                | -         | -        | 5                | -         | -        |
| LESCUN       | <i>Lespedeza cuneata</i>      | sericea lespedeza    | 1            | 5                | 4         | 1        | 6                | 3         | 2        |
|              |                               |                      | 2            | 15               | 8         | 2        | 17               | 2         | 1        |
|              |                               |                      | 3            | 2                | -         | -        | 4                | -         | -        |
| LONJAP       | <i>Lonicera japonica</i>      | japanese honeysuckle | 1            | -                | -         | 2        | 1                | -         | 2        |

Density Code Key: 1 = one to five individual plants; 2 = scattered patches; 3 = evenly distributed patches; 4 = matrix; X = non-detect.

**Table 6. A comparison of the number of blocks containing a given density in 2010 and 2013 in two Distance Classes. (continued).**

| Species Code | Scientific Name              | Common Name            | Density Code | Distance Class 1 |           |          | Distance Class 2 |           |          |
|--------------|------------------------------|------------------------|--------------|------------------|-----------|----------|------------------|-----------|----------|
|              |                              |                        |              | 2010             | Same 2013 | New 2013 | 2010             | Same 2013 | New 2013 |
| LOLPER       | <i>Lolium perenne</i>        | perennial ryegrass     | 1            | 22               | 9         | 2        | 9                | 3         | -        |
|              |                              |                        | 2            | 14               | 19        | 3        | 11               | 6         | -        |
|              |                              |                        | 3            | 3                | -         | -        | 3                | -         | -        |
| MEDLUP       | <i>Medicago lupulina</i>     | black medic clover     | 1            | 6                | 1         | -        | 2                | -         | -        |
|              |                              |                        | 2            | 12               | 3         | 1        | 6                | 1         | 1        |
|              |                              |                        | 3            | 2                | -         | -        | 2                | -         | -        |
| MEDMIN       | <i>Medicago minima</i>       | burr medic clover      | 1            | 6                | 1         | 1        | 1                | -         | 1        |
|              |                              |                        | 2            | 11               | 25        | 10       | 3                | 9         | 5        |
|              |                              |                        | 3            | 4                | -         | -        | -                | -         | -        |
| MELAZE       | <i>Melia azedarach</i>       | chinaberry             | 1            | 2                | -         | -        | 7                | -         | -        |
|              |                              |                        | 2            | 1                | -         | -        | 12               | -         | -        |
| MELOFF       | <i>Melilotus officinalis</i> | yellow sweetclover     | 1            | 17               | 1         | 3        | 4                | -         | 2        |
|              |                              |                        | 2            | 18               | -         | 4        | 23               | -         | 1        |
|              |                              |                        | 3            | 4                | -         | -        | 7                | -         | -        |
| SORHAL       | <i>Sorghum halepense</i>     | Johnsongrass           | 1            | 5                | 7         | 6        | 6                | 7         | 4        |
|              |                              |                        | 2            | 7                | 5         | 17       | 13               | 7         | 16       |
|              |                              |                        | 3            | 5                | -         | -        | 9                | -         | -        |
| TAROFF       | <i>Taraxacum officinale</i>  | dandelion              | 1            | 1                | -         | -        | -                | -         | -        |
|              |                              |                        | 2            | 1                | -         | -        | -                | -         | -        |
| TORARV       | <i>Torilis arvensis</i>      | spreading hedgeparsley | 1            | 21               | 14        | 6        | 22               | 3         | 3        |
|              |                              |                        | 2            | 16               | 27        | 3        | 31               | 39        | 7        |
|              |                              |                        | 3            | 4                | -         | -        | 10               | -         | -        |
| TRADUB       | <i>Tragopogon dubius</i>     | western salsify        | 1            | 3                | 6         | -        | 8                | 6         | -        |
|              |                              |                        | 2            | 1                | -         | 1        | 1                | 2         | -        |
| VICSAT       | <i>Vicia sativa</i>          | garden vetch           | 1            | -                | 4         | -        | -                | 5         | -        |
|              |                              |                        | 2            | -                | 1         | -        | -                | 1         | -        |

Density Code Key: 1 = one to five individual plants; 2 = scattered patches; 3 = evenly distributed patches; 4 = matrix; X = non-detect.

Table 7 is included for the benefit of those resource managers with an active exotic management program. This table lists the specific species found in each vector block and the Density Code of that species in each Distance Class. The comparison of current detections to that those from 2010 underscores the current drought effect – the more herbaceous species have disappeared, while the drought tolerant exotics (ie: bindweed, kochia, prickly Russian thistle) appear and often have increased.

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class.**

| Block | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 201L  | <i>Aegilops cylindrica</i>    | jointed goat grass      |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 2  | X  | X  | 2    | 2  | 2  | 0  |
|       | <i>Bromus tectorum</i>        | cheatgrass              | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Cynodon dactylon</i>       | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Lactuca serriola</i>       | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 1    | 1  | X  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | perennial ryegrass      | 1    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Medicago lupulina</i>      | black medic clover      | 1    | 0  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>        | burr medic clover       | 1    | 0  | X  | X  |      |    |    |    |
|       | <i>Melia azedarach</i>        | Chinaberry              | 0    | 2  | X  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | yellow sweetclover      | 0    | 2  | X  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | Johnsongrass            | 1    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 2  | X  | X  | 2    | 2  | 1  | 0  |
| 201R  | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 0    | 1  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 2  | X  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | stinkgrass              | 0    | 2  | X  | X  |      |    |    |    |
|       | <i>Lactuca serriola</i>       | prickly lettuce         |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 2    | 2  | X  | X  | 2    | 2  | 0  | 0  |
|       | <i>Lolium perenne</i>         | perennial ryegrass      | 2    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Medicago lupulina</i>      | black medic clover      | 2    | 0  | X  | X  |      |    |    |    |
|       | <i>Medicago minima</i>        | burr medic clover       | 2    | 0  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Melia azedarach</i>        | Chinaberry              | 0    | 2  | X  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | yellow sweetclover      | 0    | 1  | X  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | Johnsongrass            | 0    | 2  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 2  | X  | X  | 2    | 2  | 0  | 0  |
| 202L  | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 2    | 1  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | Japanese brome          | 1    | 2  | X  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | stinkgrass              | 1    | 0  | X  | X  |      |    |    |    |
|       | <i>Euphorbia dentata</i>      | toothed spurge          | 2    | 0  | X  | X  |      |    |    |    |
|       | <i>Lactuca serriola</i>       | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 2    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Lolium perenne</i>         | perennial ryegrass      |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Medicago minima</i>        | burr medic clover       | 2    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Melilotus officinalis</i>  | yellow sweetclover      | 1    | 2  | X  | X  |      |    |    |    |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).**

| Block   | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|---------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|         |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 202L    | <i>Sorghum halepense</i>      | Johnsongrass            | 2    | 1  | X  | X  |      |    |    |    |
| (cont.) | <i>Torilis arvensis</i>       | spreading hedge parsley |      |    |    |    | 2    | 2  | 0  | 0  |
| 202R    | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 0    | 2  | 0  | 0  |
|         | <i>Bromus japonicus</i>       | Japanese brome          | 0    | 2  | 2  | 2  | 2    | 2  | 0  | 0  |
|         | <i>Eragrostis cilianensis</i> | stinkgrass              | 0    | 2  | 0  | 0  |      |    |    |    |
|         | <i>Lactuca serriola</i>       | prickly lettuce         |      |    |    |    | 0    | 1  | 0  | 0  |
|         | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 2    | 2  | 2  | 2  | 2    | 2  | 0  | 0  |
|         | <i>Lolium perenne</i>         | perennial ryegrass      | 1    | 2  | 0  | 0  | 2    | 2  | 0  | 0  |
|         | <i>Medicago minima</i>        | burr medic clover       | 1    | 0  | 0  | 0  |      |    |    |    |
|         | <i>Melia azedarach</i>        | Chinaberry              | 0    | 2  | 0  | 0  |      |    |    |    |
|         | <i>Melilotus officinalis</i>  | yellow sweetclover      | 1    | 2  | 0  | 0  |      |    |    |    |
|         | <i>Sorghum halepense</i>      | Johnsongrass            | 2    | 2  | 2  | 0  | 1    | 1  | 0  | 0  |
|         | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 2  | 2  | 2  | 2    | 2  | 2  | 0  |
| 203L    | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 2    | 2  | 1  | 1  |
|         | <i>Aegilops cylindrica</i>    | jointed goat grass      |      |    |    |    | 0    | 1  | 0  | 0  |
|         | <i>Bromus japonicus</i>       | Japanese brome          | 3    | 3  | 0  | 0  | 2    | 2  | 2  | 2  |
|         | <i>Lathyrus hirsutus</i>      | singletary pea          | 0    | 2  | 0  | 0  |      |    |    |    |
|         | <i>Lolium perenne</i>         | perennial ryegrass      | 0    | 1  | 0  | 0  | 2    | 2  | 1  | 0  |
|         | <i>Medicago lupulina</i>      | black medic clover      | 1    | 0  | 0  | 0  |      |    |    |    |
|         | <i>Medicago minima</i>        | burr medic clover       | 1    | 1  | 0  | 0  | 2    | 0  | 0  | 0  |
|         | <i>Melia azedarach</i>        | Chinaberry              | 0    | 2  | 2  | 0  |      |    |    |    |
|         | <i>Melilotus officinalis</i>  | yellow sweetclover      | 1    | 0  | 0  | 0  |      |    |    |    |
|         | <i>Sorghum halepense</i>      | Johnsongrass            | 0    | 2  | 3  | 0  |      |    |    |    |
|         | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 3  | 3  | 0  |      |    |    |    |
|         | <i>Tragopogon dubius</i>      | western salsify         | 0    | 1  | 0  | 0  | 0    | 1  | 1  | 0  |
| 203R    | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 2    | 2  | 2  | 0  |
|         | <i>Bromus japonicus</i>       | Japanese brome          | 3    | 3  | 2  | 0  | 2    | 2  | 0  | 0  |
|         | <i>Eragrostis cilianensis</i> | stinkgrass              | 2    | 2  | 0  | 0  |      |    |    |    |
|         | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 0    | 0  | 2  | 0  |      |    |    |    |
|         | <i>Lolium perenne</i>         | perennial ryegrass      | 2    | 0  | 0  | 0  | 2    | 2  | 0  | 0  |
|         | <i>Medicago minima</i>        | burr medic clover       |      |    |    |    | 2    | 2  | 0  | 0  |
|         | <i>Melia azedarach</i>        | Chinaberry              | 0    | 1  | 0  | 0  |      |    |    |    |
|         | <i>Sorghum halepense</i>      | Johnsongrass            | 0    | 2  | 2  | 0  | 1    | 1  | 0  | 0  |
|         | <i>Torilis arvensis</i>       | spreading hedge parsley | 3    | 3  | 2  | 3  | 0    | 2  | 0  | 0  |
|         | <i>Tragopogon dubius</i>      | western salsify         | 1    | 1  | 0  | 0  | 1    | 2  | 0  | 0  |
| 204L    | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 2    | 2  | 2  | 2  |
|         | <i>Bromus japonicus</i>       | Japanese brome          | 3    | 3  | 0  | 0  | 2    | 2  | 2  | 0  |
|         | <i>Bromus tectorum</i>        | cheatgrass              | 0    | 2  | 2  | 0  |      |    |    |    |
|         | <i>Eragrostis cilianensis</i> | stinkgrass              | 1    | 1  | 0  | 0  |      |    |    |    |
|         | <i>Lathyrus hirsutus</i>      | singletary pea          | 0    | 2  | 0  | 0  |      |    |    |    |
|         | <i>Lolium perenne</i>         | perennial ryegrass      | 1    | 2  | 0  | 0  | 2    | 0  | 0  | 0  |
|         | <i>Medicago lupulina</i>      | black medic clover      | 2    | 2  | 0  | 0  |      |    |    |    |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).**

| Block           | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 204L<br>(cont.) | <i>Medicago minima</i>        | burr medic clover       |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Melia azedarach</i>        | Chinaberry              | 0    | 2  | 3  | 3  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | yellow sweetclover      | 2    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | Johnsongrass            | 0    | 2  | 2  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley | 3    | 3  | 0  | 0  | 0    | 2  | 2  | 2  |
|                 | <i>Tragopogon dubius</i>      | western salsify         | 0    | 1  | 0  | 0  | 0    | 1  | 0  | 0  |
|                 | <i>Vicia sativa</i>           | garden vetch            |      |    |    |    | 0    | 2  | 0  | 0  |
| 204R            | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Bromus japonicus</i>       | Japanese brome          | 3    | 3  | 3  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | stinkgrass              | 2    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Lathyrus hirsutus</i>      | singleturn pea          | 0    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 0    | 2  | 2  | 0  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | perennial ryegrass      | 2    | 2  | 0  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Medicago lupulina</i>      | black medic clover      | 3    | 3  | 0  | 0  |      |    |    |    |
|                 | <i>Medicago minima</i>        | burr medic clover       |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Melia azedarach</i>        | Chinaberry              | 0    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | yellow sweetclover      | 2    | 2  | 2  | 0  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | Johnsongrass            | 0    | 0  | 2  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley | 3    | 3  | 3  | 0  | 1    | 2  | 2  | 0  |
|                 | <i>Tragopogon dubius</i>      | western salsify         | 0    | 1  | 0  | 0  | 1    | 2  | 0  | 0  |
|                 | <i>Vicia sativa</i>           | garden vetch            |      |    |    |    | 1    | 1  | 0  | 0  |
| 205L            | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 2    | 2  | 1  | 0  |
|                 | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 3  | 3  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 3    | 3  | 3  | 0  | 2    | 1  | 0  | 0  |
|                 | <i>Lolium perenne</i>         | perennial ryegrass      | 2    | 0  | 0  | 0  | 2    | 0  | 0  | 0  |
|                 | <i>Medicago lupulina</i>      | black medic clover      | 2    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Medicago minima</i>        | burr medic clover       |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Melia azedarach</i>        | Chinaberry              | 0    | 2  | 3  | 3  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | yellow sweetclover      | 2    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | Johnsongrass            | 2    | 3  | 0  | 0  | 2    | 1  | 0  | 0  |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 3  | 0  | 0  | 2    | 2  | 2  | 2  |
|                 | <i>Tragopogon dubius</i>      | western salsify         | 0    | 1  | 0  | 0  | 1    | 0  | 0  | 0  |
|                 | <i>Vicia sativa</i>           | garden vetch            |      |    |    |    | 1    | 1  | 0  | 0  |
| 205R            | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 2    | 2  | 2  | 0  |
|                 | <i>Amaranthus retroflexus</i> | redroot amaranth        | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | Japanese brome          | 0    | 1  | X  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | stinkgrass              | 1    | 0  | X  | X  |      |    |    |    |
|                 | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 2    | 3  | X  | X  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | perennial ryegrass      | 2    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Medicago lupulina</i>      | black medic clover      | 3    | 3  | X  | X  |      |    |    |    |
|                 | <i>Medicago minima</i>        | burr medic clover       |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Melia azedarach</i>        | Chinaberry              | 0    | 2  | X  | X  |      |    |    |    |
|                 |                               |                         |      |    |    |    |      |    |    |    |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).**

| Block           | Scientific Name              | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                              |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 205R<br>(cont.) | <i>Melilotus officinalis</i> | yellow sweetclover      | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Sorghum halepense</i>     | Johnsongrass            | 3    | 3  | X  | X  | 1    | 1  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | spreading hedge parsley | 3    | 3  | X  | X  | 2    | 2  | 2  | 0  |
|                 | <i>Tragopogon dubius</i>     | western salsify         | 0    | 1  | X  | X  | 1    | 1  | 0  | 0  |
|                 | <i>Vicia sativa</i>          | garden vetch            |      |    |    |    | 2    | 1  | 0  | 0  |
| 206L            | <i>Achillea millefolium</i>  | common yarrow           |      |    |    |    | 2    | 1  | 0  | 0  |
|                 | <i>Bromus japonicus</i>      | Japanese brome          | 2    | 3  | 3  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>     | sericea lespedeza       | 3    | 3  | 2  | 0  | 2    | 1  | 0  | 0  |
|                 | <i>Lolium perenne</i>        | perennial ryegrass      | 1    | 0  | 0  | 0  | 1    | 1  | 0  | 0  |
|                 | <i>Medicago lupulina</i>     | black medic clover      | 2    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Medicago minima</i>       | burr medic clover       |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | yellow sweetclover      | 1    | 2  | 2  | 0  |      |    |    |    |
|                 | <i>Sorghum halepense</i>     | Johnsongrass            | 2    | 3  | 0  | 0  | 1    | 0  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | spreading hedge parsley | 2    | 3  | 0  | 0  | 2    | 2  | 2  | 0  |
|                 | <i>Vicia sativa</i>          | garden vetch            |      |    |    |    | 1    | 1  | 0  | 0  |
| 206R            | <i>Achillea millefolium</i>  | common yarrow           |      |    |    |    | 1    | 2  | 2  | 0  |
|                 | <i>Albizia julibrissin</i>   | Japanese brome          | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>      | sericea lespedeza       | 2    | 2  | X  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>     | tall fescue             | 2    | 2  | X  | X  | 1    | 0  | 0  | 0  |
|                 | <i>Lolium arundinaceum</i>   | perennial ryegrass      | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Lolium perenne</i>        | black medic clover      | 2    | 0  | X  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Medicago lupulina</i>     | burr medic clover       | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Medicago minima</i>       | yellow sweetclover      |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | Johnsongrass            | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Sorghum halepense</i>     | spreading hedge parsley | 3    | 3  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>      | common yarrow           | 0    | 2  | X  | X  | 1    | 2  | 2  | 0  |
| 207L            | <i>Achillea millefolium</i>  | Japanese brome          |      |    |    |    | 1    | 0  | 0  | X  |
|                 | <i>Albizia julibrissin</i>   | toothed spurge          | 1    | 1  | 0  | 0  |      |    |    |    |
|                 | <i>Bromus japonicus</i>      | perennial ryegrass      | 2    | 3  | 3  | 0  | 2    | 2  | 0  | X  |
|                 | <i>Euphorbia dentata</i>     | black medic clover      | 1    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Lolium perenne</i>        | burr medic clover       | 0    | 1  | 0  | 0  | 1    | 0  | 0  | X  |
|                 | <i>Medicago lupulina</i>     | Chinaberry              | 1    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Medicago minima</i>       | yellow sweetclover      |      |    |    |    | 1    | 0  | 0  | X  |
|                 | <i>Melia azedarach</i>       | spreading hedge parsley | 0    | 1  | 0  | 0  |      |    |    |    |
|                 | <i>Melilotus officinalis</i> | common yarrow           | 2    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>      | Japanese brome          | 2    | 0  | 0  | 0  |      |    |    |    |
| 207R            | <i>Achillea millefolium</i>  | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Albizia julibrissin</i>   | sericea lespedeza       | 1    | 2  | X  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>      | burr medic clover       | 2    | 0  | X  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | yellow sweetclover      |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>     | Johnsongrass            | 0    | 2  | X  | X  |      |    |    |    |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).**

| Block           | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 207R<br>(cont.) | <i>Medicago minima</i>        | spreading hedge parsley |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i>  | Japanese brome          | 1    | 2  | X  | X  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | stinkgrass              | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | prickly lettuce         | 1    | 0  | X  | X  | 1    | 0  | 0  | 0  |
| 208L            | <i>Albizia julibrissin</i>    | perennial ryegrass      | 0    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | Chinaberry              | 2    | 2  | 0  | 0  | 2    | 0  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | yellow sweetclover      | 0    | 1  | 0  | 0  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | spreading hedge parsley |      |    |    |    | 0    | 1  | 0  | 0  |
|                 | <i>Lolium perenne</i>         | Japanese brome          | 1    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Melia azedarach</i>        | stinkgrass              | 0    | 1  | 0  | 0  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | prickly lettuce         | 2    | 3  | 3  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | sericea lespedeza       | 1    | 1  | 0  | 0  |      |    |    |    |
| 208R            | <i>Albizia julibrissin</i>    | perennial ryegrass      | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | yellow sweetclover      | 2    | 0  | X  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | spreading hedge parsley | 0    | 2  | X  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | Japanese brome          |      |    |    |    | 0    | 1  | 0  | 0  |
|                 | <i>Lepedeza cuneata</i>       | stinkgrass              | 0    | 2  | X  | X  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | prickly lettuce         | 2    | 0  | X  | X  | 2    | 1  | 0  | 0  |
|                 | <i>Melilotus officinalis</i>  | perennial ryegrass      | 3    | 3  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | yellow sweetclover      |      |    |    |    | 0    | 2  | 2  | 0  |
| 209L            | <i>Albizia julibrissin</i>    | Johnsongrass            | 0    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 2  | 0  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | stinkgrass              | 1    | 1  | 0  | 0  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lolium perenne</i>         | perennial ryegrass      | 1    | 0  | 0  | 0  | 1    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i>  | spreading hedge parsley | 1    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|                 |                               |                         |      |    |    |    |      |    |    |    |
| 209R            | <i>Albizia julibrissin</i>    | stinkgrass              | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | No Plant                | 2    | 0  | X  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | spreading hedge parsley | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | Japanese brome          |      |    |    |    | 0    | 1  | 0  | 0  |
|                 | <i>Lolium perenne</i>         | stinkgrass              | 2    | 0  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | perennial ryegrass      | 1    | 1  | X  | X  | 2    | 2  | 0  | 0  |
| 210L            | <i>Albizia julibrissin</i>    | spreading hedge parsley | 1    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | Japanese brome          | 0    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Eragrostis cilianensis</i> | perennial ryegrass      | 0    | 1  | 0  | 0  |      |    |    |    |
|                 | N/A                           | No Plant                |      |    |    |    | 0    | 0  | 0  | 0  |
|                 | <i>Torilis arvensis</i>       | Japanese brome          | 1    | 1  | 0  | 0  |      |    |    |    |
| 210R            | <i>Bromus japonicus</i>       | stinkgrass              | 2    | 2  | 0  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | perennial ryegrass      | 0    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | Chinaberry              | 2    | 1  | 0  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | common yarrow           | 1    | 0  | 0  | 1  |      |    |    |    |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).**

| Block | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 211L  | <i>Albizia julibrissin</i>    | Japanese brome          | 2    | 3  | 0  | 0  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | spreading hedge parsley | 1    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Lolium perenne</i>         | Japanese brome          | 1    | 0  | 0  | 0  |      |    |    |    |
|       | N/A                           | spreading hedge parsley |      |    |    |    | 0    | 0  | 0  | 0  |
| 211R  | <i>Bromus japonicus</i>       | stinkgrass              | 2    | 0  | X  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | No Plant                | 0    | 2  | X  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | Johnsongrass            | 1    | 0  | X  | X  |      |    |    |    |
|       | <i>Melia azedarach</i>        | spreading hedge parsley | 0    | 2  | X  | X  |      |    |    |    |
| 212L  | <i>Achillea millefolium</i>   | Japanese brome          |      |    |    |    | 0    | 2  | 0  | 0  |
|       | <i>Albizia julibrissin</i>    | stinkgrass              | 1    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | Chinaberry              | 1    | 0  | 0  | 0  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 1  | 0  | 0  | 1    | 0  | 0  | 0  |
| 212R  | <i>Albizia julibrissin</i>    | Japanese brome          | 0    | 2  | 0  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | stinkgrass              | 1    | 1  | 0  | X  | 2    | 2  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | perennial ryegrass      | 0    | 2  | 0  | X  |      |    |    |    |
| 213L  | <i>Albizia julibrissin</i>    | spreading hedge parsley | 2    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Eragrostis cilianensis</i> | Japanese brome          | 1    | 0  | 0  | 0  |      |    |    |    |
|       | N/A                           | stinkgrass              |      |    |    |    | 0    | 0  | 0  | 0  |
|       | <i>Sorghum halepense</i>      | spreading hedge parsley | 0    | 2  | 3  | 0  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | Japanese brome          | 0    | 1  | 0  | 0  |      |    |    |    |
| 213R  | <i>Albizia julibrissin</i>    | stinkgrass              | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | No Plant                | 1    | 0  | X  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | spreading hedge parsley | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Melia azedarach</i>        | Japanese brome          | 0    | 2  | X  | X  |      |    |    |    |
|       | N/A                           | stinkgrass              |      |    |    |    | 0    | 0  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | perennial ryegrass      | 0    | 2  | X  | X  |      |    |    |    |
| 214L  | <i>Albizia julibrissin</i>    | Japanese brome          | 1    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | stinkgrass              | 0    | 1  | 0  | 0  | 2    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | No Plant                | 1    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Lolium perenne</i>         | Johnsongrass            | 0    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 1  | 0  | 0  |      |    |    |    |
| 214R  | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 0  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | stinkgrass              | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | perennial ryegrass      | 0    | 2  | X  | X  |      |    |    |    |
| 215L  | <i>Bromus japonicus</i>       | Chinaberry              | 1    | 0  | 0  | X  |      |    |    |    |
|       | <i>Eragrostis cilianensis</i> | spreading hedge parsley | 0    | 1  | 0  | X  |      |    |    |    |
|       | N/A                           | Japanese brome          |      |    |    |    | 0    | 0  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | stinkgrass              | 0    | 1  | 0  | X  |      |    |    |    |
| 215R  | <i>Bromus japonicus</i>       | spreading hedge parsley | 1    | 0  | 0  | X  | 2    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | common yarrow           | 2    | 2  | 0  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | Japanese brome          | 1    | 0  | 0  | X  | 1    | 0  | 0  | 0  |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).**

| Block | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 216L  | <i>Albizia julibrissin</i>    | stinkgrass              | 0    | 2  | 0  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | Chinaberry              | 1    | 0  | 0  | X  |      |    |    |    |
|       | <i>Eragrostis cilianensis</i> | Japanese brome          | 1    | 0  | 0  | X  |      |    |    |    |
|       | N/A                           | spreading hedge parsley |      |    |    |    | 0    | 0  | 0  | 0  |
|       | <i>Sorghum halepense</i>      | western salsify         | 0    | 0  | 2  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | common yarrow           | 0    | 1  | 1  | X  |      |    |    |    |
| 216R  | <i>Albizia julibrissin</i>    | Japanese brome          | 1    | 0  | 0  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | stinkgrass              | 2    | 0  | 0  | X  | 2    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | prickly lettuce         | 2    | 2  | 0  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | perennial ryegrass      | 1    | 1  | 0  | X  |      |    |    |    |
|       | <i>Melia azedarach</i>        | burr medic clover       | 0    | 0  | 1  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | Japanese brome          | 1    | 2  | 0  | X  |      |    |    |    |
| 217L  | <i>Bromus japonicus</i>       | stinkgrass              | 2    | 0  | 0  | 0  | 1    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | perennial ryegrass      | 1    | 0  | 0  | 0  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | burr medic clover       | 0    | 1  | 0  | 0  |      |    |    |    |
| 217R  | <i>Achillea millefolium</i>   | spreading hedge parsley |      |    |    |    | 0    | 1  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | common yarrow           | 2    | 2  | 0  | X  | 2    | 1  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | jointed goat grass      | 1    | 2  | 0  | X  |      |    |    |    |
|       | <i>Melia azedarach</i>        | Japanese brome          | 0    | 2  | 1  | X  |      |    |    |    |
| 218L  | <i>Albizia julibrissin</i>    | stinkgrass              | 1    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | prickly lettuce         | 2    | 0  | 0  | 0  | 2    | 0  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | perennial ryegrass      | 1    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Tragopogon dubius</i>      | burr medic clover       | 0    | 1  | 0  | 0  |      |    |    |    |
| 218R  | <i>Achillea millefolium</i>   | spreading hedge parsley |      |    |    |    | 1    | 2  | 1  | 0  |
|       | <i>Albizia julibrissin</i>    | Japanese brome          | 2    | 2  | X  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | burr medic clover       | 2    | 2  | X  | X  | 2    | 1  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | Chinaberry              | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Lactuca serriola</i>       | spreading hedge parsley |      |    |    |    | 0    | 1  | 0  | 0  |
|       | <i>Lolium perenne</i>         | common yarrow           |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>        | jointed goat grass      |      |    |    |    | 2    | 0  | 0  | 0  |
| 219L  | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 3  | 3  | 3  | 2    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | stinkgrass              | 0    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Lolium perenne</i>         | perennial ryegrass      | 3    | 0  | 0  | 0  |      |    |    |    |
|       | <i>Medicago minima</i>        | burr medic clover       |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | yellow sweetclover      | 1    | 1  | 2  | 2  |      |    |    |    |
| 219R  | <i>Achillea millefolium</i>   | spreading hedge parsley |      |    |    |    | 1    | 2  | 1  | 0  |
|       | <i>Aegilops cylindrica</i>    | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | sericea lespedeza       | 3    | 3  | X  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | burr medic clover       | 2    | 1  | X  | X  |      |    |    |    |
|       | <i>Lactuca serriola</i>       | yellow sweetclover      |      |    |    |    | 1    | 1  | 0  | 0  |
|       | <i>Lolium perenne</i>         | Johnsongrass            | 3    | 3  | X  | X  |      |    |    |    |
|       | <i>Medicago minima</i>        | spreading hedge parsley |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | common yarrow           | 2    | 2  | X  | X  |      |    |    |    |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).**

| Block | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 220L  | <i>Albizia julibrissin</i>    | Japanese brome          | 1    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | stinkgrass              | 2    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Medicago minima</i>        | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Melia azedarach</i>        | sericea lespedeza       | 0    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | black medic clover      | 0    | 2  | 0  | 0  |      |    |    |    |
| 220R  | <i>Achillea millefolium</i>   | yellow sweetclover      |      |    |    |    | 0    | 1  | 0  | 0  |
|       | <i>Aegilops cylindrica</i>    | Johnsongrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | spreading hedge parsley | 2    | 3  | 1  | X  | 2    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | Japanese brome          | 2    | 2  | 1  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | sericea lespedeza       | 1    | 1  | 0  | X  |      |    |    |    |
|       | <i>Medicago minima</i>        | black medic clover      |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Melilotus officinalis</i>  | burr medic clover       | 1    | 1  | 0  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | yellow sweetclover      | 0    | 1  | 0  | X  |      |    |    |    |
| 221L  | <i>Albizia julibrissin</i>    | Johnsongrass            | 0    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | spreading hedge parsley | 2    | 3  | 3  | 0  | 2    | 2  | 0  | 0  |
|       | <i>Lespedeza cuneata</i>      | western salsify         | 2    | 2  | 1  | 0  | 1    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>        | Japanese brome          | 2    | 0  | 0  | 0  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | stinkgrass              | 1    | 2  | 2  | 0  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | black medic clover      | 0    | 0  | 2  | 2  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | burr medic clover       | 0    | 2  | 0  | 0  |      |    |    |    |
| 221R  | <i>Achillea millefolium</i>   | Johnsongrass            |      |    |    |    | 0    | 1  | 0  | 0  |
|       | <i>Albizia julibrissin</i>    | spreading hedge parsley | 0    | 2  | 0  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | western salsify         | 3    | 3  | 0  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | redroot amaranth        | 0    | 2  | 0  | X  |      |    |    |    |
|       | <i>Lactuca serriola</i>       | Japanese brome          |      |    |    |    | 0    | 1  | 0  | 0  |
|       | <i>Lespedeza cuneata</i>      | stinkgrass              | 1    | 2  | 1  | X  | 2    | 0  | 0  | 0  |
|       | <i>Medicago lupulina</i>      | sericea lespedeza       | 1    | 0  | 0  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | perennial ryegrass      | 0    | 1  | 1  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | Johnsongrass            | 0    | 2  | 2  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 2  | 0  | X  | 0    | 2  | 2  | 0  |
| 222L  | <i>Albizia julibrissin</i>    | western salsify         | 1    | 0  | 0  | 0  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | redroot amaranth        | 3    | 3  | 3  | 0  | 2    | 2  | 2  | 2  |
|       | <i>Lespedeza cuneata</i>      | Japanese brome          | 1    | 2  | 3  | 3  | 2    | 1  | 0  | 0  |
|       | <i>Medicago lupulina</i>      | stinkgrass              |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>        | sericea lespedeza       | 2    | 0  | 0  | 0  | 2    | 0  | 0  | 0  |
|       | <i>Melilotus officinalis</i>  | perennial ryegrass      | 0    | 2  | 2  | 2  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | Johnsongrass            | 2    | 2  | 3  | 3  | 0    | 2  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 0  | 3  | 0  | 2    | 2  | 0  | 0  |
|       | <i>Tragopogon dubius</i>      | redroot amaranth        | 2    | 2  | 2  | 0  |      |    |    |    |
| 222R  | <i>Bromus japonicus</i>       | Japanese brome          | 3    | 3  | 2  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | Bermudagrass            | 0    | 2  | 0  | X  |      |    |    |    |
|       | <i>Medicago lupulina</i>      | prickly lettuce         | 2    | 2  | 0  | X  |      |    |    |    |

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Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

**Table 7. Comparison of 2010 vs. 2013 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).**

| Block           | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 222R<br>(cont.) | <i>Medicago minima</i>        | sericea lespedeza       | 2    | 2  | 0  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>      | perennial ryegrass      | 0    | 3  | 2  | X  | 1    | 2  | 2  | 0  |
|                 | <i>Torilis arvensis</i>       | black medic clover      | 0    | 3  | 2  | X  | 2    | 2  | 2  | 0  |
|                 | <i>Tragopogon dubius</i>      | burr medic clover       |      |    |    |    | 0    | 1  | 1  | 0  |
| 223L            | <i>Amaranthus retroflexus</i> | yellow sweetclover      | 2    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | Johnsongrass            | 3    | 3  | 0  | 0  | 2    | 2  | 2  | 2  |
|                 | <i>Eragrostis cilianensis</i> | spreading hedge parsley | 1    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Lespedeza cuneata</i>      | western salsify         | 0    | 2  | 3  | 0  | 1    | 0  | 0  | 0  |
|                 | <i>Lolium perenne</i>         | common yarrow           | 1    | 1  | 0  | 0  | 2    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>      | Japanese brome          | 1    | 2  | 3  | 3  | 1    | 2  | 0  | 0  |
|                 | <i>Torilis arvensis</i>       | Bermudagrass            | 1    | 2  | 2  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Tragopogon dubius</i>      | stinkgrass              |      |    |    |    | 0    | 1  | 0  | 0  |
| 223R            | <i>Amaranthus retroflexus</i> | prickly lettuce         | 1    | 2  | X  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | sericea lespedeza       | 3    | 3  | X  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | perennial ryegrass      | 2    | 1  | X  | X  |      |    |    |    |
|                 | <i>Lespedeza cuneata</i>      | black medic clover      | 1    | 1  | X  | X  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | burr medic clover       | 2    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>      | Johnsongrass            | 0    | 3  | X  | X  | 1    | 2  | 0  | 0  |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 2  | X  | X  | 2    | 2  | 2  | 0  |
| 224L            | <i>Amaranthus retroflexus</i> | western salsify         | 2    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | Japanese brome          | 3    | 3  | 3  | 0  | 2    | 2  | 2  | 2  |
|                 | <i>Cynodon dactylon</i>       | sericea lespedeza       |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>       | perennial ryegrass      |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>      | black medic clover      | 0    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | burr medic clover       | 1    | 0  | 0  | 0  | 2    | 0  | 0  | 0  |
|                 | <i>Medicago lupulina</i>      | yellow sweetclover      |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Medicago minima</i>        | spreading hedge parsley | 2    | 2  | 0  | 0  | 2    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i>  | western salsify         | 0    | 2  | 2  | 0  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | Japanese brome          | 3    | 3  | 3  | 3  | 2    | 2  | 0  | 0  |
|                 | <i>Torilis arvensis</i>       | stinkgrass              | 0    | 2  | 2  | 2  | 2    | 2  | 2  | 0  |
|                 | <i>Tragopogon dubius</i>      | perennial ryegrass      | 1    | 0  | 0  | 0  | 1    | 1  | 0  | 0  |
| 224R            | <i>Achillea millefolium</i>   | burr medic clover       |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Albizia julibrissin</i>    | Chinaberry              | 1    | 0  | 0  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | yellow sweetclover      | 3    | 3  | 2  | X  | 2    | 2  | 2  | 0  |
|                 | <i>Cynodon dactylon</i>       | spreading hedge parsley |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | common yarrow           | 2    | 2  | 0  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | Japanese brome          |      |    |    |    | 1    | 1  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>      | stinkgrass              | 2    | 3  | 0  | X  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | prickly lettuce         | 2    | 3  | 0  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Medicago lupulina</i>      | sericea lespedeza       | 1    | 0  | 0  | X  |      |    |    |    |
|                 | <i>Medicago minima</i>        | Chinaberry              | 1    | 0  | 0  | X  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | yellow sweetclover      | 0    | 3  | 3  | X  | 2    | 2  | 0  | 0  |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

| Block           | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 224R<br>(cont.) | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 3  | 0  | X  | 1    | 2  | 2  | 0  |
|                 | <i>Tragopogon dubius</i>      | Japanese brome          |      |    |    |    | 1    | 0  | 0  | 0  |
| 225L            | <i>Albizia julibrissin</i>    | stinkgrass              | 1    | 1  | X  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | Chinaberry              | 3    | 3  | X  | X  | 2    | 2  | 2  | 0  |
|                 | <i>Lespedeza cuneata</i>      | yellow sweetclover      | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | spreading hedge parsley |      |    |    |    | 1    | 1  | 0  | 0  |
|                 | <i>Medicago lupulina</i>      | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Medicago minima</i>        | stinkgrass              |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Melilotus officinalis</i>  | sericea lespedeza       | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 2  | X  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Tragopogon dubius</i>      | Japanese brome          | 1    | 0  | X  | X  |      |    |    |    |
| 225R            | <i>Albizia julibrissin</i>    | stinkgrass              | 0    | 2  | X  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | prickly lettuce         | 3    | 3  | X  | X  | 2    | 2  | X  | X  |
|                 | <i>Eragrostis cilianensis</i> | sericea lespedeza       | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | spreading hedge parsley | 1    | 0  | X  | X  |      |    |    |    |
|                 | <i>Medicago minima</i>        | Japanese brome          |      |    |    |    | 2    | 0  | X  | X  |
|                 | <i>Melia azedarach</i>        | stinkgrass              | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | prickly lettuce         | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | sericea lespedeza       | 0    | 2  | X  | X  | 1    | 2  | X  | X  |
|                 |                               |                         |      |    |    |    |      |    |    |    |
| 226L            | <i>Achillea millefolium</i>   | Chinaberry              |      |    |    |    | 0    | 2  | 0  | 0  |
|                 | <i>Bromus japonicus</i>       | yellow sweetclover      | 2    | X  | X  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | spreading hedge parsley | 2    | X  | X  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | Japanese brome          |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>      | stinkgrass              | 2    | X  | X  | X  |      |    |    |    |
|                 | <i>Melia azedarach</i>        | sericea lespedeza       | 2    | X  | X  | X  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | Chinaberry              | 3    | X  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | X  | X  | X  | 2    | 2  | 0  | 0  |
|                 |                               |                         |      |    |    |    |      |    |    |    |
| 226R            | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 3  | X  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | Chinaberry              | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Melia azedarach</i>        | spreading hedge parsley | 0    | 2  | X  | X  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | Japanese brome          | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 2  | X  | X  | 1    | 2  | 0  | 0  |
| 227L            | <i>Bromus japonicus</i>       | Japanese brome          | 1    | X  | X  | X  | 2    | 2  | 2  | 0  |
|                 | <i>Eragrostis cilianensis</i> | toothed spurge          | 1    | X  | X  | X  |      |    |    |    |
|                 | <i>Lespedeza cuneata</i>      | spreading hedge parsley | 2    | X  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | Japanese brome          | 1    | X  | X  | X  | 0    | 2  | 2  | 0  |
| 227R            | <i>Bromus japonicus</i>       | Johnsongrass            | 2    | 1  | X  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | spreading hedge parsley | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | Japanese brome          |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>      | spreading hedge parsley | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | Japanese brome          | 1    | 2  | X  | X  |      |    |    |    |
| 228L            | <i>Bromus japonicus</i>       | prickly lettuce         | 2    | X  | X  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | Johnsongrass            | 2    | X  | X  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | spreading hedge parsley |      |    |    |    | 1    | 0  | 0  | 0  |

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Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

## Southern Plains Network and Southern Plains Fire Group 2013 Vegetation Monitoring Data Summary

| Block           | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 228L<br>(cont.) | <i>Lespedeza cuneata</i>      | Japanese brome          | 2    | X  | X  | X  | 1    | 0  | 0  | 0  |
|                 | <i>Melia azedarach</i>        | perennial ryegrass      | 1    | X  | X  | X  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | Japanese brome          | 2    | X  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | sericea lespedeza       | 1    | X  | X  | X  | 2    | 2  | 0  | 0  |
| 228R            | <i>Bromus japonicus</i>       | yellow sweetclover      | 2    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | Johnsongrass            | 1    | 1  | X  | X  |      |    |    |    |
|                 | <i>Lespedeza cuneata</i>      | Japanese brome          | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Melia azedarach</i>        | prickly lettuce         | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 1  | X  | X  | 1    | 2  | 0  | 0  |
| 229L            | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 2  | 2  | X  | 1    | 2  | 2  | 0  |
|                 | <i>Melia azedarach</i>        | stinkgrass              | 1    | 0  | 0  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | prickly lettuce         |      |    |    |    | 2    | 2  | 0  | 0  |
| 229R            | <i>Bromus japonicus</i>       | sericea lespedeza       | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | Johnsongrass            | 1    | 1  | X  | X  | 2    | 2  | 0  | 0  |
| 230L            | <i>Bromus japonicus</i>       | spreading hedge parsley | 1    | 1  | X  | X  | 1    | 2  | 0  | 0  |
|                 | <i>Euphorbia dentata</i>      | Japanese brome          | 1    | 0  | X  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | stinkgrass              |      |    |    |    | 2    | 2  | 0  | 0  |
| 230R            | <i>Bromus japonicus</i>       | spreading hedge parsley | 1    | 2  | X  | X  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | Japanese brome          |      |    |    |    | 0    | 0  | 0  | 2  |
|                 | <i>Torilis arvensis</i>       | spreading hedge parsley |      |    |    |    | 2    | 2  | 0  | 0  |
| 231L            | <i>Bromus japonicus</i>       | common yarrow           | 1    | 0  | X  | X  | 2    | 2  | 2  | 0  |
|                 | <i>Torilis arvensis</i>       | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
| 231R            | <i>Bromus japonicus</i>       | sericea lespedeza       | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | yellow sweetclover      |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>      | spreading hedge parsley |      |    |    |    | 0    | 0  | 0  | 2  |
|                 | <i>Torilis arvensis</i>       | Japanese brome          |      |    |    |    | 1    | 2  | 0  | 0  |
| 232L            | <i>Bromus japonicus</i>       | stinkgrass              | 2    | X  | X  | X  | 1    | 2  | 2  | 0  |
|                 | <i>Lolium perenne</i>         | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
| 232R            | <i>Bromus japonicus</i>       | sericea lespedeza       | 2    | 2  | X  | X  |      |    |    |    |
|                 | <i>Lespedeza cuneata</i>      | yellow sweetclover      | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | Johnsongrass            |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>      | spreading hedge parsley |      |    |    |    | 0    | 1  | 0  | 2  |
| 233L            | <i>Bromus japonicus</i>       | Japanese brome          | 1    | 0  | 0  | 0  | 2    | 2  | 2  | 0  |
|                 | <i>Lactuca serriola</i>       | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Torilis arvensis</i>       | black medic clover      |      |    |    |    | 2    | 0  | 0  | 0  |
| 233R            | <i>Bromus japonicus</i>       | spreading hedge parsley | 1    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | Japanese brome          | 2    | 0  | X  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | prickly lettuce         |      |    |    |    | 1    | 1  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>      | spreading hedge parsley | 0    | 1  | X  | X  |      |    |    |    |
|                 | <i>Sorghum halepense</i>      | common yarrow           |      |    |    |    | 0    | 1  | 0  | 2  |
|                 | <i>Torilis arvensis</i>       | jointed goat grass      |      |    |    |    | 1    | 2  | 0  | 0  |
| 234L            | <i>Bromus japonicus</i>       | Japanese brome          | 1    | 1  | 0  | 0  | 2    | 2  | 2  | 0  |
|                 | <i>Eragrostis cilianensis</i> | stinkgrass              | 1    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | sericea lespedeza       |      |    |    |    | 2    | 0  | 0  | 0  |

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## Chickasaw National Recreation Area

| Block | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 234R  | <i>Bromus japonicus</i>       | perennial ryegrass      | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | black medic clover      | 1    | 0  | X  | X  | 1    | 1  | 0  | 0  |
| 235L  | <i>Achillea millefolium</i>   | burr medic clover       |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | Chinaberry              | 1    | 2  | X  | X  | 2    | 2  | 2  | 0  |
|       | <i>Lespedeza cuneata</i>      | yellow sweetclover      | 2    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Melilotus officinalis</i>  | spreading hedge parsley | 1    | 0  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | common yarrow           |      |    |    |    | 2    | 0  | 0  | 0  |
| 235R  | <i>Bromus japonicus</i>       | jointed goat grass      | 1    | 2  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | Japanese brome          | 1    | 1  | X  | X  |      |    |    |    |
|       | <i>Lactuca serriola</i>       | stinkgrass              |      |    |    |    | 2    | 1  | 0  | 0  |
|       | <i>Lespedeza cuneata</i>      | sericea lespedeza       | 1    | 1  | X  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | perennial ryegrass      | 2    | 0  | X  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | burr medick             |      |    |    |    | 0    | 0  | 0  | 2  |
|       | <i>Torilis arvensis</i>       | yellow sweetclover      |      |    |    |    | 2    | 2  | 0  | 0  |
| 236L  | <i>Bromus japonicus</i>       | Johnsongrass            | 2    | 3  | X  | X  | 2    | 2  | 2  | 0  |
|       | <i>Lactuca serriola</i>       | spreading hedge parsley |      |    |    |    | 2    | 1  | 0  | 0  |
|       | <i>Medicago lupulina</i>      | common yarrow           | 1    | 0  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | jointed goat grass      |      |    |    |    | 1    | 0  | 0  | 0  |
| 236R  | <i>Albizia julibrissin</i>    | Japanese brome          | 2    | 0  | X  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | stinkgrass              | 2    | 3  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Lactuca serriola</i>       | singletary pea          |      |    |    |    | 2    | 1  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | perennial ryegrass      |      |    |    |    | 2    | 2  | 0  | 0  |
| 237L  | <i>Achillea millefolium</i>   | burr medic clover       |      |    |    |    | 1    | 2  | 1  | 0  |
|       | <i>Aegilops cylindrica</i>    | yellow sweetclover      |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | spreading hedge parsley | 2    | 3  | 0  | 0  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | garden vetch            | 2    | 0  | 0  | 0  |      |    |    |    |
|       | <i>Lespedeza cuneata</i>      | common yarrow           | 0    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Lolium perenne</i>         | jointed goat grass      | 1    | 0  | 0  | 0  | 1    | 0  | 0  | 0  |
|       | <i>Medicago lupulina</i>      | Japanese brome          | 2    | 0  | 0  | 0  |      |    |    |    |
|       | <i>Medicago minima</i>        | stinkgrass              | 1    | 0  | 0  | 0  | 2    | 2  | 0  | 0  |
|       | <i>Melia azedarach</i>        | singletary pea          | 0    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | perennial ryegrass      | 1    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | black medic clover      | 0    | 1  | 0  | 0  |      |    |    |    |
| 237R  | <i>Achillea millefolium</i>   | burr medic clover       |      |    |    |    | 0    | 1  | 1  | 0  |
|       | <i>Aegilops cylindrica</i>    | yellow sweetclover      |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | spreading hedge parsley | 2    | 3  | 3  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | garden vetch            | 2    | 2  | 2  | X  |      |    |    |    |
|       | <i>Lespedeza cuneata</i>      | Japanese brome          | 0    | 0  | 2  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | stinkgrass              | 2    | 2  | 0  | X  | 2    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>        | prickly lettuce         | 1    | 0  | 0  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | burr medic clover       | 3    | 3  | 2  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | yellow sweetclover      | 0    | 1  | 0  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 1  | 0  | X  | 0    | 1  | 1  | 0  |
|       |                               |                         |      |    |    |    |      |    |    |    |
| 238L  | <i>Achillea millefolium</i>   | common yarrow           |      |    |    |    | 1    | 2  | 2  | 0  |

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| Block           | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 238L<br>(cont.) | <i>Aegilops cylindrica</i>    | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Bromus japonicus</i>       | stinkgrass              | 2    | 3  | 3  | 3  | 2    | 2  | 2  | 0  |
|                 | <i>Eragrostis cilianensis</i> | prickly lettuce         | 3    | 3  | 0  | 0  |      |    |    |    |
|                 | <i>Lathyrus hirsutus</i>      | perennial ryegrass      | 1    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | yellow sweetclover      |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Medicago minima</i>        | spreading hedge parsley | 2    | 0  | 0  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Melilotus officinalis</i>  | Japanese brome          | 1    | 2  | 2  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | perennial ryegrass      | 1    | 2  | 2  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Vicia sativa</i>           | yellow sweetclover      |      |    |    |    | 1    | 0  | 0  | 0  |
| 238R            | <i>Achillea millefolium</i>   | spreading hedge parsley |      |    |    |    | 0    | 2  | 2  | 1  |
|                 | <i>Aegilops cylindrica</i>    | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Bromus japonicus</i>       | perennial ryegrass      | 2    | 3  | 2  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | spreading hedge parsley | 3    | 3  | 2  | X  |      |    |    |    |
|                 | <i>Lathyrus hirsutus</i>      | Japanese brome          | 1    | 1  | 0  | X  |      |    |    |    |
|                 | <i>Lolium perenne</i>         | prickly lettuce         | 3    | 3  | 0  | X  | 2    | 0  | 0  | 0  |
|                 | <i>Medicago lupulina</i>      | yellow sweetclover      | 2    | 2  | 0  | X  |      |    |    |    |
|                 | <i>Medicago minima</i>        | spreading hedge parsley | 2    | 0  | 0  | X  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | Japanese brome          | 2    | 3  | 2  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | stinkgrass              | 2    | 2  | 0  | X  | 0    | 2  | 2  | 0  |
|                 | <i>Vicia sativa</i>           | prickly lettuce         |      |    |    |    | 0    | 1  | 0  | 0  |
| 239L            | <i>Albizia julibrissin</i>    | perennial ryegrass      | 1    | 2  | 2  | 0  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | yellow sweetclover      | 2    | 3  | 3  | 3  | 2    | 2  | 0  | 0  |
|                 | <i>Eragrostis cilianensis</i> | Japanese brome          | 2    | 2  | 0  | 0  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | burr medic clover       |      |    |    |    | 0    | 1  | 0  | 0  |
|                 | <i>Medicago minima</i>        | spreading hedge parsley |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i>  | Japanese brome          | 2    | 3  | 0  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | stinkgrass              | 1    | 2  | 2  | 2  | 1    | 0  | 0  | 0  |
|                 |                               |                         |      |    |    |    |      |    |    |    |
| 239R            | <i>Achillea millefolium</i>   | perennial ryegrass      |      |    |    |    | 0    | 0  | 1  | 0  |
|                 | <i>Albizia julibrissin</i>    | yellow sweetclover      | 1    | 1  | 0  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | spreading hedge parsley | 2    | 2  | 0  | X  | 2    | 2  | 2  | 0  |
|                 | <i>Eragrostis cilianensis</i> | jointed goat grass      | 2    | 2  | 0  | X  |      |    |    |    |
|                 | <i>Lactuca serriola</i>       | Japanese brome          |      |    |    |    | 0    | 1  | 0  | 0  |
|                 | <i>Lolium perenne</i>         | yellow sweetclover      | 2    | 2  | 0  | X  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | Johnsongrass            | 3    | 3  | 3  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | common yarrow           | 0    | 2  | 2  | X  | 0    | 2  | 2  | 0  |
| 240L            | <i>Albizia julibrissin</i>    | jointed goat grass      | 2    | 1  | 0  | 0  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 0  | 0  | 0  | 2    | 2  | 0  | 0  |
|                 | <i>Lolium perenne</i>         | stinkgrass              | 1    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Melilotus officinalis</i>  | perennial ryegrass      | 2    | 0  | 0  | 0  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | yellow sweetclover      |      |    |    |    | 0    | 2  | 0  | 0  |
| 240R            | <i>Albizia julibrissin</i>    | spreading hedge parsley | 2    | 2  | 1  | X  |      |    |    |    |
|                 | <i>Bromus japonicus</i>       | common yarrow           | 2    | 2  | 1  | X  | 2    | 2  | 0  | 0  |
|                 | <i>Lolium perenne</i>         | Japanese brome          | 2    | 2  | 1  | X  |      |    |    |    |
|                 | <i>Torilis arvensis</i>       | cheatgrass              | 0    | 1  | 0  | X  |      |    |    |    |

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## Chickasaw National Recreation Area

| Block | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 241L  | <i>Albizia julibrissin</i>    | stinkgrass              | 2    | 2  | X  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | yellow sweetclover      | 2    | 0  | X  | X  | 2    | 0  | 0  | 0  |
|       | <i>Lactuca serriola</i>       | spreading hedge parsley |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Melilotus officinalis</i>  | common yarrow           | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | jointed goat grass      |      |    |    |    | 1    | 1  | 0  | 0  |
| 241R  | <i>Albizia julibrissin</i>    | Japanese brome          | 0    | 2  | 0  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | stinkgrass              | 1    | 1  | 0  | X  | 2    | 0  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | singletary pea          | 1    | 1  | 0  | X  |      |    |    |    |
|       | <i>Lactuca serriola</i>       | yellow sweetclover      |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Lolium perenne</i>         | spreading hedge parsley | 1    | 1  | 0  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | jointed goat grass      | 1    | 0  | 0  | X  |      |    |    |    |
| 242L  | <i>Albizia julibrissin</i>    | Japanese brome          | 2    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | stinkgrass              | 1    | 2  | 0  | 0  | 1    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>        | yellow sweetclover      |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 1  | 0  | 0  |      |    |    |    |
| 242R  | <i>Bromus japonicus</i>       | common yarrow           | 2    | 2  | 0  | X  | 2    | 2  | 2  | 0  |
|       | <i>Eragrostis cilianensis</i> | jointed goat grass      | 1    | 0  | 0  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | Japanese brome          | 1    | 2  | 0  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | stinkgrass              | 0    | 2  | 0  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | singletary pea          | 1    | 0  | 0  | X  |      |    |    |    |
| 243L  | <i>Aegilops cylindrica</i>    | spreading hedge parsley |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | Japanese brome          | 2    | 2  | X  | X  | 2    | 2  | 0  | 0  |
|       | <i>Melilotus officinalis</i>  | Bermudagrass            | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | sericea lespedeza       |      |    |    |    | 0    | 1  | 0  | 0  |
| 243R  | <i>Achillea millefolium</i>   | perennial ryegrass      |      |    |    |    | 0    | 0  | 1  | 0  |
|       | <i>Aegilops cylindrica</i>    | burr medic clover       |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | yellow sweetclover      | 3    | 2  | 0  | X  | 2    | 2  | 2  | 0  |
|       | <i>Eragrostis cilianensis</i> | Johnsongrass            | 2    | 1  | 0  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | spreading hedge parsley | 1    | 0  | 0  | X  | 1    | 0  | 0  | 0  |
|       | <i>Melilotus officinalis</i>  | Japanese brome          | 1    | 0  | 0  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | Bermudagrass            | 1    | 1  | 0  | X  |      |    |    |    |
| 244L  | <i>Achillea millefolium</i>   | perennial ryegrass      |      |    |    |    | 2    | 1  | 1  | 0  |
|       | <i>Bromus japonicus</i>       | black medic clover      | 3    | 3  | 3  | 3  | 2    | 2  | 0  | 0  |
|       | <i>Bromus tectorum</i>        | burr medic clover       | 0    | 1  | 0  | 0  |      |    |    |    |
|       | <i>Eragrostis cilianensis</i> | Johnsongrass            | 1    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | common dandelion        | 2    | 2  | 0  | 0  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 2    | 2  | 0  | 0  |      |    |    |    |
| 244R  | <i>Achillea millefolium</i>   | Japanese brome          |      |    |    |    | 2    | 2  | 1  | 0  |
|       | <i>Aegilops cylindrica</i>    | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | meadow fescue           | 4    | 4  | X  | X  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | burr medic clover       | 3    | 3  | X  | X  |      |    |    |    |
|       | <i>Lathyrus hirsutus</i>      | yellow sweetclover      | 1    | 2  | X  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | Johnsongrass            | 1    | 0  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 2  | X  | X  |      |    |    |    |

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| Block | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 245L  | <i>Aegilops cylindrica</i>    | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Bromus japonicus</i>       | meadow fescue           | 3    | 3  | 0  | 0  | 2    | 2  | 0  | 0  |
|       | <i>Eragrostis cilianensis</i> | black medic clover      | 3    | 3  | 0  | 0  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | burr medic clover       | 0    | 0  | 2  | 0  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | yellow sweetclover      | 0    | 2  | 0  | 0  |      |    |    |    |
| 245R  | <i>Achillea millefolium</i>   | Johnsongrass            |      |    |    |    | 0    | 0  | 1  | 0  |
|       | <i>Aegilops cylindrica</i>    | spreading hedge parsley |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Albizia julibrissin</i>    | Japanese brome          | 0    | 1  | X  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | Bermudagrass            | 4    | 4  | X  | X  | 2    | 2  | 2  | 0  |
|       | <i>Eragrostis cilianensis</i> | sericea lespedeza       | 2    | 2  | X  | X  |      |    |    |    |
|       | <i>Lathyrus hirsutus</i>      | burr medic clover       | 0    | 1  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | yellow sweetclover      | 0    | 1  | X  | X  |      |    |    |    |
| 251L  | <i>Albizia julibrissin</i>    | Johnsongrass            | 0    | 1  | X  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | spreading hedge parsley | 2    | 3  | X  | X  |      |    |    |    |
|       | <i>Cynodon dactylon</i>       | Japanese brome          | 3    | 0  | X  | X  |      |    |    |    |
|       | <i>Lespedeza cuneata</i>      | Bermudagrass            | 0    | 1  | X  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | perennial ryegrass      | 1    | 1  | X  | X  |      |    |    |    |
|       | <i>Medicago minima</i>        | black medic clover      | 2    | 0  | X  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | Johnsongrass            | 0    | 2  | X  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | common dandelion        | 1    | 1  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | spreading hedge parsley | 1    | 2  | X  | X  |      |    |    |    |
| 251R  | <i>Albizia julibrissin</i>    | Japanese brome          | 1    | 0  | X  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | Bermudagrass            | 2    | 2  | X  | X  |      |    |    |    |
|       | <i>Cynodon dactylon</i>       | toothed spurge          | 3    | 1  | X  | X  |      |    |    |    |
|       | <i>Lolium perenne</i>         | yellow sweetclover      | 1    | 0  | X  | X  |      |    |    |    |
|       | <i>Medicago lupulina</i>      | spreading hedge parsley | 2    | 0  | X  | X  |      |    |    |    |
|       | <i>Medicago minima</i>        | Bermudagrass            | 3    | 0  | X  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | black medic clover      | 1    | 1  | X  | X  |      |    |    |    |
|       | <i>Taraxacum officinale</i>   | burr medic clover       | 2    | 0  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | yellow sweetclover      | 0    | 2  | X  | X  |      |    |    |    |
| 252L  | <i>Albizia julibrissin</i>    | Johnsongrass            | 0    | 1  | X  | X  |      |    |    |    |
|       | <i>Bromus japonicus</i>       | spreading hedge parsley | 2    | 3  | X  | X  |      |    |    |    |
|       | <i>Cynodon dactylon</i>       | stinkgrass              | 3    | 3  | X  | X  |      |    |    |    |
|       | <i>Lolium pratense</i>        | burr medic clover       | 0    | 1  | X  | X  |      |    |    |    |
|       | <i>Medicago minima</i>        | yellow sweetclover      | 3    | 0  | X  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | Johnsongrass            | 0    | 2  | X  | X  |      |    |    |    |
|       | <i>Sorghum halepense</i>      | spreading hedge parsley | 2    | 2  | X  | X  |      |    |    |    |
|       | <i>Torilis arvensis</i>       | western salsify         | 0    | 2  | X  | X  |      |    |    |    |
| 252R  | <i>Cynodon dactylon</i>       | Japanese brome          | 3    | 0  | X  | X  |      |    |    |    |
|       | <i>Lolium pratense</i>        | Johnsongrass            | 0    | 1  | X  | X  |      |    |    |    |
|       | <i>Medicago lupulina</i>      | Japanese brome          | 2    | 0  | X  | X  |      |    |    |    |
|       | <i>Medicago minima</i>        | Bermudagrass            | 3    | 0  | X  | X  |      |    |    |    |
|       | <i>Melilotus officinalis</i>  | prickly lettuce         | 0    | 3  | X  | X  |      |    |    |    |

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| Block   | Scientific Name               | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|---------|-------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|         |                               |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 252R    | <i>Sorghum halepense</i>      | Johnsongrass            | 3    | 2  | X  | X  |      |    |    |    |
| (cont.) | <i>Torilis arvensis</i>       | spreading hedge parsley | 0    | 3  | X  | X  |      |    |    |    |
| 253L    | <i>Bromus japonicus</i>       | Japanese brome          | 3    | X  | X  | X  |      |    |    |    |
|         | <i>Cynodon dactylon</i>       | Bermudagrass            | 3    | X  | X  | X  |      |    |    |    |
|         | <i>Lespedeza cuneata</i>      | prickly lettuce         | 2    | X  | X  | X  |      |    |    |    |
|         | <i>Medicago minima</i>        | yellow sweetclover      | 3    | X  | X  | X  |      |    |    |    |
|         | <i>Melilotus officinalis</i>  | Johnsongrass            | 2    | X  | X  | X  |      |    |    |    |
|         | <i>Sorghum halepense</i>      | spreading hedge parsley | 2    | X  | X  | X  |      |    |    |    |
|         | <i>Torilis arvensis</i>       | Japanese brome          | 2    | X  | X  | X  |      |    |    |    |
| 253R    | <i>Albizia julibrissin</i>    | Bermudagrass            | 1    | 0  | X  | X  |      |    |    |    |
|         | <i>Bromus japonicus</i>       | perennial ryegrass      | 2    | 2  | X  | X  |      |    |    |    |
|         | <i>Cynodon dactylon</i>       | spreading hedge parsley | 1    | 0  | X  | X  |      |    |    |    |
|         | <i>Lolium perenne</i>         | Japanese brome          | 1    | 0  | X  | X  |      |    |    |    |
|         | <i>Medicago lupulina</i>      | Bermudagrass            | 2    | 0  | X  | X  |      |    |    |    |
|         | <i>Sorghum halepense</i>      | sericea lespedeza       | 3    | 3  | X  | X  |      |    |    |    |
|         | <i>Taraxacum officinale</i>   | Japanese honeysuckle    | 1    | 0  | X  | X  |      |    |    |    |
|         | <i>Torilis arvensis</i>       | yellow sweetclover      | 2    | 2  | X  | X  |      |    |    |    |
| 254L    | <i>Bromus japonicus</i>       | Johnsongrass            | 0    | 2  | X  | X  |      |    |    |    |
|         | <i>Cynodon dactylon</i>       | spreading hedge parsley | 2    | 0  | X  | X  |      |    |    |    |
|         | <i>Euphorbia dentata</i>      | common yarrow           | 1    | 0  | X  | X  |      |    |    |    |
|         | <i>Melilotus officinalis</i>  | Japanese brome          | 1    | 0  | X  | X  |      |    |    |    |
|         | <i>Torilis arvensis</i>       | Bermudagrass            | 1    | 2  | X  | X  |      |    |    |    |
| 254R    | <i>Albizia julibrissin</i>    | prickly lettuce         | 2    | 2  | X  | X  |      |    |    |    |
|         | <i>Cynodon dactylon</i>       | spreading hedge parsley | 0    | 1  | X  | X  |      |    |    |    |
|         | <i>Medicago lupulina</i>      | common yarrow           | 2    | 0  | X  | X  |      |    |    |    |
|         | <i>Medicago minima</i>        | Japanese brome          | 2    | 0  | X  | X  |      |    |    |    |
|         | <i>Melilotus officinalis</i>  | Bermudagrass            | 2    | 0  | X  | X  |      |    |    |    |
|         | <i>Sorghum halepense</i>      | prickly lettuce         | 0    | 2  | X  | X  |      |    |    |    |
|         | <i>Torilis arvensis</i>       | Japanese honeysuckle    | 0    | 1  | X  | X  |      |    |    |    |
| 255L    | <i>Eragrostis cilianensis</i> | yellow sweetclover      | 0    | 2  | X  | X  |      |    |    |    |
|         | <i>Medicago minima</i>        | Johnsongrass            | 2    | 0  | X  | X  |      |    |    |    |
|         | <i>Melilotus officinalis</i>  | Japanese brome          | 0    | 1  | X  | X  |      |    |    |    |
|         | <i>Sorghum halepense</i>      | Bermudagrass            | 0    | 1  | X  | X  |      |    |    |    |
|         | <i>Torilis arvensis</i>       | prickly lettuce         | 1    | 1  | X  | X  |      |    |    |    |
|         | <i>Tragopogon dubius</i>      | sericea lespedeza       | 0    | 1  | X  | X  |      |    |    |    |
| 255R    | <i>Albizia julibrissin</i>    | Johnsongrass            | 1    | 2  | X  | X  |      |    |    |    |
|         | <i>Bromus japonicus</i>       | spreading hedge parsley | 1    | 0  | X  | X  |      |    |    |    |
|         | <i>Sorghum halepense</i>      | common yarrow           | 1    | 0  | X  | X  |      |    |    |    |
| 261L    | <i>Bromus japonicus</i>       | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|         | <i>Cynodon dactylon</i>       | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|         | <i>Lactuca serriola</i>       | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|         | <i>Sorghum halepense</i>      | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|         | <i>Torilis arvensis</i>       | Bermudagrass            |      |    |    |    | 1    | 2  | 0  | 0  |
| 261R    | <i>Bromus japonicus</i>       | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | 0  |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

## Southern Plains Network and Southern Plains Fire Group 2013 Vegetation Monitoring Data Summary

| Block           | Scientific Name              | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                              |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 261R<br>(cont.) | <i>Cynodon dactylon</i>      | perennial ryegrass      |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | burr medic clover       |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | Johnsongrass            |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | common yarrow           |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | Japanese brome          |      |    |    |    | 1    | 2  | 0  | 0  |
| 262L            | <i>Bromus japonicus</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | prickly lettuce         |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Lolium perenne</i>        | burr medic clover       |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | Johnsongrass            |      |    |    |    | 1    | 0  | 0  | 0  |
| 262R            | <i>Bromus japonicus</i>      | common yarrow           |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>     | Bermudagrass            |      |    |    |    | 0    | 1  | 0  | 0  |
|                 | <i>Lonicera japonica</i>     | burr medic clover       |      |    |    |    | 1    | 1  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | Johnsongrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | common yarrow           |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | jointed goat grass      |      |    |    |    | 0    | 1  | 0  | 0  |
| 263L            | <i>Achillea millefolium</i>  | Japanese brome          |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Bromus japonicus</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | perennial ryegrass      |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | burr medic clover       |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | Johnsongrass            |      |    |    |    | 1    | 1  | 0  | 0  |
| 263R            | <i>Achillea millefolium</i>  | Japanese brome          |      |    |    |    | 0    | 2  | 2  | 2  |
|                 | <i>Bromus japonicus</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | black medic clover      |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lonicera japonica</i>     | Japanese brome          |      |    |    |    | 1    | 1  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | Bermudagrass            |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | burr medic clover       |      |    |    |    | 1    | 2  | 0  | 0  |
| 264L            | <i>Bromus japonicus</i>      | Johnsongrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>     | Johnsongrass            |      |    |    |    | 0    | 2  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | Bermudagrass            |      |    |    |    | 1    | 1  | 0  | 0  |
| 264R            | <i>Achillea millefolium</i>  | prickly lettuce         |      |    |    |    | 0    | 1  | 2  | 2  |
|                 | <i>Bromus japonicus</i>      | Johnsongrass            |      |    |    |    | 2    | 2  | 2  | 0  |
|                 | <i>Cynodon dactylon</i>      | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
| 265L            | <i>Bromus japonicus</i>      | burr medic clover       |      |    |    |    | 2    | 1  | 0  | X  |
|                 | <i>Cynodon dactylon</i>      | Johnsongrass            |      |    |    |    | 2    | 0  | 0  | X  |
|                 | <i>Lactuca serriola</i>      | spreading hedge parsley |      |    |    |    | 1    | 0  | 0  | X  |
|                 | <i>Lolium perenne</i>        | Japanese brome          |      |    |    |    | 2    | 0  | 0  | X  |
|                 | <i>Medicago minima</i>       | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | X  |
|                 | <i>Sorghum halepense</i>     | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | X  |

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## Chickasaw National Recreation Area

| Block | Scientific Name             | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-----------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                             |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 265R  | <i>Achillea millefolium</i> | burr medic clover       |      |    |    |    | 0    | 2  | 1  | 0  |
|       | <i>Bromus japonicus</i>     | Johnsongrass            |      |    |    |    | 2    | 2  | 2  | 0  |
|       | <i>Cynodon dactylon</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Lactuca serriola</i>     | Bermudagrass            |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>      | burr medic clover       |      |    |    |    | 2    | 1  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | yellow sweetclover      |      |    |    |    | 1    | 2  | 2  | 0  |
| 266L  | <i>Achillea millefolium</i> | Johnsongrass            |      |    |    |    | 0    | 0  | 1  | 0  |
|       | <i>Bromus japonicus</i>     | western salsify         |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Cynodon dactylon</i>     | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | prickly lettuce         |      |    |    |    | 0    | 0  | 2  | 0  |
| 266R  | <i>Achillea millefolium</i> | yellow sweetclover      |      |    |    |    | 0    | 1  | 0  | 0  |
|       | <i>Aegilops cylindrica</i>  | Johnsongrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Bromus japonicus</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Cynodon dactylon</i>     | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Lolium perenne</i>       | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>      | burr medic clover       |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | yellow sweetclover      |      |    |    |    | 2    | 2  | 0  | 0  |
| 267L  | <i>Bromus japonicus</i>     | Johnsongrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Cynodon dactylon</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Lactuca serriola</i>     | Bermudagrass            |      |    |    |    | 1    | 0  | 0  | 0  |
|       | <i>Medicago lupulina</i>    | Johnsongrass            |      |    |    |    | 2    | 2  | 0  | 0  |
| 267R  | <i>Bromus japonicus</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Cynodon dactylon</i>     | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>      | prickly lettuce         |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | sericea lespedeza       |      |    |    |    | 2    | 2  | 0  | 0  |
| 268L  | <i>Bromus japonicus</i>     | burr medic clover       |      |    |    |    | 2    | 1  | 0  | X  |
|       | <i>Cynodon dactylon</i>     | yellow sweetclover      |      |    |    |    | 2    | 2  | 0  | X  |
|       | <i>Sorghum halepense</i>    | Johnsongrass            |      |    |    |    | 2    | 0  | 0  | X  |
| 268R  | <i>Bromus japonicus</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 2  | 0  |
|       | <i>Cynodon dactylon</i>     | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Lactuca serriola</i>     | prickly lettuce         |      |    |    |    | 1    | 1  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | sericea lespedeza       |      |    |    |    | 2    | 2  | 1  | 0  |
| 269L  | <i>Bromus japonicus</i>     | Johnsongrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Cynodon dactylon</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Medicago minima</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | prickly lettuce         |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Torilis arvensis</i>     | sericea lespedeza       |      |    |    |    | 0    | 2  | 2  | 0  |
|       |                             |                         |      |    |    |    |      |    |    |    |
| 269R  | <i>Bromus japonicus</i>     | perennial ryegrass      |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Cynodon dactylon</i>     | burr medic clover       |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Lactuca serriola</i>     | yellow sweetclover      |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Medicago minima</i>      | Johnsongrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | spreading hedge parsley |      |    |    |    | 2    | 2  | 2  | 0  |
|       |                             |                         |      |    |    |    |      |    |    |    |
| 270L  | <i>Bromus japonicus</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non–detect

## Southern Plains Network and Southern Plains Fire Group 2013 Vegetation Monitoring Data Summary

| Block           | Scientific Name              | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-----------------|------------------------------|-------------------------|------|----|----|----|------|----|----|----|
|                 |                              |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 270L<br>(cont.) | <i>Cynodon dactylon</i>      | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Medicago minima</i>       | Johnsongrass            |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | spreading hedge parsley |      |    |    |    | 0    | 1  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | jointed goat grass      |      |    |    |    | 2    | 2  | 2  | 0  |
|                 | <i>Tragopogon dubius</i>     | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
| 270R            | <i>Bromus japonicus</i>      | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | perennial ryegrass      |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | Johnsongrass            |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | spreading hedge parsley |      |    |    |    | 1    | 1  | 0  | 0  |
| 271L            | <i>Bromus japonicus</i>      | common yarrow           |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | Bermudagrass            |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Medicago minima</i>       | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | Johnsongrass            |      |    |    |    | 2    | 1  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | spreading hedge parsley |      |    |    |    | 2    | 2  | 0  | 0  |
| 271R            | <i>Bromus japonicus</i>      | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | Johnsongrass            |      |    |    |    | 1    | 1  | 0  | 0  |
| 272L            | <i>Bromus japonicus</i>      | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>     |                         |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Medicago minima</i>       | burr medick             |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | yellow sweetclover      |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | Johnsongrass            |      |    |    |    | 1    | 1  | 0  | 0  |
|                 |                              |                         |      |    |    |    |      |    |    |    |
| 272R            | <i>Bromus japonicus</i>      | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | prickly lettuce         |      |    |    |    | 1    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>     |                         |      |    |    |    | 1    | 1  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | Johnsongrass            |      |    |    |    | 2    | 1  | 0  | 0  |
| 273L            | <i>Bromus japonicus</i>      | Japanese brome          |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lactuca serriola</i>      | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lespedeza cuneata</i>     |                         |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Lolium perenne</i>        | perennial ryegrass      |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Medicago minima</i>       | burr medick             |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Melilotus officinalis</i> | yellow sweetclover      |      |    |    |    | 2    | 0  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | Johnsongrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | hedge parsley, sockbane |      |    |    |    | 2    | 2  | 0  | 0  |
|                 |                              |                         |      |    |    |    |      |    |    |    |
| 273R            | <i>Bromus japonicus</i>      | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Cynodon dactylon</i>      | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Sorghum halepense</i>     | Johnsongrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|                 | <i>Torilis arvensis</i>      | hedge parsley, sockbane |      |    |    |    | 2    | 2  | 0  | 0  |

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Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

| Block | Scientific Name             | Common Name             | 2010 |    |    |    | 2013 |    |    |    |
|-------|-----------------------------|-------------------------|------|----|----|----|------|----|----|----|
|       |                             |                         | D1   | D2 | D3 | D4 | D1   | D2 | D3 | D4 |
| 274L  | <i>Aegilops cylindrica</i>  |                         |      |    |    |    | 0    | 1  | 0  | 0  |
|       | <i>Bromus japonicus</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Cynodon dactylon</i>     | Bermudagrass            |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Lactuca serriola</i>     | prickly lettuce         |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Lolium perenne</i>       | perennial ryegrass      |      |    |    |    | 2    | 0  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | Johnsongrass            |      |    |    |    | 1    | 2  | 2  | 0  |
|       | <i>Torilis arvensis</i>     | hedge parsley, sockbane |      |    |    |    | 1    | 2  | 2  | 0  |
| 274R  | <i>Achillea millefolium</i> | common yarrow           |      |    |    |    | 0    | 0  | 2  | 2  |
|       | <i>Bromus japonicus</i>     | Japanese brome          |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Cynodon dactylon</i>     | Bermudagrass            |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Lactuca serriola</i>     | prickly lettuce         |      |    |    |    | 2    | 2  | 0  | 0  |
|       | <i>Sorghum halepense</i>    | Johnsongrass            |      |    |    |    | 2    | 2  | 2  | 2  |
|       | <i>Torilis arvensis</i>     | hedge parsley, sockbane |      |    |    |    | 2    | 2  | 0  | 0  |

Distance Class Key: D1 = edge of vector to 2 meters into the landscape (or inner edge of mow line); D2 = interior edge of D1 to 10 meters; D3 & D4 = each additional 10 meters into the landscape.

Density Code Key: 0 = no plants; 1 = 1–5 plants; 2 = scattered patches; 3 = even distributed patches; 4 = matrix; X = non-detect

## Literature Cited

Folts–Zettner, T., R. Gatewood, R. Bennetts and K. Cherwin No date. Grassland monitoring protocol and standard operating procedures for the Southern Plains I&M Network and Fire Group. Natural Resource Technical Report. National Park Service, Fort Collins, Colorado. In review.

Folts–Zettner, T., R. Bennetts, K. Gallo, S. Studd, M. Powell, K. Beaupre, and H. Sosinski. 2013. Multi–Network Exotic Plant Monitoring Protocol and Standard Operating Procedures : A collaboration among the Southern Plains, Chihuahuan Desert and Sonoran Desert Networks Natural Resource Technical Report NPS/SOPN/NRTR—2013/XXX. National Park Service, Fort Collins, Colorado.

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