



Washita Battlefield National Historic Site

Southern Plains Network and Southern Plains Fire Group 2014 Vegetation Monitoring Data Summary



ON THE COVER

Brome at Washita Battlefield NHS. NPS Photo.

Washita Battlefield National Historic Site

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Introduction

This report contains Annual data summary of results from all vegetation monitoring conducted by the Southern Plains I&M Network (SOPN) and the Southern Plains Fire Group (SPFG) during 2014 at Washita Battlefield National Historic Site (WABA). Data summaries are used to impart current monitoring data until enough years of data have been collected to facilitate trend analysis. More detailed synthesis reports will be produced in 2015-2017. Grassland Monitoring Results

Grassland Monitoring Results

Grassland monitoring occurred during mid-June of 2014 (Table 1). Data from eight (8) 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 Annual series of permanent 50-meter transects containing five 2x1-meter plots. Species composition, relative cover and ground strata are collected during annual visits. Additional data is collected during visits that support the SPFG program.

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

Table 1. Plant community and sampling dates for each transect at Washita Battlefield NHS in 2014.

Group	Transect	Plant community	Date
Restoration	DIST-01	<i>Bromus tectorum</i> Semi-Natural Herbaceous	06/22
	RESTE-LT01	<i>Andropogon gerardii</i> - <i>Sorghastrum nutans</i> Herbaceous	06/22
	RESTW-LT02	<i>Iva annua</i> - (<i>Xanthium strumarium</i>) Temporarily Flooded	06/21
	WABA-04	<i>Andropogon gerardii</i> - (<i>Sorghastrum nutans</i>) Herbaceous Alliance	06/19
	WABA-06	<i>Andropogon gerardii</i> - (<i>Sorghastrum nutans</i>) Herbaceous Alliance	06/20
Upland	UPLAND-LT01	<i>Bromus tectorum</i> Semi-Natural Herbaceous	06/20
	UPLAND-LT03	<i>Bouteloua gracilis</i> - <i>Bouteloua curtipendula</i> Herbaceous	06/21
	UPLAND-LT04	<i>Schizachyrium scoparium</i> - <i>Bouteloua curtipendula</i> Herbaceous	06/19

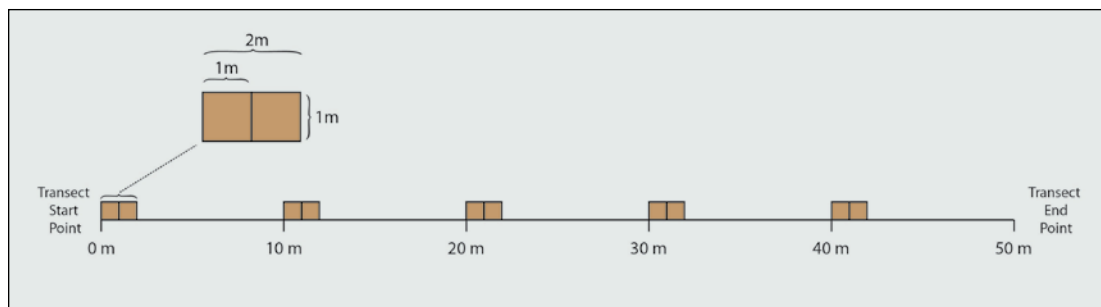


Figure 1. Layout of plots within each permanent transect.

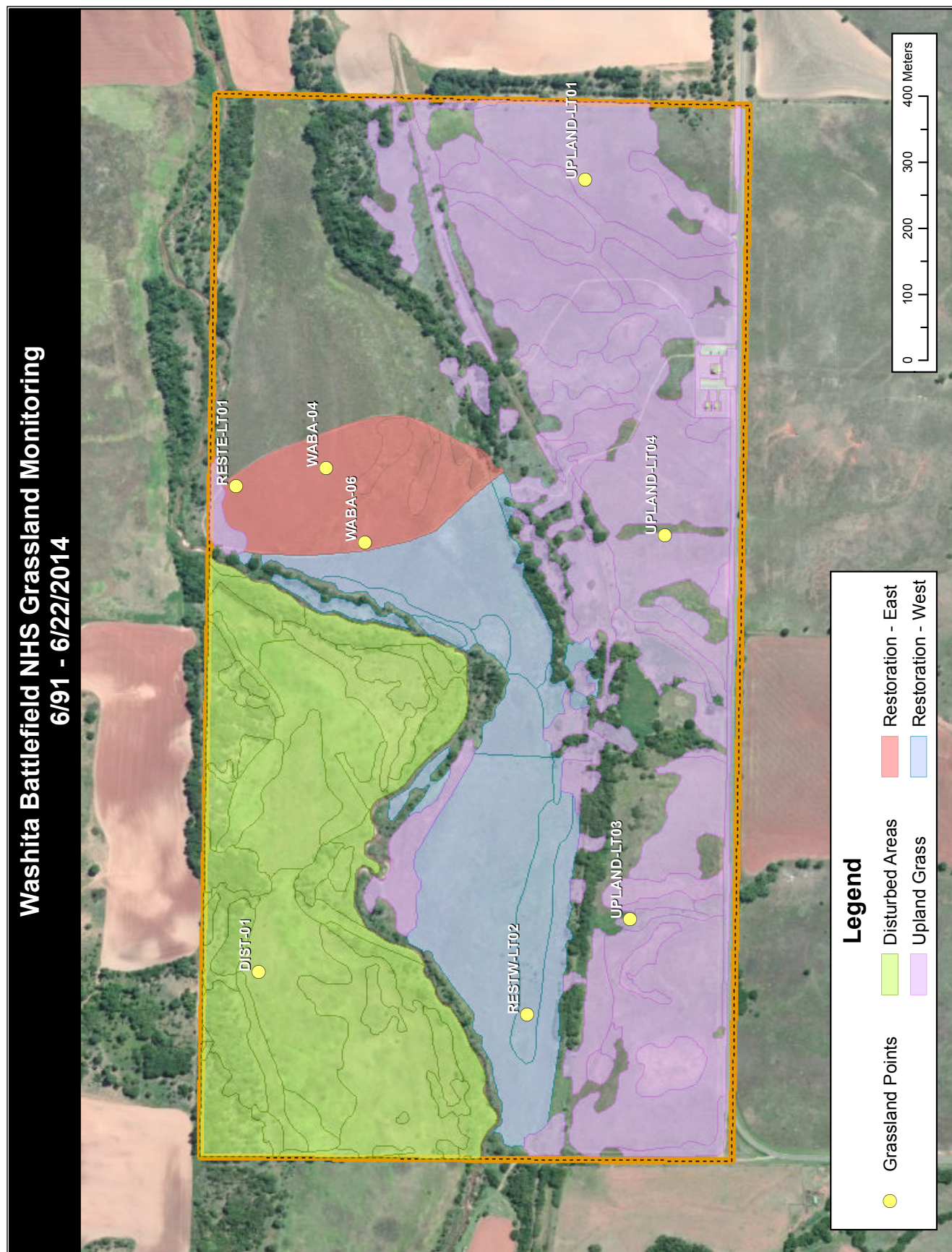


Figure 2. Location of each permanent plot at WABA monitored in 2014

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 Annual grassland by limiting seedling recruitment. Ground strata estimates for each transect monitored at WABA in 2014 can be found in Table 2.

Table 3 contains numerical results of 2014 grassland monitoring at WABA. Each transect contains five plots. Frequency reflects the number of plots in each transect where Annual 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 WABA in 2014.

Cover	Restoration Community				
	DIST-01	RESTE-LT01	RESTW-LT02	WABA-04	WABA-06
SOIOPEN	7.75	2.5	3	1.6	24.2
SOILUNDER	10	2.25	1.4	2.8	6.8
LITTER	82	95.25	94.4	95.6	70.6
WOOD	0	0	1.2	0	0
ROCKSM	0.25	0	0	0	0
ROCKLG	0	0	0	0	0
LICHEN	0	0	0	0	0
MOSS	0	0	0	0	0
CRUST	0	0	0	0	1.6

Cover	Upland Community		
	UPLAND-LT01	UPLAND-LT03	UPLAND-LT04
SOIOPEN	6	7	6
SOILUNDER	3.6	27	2.4
LITTER	89.8	65.8	90.2
WOOD	0	0.2	0
ROCKSM	0.4	0	0.8
ROCKLG	0	0	0
LICHEN	0	0	0
MOSS	0	0	0
CRUST	0.2	0	0.6

Table 3. Species cover sum and frequency for each permanent transect monitored at WABA in 2014. Exotic species are highlighted in pink.

Species Code	Restoration Community									
	DIST-01		RESTE-LT01		RESTW-LT02		WABA-04		WABA-06	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
Forb										
AMBPSI	36	4								
AMBTRI									0.5	1
ARTLUD	3	1	0.5	1	1	1			0.5	1
BOECYL	1	2							1	1
CHAGLY	1	2							1	2
CHASTI					0.5	1			1.5	3
CIRUND					0.5	1	0.5	1	1	1
CONARV										
CONCAN	2	3			2.5	3	1.5	3	28.5	5
CROTEX									0.5	1
EUPDEN										
GAIPUL										
GRIPAP							1	2	1	1
GUTSAR										
HELANN	5	1								
HELPET			0.5	1						
HETCAN										
LACSER					0.5	1			0.5	1
MOLVER	0.5	1							1	2
PHYCIN									0.5	1
PHYLON	0.5	1			0.5	1				
PLAPAT									1.5	3
POROLE									0.5	1
PROLOU	0.5	1								
SOLCAN					0.5	1				
SOLDIM	17	2								
SOLELA	13	3					6	2	23	3
SOLGIG							6	2		
SOLROS									1.5	3
SYMPRA	1	1			1.5	2				
TRADUB							0.5	1		
VERENC									4	2
Grass										
ANDHAL			36	5	0.5	1	2.5	3	5	1
ARIPUR										
BOTLAG	0.5	1			3	3				
BOUCUR			1.5	2	0.5	1	5	3	3	1
BROJAP					0.5	1			0.5	1
BROTEC									1	2
CYNDAC										
CYPLUP										
CYPODO										
ELYVIR										

Table 3. Species cover sum and frequency for each permanent transect monitored at WABA in 2014. Exotic species are highlighted in pink (continued).

Species Code	Upland Community					
	UPLAND-LT01		UPLAND-LT03		UPLAND-LT04	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
Forb						
AMBPSI	66	5			18	4
AMBTRI						
ARTLUD						
BOECYL	0.5	1	207	5		
CHAGLY					1	2
CHASTI			0.5	1		
CIRUND						
CONARV			0.5	1		
CONCAN			9.5	4		
CROTEX						
EUPDEN	0.5	1				
GAIPUL	0.5	1				
GRIPAP			1	1		
GUTSAR					4	2
HELANN						
HELPET						
HETCAN					1	1
LACSER						
MOLVER	1	2			0.5	1
PHYCIN			1	1	0.5	1
PHYLON			1	1		
PLAPAT						
POROLE						
PROLOU						
SOLCAN	0.5	1				
SOLDIM						
SOLELA	2	2	79	5	6	2
SOLGIG						
SOLROS						
SYMPRA						
TRADUB						
VERENC						
Grass						
ANDHAL						
ARIPUR	10	1				
BOTLAG			0.5	1	1	2
BOUCUR			0.5	1	4	3
BROJAP			1.5	2		
BROTEC			16.5	3		
CYNDAC	6	2				
CYPLUP	1	1				
CYPODO					0.5	1
ELYVIR			0.5	1		

Table 3. Species cover sum and frequency for each permanent transect monitored at WABA in 2014. Exotic species are highlighted in pink (continued).

Species Code	Restoration Community									
	DIST-01		RETE-LT01		RESTW-LT02		WABA-04		WABA-06	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
PANCAP	0.5	1								
PANVIR	28	4	42	5	30	1	48	5	4.5	3
PASSET										
PASSMI					0.5	1			1	2
SCHSCO	1	1	39	5			13	5	8.5	4
SORHAL					14	4			0.5	1
SORNUT	1	1	1	2	10.5	2	8.5	5	37	3
SPOCRY			3	1					3.5	2
Subshrub										
OPUMAC										
Tree										
CELLAE	0.5	1							0.5	1
PRUANG	81	2								
SAPSAP										
ULMPUM	1	1	1.5	3	4	4				
CUCFOE										
STRLEI										

Table 3. Species cover sum and frequency for each permanent transect monitored at WABA in 2014. Exotic species are highlighted in pink (continued).

Species Code	Upland Community					
	UPLAND-LT01		UPLAND-LT03		UPLAND-LT04	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
PANCAP						
PANVIR					0.5	1
PASSET	3	1				
PASSMI					1.5	2
SCHSCO	23	3			55	4
SORHAL			18	2		
SORNUT					1	1
SPOCRY	2	2				
Subshrub						
OPUMAC	5	1				
Tree						
CELLAE						
PRUANG						
SAPSAP			18	2		
ULMPUM					5	1
CUCFOE	1	1			3	1
STRLEI	0.5	1				

Table 4. All plant species detected during grassland monitoring in 2014 and exotic monitoring in 2011 and 2014 at WABA. Exotic species are highlighted in pink.

Species Code	LifeForm	Scientific Name	Common Name	Primary Duration
AEGCYL	Grass	<i>Aegilops cylindrica</i>	jointed goat grass	Annual
AMBPSI	Forb	<i>Ambrosia psilostachya</i>	western ragweed	Perennial
ANDHAL	Grass	<i>Andropogon hallii</i>	sand bluestem	Perennial
ARIPUR	Grass	<i>Aristida purpurea</i>	purple threeawn	Perennial
ARTLUD	Forb	<i>Artemisia ludoviciana</i>	louisiana sagewort	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
BROCAT	Grass	<i>Bromus catharticus</i>	rescue grass	Annual
BROJAP	Grass	<i>Bromus japonicus</i>	japanese brome	Annual
BROTEC	Grass	<i>Bromus tectorum</i>	cheatgrass	Annual
CARNEB	Grass	<i>Carex nebrascensis</i>	nebraska sedge	Perennial
CHAMAC	Forb	<i>Chamaesyce maculata</i>	spotted sandmat	Annual
CHEALB	Forb	<i>Chenopodium album</i>	common lambsquarters	Annual
CIRUND	Forb	<i>Cirsium undulatum</i>	wavyleaf thistle	Biennial
CONARV	Forb	<i>Convolvulus arvensis</i>	field bindweed	Perennial
CONCAN	Forb	<i>Conyza canadensis</i>	canada horseweed	Annual
CROTEX	Forb	<i>Croton texensis</i>	Texas croton	Annual
CUCFOE	Vine	<i>Cucurbita foetidissima</i>	buffalo gourd	Perennial
CYNDAC	Grass	<i>Cynodon dactylon</i>	Bermudagrass	Perennial
DALENN	Forb	<i>Dalea enneandra</i>	nine-anther dalea	Perennial
DESILL1	Forb	<i>Desmanthus illinoensis</i>	illinois bundleflower	Perennial
DIGCIL	Grass	<i>Digitaria ciliaris</i>	smooth crabgrass	Annual
DISSPI	Grass	<i>Distichlis spicata</i>	inland saltgrass	Perennial
ELYVIR	Grass	<i>Elymus virginicus</i>	virginia wildrye	Perennial
ERACIL	Grass	<i>Eragrostis cilianensis</i>	stinkgrass	Annual
ERIANN2	Forb	<i>Eriogonum annuum</i>	annual buckwheat	Annual
EROCIC	Forb	<i>Erodium cicutarium</i>	red stem storksbill	Annual
GAIPUL	Forb	<i>Gaillardia pulchella</i>	indian blanket	Annual
GAUMOL	Forb	<i>Gaura mollis</i>	velvetweed	Annual
GRIPAP	Forb	<i>Grindelia papposa</i>	wax gumweed	Annual
GUTSAR	Forb	<i>Gutierrezia sarothrae</i>	broom snakeweed	Perennial
HELANN	Forb	<i>Helianthus annuus</i>	common sunflower	Annual
HETCAN	Forb	<i>Heterotheca canescens</i>	gray goldenaster	Perennial
HETVIL	Forb	<i>Heterotheca villosa</i>	hairy false goldenaster	Perennial
KOCSCO	Forb	<i>Kochia scoparia</i>	kochia	Annual
LACSER	Forb	<i>Lactuca serriola</i>	prickly lettuce	Annual
LINRIG	Forb	<i>Linum rigidum</i>	orange flax	Annual
LOLPER	Grass	<i>Lolium perenne</i>	perennial ryegrass	Annual/Perennial
MEDMIN	Forb	<i>Medicago minima</i>	burr medic clover	Annual
MELALB	Forb	<i>Melilotus officinalis</i>	white sweetclover	Annual

Table 4. All plant species detected during grassland monitoring in 2011 and exotic monitoring in 2011 and 2014 at WABA. Exotic species are highlighted in pink. (continued).

Species Code	LifeForm	Scientific Name	Common Name	Primary Duration
MELOFF	Forb	<i>Melilotus officinalis</i>	yellow sweetclover	Annual
OENELA	Forb	<i>Oenothera elata</i>	hookers evening primrose	Biennial
OPUMAC	Subshrub	<i>Opuntia macrorhiza</i>	twistspine pricklypear	Perennial
PANVIR	Grass	<i>Panicum virgatum</i>	switchgrass	Perennial
PASSMI	Grass	<i>Pascopyrum smithii</i>	western wheatgrass	Perennial
PHYCIN	Forb	<i>Physalis cinerascens</i>	smallflower groundcherry	Perennial
PHYLON	Forb	<i>Physalis longifolia</i>	longleaf groundcherry	Perennial
PLAPAT	Forb	<i>Plantago patagonica</i>	woolly plantain	Annual
POLNUT	Forb	<i>Polytaenia nuttallii</i>	nuttal's prairie parsley	Perennial
PRUANG	Tree	<i>Prunus angustifolia</i>	chickasaw plum	Perennial
QUILOB	Forb	<i>Quincula lobata</i>	purple groundcherry	Perennial
RUMPAT	Forb	<i>Rumex patientia</i>	patience dock	Perennial
SALTRA	Forb	<i>Salsola tragus</i>	prickly Russian thistle	Annual
SAPSAP	Tree	<i>Sapindus saponaria</i>	western soapberry	Perennial
SCHSCO	Grass	<i>Schizachyrium scoparium</i>	little bluestem	Perennial
SOLCAN	Forb	<i>Solidago canadensis</i>	canada goldenrod	Perennial
SOLDIM	Forb	<i>Solanum dimidiatum</i>	western horsenettle: torrey nightshade	Perennial
SOLELA	Forb	<i>Solanum elaeagnifolium</i>	silverleaf nightshade	Perennial
SORHAL	Grass	<i>Sorghum halepense</i>	johnsongrass	Perennial
SORNUT	Grass	<i>Sorghastrum nutans</i>	indiangrass	Perennial
SPOAIR	Grass	<i>Sporobolus airoides</i>	alkali sacaton	Perennial
SPOCRY	Grass	<i>Sporobolus cryptandrus</i>	sand dropseed	Perennial
SYMPRA	Forb	<i>Symphyotrichum praealtum</i>	willowleaf aster	Perennial
TAROFF	Forb	<i>Taraxacum officinale</i>	dandelion	Perennial
TRADUB	Forb	<i>Tragopogon dubius</i>	western salsify	Annual
TRITER	Forb	<i>Tribulus terrestris</i>	puncturevine	Annual
ULMPUM	Tree	<i>Ulmus pumila</i>	siberian elm	Perennial
URTDIO	Forb	<i>Urtica dioica</i>	stinging nettle	Perennial
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 discrete 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 June 6-9, 2014 and included the north-eastern, eastern and southern boundary of the park (Figure 4). These vectors have been previously monitored early-June, 2011. It should be noted that 2011 was the beginning of years of severe to exceptional drought, including early 2014. Data summarized in this report compares the results of 2014 monitoring to that detected in 2011.

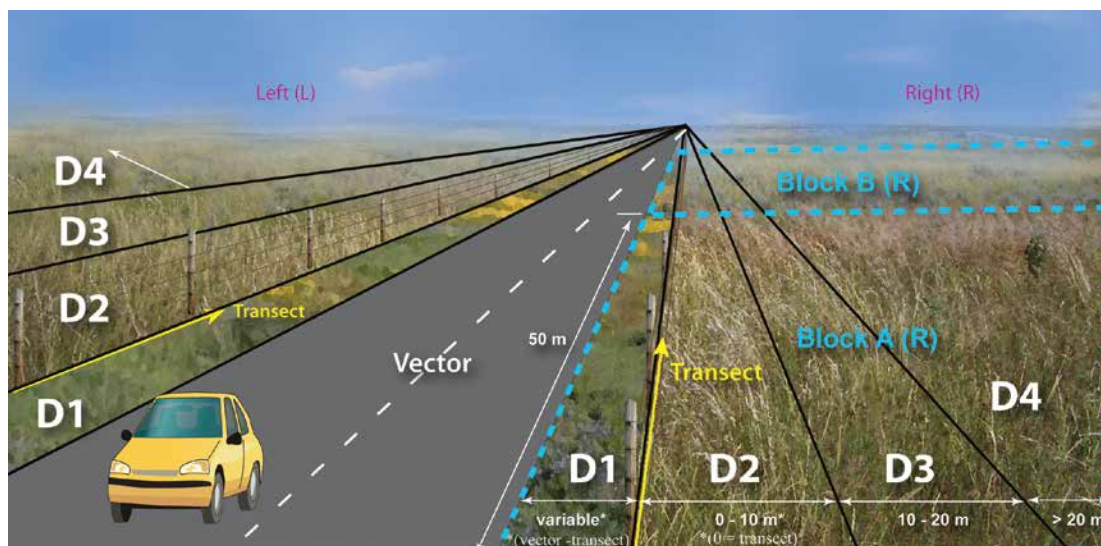


Figure 3. Layout of Vector Blocks and Distance Classes along Annual vector.

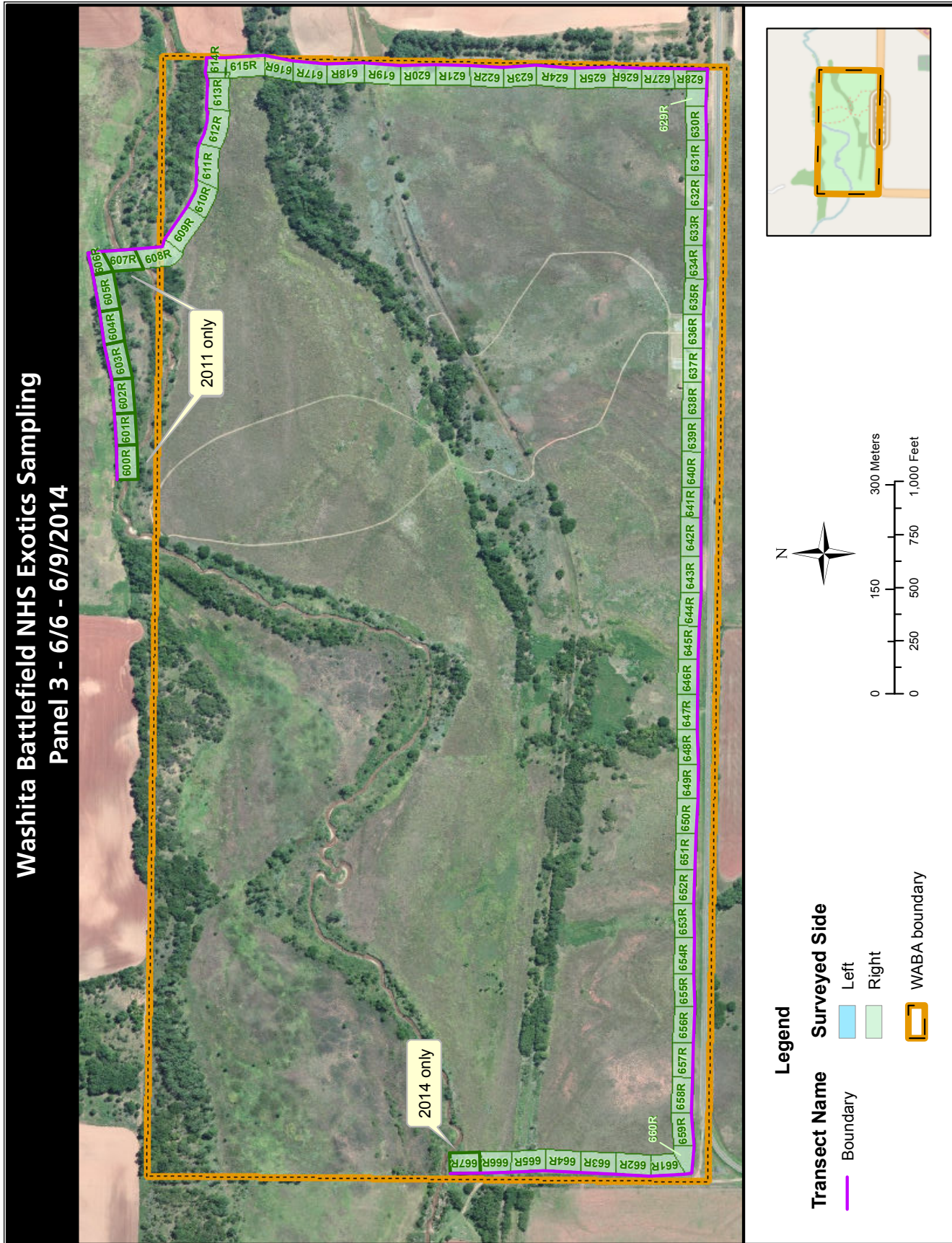


Figure 4. Panel 3 numbered vector blocks monitored at WABA in both 2011 and 2014. Blocks with Annual bold outline were visited in one year only.

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=60) and transects (N=8)(Figure 5) 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 WABA.

Scientific Name	Common Name	2011		2014		2011		2014	
		Primary Blocks (N=67)		Primary Blocks (N=60)		Secondary Transects (N=9)		Secondary Transects (N=8)	
		Total	% Blocks	Total	% Blocks	Total	% Blocks	Total	% Blocks
<i>Aegilops cylindrica</i>	jointed goatgrass	–	–	1	1.67%	–	–	–	–
<i>Bothriochloa ischaemum</i>	yellow bluestem	–	–	–	–	–	–	–	–
<i>Bromus catharticus</i>	rescuegrass	–	–	7	11.67%	6	66.67%	3	37.50%
<i>Bromus japonicus</i>	Japanese brome	12	17.91%	13	21.67%	–	–	–	–
<i>Bromus tectorum</i>	cheatgrass	46	68.66%	6	10.00%	–	–	2	25.00%
<i>Chenopodium album</i>	lambsquarters	–	–	13	21.67%	–	–	–	–
<i>Cirsium arvense</i>	Canada thistle	–	–	–	–	–	–	–	–
<i>Cirsium vulgare</i>	bull thistle	–	–	–	–	–	–	–	–
<i>Convolvulus arvensis</i>	field bindweed	1	1.49%	–	–	1	11.11%	1	12.50%
<i>Cynodon dactylon</i>	Bermudagrass	4	5.97%	8	13.33%	1	11.11%	1	12.50%
<i>Descurainia sophia</i>	herb sophia	–	–	–	–	–	–	–	–
<i>Digitaria ciliaris</i>	southern crabgrass	–	–	1	1.67%	–	–	–	–
<i>Eragrostis cilianensis</i>	stinkgrass	–	–	3	5.00%	–	–	–	–
<i>Erodium cicutarium</i>	redstem stork's bill	2	2.99%	3	5.00%	–	–	1	12.50%
<i>Euphorbia dentata</i>	toothed spurge	–	–	–	–	–	–	–	–
<i>Kochia scoparia</i>	Mexican-fireweed	15	22.39%	29	48.33%	1	11.11%	–	–
<i>Lactuca serriola</i>	prickly lettuce	–	–	–	–	1	11.11%	2	25.00%
<i>Lamium amplexicaule</i>	henbit deadnettle	–	–	–	–	–	–	–	–
<i>Lolium perenne</i>	perennial ryegrass	2	2.99%	–	–	–	–	–	–
<i>Medicago lupulina</i>	black medick	–	–	–	–	–	–	–	–
<i>Medicago minima</i>	little bur-clover	–	–	3	5.00%	1	11.11%	–	–
<i>Melilotus officinalis</i>	sweetclover	10	14.93%	5	8.33%	–	–	–	–
<i>Panicum coloratum</i>	kleingrass	–	–	–	–	–	–	–	–
<i>Rumex crispus</i>	curly dock	–	–	–	–	–	–	–	–
<i>Salsola tragus</i>	prickly Russian thistle	9	13.43%	30	50.00%	2	22.22%	–	–
<i>Sonchus asper</i>	spiny sowthistle	–	–	–	–	–	–	–	–
<i>Sorghum halepense</i>	Johnsongrass	27	40.30%	30	50.00%	3	33.33%	3	37.50%
<i>Tamarix ramosissima</i>	saltcedar	–	–	–	–	–	–	–	–
<i>Taraxacum officinale</i>	common dandelion	–	–	2	3.33%	–	–	–	–
<i>Tragopogon dubius</i>	yellow salsify	2	2.99%	–	–	–	–	1	12.50%
<i>Tribulus terrestris</i>	puncturevine	–	–	1	1.67%	–	–	–	–
<i>Ulmus pumila</i>	Siberian elm	39	58.21%	30	50.00%	6	66.67%	4	50.00%
<i>Urtica dioica</i>	stinging nettle	–	–	1	1.67%	–	–	–	–

Washita Battlefield NHS - Secondary Exotics 2011 vs. 2014

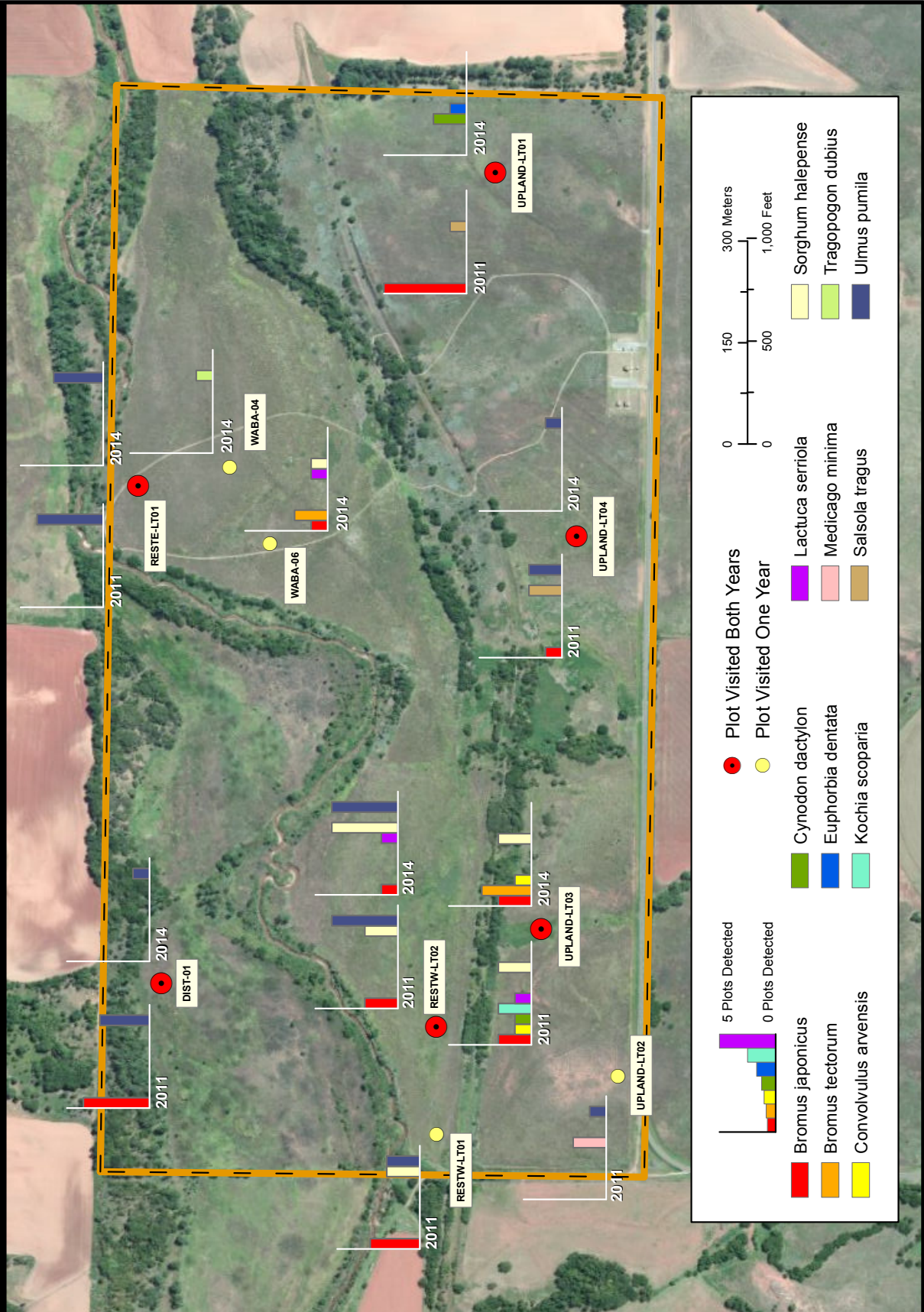


Figure 5. Comparison of exotics detected in 2011 and 2014 grassland monitoring permanent transects at WABA.

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 2011 and 2014 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. Annual comparison of the number of blocks containing Annual given density in 2011 and 2014 in two Distance Classes.

Species Code	Scientific Name	Common Name	Density Code	Distance Class 1		Distance Class 2	
				2010	2014	2010	2014
AEGCYL	<i>Aegilops cylindrica</i>	jointed goat grass	2	–	–	–	1
BROCAT	<i>Bromus catharticus</i>	rescue grass	1	–	1	–	–
			2	–	5	–	3
BROJAP	<i>Bromus japonicus</i>	Japanese brome	1	–	2	–	–
			2	8	10	9	10
			3	4	1	3	–
BROTEC	<i>Bromus tectorum</i>	cheatgrass	1	2	1	–	–
			2	25	5	21	4
			3	19	–	23	–
CHEALB	<i>Chenopodium album</i>	common lambsquarters	1	–	5	–	3
			2	–	2	–	7
CONARV	<i>Convolvulus arvensis</i>	field bindweed	1	1	–	1	–
CYNDAC	<i>Cynodon dactylon</i>	Bermudagrass	1	–	1	1	7
			2	3	6	–	–
			3	1	–	2	–
DIGCIL	<i>Digitaria ciliaris</i>	smooth crabgrass	1	–	–	–	1
ERACIL	<i>Eragrostis cilianensis</i>	stinkgrass	1	–	1	–	2
			2	–	1	–	–
EROCIC	<i>Erodium cicutarium</i>	red stem storksbill	1	1	–	1	–
			2	1	3	1	3
KOCSO	<i>Kochia scoparia</i>	kochia	1	2	1	1	2
			2	11	23	9	15
			3	1	4	–	2
LOLPER	<i>Lolium perenne</i>	perennial ryegrass	1	–	–	1	–
			2	1	–	–	1
MEDMIN	<i>Medicago minima</i>	burr medic clover	1	–	1	–	–
			2	–	2	–	–
MELOFF	<i>Melilotus officinalis</i>	yellow sweetclover	1	–	3	2	1
			2	6	1	7	2
RUMPAT	<i>Rumex patientia</i>	patience dock	1	–	1	–	1
SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	1	1	6	–	4
			2	8	24	6	14

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

Table 6. Annual comparison of the number of blocks containing Annual given density in 2011 and 2014 in two Distance Classes (continued).

Species Code	Scientific Name	Common Name	Density Code	Distance Class 1		Distance Class 2	
				2010	2014	2010	2014
SORHAL	<i>Sorghum halepense</i>	Johnsongrass	1	–	5	2	5
			2	19	11	23	19
			3	5	–	2	–
TAROFF	<i>Taraxacum officinale</i>	dandelion	1	–	1	–	1
			2	–	1	–	1
TRADUB	<i>Tragopogon dubius</i>	western salsify	1	1	–	1	–
TRITER	<i>Tribulus terrestris</i>	puncturevine	2	–	1	–	1
ULMPUM	<i>Ulmus pumila</i>	Siberian elm	1	7	10	9	11
			2	16	7	25	9
			3	1	–	2	–
URTDIO	<i>Urtica dioica</i>	stinging nettle	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.

Table 7. Comparison of 2011 vs. 2014 detections for each individual Vector Block, detailing the given Density Code for each Distance Class.

Block	Scientific Name	Common Name	2010				2014			
			D1	D2	D3	D4	D1	D2	D3	D4
600R	<i>Bromus tectorum</i>	cheatgrass	3	3	X	X				
600R	<i>Kochia scoparia</i>	kochia	2	2	X	X				
601R	<i>Bromus tectorum</i>	cheatgrass	3	3	X	X				
601R	<i>Kochia scoparia</i>	kochia	2	2	X	X				
601R	<i>Tragopogon dubius</i>	western salsify	1	0	X	X				
601R	<i>Ulmus pumila</i>	Siberian elm	2	2	X	X				
602R	<i>Bromus tectorum</i>	cheatgrass	2	3	X	X				
602R	<i>Ulmus pumila</i>	Siberian elm	0	2	X	X				
603R	<i>Bromus tectorum</i>	cheatgrass	3	3	X	X				
603R	<i>Kochia scoparia</i>	kochia	2	0	X	X				
603R	<i>Tragopogon dubius</i>	western salsify	0	1	X	X				
603R	<i>Ulmus pumila</i>	Siberian elm	2	2	X	X				
604R	<i>Bromus tectorum</i>	cheatgrass	2	2	X	X				
604R	<i>Sorghum halepense</i>	Johnsongrass	2	2	X	X				
605R	<i>Bromus tectorum</i>	cheatgrass	3	3	X	X				
605R	<i>Ulmus pumila</i>	Siberian elm	2	0	X	X				
606R	<i>Bromus tectorum</i>	cheatgrass	3	3	X	X				
606R	<i>Cynodon dactylon</i>	Bermudagrass	2	0	X	X				
606R	<i>Salsola tragus</i>	prickly Russian thistle	2	0	X	X				
607R	<i>Bromus tectorum</i>	cheatgrass	3	3	X	X				
607R	<i>Cynodon dactylon</i>	Bermudagrass	2	2	X	X				
607R	<i>Sorghum halepense</i>	Johnsongrass	0	1	X	X				
607R	<i>Ulmus pumila</i>	Siberian elm	2	2	X	X				
608R	<i>Bromus tectorum</i>	cheatgrass	2	3	0	0				
608R	<i>Lolium perenne</i>	perennial ryegrass	0	1	0	0				
608R	<i>Sorghum halepense</i>	Johnsongrass					0	0	2	2
609R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
609R	<i>Sorghum halepense</i>	Johnsongrass					0	0	2	2
610R	<i>Bromus tectorum</i>	cheatgrass	3	3	0	0				
610R	<i>Sorghum halepense</i>	Johnsongrass	2	1	0	0	0	2	2	2
611R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
611R	<i>Sorghum halepense</i>	Johnsongrass					0	2	2	0
611R	<i>Ulmus pumila</i>	Siberian elm	0	1	0	0				
612R	<i>Bromus tectorum</i>	cheatgrass	3	2	0	0				
612R	<i>Lolium perenne</i>	perennial ryegrass	2	0	0	0				
612R	<i>Sorghum halepense</i>	Johnsongrass					0	2	2	2
612R	<i>Ulmus pumila</i>	Siberian elm					0	0	1	2
613R	<i>Bromus japonicus</i>	Japanese brome					2	2	0	0
613R	<i>Bromus tectorum</i>	cheatgrass	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 2011 vs. 2014 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).

Block	Scientific Name	Common Name	2010				2014			
			D1	D2	D3	D4	D1	D2	D3	D4
613R	<i>Kochia scoparia</i>	kochia	2	2	0	0	2	0	0	0
613R	<i>Sorghum halepense</i>	Johnsongrass	2	2	2	0	0	2	2	2
613R	<i>Ulmus pumila</i>	Siberian elm	1	1	1	0	1	0	1	2
614R	<i>Bromus catharticus</i>	rescue grass					2	0	0	0
614R	<i>Bromus japonicus</i>	Japanese brome					1	2	2	0
614R	<i>Bromus tectorum</i>	cheatgrass	2	3	0	0				
614R	<i>Kochia scoparia</i>	kochia					2	0	0	0
614R	<i>Salsola tragus</i>	prickly Russian thistle					2	0	0	0
614R	<i>Sorghum halepense</i>	Johnsongrass					0	2	2	2
614R	<i>Ulmus pumila</i>	Siberian elm					1	1	1	0
615R	<i>Bromus japonicus</i>	Japanese brome					2	2	2	0
615R	<i>Bromus tectorum</i>	cheatgrass	2	3	0	0				
615R	<i>Chenopodium album</i>	common lambsquarters					0	2	0	0
615R	<i>Kochia scoparia</i>	kochia	2	0	0	0	2	1	0	0
615R	<i>Salsola tragus</i>	prickly Russian thistle					2	2	2	2
615R	<i>Sorghum halepense</i>	Johnsongrass	2	2	2	0	2	2	2	2
615R	<i>Ulmus pumila</i>	Siberian elm	2	3	2	0	2	2	2	2
616R	<i>Bromus tectorum</i>	cheatgrass	2	3	X	X	2	2	2	0
616R	<i>Kochia scoparia</i>	kochia					2	2	0	0
616R	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
616R	<i>Ulmus pumila</i>	Siberian elm	0	2	X	X				
617R	<i>Bromus catharticus</i>	rescue grass					1	0	0	0
617R	<i>Bromus tectorum</i>	cheatgrass	2	3	X	X	2	0	0	0
617R	<i>Chenopodium album</i>	common lambsquarters					2	1	0	0
617R	<i>Kochia scoparia</i>	kochia	2	0	X	X	2	2	0	0
617R	<i>Salsola tragus</i>	prickly Russian thistle	2	2	X	X	2	2	0	0
617R	<i>Ulmus pumila</i>	Siberian elm	2	2	X	X				
618R	<i>Bromus catharticus</i>	rescue grass					2	0	0	0
618R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0	2	2	0	0
618R	<i>Chenopodium album</i>	common lambsquarters					2	0	0	0
618R	<i>Kochia scoparia</i>	kochia					2	0	0	0
618R	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
618R	<i>Sorghum halepense</i>	Johnsongrass					0	1	0	0
618R	<i>Ulmus pumila</i>	Siberian elm	2	2	2	0	2	2	0	0
619R	<i>Bromus catharticus</i>	rescue grass					2	0	0	0
619R	<i>Bromus tectorum</i>	cheatgrass	2	3	0	0	1	2	2	2
619R	<i>Chenopodium album</i>	common lambsquarters					1	1	0	0
619R	<i>Kochia scoparia</i>	kochia	2	2	0	0	2	0	0	0
619R	<i>Salsola tragus</i>	prickly Russian thistle	2	2	0	0	2	2	0	0
619R	<i>Sorghum halepense</i>	Johnsongrass	0	2	2	0	1	2	2	2
619R	<i>Ulmus pumila</i>	Siberian elm	1	2	2	2				
620R	<i>Bromus catharticus</i>	rescue grass					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 2011 vs. 2014 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).

Block	Scientific Name	Common Name	2010				2014			
			D1	D2	D3	D4	D1	D2	D3	D4
620R	<i>Bromus japonicus</i>	Japanese brome					2	2	3	2
620R	<i>Bromus tectorum</i>	cheatgrass	2	3	2	0				
620R	<i>Chenopodium album</i>	common lambsquarters					0	2	0	0
620R	<i>Cynodon dactylon</i>	Bermudagrass					2	2	3	2
620R	<i>Kochia scoparia</i>	kochia					2	0	0	0
620R	<i>Salsola tragus</i>	prickly Russian thistle	2	2	0	0	2	2	0	0
620R	<i>Sorghum halepense</i>	Johnsongrass					1	1	0	0
620R	<i>Urtica dioica</i>	stinging nettle					0	1	0	0
621R	<i>Bromus catharticus</i>	rescue grass					2	2	0	0
621R	<i>Bromus japonicus</i>	Japanese brome					2	2	2	0
621R	<i>Bromus tectorum</i>	cheatgrass	2	3	3	3				
621R	<i>Chenopodium album</i>	common lambsquarters					0	2	0	0
621R	<i>Kochia scoparia</i>	kochia	2	0	0	0	3	2	0	0
621R	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
621R	<i>Ulmus pumila</i>	Siberian elm	1	1	1	0	1	0	0	1
622R	<i>Bromus japonicus</i>	Japanese brome					2	2	2	0
622R	<i>Bromus tectorum</i>	cheatgrass	3	3	3	0				
622R	<i>Chenopodium album</i>	common lambsquarters					0	2	0	0
622R	<i>Kochia scoparia</i>	kochia					2	1	0	0
622R	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
622R	<i>Ulmus pumila</i>	Siberian elm	0	2	0	0				
623R	<i>Bromus japonicus</i>	Japanese brome					3	2	2	0
623R	<i>Bromus tectorum</i>	cheatgrass	2	3	3	3				
623R	<i>Chenopodium album</i>	common lambsquarters					0	2	0	0
623R	<i>Kochia scoparia</i>	kochia					3	0	0	0
623R	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
624R	<i>Bromus tectorum</i>	cheatgrass	3	3	3	2	2	2	0	0
624R	<i>Chenopodium album</i>	common lambsquarters					1	2	0	0
624R	<i>Kochia scoparia</i>	kochia					2	0	0	0
624R	<i>Salsola tragus</i>	prickly Russian thistle					2	0	0	0
625R	<i>Bromus tectorum</i>	cheatgrass	3	3	3	0				
625R	<i>Salsola tragus</i>	prickly Russian thistle					2	1	0	0
626R	<i>Bromus japonicus</i>	Japanese brome					2	0	0	0
626R	<i>Bromus tectorum</i>	cheatgrass	3	3	X	0				
626R	<i>Chenopodium album</i>	common lambsquarters					1	1	0	0
626R	<i>Salsola tragus</i>	prickly Russian thistle					2	0	0	0
627R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
627R	<i>Salsola tragus</i>	prickly Russian thistle	2	2	0	0	2	2	0	0
627R	<i>Ulmus pumila</i>	Siberian elm	2	2	0	0	2	2	0	0
628R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
628R	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
629R	<i>Bromus japonicus</i>	Japanese brome	3	3	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 2011 vs. 2014 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).

Block	Scientific Name	Common Name	2010				2014			
			D1	D2	D3	D4	D1	D2	D3	D4
629R	<i>Kochia scoparia</i>	kochia					1	0	0	0
629R	<i>Salsola tragus</i>	prickly Russian thistle	2	2	0	0	2	2	0	0
629R	<i>Ulmus pumila</i>	Siberian elm	1	1	1	0				
630R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
630R	<i>Salsola tragus</i>	prickly Russian thistle					2	1	0	0
630R	<i>Ulmus pumila</i>	Siberian elm	0	1	0	0				
631R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
631R	<i>Salsola tragus</i>	prickly Russian thistle	1	0	0	0	2	2	0	0
632R	<i>No Plant</i>	no plant	0	0	0	0	0	0	0	0
633R	<i>Bromus tectorum</i>	cheatgrass	1	0	0	0				
633R	<i>Chenopodium album</i>	common lambsquarters					1	0	0	0
633R	<i>Cynodon dactylon</i>	Bermudagrass					1	0	0	0
633R	<i>Salsola tragus</i>	prickly Russian thistle					2	0	0	0
633R	<i>Ulmus pumila</i>	Siberian elm	1	0	0	0	1	0	0	0
634R	<i>Melilotus officinalis</i>	yellow sweetclover					1	0	0	0
634R	<i>Salsola tragus</i>	prickly Russian thistle					1	0	0	0
634R	<i>Ulmus pumila</i>	Siberian elm	2	0	0	0	1	0	0	0
635R	<i>Bromus japonicus</i>	Japanese brome					2	0	0	0
635R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
635R	<i>Cynodon dactylon</i>	Bermudagrass					2	2	0	0
635R	<i>Eragrostis cilianensis</i>	stinkgrass					2	1	0	0
635R	<i>Kochia scoparia</i>	kochia	0	2	0	0				
635R	<i>Medicago minima</i>	burr medic clover					2	0	0	0
635R	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
635R	<i>Ulmus pumila</i>	Siberian elm	1	1	0	0	0	2	1	0
636R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
636R	<i>Cynodon dactylon</i>	Bermudagrass	3	3	3	0	2	2	2	0
636R	<i>Digitaria ciliaris</i>	smooth crabgrass					0	1	0	0
636R	<i>Eragrostis cilianensis</i>	stinkgrass					0	1	0	0
636R	<i>Erodium cicutarium</i>	red stem storksbill	2	2	0	0	2	2	2	0
636R	<i>Salsola tragus</i>	prickly Russian thistle	2	0	0	0	1	1	1	1
636R	<i>Sorghum halepense</i>	Johnsongrass					0	0	0	1
636R	<i>Taraxacum officinale</i>	dandelion					2	2	2	0
636R	<i>Tribulus terrestris</i>	puncturevine					2	2	2	0
637R	<i>Cynodon dactylon</i>	Bermudagrass	2	3	3	0	2	2	2	2
637R	<i>Eragrostis cilianensis</i>	stinkgrass					1	0	0	0
637R	<i>Erodium cicutarium</i>	red stem storksbill	1	1	0	0	2	2	0	0
637R	<i>Medicago minima</i>	burr medic clover					2	2	0	0
637R	<i>Salsola tragus</i>	prickly Russian thistle	2	2	2	0	1	0	0	0
638R	<i>Cynodon dactylon</i>	Bermudagrass					0	2	2	0
638R	<i>Erodium cicutarium</i>	red stem storksbill					2	2	2	0
638R	<i>Melilotus officinalis</i>	yellow sweetclover	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 2011 vs. 2014 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).

Block	Scientific Name	Common Name	2010				2014			
			D1	D2	D3	D4	D1	D2	D3	D4
638R	<i>Taraxacum officinale</i>	dandelion					1	1	1	0
639R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
639R	<i>Salsola tragus</i>	prickly Russian thistle					1	0	0	0
640R	<i>Bromus tectorum</i>	cheatgrass	2	2	2	0				
640R	<i>Melilotus officinalis</i>	yellow sweetclover	2	2	0	0				
640R	No Plant	no plant					0	0	0	0
641R	<i>Bromus tectorum</i>	cheatgrass	1	0	0	0				
641R	<i>Sorghum halepense</i>	Johnsongrass	2	2	2	0	2	0	0	0
641R	<i>Ulmus pumila</i>	Siberian elm	2	2	0	0	2	1	0	0
642R	<i>Kochia scoparia</i>	kochia					2	0	0	0
642R	<i>Melilotus officinalis</i>	yellow sweetclover	2	2	0	0	0	1	0	0
642R	<i>Sorghum halepense</i>	Johnsongrass					0	0	0	2
642R	<i>Ulmus pumila</i>	Siberian elm					1	0	0	0
643R	<i>Melilotus officinalis</i>	yellow sweetclover	0	1	0	0				
643R	<i>Ulmus pumila</i>	Siberian elm					0	0	1	1
644R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
644R	<i>Kochia scoparia</i>	kochia					2	2	0	0
644R	<i>Melilotus officinalis</i>	yellow sweetclover	0	1	0	0				
644R	<i>Sorghum halepense</i>	Johnsongrass	3	3	2	0	2	2	2	2
644R	<i>Ulmus pumila</i>	Siberian elm					0	1	1	1
645R	<i>Kochia scoparia</i>	kochia					2	2	0	2
645R	<i>Sorghum halepense</i>	Johnsongrass	3	2	0	0	2	0	1	0
645R	<i>Ulmus pumila</i>	Siberian elm	2	2	2	0	2	2	2	2
646R	<i>Bromus tectorum</i>	cheatgrass	3	2	0	0				
646R	<i>Kochia scoparia</i>	kochia					2	2	2	2
646R	<i>Melilotus officinalis</i>	yellow sweetclover	0	2	0	0				
646R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0	0	2	2	2
647R	<i>Bromus japonicus</i>	Japanese brome					2	0	0	0
647R	<i>Bromus tectorum</i>	cheatgrass	3	3	3	0				
647R	<i>Cynodon dactylon</i>	Bermudagrass					2	2	0	0
647R	<i>Kochia scoparia</i>	kochia	1	1	0	0	2	2	0	0
647R	<i>Medicago minima</i>	burr medic clover					1	0	0	0
647R	<i>Sorghum halepense</i>	Johnsongrass	3	2	2	0	1	1	2	0
647R	<i>Ulmus pumila</i>	Siberian elm	2	2	0	0				
648R	<i>Bromus japonicus</i>	Japanese brome	2	2	0	0	2	2	0	0
648R	<i>Kochia scoparia</i>	kochia					2	2	0	0
648R	<i>Melilotus officinalis</i>	yellow sweetclover					1	0	0	0
648R	<i>Salsola tragus</i>	prickly Russian thistle					1	0	0	0
648R	<i>Sorghum halepense</i>	Johnsongrass	2	2	2	0	2	2	2	2
648R	<i>Ulmus pumila</i>	Siberian elm					1	0	0	0
649R	<i>Bromus japonicus</i>	Japanese brome	2	2	0	0				
649R	<i>Kochia scoparia</i>	kochia					2	0	0	0
649R	<i>Salsola tragus</i>	prickly Russian thistle					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

Table 7. Comparison of 2011 vs. 2014 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).

Block	Scientific Name	Common Name	2010				2014			
			D1	D2	D3	D4	D1	D2	D3	D4
649R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0	2	2	2	2
649R	<i>Ulmus pumila</i>	Siberian elm	2	2	2	0				
650R	<i>Bromus japonicus</i>	Japanese brome	2	2	0	0				
650R	<i>Salsola tragus</i>	prickly Russian thistle					1	0	0	0
650R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0	2	2	2	2
650R	<i>Ulmus pumila</i>	Siberian elm	0	2	2	2				
651R	<i>Bromus japonicus</i>	Japanese brome	2	2	0	0				
651R	<i>Kochia scoparia</i>	kochia					0	2	2	2
651R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0				
651R	<i>Ulmus pumila</i>	Siberian elm	2	2	2	0				
652R	<i>Bromus japonicus</i>	Japanese brome	2	2	0	0				
652R	<i>Melilotus officinalis</i>	yellow sweetclover	2	2	0	0				
652R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0				
652R	<i>Ulmus pumila</i>	Siberian elm	0	2	2	2	2	1	1	1
653R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0	2	2	2	2
653R	<i>Ulmus pumila</i>	Siberian elm	3	2	2	0	2	2	2	0
654R	<i>Bromus japonicus</i>	Japanese brome	3	2	0	0				
654R	<i>Melilotus officinalis</i>	yellow sweetclover	0	0	0	0				
654R	<i>Salsola tragus</i>	prickly Russian thistle					2	0	0	0
654R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0	1	2	2	2
654R	<i>Ulmus pumila</i>	Siberian elm	0	1	0	1	0	1	1	1
655R	<i>Bromus japonicus</i>	Japanese brome	3	3	0	0				
655R	<i>Kochia scoparia</i>	kochia					2	2	0	0
655R	<i>Sorghum halepense</i>	Johnsongrass	3	3	3	0	2	1	2	2
655R	<i>Ulmus pumila</i>	Siberian elm	2	3	3	0	0	2	2	0
656R	<i>Bromus tectorum</i>	cheatgrass	3	2	0	0				
656R	<i>Kochia scoparia</i>	kochia					2	2	0	0
656R	<i>Salsola tragus</i>	prickly Russian thistle					2	0	0	0
656R	<i>Sorghum halepense</i>	Johnsongrass	3	2	0	0	2	2	0	2
656R	<i>Ulmus pumila</i>	Siberian elm	0	2	2	2	1	1	1	0
657R	<i>Bromus japonicus</i>	Japanese brome	2	2	0	0				
657R	<i>Melilotus officinalis</i>	yellow sweetclover					2	2	2	2
657R	<i>Salsola tragus</i>	prickly Russian thistle					2	1	0	0
657R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0	1	2	0	0
657R	<i>Ulmus pumila</i>	Siberian elm	2	2	2	0				
658R	<i>Bromus tectorum</i>	cheatgrass	3	2	0	0				
658R	<i>Kochia scoparia</i>	kochia					2	2	0	0
658R	<i>Melilotus officinalis</i>	white sweetclover					0	0	0	2
658R	<i>Melilotus officinalis</i>	yellow sweetclover	2	2	0	0	1	2	2	2
658R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0				
658R	<i>Ulmus pumila</i>	Siberian elm					0	1	0	0
659R	<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

Table 7. Comparison of 2011 vs. 2014 detections for each individual Vector Block, detailing the given Density Code for each Distance Class (continued).

Block	Scientific Name	Common Name	2010				2014			
			D1	D2	D3	D4	D1	D2	D3	D4
659R	<i>Convolvulus arvensis</i>	field bindweed	1	1	0	0				
659R	<i>Kochia scoparia</i>	kochia					2	2	0	0
659R	<i>Ulmus pumila</i>	Siberian elm	1	2	2	0	0	0	1	1
660R	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0				
660R	<i>Chenopodium album</i>	common lambsquarters					1	0	0	0
660R	<i>Kochia scoparia</i>	kochia					2	2	0	0
660R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0	0	1	0	0
660R	<i>Ulmus pumila</i>	Siberian elm	0	2	2	0	0	1	1	2
661R	<i>Bromus japonicus</i>	Japanese brome	3	3	0	0				
661R	<i>Kochia scoparia</i>	kochia	2	2	0	0				
661R	<i>Ulmus pumila</i>	Siberian elm	0	2	2	2	0	1	1	0
662R	<i>Bromus tectorum</i>	cheatgrass	3	2	0	0				
662R	<i>Melilotus officinalis</i>	white sweetclover					0	0	0	3
662R	<i>Sorghum halepense</i>	Johnsongrass	2	2	2	0				
662R	<i>Ulmus pumila</i>	Siberian elm	0	1	1	0	1	2	2	2
663R	<i>Bromus japonicus</i>	Japanese brome	2	2	0	0				
663R	<i>Kochia scoparia</i>	kochia	2	2	0	0				
663R	<i>Ulmus pumila</i>	Siberian elm	0	2	2	0	1	1	0	0
664R	<i>Bromus tectorum</i>	cheatgrass	3	2	0	0				
664R	<i>Kochia scoparia</i>	kochia	2	2	0	0				
664R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0				
664R	<i>Ulmus pumila</i>	Siberian elm	0	1	2	2	0	2	1	1
665R	<i>Bromus tectorum</i>	cheatgrass	3	3	3	0				
665R	<i>Kochia scoparia</i>	kochia	1	0	0	0	2	2	0	0
665R	<i>Sorghum halepense</i>	Johnsongrass	2	2	0	0	2	2	0	0
665R	<i>Ulmus pumila</i>	Siberian elm	0	2	2	2	0	1	2	0
666R	<i>Aegilops cylindrica</i>	jointed goat grass					0	2	0	0
666R	<i>Bromus catharticus</i>	rescue grass					0	2	0	0
666R	<i>Bromus japonicus</i>	Japanese brome					2	2	0	0
666R	<i>Cynodon dactylon</i>	Bermudagrass					2	2	2	0
666R	<i>Kochia scoparia</i>	kochia	3	2	0	0	3	3	3	0
666R	<i>Sorghum halepense</i>	Johnsongrass	0	2	0	0	0	2	2	2
667R	<i>Bromus japonicus</i>	Japanese brome					1	2	3	0
667R	<i>Bromus tectorum</i>	cheatgrass					2	0	0	0
667R	<i>Chenopodium album</i>	common lambsquarters					0	2	0	0
667R	<i>Kochia scoparia</i>	kochia					3	3	2	0
667R	<i>Rumex patientia</i>	patience dock					1	1	0	0
667R	<i>Sorghum halepense</i>	Johnsongrass					0	2	2	2
667R	<i>Ulmus pumila</i>	Siberian elm					0	0	1	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

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