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Southern Plains Inventory and Monitoring Network

Sand Creek Massacre National Historic Site

2013 Vegetation Monitoring Data Summary

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ON THE COVER

Grasslands at Sand Creek Massacre NHS. NPS Photo.

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Introduction

This report contains a data summary of results from all vegetation monitoring conducted by SOPN during 2013 at Sand Creek Massacre National Historic Site (SAND). 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 June and early July of 2013 (Table 1). Data from the twelve (12) 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 annual visits.

Table 1. Plant community and sampling dates for each transect at Sand Creek Massacre NHS in 2013.

Group	Transect	Plant community	Date
Cottonwood	CWOOD-LT01	*Populus deltoides / Pascopyrum smithii--Panicum virgatum* Woodland	06/24
	CWOOD-LT02	*Populus deltoides / Pascopyrum smithii--Panicum virgatum* Woodland	07/09
	CWOOD-LT03	*Populus deltoides / Pascopyrum smithii--Panicum virgatum* Woodland	06/25
Sage	RESTS-LT01	*Artemisia filifolia / Andropogon hallii* Shrubland	07/09
	USAGE-LT01	*Artemisia filifolia / Andropogon hallii* Shrubland	06/24
	USAGE-LT02	*Artemisia filifolia / Andropogon hallii* Shrubland	07/08
Upland	RESTN-02	Reclaimed Agricultural Land	06/23
	UGRASS-05	*Sporobolus airoides - Distichlis spicata* Herbaceous	06/24
	UGRASS-LT01	*Sporobolus airoides - Distichlis spicata* Herbaceous	06/25
	UGRASS-LT02	*Sporobolus airoides - Distichlis spicata* Herbaceous	06/23
	UGRASS-LT04	*Boutaloua gracilis - Buchloe dactyloides* Herbaceous	06/23
	UGRASS-LT05	*Boutaloua gracilis - Buchloe dactyloides* Herbaceous	06/25

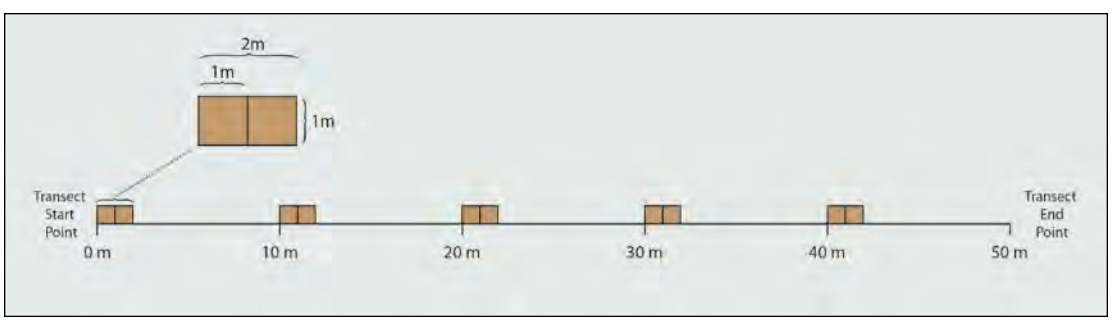

Figure 1. Layout of plots within each permanent transect.

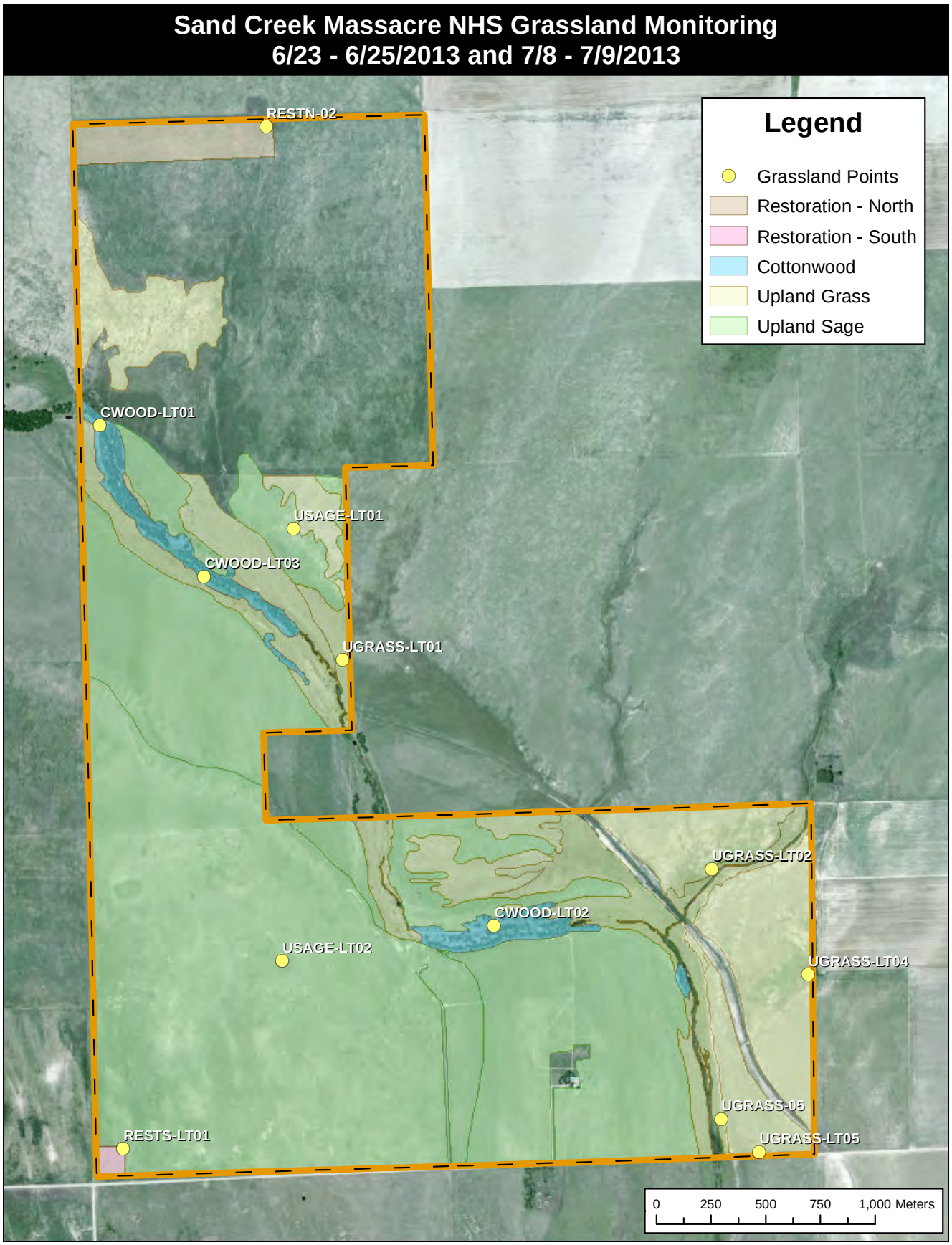

Figure 2. Location of each permanent plot at SAND monitored in 2013

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 SAND in 2013 can be found in Table 2.

Table 3 contains numerical results of 2013 grassland monitoring at SAND. 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 SAND in 2013.

Cover	Cottonwood Commuity			Sage Community		
	CWOOD-LT01	CWOOD-LT02	CWOOD-LT03	USAGE-LT01	USAGE-LT02	RESTS-LT01
SOILOPEN	0	8	10	27	19.8	31
SOILUNDER	17	4.6	17.8	1.8	1.8	5
LITTER	58.8	81.8	67.4	59.6	78.4	64
WOOD	24.2	4.2	4.8	0	0	0
ROCKSM	0	0	0	1.4	0	0
ROCKLG	0	0	0	0	0	0
LICHEN	0	0	0	0.2	0	0
MOSS	0	0	0	0	0	0
CRUST	0	0	0	10	0	0

Cover	Upland Community					
	RESTN-02	UGRASS-05	UGRASS-LT01	UGRASS-LT02	UGRASS-LT04	UGRASS-LT05
SOILOPEN	20.6	27.8	16	2.4	1.8	50.25
SOILUNDER	2	3.2	3	11.2	7.6	0.5
LITTER	77	68.6	76.4	86.4	78.6	49.25
WOOD	0	0.2	0.2	0	12	0
ROCKSM	0.2	0.2	0	0	0	0
ROCKLG	0	0	0	0	0	0
LICHEN	0	0	0	0	0	0
MOSS	0	0	0	0	0	0
CRUST	0.2	0	0.4	0	0	0

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

Species Code	Cottonwood Community						Sage Community					
	CWOOD-LT01		CWOOD-LT02		CWOOD-LT03		USAGE-LT01		USAGE-LT02		RESTS-LT01	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
Forb												
AMBPSI			0.5	1	2	3						
ASCSPE	0.5	1										
ASCSUB	21	3	3	1	1.5	3						
ASTBOD					0.5	1						
ASTCRA												
ASTLON												
CALINV												
CHASER1												
CHASER2											1.5	3
CHEALB	3	1									1	2
CHESIM												
CHEWAT					1	2						
CIRUND			0.5	1	0.5	1						
CONARV												
CROMON											0.5	1
DALCAN									0.5	1		
DYSPAP											0.5	1
ERIGLA							0.5	1				
EUPDAV							0.5	1				
EVONUT									0.5	1		
GLYLEP					1	1						
GRISQU	0.5	1										
HELPET											0.5	1
HETVIL												
IVAAXI												
KOCSCO	0.5	1	0.5	1			0.5	1	0.5	1	1	1
LACSSP					0.5	1						
LAPOCC											0.5	1
LITINC												
LYGJUN							0.5	1			1.5	2
MACPIN									0.5	1		
PENALB												
PHYCIN											0.5	1
PHYCUN												
PHYLON					0.5	1						
POROLE												
PSOTEN					0.5	1						
RATTAG					0.5	1						
SALTRA	1	2	5.5	2			6	3	1.5	3	5.5	5
SOLROS												
SPHCOC			0.5	1			1	1			0.5	1
SYMERI							4	3	4	1		

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

Species Code	Upland Commuity											
	RESTN-02		UGRASS-05		UGRASS-LT01		UGRASS-LT02		UGRASS-LT04		UGRASS-LT05	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
Forb												
AMBPSI									0.5	1		
ASCSPE												
ASCSUB												
ASTBOD												
ASTCRA			1	2			0.5	1				
ASTLON							0.5	1				
CALINV			6.5	3								
CHASER1					0.5	1						
CHASER2					1	2						
CHEALB									8	5	0.5	1
CHESIM									53.5	3		
CHEWAT					0.5	1						
CIRUND			3	1					0.5	1		
CONARV			14	5								
CROMON												
DALCAN							0.5	1				
DYSPAP					1	2						
ERIGLA			2	3								
EUPDAV												
EVONUT											3	1
GLYLEP												
GRISQU												
HELPET												
HETVIL			1.5	2								
IVAAXI					3	1						
KOCSCO	0.5	1			2	4			0.5	1	0.5	1
LACSSP												
LAPOCC					1.5	3						
LITINC							0.5	1				
LYGJUN	1	2	0.5	1							0.5	1
MACPIN							0.5	1			1	2
PENALB							1.5	3				
PHYCIN												
PHYCUN					4.5	3						
PHYLON												
POROLE					7	4			0.5	1		
PSOTEN			0.5	1								
RATTAG					0.5	1						
SALTRA			0.5	1	3	5			3.5	5	3	5
SOLROS			0.5	1	1	2						
SPHCOC	0.5	1	6	5	3	1			0.5	1	2.5	3
SYMERI			1.5	3								

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

Species Code	Cottonwood Community						Sage Community					
	CWOOD-LT01		CWOOD-LT02		CWOOD-LT03		USAGE-LT01		USAGE-LT02		RESTS-LT01	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
VERBRA1												
Grass												
ARIPUR			3	1					1.5	2		
BOUCUR							77	3	1	1		
BOUGRA			0.5	1			8	2	18	5	20	4
BUCDAC			6.5	3					0.5	1		
DISSPI	19	4	0.5	1	13	5			3.5	2	6.5	3
ELYCAN			51.5	4	3.5	2						
ELYELY							0.5	1				
ELYTRA					1	1						
MONSQU												
PANCAP												
PANVIR					9.5	4						
PASSMI	9	3	93	5	4	2			1	1		
POAPRA	3	1										
SPOAIR			5	1	16.5	4			10	1	2	2
SPOCRY			32	4	0.5	1	1	2			1	1
Shrub												
ARTFIL									9	3	0.5	1
ERINAU									0.5	1		
YUCGLA											1	1
Subshrub												
ESCVIV							0.5	1				
OPUFRA												
OPUPOL							5	1				
Tree												
POPDEL	75	1	140	3	158	3						

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

Species Code	Upland Commuity											
	RESTN-02		UGRASS-05		UGRASS-LT01		UGRASS-LT02		UGRASS-LT04		UGRASS-LT05	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
VERBRA1					0.5	1						
Grass												
ARIPUR			26	3	15	2			3.5	2	4.5	3
BOUCUR							16.5	5	1	2	3	2
BOUGRA	0.5	1			22.5	4	6.5	5	7.5	3	13.5	5
BUCDAC					2	3	0.5	1				
DISSPI	120.5	5										
ELYCAN												
ELYELY			0.5	1								
ELYTRA												
MONSQU					2	4						
PANCAP					0.5	1						
PANVIR												
PASSMI	56.5	4	6	5	6	2						
POAPRA												
SPOAIR	201	3	3	1					1	2		
SPOCRY	0.5	1					0.5	1	13	3	33	5
Shrub												
ARTFIL									68.5	3	41.5	5
ERINAU							1	2				
YUCGLA												
Subshrub												
ESCVIV												
OPUFRA					0.5	1						
OPUPOL							1	1	0.5	1		
Tree												
POPDEL												

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

Species Code	LifeForm	Scientific Name	Common Name	Primary Duration
AMBPSI	Forb	*Ambrosia psilostachya*	western ragweed	Perennial
ARIPUR	Grass	*Aristida purpurea*	purple threeawn	Perennial
ARTFIL	Shrub	*Artemisia filifolia*	sand sagebrush	Perennial
ASCSPE	Forb	*Asclepias speciosa*	showy milkweed	Perennial
ASCSUB	Forb	*Asclepias subverticillata*	horsetail milkweed	Perennial
ASTBOD	Forb	*Astragalus bodinii*	bodin's milkvetch	Perennial
ASTCRA	Forb	*Astragalus crassicarpus*	ground-plum	Perennial
ASTLON	Forb	*Astragalus lonchocarpus*	great rushy milkvetch	Perennial
BOUCUR	Grass	*Bouteloua curtipendula*	sideoats grama	Perennial
BOUGRA	Grass	*Bouteloua gracilis*	blue grama	Perennial
BROTEC	Grass	*Bromus tectorum*	cheatgrass	Annual
BUCDAC	Grass	*Buchloe dactyloides*	buffalograss	Perennial
CALINV	Forb	*Callirhoe involucrata*	winecup	Perennial
CARNUT	Forb	*Carduus nutans*	nodding musk thistle	Biennial/Perennial
CHASER1	Forb	*Chamaesyce serpens*	matted sandmat	Annual
CHASER2	Forb	*Chamaesyce serpyllifolia*	thyme-leaf sandmat	Annual
CHEALB	Forb	*Chenopodium album*	common lambsquarters	Annual
CHESIM	Forb	*Chenopodium simplex*	mapleleaf goosefoot	Annual
CHEWAT	Forb	*Chenopodium watsonii*	watson's goosefoot	Annual
CIRUND	Forb	*Cirsium undulatum*	wavyleaf thistle	Biennial
CONARV	Forb	*Convolvulus arvensis*	field bindweed	Perennial
CROMON	Forb	*Croton monanthogynus*	oneseede croton	Annual
DALCAN	Forb	*Dalea candida*	slender white prairie clover	Perennial
DISSPI	Grass	*Distichlis spicata*	inland saltgrass	Perennial
DYSPAP	Forb	*Dyssodia papposa*	fetid dogweed	Annual
ELYCAN	Grass	*Elymus canadensis*	canada wildrye	Perennial
ELYELY	Grass	*Elymus elymoides*	bottlebrush squirreltail	Perennial
ELYTRA	Grass	*Elymus trachycaulus*	slender wildrye	Perennial
ERIGLA	Forb	*Erigeron glabellus*	streamside fleabane	Biennial/Perennial
ERINAU	Shrub	*Ericameria nauseosa*	rubber rabbitbrush	Perennial
ESCVIV	Subshrub	*Escobaria vivipara*	spinystar	Perennial
EUPDAV	Forb	*Euphorbia davidii*	davids spurge	Annual
EVONUT	Forb	*Evolvulus nuttallianus*	shaggy dwarf morning glory	Perennial
GLYLEP	Forb	*Glycyrrhiza lepidota*	wild licorice	Perennial
GRISQU	Forb	*Grindelia squarrosa*	curlytop gumweed	Perennial
HELPET	Forb	*Helianthus petiolaris*	prairie sunflower	Annual
HETVIL	Forb	*Heterotheca villosa*	hairy false goldenaster	Perennial
IVAAXI	Forb	*Iva axillaris*	poverty sumpweed	Perennial
KOCSCO	Forb	*Kochia scoparia*	kochia	Annual
LACSSP	Forb	*Lactuca ssp.*	lettuce	N/A
LACSER	Forb	*Lactuca serriola*	prickly lettuce	Annual
LAPOCC	Forb	*Lappula occidentalis*	western sticktight	Annual

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

Species Code	LifeForm	Scientific Name	Common Name	Primary Duration
LITINC	Forb	*Lithospermum incisum*	fringed puccoon	Perennial
LYGJUN	Forb	*Lygodesmia juncea*	rush skeletonplant	Perennial
MACPIN	Forb	*Machaeranthera pinnatifida*	lacy tansyaster	Perennial
MELALB	Forb	*Melilotus alba*	white sweetclover	Perennial
MELOFF	Forb	*Melilotus officinalis*	yellow sweetclover	Annual
MONSQU	Grass	*Monroa squarrosa*	false buffalograss	Annual
OPUFRA	Subshrub	*Opuntia fragilis*	brittle cactus	Perennial
OPUPOL	Subshrub	*Opuntia polyacantha*	plains pricklypear cactus	Perennial
PANCAP	Grass	*Panicum capillare*	annual witchgrass	Annual
PANVIR	Grass	*Panicum virgatum*	switchgrass	Perennial
PASSMI	Grass	*Pascopyrum smithii*	western wheatgrass	Perennial
PENALB	Forb	*Penstemon albidus*	white penstemon	Perennial
PHYCIN	Forb	*Physalis cinerascens*	smallflower groundcherry	Perennial
PHYCUN	Forb	*Phyla cuneifolia*	wedgeleaf frogfruit	Perennial
PHYLON	Forb	*Physalis longifolia*	longleaf groundcherry	Perennial
POAPRA	Grass	*Poa pratensis*	kentucky bluegrass	Perennial
POPDEL	Tree	*Populus deltoides*	plains cottonwood	Perennial
POROLE	Forb	*Portulaca oleracea*	common purslane	Annual
PSOTEN	Forb	*Psoralidium tenuiflorum*	slimflower scurfpea	Perennial
RATTAG	Forb	*Ratibida tagetes*	green mexican hat	Perennial
SALTRA	Forb	*Salsola tragus*	prickly russian thistle	Annual
SOLROS	Forb	*Solanum rostratum*	buffalobur	Annual
SPHCOC	Forb	*Sphaeralcea coccinea*	scarlet globemallow	Perennial
SPOAIR	Grass	*Sporobolus airoides*	alkali sacaton	Perennial
SPOCRY	Grass	*Sporobolus cryptandrus*	sand dropseed	Perennial
SYMERI	Forb	*Symphyotrichum ericoides*	white heath aster	Perennial
TRADUB	Forb	*Tragopogon dubius*	western salsify	Annual
TRITER	Forb	*Tribulus terrestris*	puncturevine	Annual
VERBRA1	Forb	*Verbena bracteata*	bracted vervain: prostrate vervain	Annual/Biennial/Perennial
YUCGLA	Shrub	*Yucca glauca*	soft soapweed yucca	Perennial

Exotic Monitoring Results

Exotic plant monitoring followed the protocol *Multi-Network Exotic Plant Monitoring Protocol and Standard Operating Procedures* (Folts-Zettner etal. 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 June 17-18, 2013 and included the cottonwood gallery and upper monument two-track and the southwestern boundary (Figure 4). These vectors have been previously monitored June 20-22, 2010. It should be noted that 2010 was a year of above average precipitation, followed by consecutive years of extreme drought, including 2013. Data summarized in this report compares the results of 2013 monitoring to that detected in 2010.

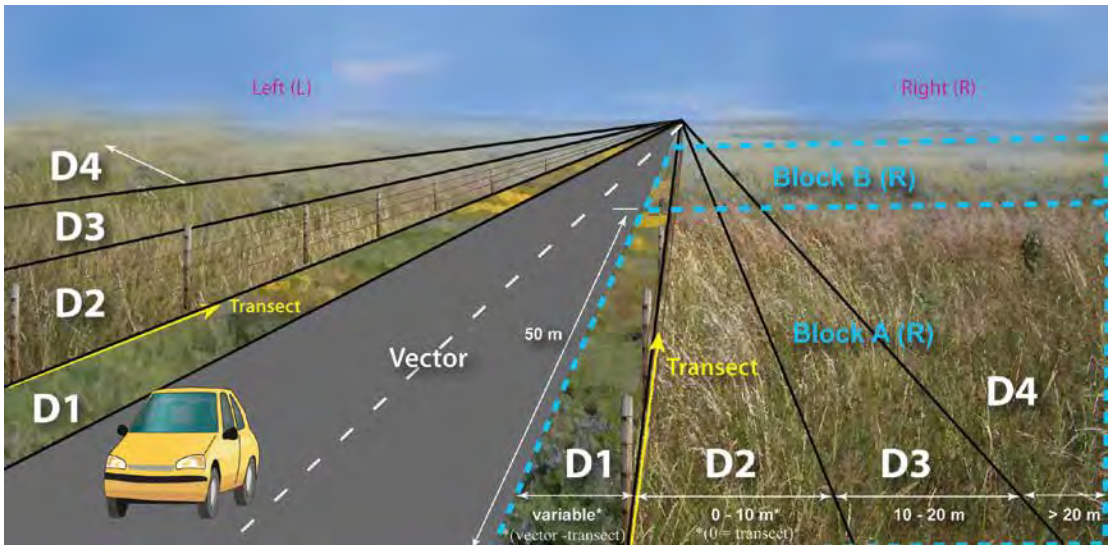

Figure 3. Layout of Vector Blocks and Distance Classes along a vector.

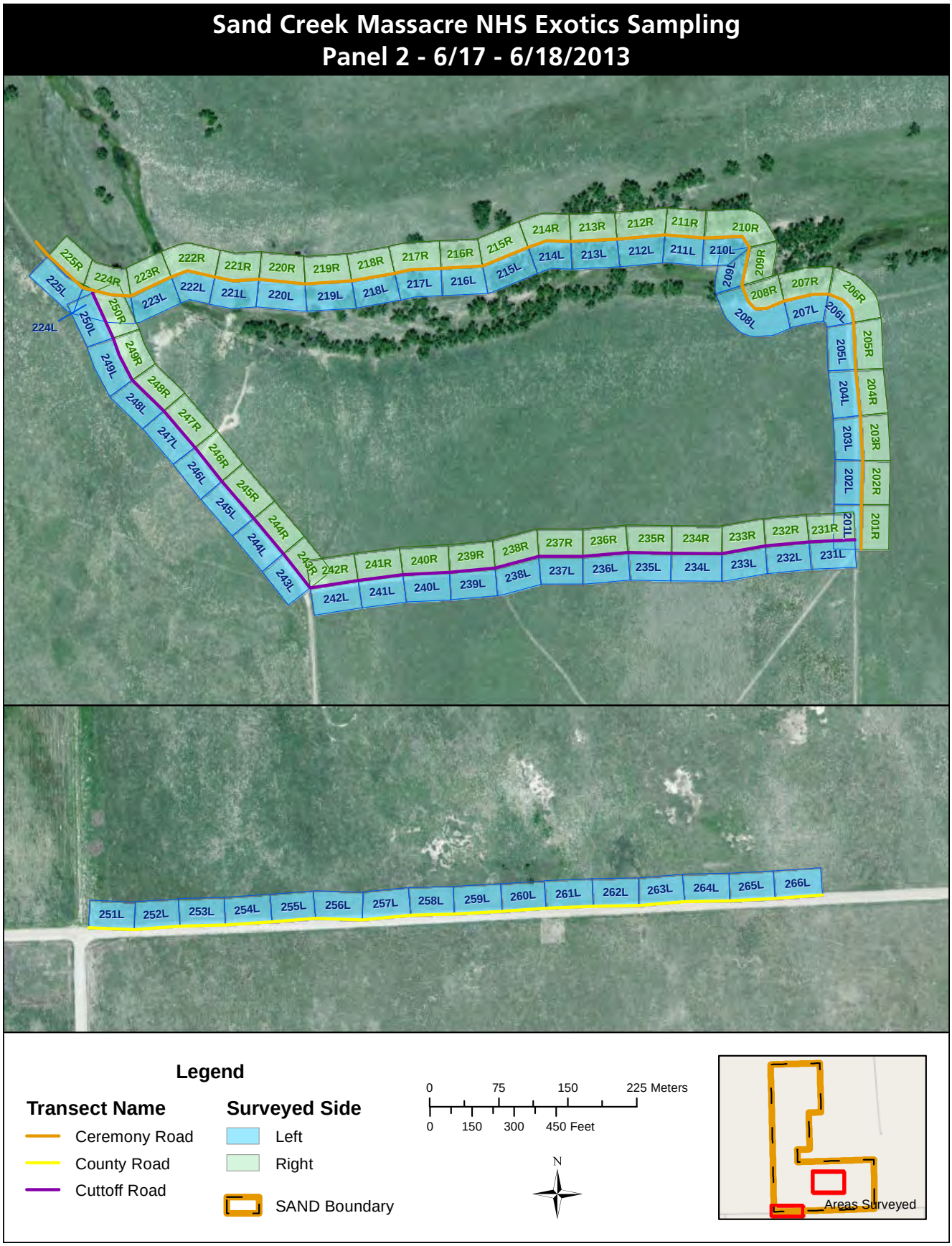

Figure 4. Panel 2 numbered vector blocks monitored at SAND in both 2010 and 2013.

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=106) and transects (N=12)(Figure 5) in which these species were found. The effect of drought is easily seen.

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

		2010		2013		2010		2013	
		Primary Blocks (N=106)		Primary Blocks (N=106)		Secondary Transects (N=12)		Secondary Transects (N=12)	
Scientific Name	Common Name	Total	% Blocks	Total	% Blocks	Total	% Blocks	Total	% Blocks
Bromus tectorum	cheatgrass	2	2%	–	–	–	–	–	–
Carduus nutans	nodding musk thistle	5	5%	–	–	–	–	–	–
Chenopodium album	common lambsquarters	–	–	23	22%	1	8%	4	33%
Convolvulus arvensis	field bindweed	–	–	1	1%	1	8%	1	8%
Euphorbia davidii	davids spurge	–	–	–	–	–	–	1	8%
Kochia scoparia	kochia	95	90%	48	45%	7	58%	9	75%
Lactuca serriola	prickly lettuce	–	–	–	–	1	8%	–	–
Melilotus alba	white sweetclover	–	–	–	–	1	8%	–	–
Melilotus officinalis	yellow sweetclover	22	21%	–	–	2	17%	–	–
No Plant	No Plant	–	–	1	1%	–	–	–	–
Poa pratensis	kentucky bluegrass	–	–	–	–	–	–	1	8%
Salsola tragus	prickly Russian thistle	62	58%	104	98%	6	50%	9	75%
Tragopogon dubius	western salsify	61	58%	1	1%	–	–	–	–
Tribulus terrestris	puncturevine	–	–	5	5%		0%		0%

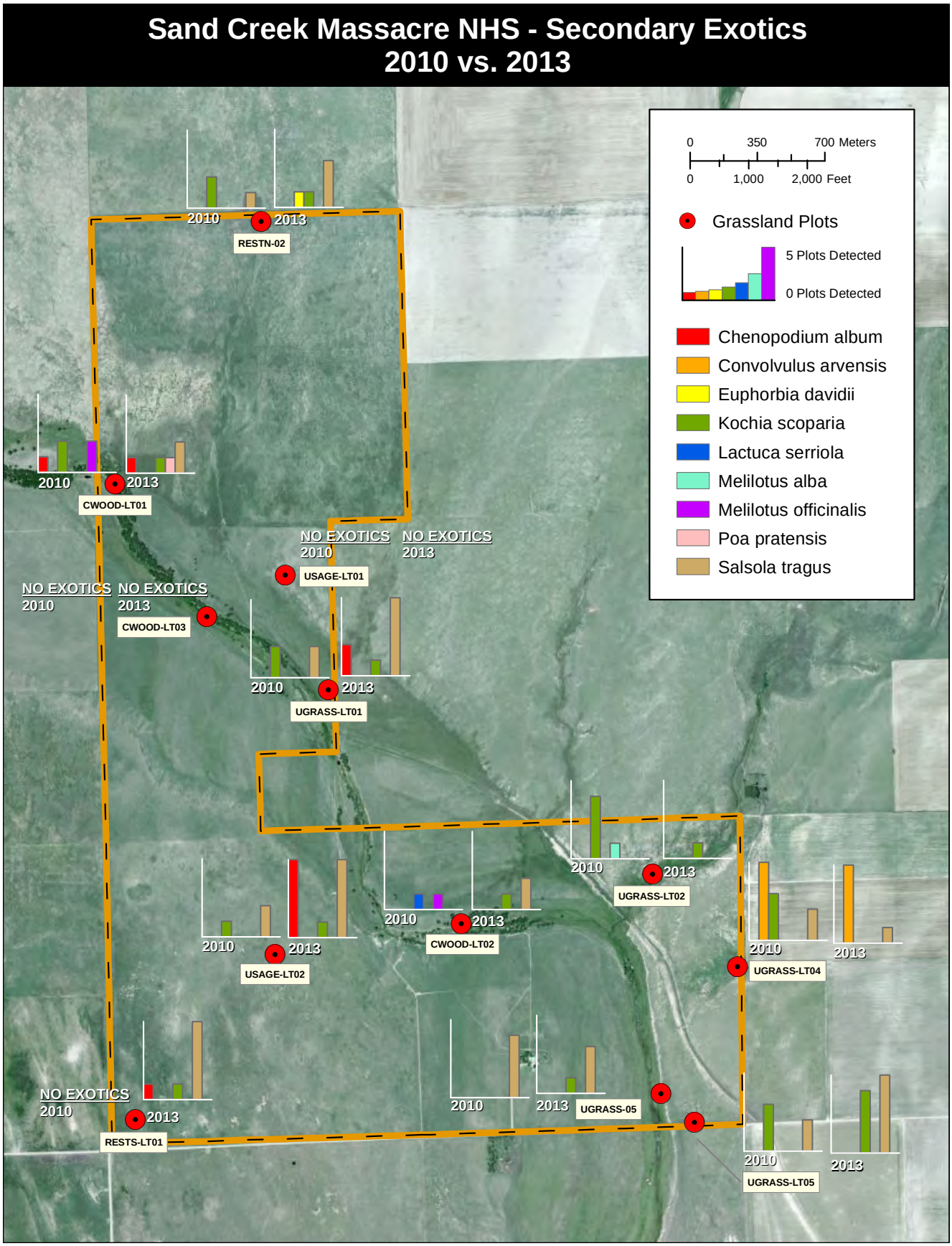

Figure 5. Comparison of exotics detected in 2010 and 2013 grassland monitoring permanent transects at SAND.

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	2013	2010	2013
BROTEC	*Bromus tectorum*	cheatgrass	1	2	–	–	–
CARNUT	*Carduus nutans*	nodding musk thistle	1	4	–	4	–
CHEALB	*Chenopodium album*	common lambsquarters	1	–	11	–	9
			2	–	10	–	6
CONARV	*Convolvulus arvensis*	field bindweed	2	–	1	–	–
KOCSCO	*Kochia scoparia*	kochia	1	6	17	7	10
			2	60	25	83	18
			3	–	–	2	–
MELOFF	*Melilotus officinalis*	yellow sweetclover	1	6	–	19	–
			2	–	–	1	–
SALTRA	*Salsola tragus*	prickly Russian thistle	1	24	7	18	10
			2	25	93	18	77
			3	8	–	1	4
TRADUB	*Tragopogon dubius*	western salsify	1	10	–	40	1
			2	–	–	5	–
TRITER	*Tribulus terrestris*	puncturevine	1	–	4	–	–
			2	–	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	*Kochia scoparia*	kochia	0	2	0	0				
	Salsola tragus	prickly Russian thistle	0	1	0	0	2	1	0	0
	Tragopogon dubius	western salsify	0	0	1	0				
201R	*Kochia scoparia*	kochia	2	2	2	2				
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	0	0	1				
202L	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle	1	1	0	0	2	1	0	0
202R	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle					2	1	0	0
	Tragopogon dubius	western salsify	0	1	1	0				
203L	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	1	0				
203R	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
204L	*Kochia scoparia*	kochia	0	2	2	0				
	Salsola tragus	prickly Russian thistle	0	1	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
204R	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	1	0				
205L	*Chenopodium album*	common lambsquarters					1	0	0	0
	Kochia scoparia	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
205R	*Bromus tectorum*	cheatgrass	1	0	0	0				
	Kochia scoparia	kochia	0	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	2	0
	Tragopogon dubius	western salsify	0	0	0	1				
206L	*Chenopodium album*	common lambsquarters					2	0	0	0
	Kochia scoparia	kochia	0	2	2	0	1	0	0	0
	Salsola tragus	prickly Russian thistle					2	2	0	0
206R	*Kochia scoparia*	kochia	0	2	0	0				
	Salsola tragus	prickly Russian thistle	0	1	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	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
207L	*Kochia scoparia*	kochia	2	2	2	X	1	0	0	0
	Salsola tragus	prickly Russian thistle	1	2	0	X	2	0	0	0
207R	*Kochia scoparia*	kochia	0	1	0	0				
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	1	0	0	0				
	Tribulus terrestris	puncturevine					1	0	0	0
208L	*Kochia scoparia*	kochia	0	2	2	0	2	0	0	0
	Salsola tragus	prickly Russian thistle	2	2	0	0	2	2	2	0
	Tragopogon dubius	western salsify	0	1	0	0				
	Tribulus terrestris	puncturevine					1	0	0	0
208R	*Kochia scoparia*	kochia	1	0	0	0				
	Salsola tragus	prickly Russian thistle	2	2	0	0	2	2	0	0
	Tribulus terrestris	puncturevine					2	0	0	0
209L	*Chenopodium album*	common lambsquarters					1	0	0	0
	Kochia scoparia	kochia					2	0	0	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	2	2	0	0	1	0	0	0
209R	*Kochia scoparia*	kochia					1	0	0	0
	Melilotus officinalis	yellow sweetclover	1	0	0	0				
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	0	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
210L	*Chenopodium album*	common lambsquarters					1	1	0	0
	Kochia scoparia	kochia					1	0	0	0
	Salsola tragus	prickly Russian thistle	1	1	0	0	2	0	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
210R	*Chenopodium album*	common lambsquarters					0	2	1	0
	Kochia scoparia	kochia	1	0	0	0	2	1	0	0
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	1	0	0	0				
211L	*Kochia scoparia*	kochia	0	1	0	0	2	0	0	0
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	0	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
211R	*Kochia scoparia*	kochia					2	2	0	0
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	1	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
212L	*Kochia scoparia*	kochia	1	1	0	0	2	0	0	0
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
212R	*Chenopodium album*	common lambsquarters					0	1	0	0
	Kochia scoparia	kochia	1	0	0	0	2	2	0	0
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	2	0
	Tragopogon dubius	western salsify	0	1	0	0				
	Tribulus terrestris	puncturevine					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
213L	*Kochia scoparia*	kochia	0	1	0	0	1	0	0	0
	Salsola tragus	prickly Russian thistle					2	0	0	0
	Tragopogon dubius	western salsify	0	0	0	1				
213R	*Kochia scoparia*	kochia					1	2	0	0
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	1	1	0	0				
214L	*N/A*	No Plant					0	0	0	0
	Salsola tragus	prickly Russian thistle	1	0	0	0				
	Tragopogon dubius	western salsify	0	1	1	0				
214R	*Kochia scoparia*	kochia	0	1	0	0				
	Salsola tragus	prickly Russian thistle					2	2	2	0
	Tragopogon dubius	western salsify	1	0	0	0				
215L	*Carduus nutans*	nodding musk thistle	0	1	0	0				
	Chenopodium album	common lambsquarters					1	0	0	0
	Kochia scoparia	kochia	0	2	0	0				
	Salsola tragus	prickly Russian thistle					2	0	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
215R	*Chenopodium album*	common lambsquarters					2	2	0	0
	Kochia scoparia	kochia	2	2	0	0	1	2	0	0
	Salsola tragus	prickly Russian thistle	1	1	0	0	2	2	2	0
216L	*Kochia scoparia*	kochia	0	2	2	0				
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	2	0	0
216R	*Chenopodium album*	common lambsquarters					1	1	0	0
	Kochia scoparia	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle	2	2	0	0	2	2	2	0
	Tragopogon dubius	western salsify	1	0	0	0				
217L	*Kochia scoparia*	kochia	0	2	2	0				
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	0	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
217R	*Kochia scoparia*	kochia	0	2	0	0	1	1	0	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	1	1	0	0	2	1	0	0
218L	*Kochia scoparia*	kochia	0	2	2	0	1	0	0	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle					2	0	0	0
	Tragopogon dubius	western salsify	0	2	2	0				
218R	*Kochia scoparia*	kochia	2	2	0	0				
	Melilotus officinalis	yellow sweetclover	1	1	1	0				
	Salsola tragus	prickly Russian thistle	0	1	0	0	2	2	1	0
	Tragopogon dubius	western salsify	1	0	0	0				
	Tribulus terrestris	puncturevine					1	0	0	0
219L	*Chenopodium album*	common lambsquarters					1	0	0	0
	Kochia scoparia	kochia	0	1	0	0	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
219L	*Melilotus officinalis*	yellow sweetclover	0	1	1	0				
(cont.)	*Salsola tragus*	prickly Russian thistle					2	0	0	0
	Tragopogon dubius	western salsify	0	2	2	0				
219R	*Kochia scoparia*	kochia	2	2	1	0				
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	1	0
	Tragopogon dubius	western salsify	0	1	0	0				
220L	*Chenopodium album*	common lambsquarters					1	0	0	0
	Kochia scoparia	kochia	2	2	2	0				
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	0	2	0	0	2	0	0	0
	Tragopogon dubius	western salsify	0	2	0	0				
220R	*Kochia scoparia*	kochia	2	2	2	0	1	0	0	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	2	0
221L	*Kochia scoparia*	kochia	2	2	2	0				
	Melilotus officinalis	yellow sweetclover	1	1	0	0				
	Salsola tragus	prickly Russian thistle					2	0	0	0
221R	*Kochia scoparia*	kochia	2	2	0	0	1	0	0	0
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	2	0
222L	*Chenopodium album*	common lambsquarters					2	0	0	0
	Kochia scoparia	kochia	0	2	2	0	2	0	0	0
	Salsola tragus	prickly Russian thistle					2	0	0	0
222R	*Chenopodium album*	common lambsquarters					2	1	0	0
	Kochia scoparia	kochia	2	2	0	0				
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
223L	*Chenopodium album*	common lambsquarters					2	1	0	0
	Kochia scoparia	kochia	0	2	2	2	2	0	0	0
	Salsola tragus	prickly Russian thistle					2	1	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
223R	*Chenopodium album*	common lambsquarters					2	2	0	0
	Kochia scoparia	kochia	2	2	0	0	1	1	0	0
	Melilotus officinalis	yellow sweetclover	1	1	0	0				
	Salsola tragus	prickly Russian thistle					2	2	1	0
	Tragopogon dubius	western salsify	0	1	0	0				
224L	*Chenopodium album*	common lambsquarters					2	2	0	0
	Kochia scoparia	kochia	0	2	2	2				
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
224R	*Chenopodium album*	common lambsquarters					2	2	2	0
	Kochia scoparia	kochia	2	2	2	0	1	1	0	0
	Salsola tragus	prickly Russian thistle	2	2	0	0	2	2	2	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
225L	*Chenopodium album*	common lambsquarters					2	1	0	0
	Kochia scoparia	kochia	2	2	2	X	2	0	0	0
	Salsola tragus	prickly Russian thistle					2	2	2	0
225R	*Chenopodium album*	common lambsquarters					2	2	2	0
	Kochia scoparia	kochia	2	2	2	0	1	2	0	0
	Salsola tragus	prickly Russian thistle	1	1	0	0	2	2	2	0
	Tragopogon dubius	western salsify	1	0	0	0				
231L	*Kochia scoparia*	kochia	2	2	2	0	1	0	0	0
	Salsola tragus	prickly Russian thistle					2	2	0	0
231R	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle					2	2	1	0
232L	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
232R	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	0	0	0	1				
233L	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
233R	*Kochia scoparia*	kochia	2	2	1	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
234L	*Kochia scoparia*	kochia	2	2	2	0				
	Melilotus officinalis	yellow sweetclover	1	0	0	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
234R	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle					2	2	1	0
235L	*Kochia scoparia*	kochia	0	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
235R	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle					2	2	1	0
	Tragopogon dubius	western salsify	0	1	1	0				
236L	*Chenopodium album*	common lambsquarters					1	0	0	0
	Kochia scoparia	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	0	1	1	0				
236R	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	0	1	1	0				
237L	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	0	0	1	0				
237R	*Kochia scoparia*	kochia	2	2	2	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
237R	*Salsola tragus*	prickly Russian thistle					2	2	0	0
(cont.)	*Tragopogon dubius*	western salsify	0	1	0	0				
238L	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	2	0	0
238R	*Chenopodium album*	common lambsquarters					1	1	0	0
	Kochia scoparia	kochia	2	2	1	0				
	Salsola tragus	prickly Russian thistle	1	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
239L	*Carduus nutans*	nodding musk thistle	1	1	0	0				
	Kochia scoparia	kochia	2	2	2	0	2	0	0	0
	Salsola tragus	prickly Russian thistle	2	2	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	1	0				
239R	*Chenopodium album*	common lambsquarters					1	1	0	0
	Kochia scoparia	kochia	2	2	0	0	2	2	0	0
	Salsola tragus	prickly Russian thistle	2	1	0	0	2	2	1	0
	Tragopogon dubius	western salsify	1	1	0	1				
240L	*Chenopodium album*	common lambsquarters					1	1	0	0
	Kochia scoparia	kochia	2	3	2	0	2	2	0	0
	Salsola tragus	prickly Russian thistle	2	2	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	0	0	1				
240R	*Kochia scoparia*	kochia	2	3	0	0	1	0	0	0
	Salsola tragus	prickly Russian thistle	1	1	0	0	2	2	2	0
241L	*Kochia scoparia*	kochia	0	2	2	0	2	1	0	0
	Salsola tragus	prickly Russian thistle	3	2	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	1	0				
241R	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle	3	1	0	0	2	2	2	0
242L	*Kochia scoparia*	kochia	0	2	1	0	2	0	0	0
	Salsola tragus	prickly Russian thistle	3	2	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
242R	*Kochia scoparia*	kochia	2	2	0	0	2	1	0	0
	Salsola tragus	prickly Russian thistle	3	3	1	0	2	2	2	0
243L	*Kochia scoparia*	kochia	0	2	2	0	2	2	0	0
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	2	2	0
243R	*Kochia scoparia*	kochia	2	2	2	0	2	2	0	0
	Salsola tragus	prickly Russian thistle	2	1	0	0	2	2	2	0
244L	*Kochia scoparia*	kochia	0	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	2	0
244R	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle					2	2	2	0
245L	*N/A*	No Plant	0	0	0	0				
	Salsola tragus	prickly Russian thistle					2	2	2	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
245R	*Kochia scoparia*	kochia	0	1	0	0				
	Salsola tragus	prickly Russian thistle					2	2	1	0
246L	*Salsola tragus*	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
246R	*N/A*	No Plant	0	0	0	0				
	Salsola tragus	prickly Russian thistle					2	1	0	0
247L	*Salsola tragus*	prickly Russian thistle					1	1	0	0
247R	*Salsola tragus*	prickly Russian thistle					2	2	0	0
248L	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle					2	1	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
248R	*Carduus nutans*	nodding musk thistle	1	0	0	0				
	Kochia scoparia	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
249L	*Kochia scoparia*	kochia	0	2	2	X				
	Salsola tragus	prickly Russian thistle					2	2	2	0
249R	*Kochia scoparia*	kochia	1	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	0	0
	Tragopogon dubius	western salsify					0	1	0	0
250L	*Kochia scoparia*	kochia	2	2	2	X				
	Melilotus officinalis	yellow sweetclover	0	1	0	X				
	Salsola tragus	prickly Russian thistle					1	1	0	0
250R	*Kochia scoparia*	kochia	2	2	2	0				
	Salsola tragus	prickly Russian thistle					2	2	2	0
	Tragopogon dubius	western salsify	0	1	0	0				
251L	*Kochia scoparia*	kochia	2	2	2	2	2	2	2	2
	Salsola tragus	prickly Russian thistle	1	2	0	0				
252L	*Kochia scoparia*	kochia	0	2	2	0	2	2	2	0
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	2	0	0
253L	*Kochia scoparia*	kochia	2	2	0	0	2	2	0	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	3	2	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	0	1	0				
254L	*Convolvulus arvensis*	field bindweed					2	0	0	0
	Kochia scoparia	kochia	2	2	0	0	2	2	0	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	3	2	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
255L	*Kochia scoparia*	kochia	0	2	2	0	0	1	1	0
	Salsola tragus	prickly Russian thistle	2	0	0	0	1	3	2	0
256L	*Kochia scoparia*	kochia	0	2	2	0	0	1	1	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
256L	*Salsola tragus*	prickly Russian thistle	2	2	0	0	1	3	2	0
(cont.)	*Tragopogon dubius*	western salsify	0	0	1	0				
257L	*Kochia scoparia*	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle	1	0	0	0	1	3	2	0
258L	*Kochia scoparia*	kochia	2	2	0	0	0	1	1	0
	Salsola tragus	prickly Russian thistle	1	1	0	0	1	3	2	0
259L	*Bromus tectorum*	cheatgrass	1	0	0	0				
	Kochia scoparia	kochia	2	2	2	0	2	2	0	0
	Salsola tragus	prickly Russian thistle	2	0	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	1	0				
260L	*Kochia scoparia*	kochia	2	2	2	0	2	2	0	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	2	2	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
261L	*Kochia scoparia*	kochia	2	2	2	0	0	2	0	0
	Melilotus officinalis	yellow sweetclover	0	2	2	2				
	Salsola tragus	prickly Russian thistle	2	1	0	0	2	2	0	0
	Tragopogon dubius	western salsify	1	0	0	0				
262L	*Kochia scoparia*	kochia	2	2	0	0	2	2	0	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	2	1	0	0	2	2	0	0
	Tragopogon dubius	western salsify	0	1	0	0				
263L	*Kochia scoparia*	kochia	2	2	2	0	0	2	0	0
	Melilotus officinalis	yellow sweetclover	0	1	2	0				
	Salsola tragus	prickly Russian thistle	2	2	0	0	0	2	2	0
	Tragopogon dubius	western salsify	1	2	2	0				
264L	*Carduus nutans*	nodding musk thistle	1	1	0	0				
	Kochia scoparia	kochia	2	2	2	0	0	1	1	0
	Melilotus officinalis	yellow sweetclover	0	1	0	0				
	Salsola tragus	prickly Russian thistle	2	2	0	0	0	2	2	0
	Tragopogon dubius	western salsify	0	2	1	0				
265L	*Carduus nutans*	nodding musk thistle	1	1	0	0				
	Kochia scoparia	kochia	2	2	0	0				
	Salsola tragus	prickly Russian thistle	3	1	0	0	0	2	2	0
266L	*Kochia scoparia*	kochia	1	2	0	0				
	Salsola tragus	prickly Russian thistle	3	1	0	0	0	2	2	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

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