



Capulin Volcano National Monument

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



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ON THE COVER

View of Capulin Volcano. 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 Capulin Volcano National Monument (CAVO). 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 mid July of 2013 (Table 1). Data from the six (6) 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 Capulin Volcano NM in 2013.

Group	Transect	Plant community	Date
Pinyon-Juniper	PJ-03	Rocky Mountain Juniper/Little Bluestem Lava Woodland Savanna	07/19
	PJ-LT01	Rocky Mountain Juniper/Little Bluestem Lava Woodland Savanna	07/18
	PJ-LT03	Rocky Mountain Juniper/Little Bluestem Lava Woodland Savanna	07/19
Shortgrass	STEP-LT01	Blue Grama Shortgrass Steppe	07/19
	STEP-LT02	Big Bluestem-Little Bluestem Lava Grassland	07/18
	STEP-LT03	Blue Grama Shortgrass Steppe	07/19



Figure 1. Layout of plots within each permanent transect.

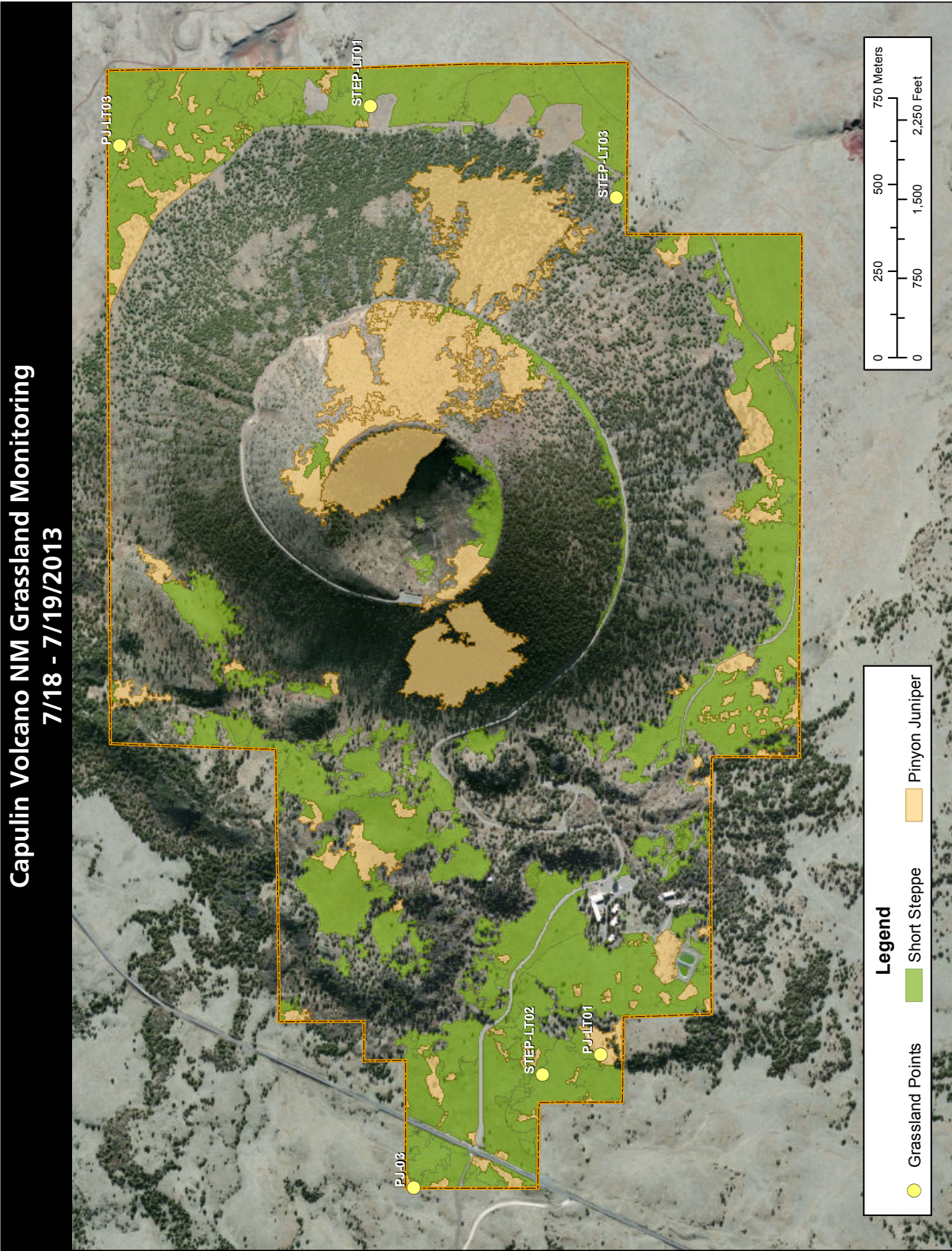


Figure 2. Location of each permanent grassland plot at CAVO monitored in 2013

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 CAVO in 2013 can be found in Table 2.

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

Cover	Pinyon–Juniper Community			Shortgrass Community		
	PJ–03	PJ–LT01	PJ–LT03	STEP–LT01	STEP–LT02	STEP–LT03
SOIOPEN	33.6	12.4	27	15	23.6	0
SOILUNDER	1.4	1.6	2	5	13.6	0.4
LITTER	32	39.8	20	21.2	50.2	26.6
WOOD	0	9	0	0	0	34
ROCKSM	11	14.2	15	58.8	0.6	31
ROCKLG	20	8	36	0	0	8
LICHEN	2	3	0	0	0	0
MOSS	0	0	0	0	0	0
CRUST	0	0	0	0	0	0

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

Species Code	Pinyon–Juniper Community						Shortgrass Community					
	PJ-03		PJ-LT01		PJ-LT03		STEP-LT01		STEP-LT02		STEP-LT03	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
Forb												
AMAHYB							20	1	0.5	1	0.5	1
AMAPAL					0.5	1						
ARGHIS							2	4				
ARTFRI	3	5	3.5	2	6	5	2	4	1.5	2		
ARTLUD					0.5	1						
CHAERI					1.5	2						
CHAFEN							5	1				
CHASER2	5.5	5	2	3	7	5	4	3	2	2	0.5	1
CHELEP					1	2	0.5	1				
CHEPRA	22	3	33	3	1	2	1	2	1	2		
CIRUND			0.5	1					0.5	1		
CONCAN									0.5	1		
DALPUR	0.5	1										
DYSPAP	0.5	1										
ERIJAM	1	2			5	1						
ERYCAP	0.5	1			0.5	1						
EUPDAV											1	2
FRBLNG	0.5	1										
GAUCOC	0.5	1	2	2					0.5	1		
GLABIP					0.5	1						
GUTSAR	3.5	2							1	1		
HELANN			5	1	1.5	3	0.5	1	0.5	1		
HETVIL	1.3	3			0.5	1	3	1				
LACSER									0.5	1		
LIAPUN	1.5	3	0.5	1					1	2		
LUPARG	1	2	1.5	2								
MENNUD							0.5	1				
OENCAE	0.5	1	0.5	1					0.5	1		
PACNEO					0.5	1						
PECANG											5.5	2
PENANG							0.5	1				
PENJAM	0.5	1										
PENSSP	1	2										
PHYSUB											1.5	2
POROLE	0.5	1	1	2	0.5	1						
PSOTEN	0.5	1										
RATTAG							0.5	1				
SALTRA	0.5	1	1	2	37	3	36.5	4	0.5	1	1	2
SPHCOC	0.5	1	1	1					2	3		
STEMIN									10	1		
THEMEG									0.5	1		
TRADUB									0.5	1		
VERTHA									0.5	1		

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

Species Code	Pinyon–Juniper Community						Shortgrass Community					
	PJ-03		PJ-LT01		PJ-LT03		STEP-LT01		STEP-LT02		STEP-LT03	
	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency	Cover Sum	Frequency
Grass												
ANDGER	10	1	10.5	3	1	2	47.5	4	5	1	1	1
ARIPUR	0.5	1							1	2		
BOUCUR	6.5	3	20.5	3	2	3	14	4	5.5	2		
BOUGRA	71.5	5	58	4	26.5	5	20.5	3	95	5	0.5	1
BROJAP			1	1	1.5	2						
BUCDAC	4	3					3	1				
ELYSAN					1.5	2			1	2		
ELYELY							0.5	1			0.5	1
LYCSET	1	2	15	3								
MONSQU	0.5	1										
MUHMOM			4	2	1	2			4	3		
MUHWRI	2	3							3.5	2		
PASSMI			1	1	8.5	3			20	4		
SCHSCO	2	3	5.5	2	5.5	2	7	3	1.5	2		
SPOCRY					0.5	1					0.5	1
Shrub												
RHUTRI											27	1
YUCGLA					55.5	3	1.5	2			10	1
Subshrub												
ECHVIR	0.5	1	0.5	1					1	1		
ESCVIV	0.5	1										
Tree												
JUNSCO			95	1								
QUEGAM											123	2
Vine												
VICAME	1	2	1.5	3					1	2		

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

Species Code	LifeForm	Scientific Name	Common Name	Primary Duration
ACHMIL	Forb	<i>Achillea millefolium</i>	yarrow	Perennial
AGRCRI	Grass	<i>Agropyron cristatum</i>	crested wheat grass	Perennial
AMAHYB	Forb	<i>Amaranthus hybridus</i>	slim amaranth pigweed	Annual
AMAPAL	Forb	<i>Amaranthus palmeri</i>	carelessweed pigweed	Annual
ANDGER	Grass	<i>Andropogon gerardii</i>	big bluestem	Perennial
ARGHIS	Forb	<i>Argemone hispida</i>	rough pricklypoppy	Perennial
ARIPUR	Grass	<i>Aristida purpurea</i>	purple threeawn	Perennial
ARTFRI	Forb	<i>Artemisia frigida</i>	fringed sagebrush	Perennial
ARTLUD	Forb	<i>Artemisia ludoviciana</i>	louisiana sagewort	Perennial
BOUCUR	Grass	<i>Bouteloua curtipendula</i>	sideoats grama	Perennial
BOUGRA	Grass	<i>Bouteloua gracilis</i>	blue grama	Perennial
BROINE	Grass	<i>Bromus inermis</i>	smooth brome	Perennial
BROJAP	Grass	<i>Bromus japonicus</i>	japanese brome	Annual
BROTEC	Grass	<i>Bromus tectorum</i>	cheatgrass	Annual
BUCDAC	Grass	<i>Buchloe dactyloides</i>	buffalograss	Perennial
CHAERI	Forb	<i>Chaetopappa ericoides</i>	baby white aster	Perennial
CHAFEN	Forb	<i>Chamaesyce fendleri</i>	fendler's sandmat	Perennial
CHASER2	Forb	<i>Chamaesyce serpyllifolia</i>	thyme-leaf sandmat	Annual
CHEALB	Forb	<i>Chenopodium album</i>	common lambsquarters	Annual
CHELEP	Forb	<i>Chenopodium leptophyllum</i>	narrowleaf goosefoot	Annual
CHEPRA	Forb	<i>Chenopodium pratericola</i>	desert goosefoot	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
DALPUR	Forb	<i>Dalea purpurea</i>	purple prairie clover	Perennial
DESSOP	Forb	<i>Descurainia sophia</i>	flixweed	Annual
DYSPAP	Forb	<i>Dyssodia papposa</i>	fetid dogweed	Annual
ECHVIR	Subshrub	<i>Echinocereus viridiflorus</i>	nylon hedgehog cactus	Perennial
ELYSAN	Grass	<i>Elymus canadensis</i>	canada wildrye	Perennial
ELYELY	Grass	<i>Elymus elymoides</i>	bottlebrush squirreltail	Perennial
ERIJAM	Forb	<i>Eriogonum jamesii</i>	james buckwheat	Perennial
ERYCAP	Forb	<i>Erysimum capitatum</i>	western wallflower	Biennial/Perennial
ESCVIV	Subshrub	<i>Escobaria vivipara</i>	spiny star	Perennial
EUPDAV	Forb	<i>Euphorbia davidii</i>	davids spurge	Annual
FRBLNG	Forb	<i>Forb seedling</i>	forb seedling	N/Annual
GAUCOC	Forb	<i>Gaura coccinea</i>	scarlet guara	Perennial
GLABIP	Forb	<i>Glandularia bipinnatifida</i>	dakota mock vervain	Annual/Perennial
GUTSAR	Forb	<i>Gutierrezia sarothrae</i>	broom snakeweed	Perennial
HELANN	Forb	<i>Helianthus annuus</i>	common sunflower	Annual
HETVIL	Forb	<i>Heterotheca villosa</i>	hairy false goldenaster	Perennial
JUNSCO	Tree	<i>Juniperus scopulorum</i>	rocky mountain juniper	Perennial

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

Species Code	LifeForm	Scientific Name	Common Name	Primary Duration
KOCSCO	Forb	<i>Kochia scoparia</i>	kochia	Annual
LACSER	Forb	<i>Lactuca serriola</i>	prickly lettuce	Annual
LATLAT	Vine	<i>Lathyrus latifolius</i>	everlasting peavine	Perennial
LIAPUN	Forb	<i>Liatris punctata</i>	dotted gayfeather	Perennial
LUPARG	Forb	<i>Lupinus argenteus</i>	silver lupine	Perennial
LYCSET	Grass	<i>Lycurus setosus</i>	bristly wolfstail	Perennial
MARVUL	Forb	<i>Marrubium vulgare</i>	horehound	Perennial
MEDLUP	Forb	<i>Medicago lupulina</i>	black medic clover	Annual/Perennial
MELOFF	Forb	<i>Melilotus officinalis</i>	yellow sweetclover	Annual
MENNUD	Forb	<i>Mentzelia nuda</i>	bractless blazingstar	Perennial
MONSQU	Grass	<i>Monroa squarrosa</i>	false buffalograss	Annual
MUHMOM	Grass	<i>Muhlenbergia montana</i>	mountain muhly	Perennial
MUHWRI	Grass	<i>Muhlenbergia wrightii</i>	spike muhly	Perennial
OENCAE	Forb	<i>Oenothera caespitosa</i>	tufted evening primrose	Perennial
PACNEO	Forb	<i>Packera neomexicana</i>	new mexico groundsel	Perennial
PASSMI	Grass	<i>Pascopyrum smithii</i>	western wheatgrass	Perennial
PECANG	Forb	<i>Pectis angustifolia</i>	narrowleaf pectis	Annual
PENANG	Forb	<i>Penstemon angustifolius</i>	broad-beard penstemon	Perennial
PENJAM	Forb	<i>Penstemon jamesii</i>	james penstemon	Perennial
PENSSP	Forb	<i>Penstemon ssp.</i>	penstemon	N/Annual
PHYSUB	Forb	<i>Physalis subulata</i>	Chihuahuan groundcherry	Annual
POLCON	Vine	<i>Polygonum convolvulus</i>	climbing buckwheat	Annual
POROLE	Forb	<i>Portulaca oleracea</i>	common purslane	Annual
PSOTEN	Forb	<i>Psoralea tenuiflorum</i>	slimflower scurfpea	Perennial
QUEGAM	Tree	<i>Quercus gambelii</i>	gambel oak	Perennial
RATTAG	Forb	<i>Ratibida tagetes</i>	green mexican hat	Perennial
RHUTRI	Shrub	<i>Rhus trilobata</i>	skunkbush sumac	Perennial
SALTRA	Forb	<i>Salsola tragus</i>	prickly russian thistle	Annual
SCHSCO	Grass	<i>Schizachyrium scoparium</i>	little bluestem	Perennial
SETVIR	Grass	<i>Setaria viridis</i>	green bristlegrass	Annual
SPHCOC	Forb	<i>Sphaeralcea coccinea</i>	scarlet globemallow	Perennial
SPOCRY	Grass	<i>Sporobolus cryptandrus</i>	sand dropseed	Perennial
STEMIN	Forb	<i>Stephanomeria minor</i>	lesser wirelettuce	Perennial
TARLAE	Forb	<i>Taraxacum laevigatum</i>	rock dandelion	Perennial
THEMEG	Forb	<i>Thelesperma megapotamicum</i>	hopi tea greenthread	Perennial
TRADUB	Forb	<i>Tragopogon dubius</i>	western salsify	Annual
VERTHA	Forb	<i>Verbascum thapsus</i>	common mullein	Biennial
VICAME	Vine	<i>Vicia americana</i>	american deervetch	Perennial
YUCGLA	Shrub	<i>Yucca glauca</i>	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 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 June 28–29, 2013 and included the Entrance Road and the Rim Trail (Figure 4). These vectors have been previously monitored July 13–15, 2010. A new exotic species, everlasting peavine (*Lathyrus latifolius*), was observed along the Entrance Road and staff was notified. Data summarized in this report compares the results of 2013 monitoring to that detected in 2010.

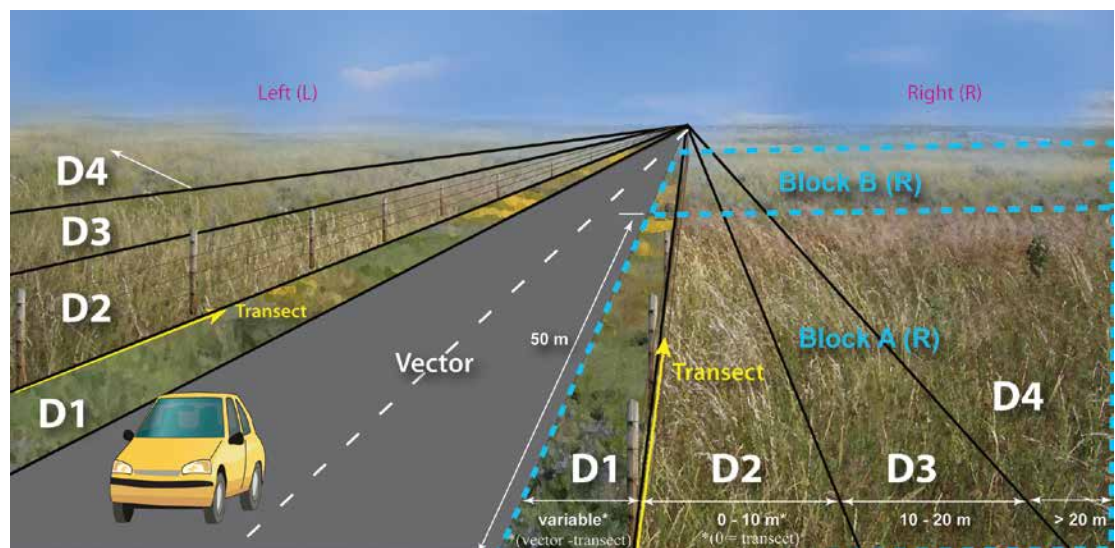


Figure 3. Layout of Vector Blocks and Distance Classes along a vector.

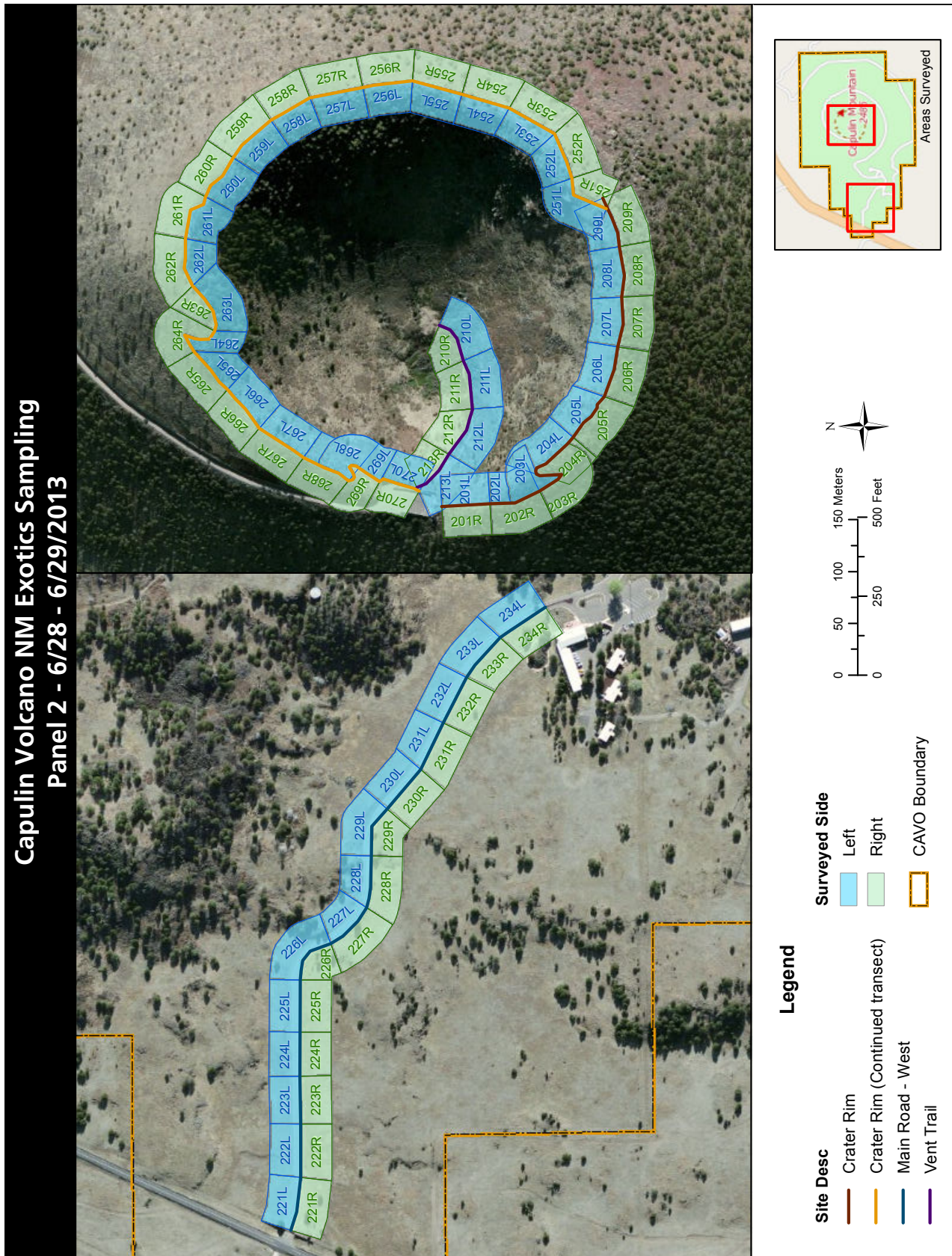


Figure 4. Panel 2 numbered vector blocks monitored at CAVO in both 2010 and 2013.

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=6)(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 CAVO.

Scientific Name	Common Name	2010		2013		2010		2013	
		Primary Blocks (N=54)		Primary Blocks (N=118)		Secondary Transects (N=6)		Secondary Transects (N=6)	
		Total	% Blocks	Total	% Blocks	Total	% Blocks	Total	% Blocks
<i>Achillea millefolium</i>	common yarrow	–	–	22	19%	–	–	–	–
<i>Agropyron cristatum</i>	crested wheatgrass	10	19%	1	1%	–	–	–	–
<i>Bromus inermis</i>	smooth brome	15	28%	2	2%	–	–	–	–
<i>Bromus japonicus</i>	Japanese brome	25	46%	19	16%	–	–	2	33%
<i>Bromus tectorum</i>	cheatgrass	29	54%	30	25%	–	–	–	–
<i>Chenopodium album</i>	lambsquarters	1	2%	11	9%	–	–	–	–
<i>Convolvulus arvensis</i>	field bindweed	1	2%	28	24%	–	–	–	–
<i>Descurainia sophia</i>	flixweed	13	24%	–	–	–	–	–	–
<i>Euphorbia davidii</i>	toothed spurge	4	7%	–	–	2	33%	1	17%
<i>Kochia scoparia</i>	kochia	1	2%	7	6%	–	–	–	–
<i>Lactuca serriola</i>	prickly lettuce	–	–	14	12%	5	83%	1	17%
<i>Lathyrus latifolius</i>	everlasting peavine	–	–	2	2%	–	–	–	–
<i>Marrubium vulgare</i>	horehound	14	26%	7	6%	1	17%	–	–
<i>Medicago lupulina</i>	black medic clover	9	17%	4	3%	–	–	–	–
<i>Melilotus officinalis</i>	yellow sweetclover	2	4%	11	9%	–	–	–	–
No Plant	No Plant	–	–	25	21%	–	–	–	–
<i>Polygonum convolvulus</i>	climbing buckwheat	–	–	1	1%	–	–	–	–
<i>Salsola tragus</i>	prickly Russian thistle	4	7%	28	24%	3	50%	6	100%
<i>Setaria viridis</i>	green bristlegrass	15	28%	–	–	–	–	–	–
<i>Taraxacum laevigatum</i>	rock dandelion	–	–	22	19%	–	–	–	–
<i>Tragopogon dubius</i>	western salsify	21	39%	37	31%	4	67%	1	17%
<i>Verbascum thapsus</i>	common mullein	16	30%	23	19%	1	17%	1	17%

Capulin Volcano NM - Secondary Exotics 2010 vs. 2013

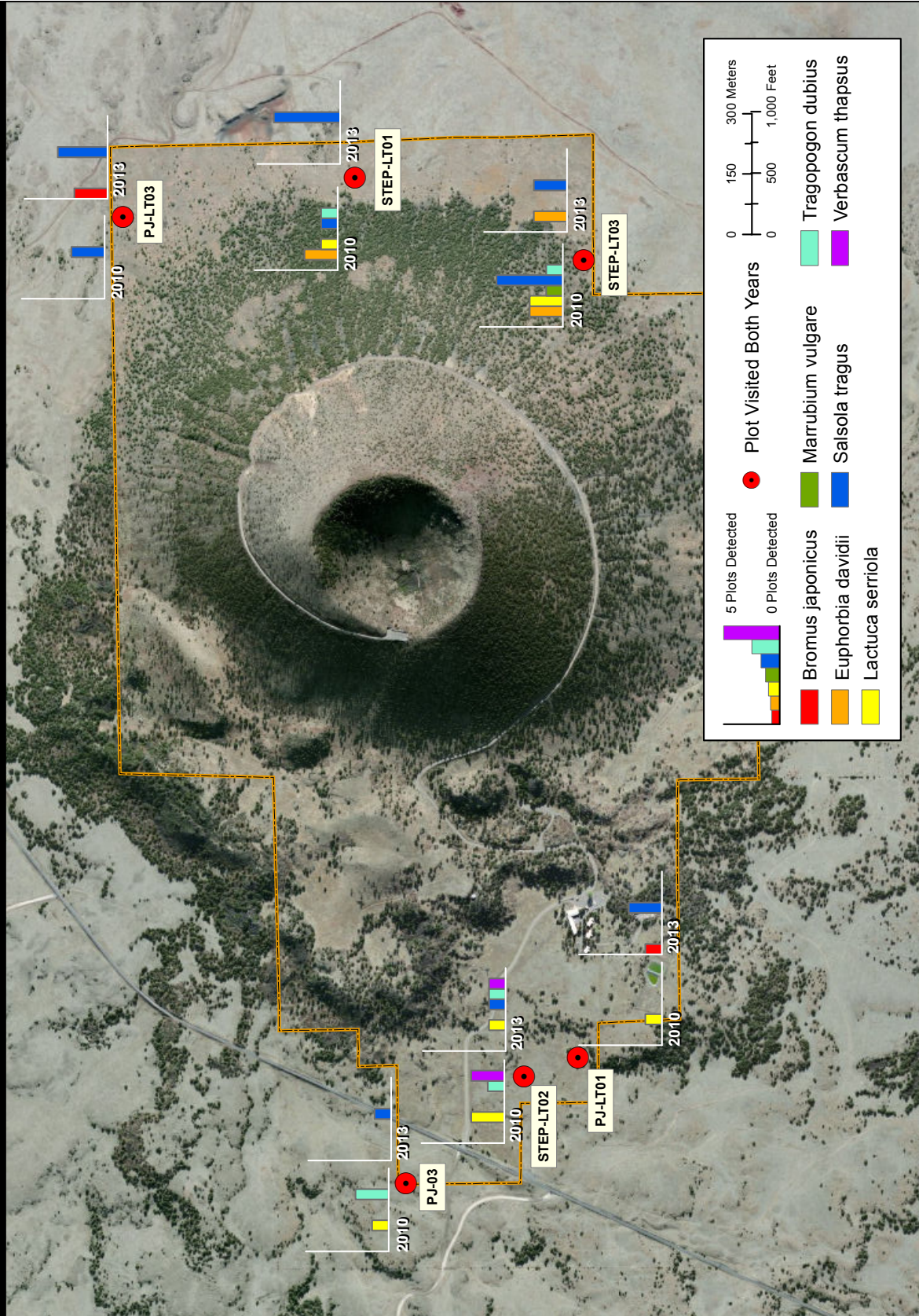


Figure 5. Comparison of exotics detected in 2010 and 2013 grassland monitoring permanent transects at CAVO.

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	–	6	3	–	2	1
			2	–	9	2	–	–	1
AGRCRI	<i>Agropyron cristatum</i>	crested wheat grass	1	3	–	–	1	–	–
			2	–	1	–	6	1	–
BROINE	<i>Bromus inermis</i>	smooth brome	1	3	–	–	3	–	–
			2	2	2	–	10	–	–
			X	–	–	–	1	–	–
BROJAP	<i>Bromus japonicus</i>	Japanese brome	1	5	11	–	–	8	–
			2	5	1	–	23	1	–
BROTEC	<i>Bromus tectorum</i>	cheatgrass	1	6	7	5	1	2	–
			2	4	5	7	21	10	6
			X	–	–	–	1	–	–
CHEALB	<i>Chenopodium album</i>	common lambsquarters	1	–	1	1	1	1	–
			2	–	–	–	–	5	–
CONARV	<i>Convolvulus arvensis</i>	field bindweed	1	1	5	–	–	6	–
			2	–	22	–	–	19	–
DESSOP	<i>Descurainia sophia</i>	flixweed	1	1	–	–	11	–	–
			2	–	–	–	1	–	–
EUPDAV	<i>Euphorbia davidii</i>	davids spurge	1	1	–	–	2	–	–
			2	1	–	–	–	–	–
KOCSCO	<i>Kochia scoparia</i>	kochia	1	–	1	–	–	1	–
			2	–	1	–	1	6	–
LACSER	<i>Lactuca serriola</i>	prickly lettuce	1	–	10	3	–	–	2
			2	–	–	1	–	–	–
LATLAT	<i>Lathyrus latifolius</i>	everlasting peavine	1	–	1	–	–	1	–
			2	–	1	5	–	–	–
MARVUL	<i>Marrubium vulgare</i>	horehound	1	3	–	–	7	–	2
			2	–	–	–	4	–	4
			X	–	–	–	1	–	–
MEDLUP	<i>Medicago lupulina</i>	black medic clover	1	–	3	–	1	–	–
			2	–	–	–	–	–	–
			X	9	1	–	1	–	–

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
MELOFF	<i>Melilotus officinalis</i>	yellow sweetclover	1	1	7	–	1	5	–
			2	–	1	–	–	–	–
POLCON	<i>Polygonum convolvulus</i>	climbing buckwheat	1	–	1	2	–	–	–
SALTRA	<i>Salsola tragus</i>	prickly Russian thistle	1	–	5	–	–	2	2
			2	1	12	–	4	21	–
SETVIR	<i>Setaria viridis</i>	green bristlegrass	1	7	–	–	3	–	–
			2	6	–	–	1	–	–
TARLAE	<i>Taraxacum laevigatum</i>	rock dandelion	1	–	15	–	–	1	–
			2	–	7	6	–	–	–
TRADUB	<i>Tragopogon dubius</i>	western salsify	1	12	19	–	14	15	2
			2	–	1	2	–	1	–
			X	–	–	–	–	–	1
VERTHA	<i>Verbascum thapsus</i>	common mullein	1	4	11	1	10	4	7
			2	–	1	–	5	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>Agropyron cristatum</i>	crested wheatgrass	0	2	X	X				
	<i>Bromus inermis</i>	smooth brome	0	2	X	X				
	<i>Bromus japonicus</i>	Japanese brome	0	2	X	X	1	0	X	X
	<i>Lactuca serriola</i>	prickly lettuce					1	0	X	X
	<i>Taraxacum laevigatum</i>	rock dandelion					2	0	X	X
	<i>Tragopogon dubius</i>	western salsify	0	1	X	X	0	1	X	X
	<i>Verbascum thapsus</i>	common mullein	0	1	X	X				
201R	<i>Bromus inermis</i>	smooth brome	0	2	X	X				
	<i>Bromus japonicus</i>	Japanese brome	1	2	X	X				
	<i>Bromus tectorum</i>	cheatgrass	2	0	X	X				
	<i>Euphorbia davidii</i>	toothed spurge	1	0	X	X				
	<i>Tragopogon dubius</i>	western salsify	1	0	X	X	0	1	X	X
	<i>Verbascum thapsus</i>	common mullein	0	2	X	X				
202L	<i>Agropyron cristatum</i>	crested wheatgrass	0	2	X	X				
	<i>Bromus inermis</i>	smooth brome	0	2	X	X				
	<i>Bromus japonicus</i>	Japanese brome					1	0	X	X
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	X	X
	<i>Tragopogon dubius</i>	western salsify	0	1	X	X	1	0	X	X
	<i>Verbascum thapsus</i>	common mullein	0	2	X	X				
202R	<i>Agropyron cristatum</i>	crested wheatgrass	1	0	X	X				
	<i>Bromus inermis</i>	smooth brome	2	0	X	X				
	<i>Bromus tectorum</i>	cheatgrass	0	2	X	X				
	<i>Euphorbia davidii</i>	toothed spurge	2	0	X	X				
	<i>Marrubium vulgare</i>	horehound	0	2	X	X				
	N/A	No Plant					0	0	X	X
	<i>Tragopogon dubius</i>	western salsify	1	0	X	X				
	<i>Verbascum thapsus</i>	common mullein	1	0	X	X				
203L	<i>Bromus inermis</i>	smooth brome	0	2	X	X				
	<i>Chenopodium album</i>	lambsquarters	0	1	X	X				
	<i>Marrubium vulgare</i>	horehound	0	1	X	X				
	N/A	No Plant					0	0	X	X
	<i>Verbascum thapsus</i>	common mullein	0	2	X	X				
203R	<i>Bromus inermis</i>	smooth brome	1	2	X	X				
	<i>Marrubium vulgare</i>	horehound	1	0	X	X				
	N/A	No Plant					0	0	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
203R	<i>Tragopogon dubius</i>	western salsify	1	1	X	X				
(cont.)	<i>Verbascum thapsus</i>	common mullein	1	1	X	X				
204L	<i>Descurainia sophia</i>	flixweed	0	1	X	X				
	<i>Marrubium vulgare</i>	horehound	0	1	X	X				
	N/A	No Plant					0	0	X	X
204R	<i>Bromus japonicus</i>	Japanese brome					0	1	X	X
	<i>Marrubium vulgare</i>	horehound	0	1	X	X				
	<i>Verbascum thapsus</i>	common mullein	0	1	X	X				
205L	<i>Descurainia sophia</i>	flixweed	0	1	X	X				
	<i>Tragopogon dubius</i>	western salsify					1	0	X	X
	<i>Verbascum thapsus</i>	common mullein	0	1	X	X				
205R	<i>Achillea millefolium</i>	common yarrow					1	0	X	X
	<i>Bromus inermis</i>	smooth brome	0	2	X	X				
	<i>Tragopogon dubius</i>	western salsify	1	0	X	X				
	<i>Verbascum thapsus</i>	common mullein	1	2	X	X				
206L	<i>Achillea millefolium</i>	common yarrow					2	0	X	X
	<i>Descurainia sophia</i>	flixweed	0	1	X	X				
	<i>Marrubium vulgare</i>	horehound	0	1	X	X				
206R	<i>Achillea millefolium</i>	common yarrow					2	0	X	X
	<i>Agropyron cristatum</i>	crested wheatgrass	0	2	X	X				
	<i>Bromus japonicus</i>	Japanese brome					0	1	X	X
	<i>Bromus tectorum</i>	cheatgrass	1	2	X	X				
	<i>Descurainia sophia</i>	flixweed	0	1	X	X				
	<i>Verbascum thapsus</i>	common mullein	1	2	X	X				
207L	<i>Agropyron cristatum</i>	crested wheatgrass	0	1	X	X				
	<i>Descurainia sophia</i>	flixweed	0	2	X	X				
	<i>Verbascum thapsus</i>	western salsify	0	1	X	X				
207R	<i>Bromus tectorum</i>	common mullein	0	2	X	X				
	<i>Descurainia sophia</i>	cheatgrass	0	1	X	X				
	<i>Marrubium vulgare</i>	flixweed	0	2	X	X				
	N/A	horehound					0	0	X	X
208L	<i>Bromus japonicus</i>	No Plant					1	0	X	X
	<i>Descurainia sophia</i>	Japanese brome	0	1	X	X				
	<i>Verbascum thapsus</i>	flixweed	0	1	X	X				
208R	<i>Agropyron cristatum</i>	common mullein	1	0	X	X				
	<i>Bromus tectorum</i>	crested wheatgrass	0	1	X	X				
	<i>Descurainia sophia</i>	cheatgrass	1	0	X	X				
	<i>Marrubium vulgare</i>	flixweed	1	0	X	X				
	<i>Tragopogon dubius</i>	horehound					1	0	X	X
209L	<i>Bromus japonicus</i>	western salsify					1	0	X	X
	<i>Descurainia sophia</i>	Japanese brome	0	1	X	X				
	<i>Marrubium vulgare</i>	flixweed	0	1	X	X				
	N/A	horehound					0	0	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
209R	<i>Descurainia sophia</i>	flixweed	0	1	X	X				
209R	N/A	No Plant					0	0	X	X
210L	<i>Agropyron cristatum</i>	crested wheatgrass	0	2	X	X				
	<i>Bromus inermis</i>	smooth brome	0	1	X	X				
	<i>Marrubium vulgare</i>	horehound	0	1	X	X				
	N/A	No Plant					0	0	0	0
210R	<i>Bromus inermis</i>	smooth brome	2	2	0	0				
	<i>Descurainia sophia</i>	flixweed	0	1	0	0				
	N/A	No Plant					0	0	0	0
211L	<i>Achillea millefolium</i>	common yarrow					2	0	0	0
	<i>Agropyron cristatum</i>	crested wheatgrass	0	2	X	X				
	<i>Bromus inermis</i>	smooth brome	0	2	X	X				
	<i>Marrubium vulgare</i>	horehound	0	1	X	X				
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
211R	<i>Achillea millefolium</i>	common yarrow					0	1	0	0
	<i>Bromus inermis</i>	smooth brome	0	1	0	0				
	<i>Bromus tectorum</i>	cheatgrass	1	0	0	0				
	<i>Descurainia sophia</i>	flixweed	0	1	0	0				
212L	<i>Achillea millefolium</i>	common yarrow					2	0	0	X
	<i>Agropyron cristatum</i>	crested wheatgrass	0	2	X	X				
	<i>Bromus inermis</i>	smooth brome	0	2	X	X				
	<i>Euphorbia davidii</i>	toothed spurge	0	1	X	X				
	<i>Marrubium vulgare</i>	horehound	0	2	X	X				
	<i>Medicago lupulina</i>	black medic clover	2	0	X	X				
	<i>Taraxacum laevigatum</i>	rock dandelion					2	0	0	X
	<i>Verbascum thapsus</i>	common mullein	0	1	X	X				
212R	<i>Achillea millefolium</i>	common yarrow					1	0	0	0
	<i>Bromus inermis</i>	smooth brome	1	X	X	X				
	<i>Bromus tectorum</i>	cheatgrass	1	X	X	X				
	<i>Marrubium vulgare</i>	horehound	1	X	X	X				
	<i>Medicago lupulina</i>	black medic clover	2	X	X	X				
213L	<i>Achillea millefolium</i>	common yarrow					1	0	X	X
	<i>Euphorbia davidii</i>	toothed spurge	0	1	X	X				
	<i>Medicago lupulina</i>	black medic clover	2	1	X	X				
	<i>Tragopogon dubius</i>	western salsify	0	1	X	X				
	<i>Verbascum thapsus</i>	common mullein	0	1	X	X				
213R	<i>Achillea millefolium</i>	common yarrow					1	0	0	0
	<i>Agropyron cristatum</i>	crested wheatgrass	1	0	0	0				
	<i>Bromus inermis</i>	smooth brome	1	1	0	0				
	<i>Medicago lupulina</i>	black medic clover	2	0	0	0				
	<i>Tragopogon dubius</i>	western salsify					1	0	0	0
221L	<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 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
221L (cont.)	<i>Bromus tectorum</i>	cheatgrass					0	2	2	2
	<i>Chenopodium album</i>	lambsquarters					0	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed					1	2	0	0
	<i>Kochia scoparia</i>	kochia					0	2	0	0
	<i>Lactuca serriola</i>	prickly lettuce					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify					2	0	0	0
221R	<i>Bromus japonicus</i>	Japanese brome	2	2	0	0				
	<i>Bromus tectorum</i>	cheatgrass	0	2	2	0	0	2	0	0
	<i>Chenopodium album</i>	lambsquarters					0	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed					0	2	2	0
	<i>Kochia scoparia</i>	kochia					0	2	2	0
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	2	2
222L	<i>Bromus japonicus</i>	Japanese brome					1	0	0	0
	<i>Bromus tectorum</i>	cheatgrass					1	0	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Kochia scoparia</i>	kochia	0	2	2	0	2	2	1	0
	<i>Mellilotus officinalis</i>	yellow sweetclover					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle	0	2	2	0	1	0	0	0
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
222R	<i>Bromus japonicus</i>	Japanese brome	2	2	2	0				
	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0	2	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed					1	1	0	0
	<i>Kochia scoparia</i>	kochia					0	2	2	0
	<i>Lactuca serriola</i>	prickly lettuce					1	0	0	0
	<i>Medicago lupulina</i>	black medic clover	2	0	0	0				
	<i>Mellilotus officinalis</i>	yellow sweetclover					0	1	0	0
	<i>Polygonum convolvulus</i>	climbing buckwheat					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	2	2
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify	1	0	0	0				
223L	<i>Bromus japonicus</i>	Japanese brome	1	2	0	0				
	<i>Bromus tectorum</i>	cheatgrass	1	2	0	0	0	1	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	1	0	0
	<i>Kochia scoparia</i>	kochia					0	2	0	0
	<i>Lactuca serriola</i>	prickly lettuce					1	0	0	0
	<i>Medicago lupulina</i>	black medic clover					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					0	1	0	0
	<i>Setaria viridis</i>	green bristlegrass	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
223L	<i>Taraxacum laevigatum</i>	rock dandelion					2	0	0	0
(cont.)	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
223R	<i>Bromus japonicus</i>	Japanese brome	2	2	2	0				
	<i>Bromus tectorum</i>	cheatgrass	1	2	2	0	2	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed					1	2	0	0
	<i>Kochia scoparia</i>	kochia					1	1	0	0
	<i>Medicago lupulina</i>	black medic clover	2	0	0	0				
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	2	0
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify					1	2	0	0
	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
224L	<i>Bromus japonicus</i>	Japanese brome	0	2	2	0				
	<i>Bromus tectorum</i>	cheatgrass					1	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	2	1	0
	<i>Descurainia sophia</i>	flixweed	0	1	0	0				
	<i>Setaria viridis</i>	green bristlegrass	0	1	0	0				
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify					1	0	0	0
224R	<i>Bromus japonicus</i>	Japanese brome	1	2	2	2				
	<i>Bromus tectorum</i>	cheatgrass	1	2	2	0				
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Lactuca serriola</i>	prickly lettuce					1	0	0	0
	<i>Medicago lupulina</i>	black medic clover					1	0	0	0
	<i>Melilotus officinalis</i>	yellow sweetclover					1	1	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					0	2	2	0
	<i>Setaria viridis</i>	green bristlegrass	1	0	0	0				
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify					1	1	0	0
225L	<i>Bromus japonicus</i>	Japanese brome	0	2	0	0	0	1	0	0
	<i>Bromus tectorum</i>	cheatgrass	0	2	0	0	1	1	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Marrubium vulgare</i>	horehound	0	2	0	0				
	<i>Melilotus officinalis</i>	yellow sweetclover					0	1	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
	<i>Setaria viridis</i>	green bristlegrass	1	2	0	0				
	<i>Tragopogon dubius</i>	western salsify					0	1	0	0
225R	<i>Bromus japonicus</i>	Japanese brome	1	2	2	2				
	<i>Bromus tectorum</i>	cheatgrass	0	2	2	2				
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Medicago lupulina</i>	black medic clover	2	0	0	0				
	<i>Melilotus officinalis</i>	yellow sweetclover					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					1	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
225R (cont.)	<i>Setaria viridis</i>	green bristlegrass	2	0	0	0				
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify	1	1	0	0	1	1	1	0
	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
226L	<i>Agropyron cristatum</i>	crested wheatgrass					2	2	0	0
	<i>Bromus japonicus</i>	Japanese brome	0	2	2	X	1	1	0	0
	<i>Bromus tectorum</i>	cheatgrass					1	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	1	0	0
	<i>Lactuca serriola</i>	prickly lettuce					1	0	0	0
	<i>Lathyrus latifolius</i>	everlasting peavine					2	0	0	0
	<i>Melilotus officinalis</i>	yellow sweetclover					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle	0	2	0	X	2	2	0	0
	<i>Tragopogon dubius</i>	western salsify					1	1	0	0
226R	<i>Bromus japonicus</i>	Japanese brome	2	2	2	2				
	<i>Bromus tectorum</i>	cheatgrass	0	2	0	0	0	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	1	0	0
	<i>Medicago lupulina</i>	black medic clover	2	0	0	0	1	0	0	0
	<i>Melilotus officinalis</i>	yellow sweetclover					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					1	2	2	0
	<i>Setaria viridis</i>	green bristlegrass	2	0	0	0				
	<i>Tragopogon dubius</i>	western salsify					1	1	0	0
	<i>Verbascum thapsus</i>	common mullein					1	1	0	0
227L	<i>Achillea millefolium</i>	common yarrow					2	0	0	0
	<i>Bromus inermis</i>	smooth brome	0	2	0	0	2	0	0	0
	<i>Bromus japonicus</i>	Japanese brome	0	2	2	0				
	<i>Bromus tectorum</i>	cheatgrass					2	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Lactuca serriola</i>	prickly lettuce					1	0	0	0
	<i>Lathyrus latifolius</i>	everlasting peavine					1	1	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
	<i>Tragopogon dubius</i>	western salsify	0	1	0	0	1	1	0	0
	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
227R	<i>Bromus japonicus</i>	Japanese brome	0	2	2	0				
	<i>Bromus tectorum</i>	cheatgrass	0	0	2	0	2	2	0	0
	<i>Chenopodium album</i>	lambsquarters					0	2	2	0
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Kochia scoparia</i>	kochia					0	2	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	2	0
	<i>Setaria viridis</i>	green bristlegrass	1	0	0	0				
	<i>Tragopogon dubius</i>	western salsify	1	0	0	0				
228L	<i>Bromus inermis</i>	smooth brome					2	0	0	0
	<i>Bromus japonicus</i>	Japanese brome					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 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
228L	<i>Bromus tectorum</i>	cheatgrass	2	2	0	0	0	2	0	0
(cont.)	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Lactuca serriola</i>	prickly lettuce					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					0	2	0	0
	<i>Tragopogon dubius</i>	western salsify	0	1	0	0	0	1	0	0
	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
228R	<i>Bromus japonicus</i>	Japanese brome	0	2	2	0	1	1	0	0
	<i>Bromus tectorum</i>	cheatgrass	0	2	0	0				
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Melilotus officinalis</i>	yellow sweetclover					2	1	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	2	0
	<i>Setaria viridis</i>	green bristlegrass	1	0	0	0				
	<i>Tragopogon dubius</i>	western salsify					0	1	0	0
	<i>Verbascum thapsus</i>	common mullein					0	1	0	0
229L	<i>Bromus japonicus</i>	Japanese brome	0	2	2	0				
	<i>Bromus tectorum</i>	cheatgrass	0	2	2	0	2	0	0	0
	<i>Chenopodium album</i>	lambsquarters					0	2	0	0
	<i>Convolvulus arvensis</i>	field bindweed	1	0	0	0	2	1	0	0
	<i>Melilotus officinalis</i>	yellow sweetclover	0	1	0	0				
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
	<i>Tragopogon dubius</i>	western salsify	0	1	0	0				
	<i>Verbascum thapsus</i>	common mullein	0	1	0	0				
229R	<i>Bromus japonicus</i>	Japanese brome					0	2	2	0
	<i>Chenopodium album</i>	lambsquarters					1	1	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Melilotus officinalis</i>	yellow sweetclover					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					2	2	0	0
	<i>Setaria viridis</i>	green bristlegrass	1	0	X	X				
	<i>Taraxacum laevigatum</i>	rock dandelion					2	2	0	0
	<i>Tragopogon dubius</i>	western salsify	1	1	X	X	1	0	0	0
	<i>Verbascum thapsus</i>	common mullein					2	1	0	0
230L	<i>Bromus japonicus</i>	Japanese brome	0	0	2	2				
	<i>Bromus tectorum</i>	cheatgrass	0	0	2	2				
	<i>Convolvulus arvensis</i>	field bindweed					2	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle	0	2	2	0	2	2	0	0
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify	1	1	0	0	1	0	0	0
	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
230R	<i>Bromus japonicus</i>	Japanese brome	0	2	2	0				
	<i>Bromus tectorum</i>	cheatgrass	0	2	2	0				
	<i>Chenopodium album</i>	lambsquarters					0	0	2	2
	<i>Convolvulus arvensis</i>	field bindweed					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
230R (cont.)	<i>Melilotus officinalis</i>	yellow sweetclover	1	0	0	0				
	<i>Salsola tragus</i>	prickly Russian thistle					0	2	2	2
	<i>Setaria viridis</i>	green bristlegrass	1	0	0	0				
231L	<i>Bromus japonicus</i>	Japanese brome	0	2	2	2				
	<i>Bromus tectorum</i>	cheatgrass	0	2	2	0				
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					0	1	0	0
	<i>Tragopogon dubius</i>	western salsify	0	1	0	0	1	0	0	0
	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
231R	<i>Bromus japonicus</i>	Japanese brome	1	0	0	0				
	<i>Bromus tectorum</i>	cheatgrass	0	2	2	0				
	<i>Chenopodium album</i>	lambsquarters					0	0	2	0
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Melilotus officinalis</i>	yellow sweetclover					0	1	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					0	2	2	2
	<i>Setaria viridis</i>	green bristlegrass	2	1	0	0				
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify	1	0	0	0	1	0	0	0
	<i>Verbascum thapsus</i>	common mullein					0	1	0	0
232L	<i>Bromus japonicus</i>	Japanese brome	0	2	2	0				
	<i>Bromus tectorum</i>	cheatgrass	0	2	2	0				
	<i>Convolvulus arvensis</i>	field bindweed					2	1	0	0
	<i>Lactuca serriola</i>	prickly lettuce					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify	0	1	0	0	1	0	0	0
232R	<i>Bromus japonicus</i>	Japanese brome	0	2	0	0				
	<i>Bromus tectorum</i>	cheatgrass	0	0	2	0	1	0	0	0
	<i>Chenopodium album</i>	lambsquarters					0	0	2	0
	<i>Convolvulus arvensis</i>	field bindweed					2	2	0	0
	<i>Melilotus officinalis</i>	yellow sweetclover					1	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					0	2	2	2
	<i>Setaria viridis</i>	green bristlegrass	2	0	0	0				
	<i>Tragopogon dubius</i>	western salsify	1	0	0	0				
	<i>Verbascum thapsus</i>	common mullein					1	0	0	0
233L	<i>Bromus japonicus</i>	Japanese brome	0	2	2	2				
	<i>Bromus tectorum</i>	cheatgrass	0	2	2	2	1	0	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	0	0	0
	<i>Setaria viridis</i>	green bristlegrass	1	0	0	0				
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
233R	<i>Bromus tectorum</i>	cheatgrass	0	0	2	0				
	<i>Chenopodium album</i>	lambsquarters					0	0	2	0
	<i>Convolvulus arvensis</i>	field bindweed					1	2	0	0
	<i>Salsola tragus</i>	prickly Russian thistle					1	2	2	2

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
233R	<i>Setaria viridis</i>	green bristleglass	2	0	0	0				
(cont.)	<i>Tragopogon dubius</i>	western salsify	0	1	1	0	0	1	0	0
234L	<i>Bromus japonicus</i>	Japanese brome	0	2	2	2	0	1	0	0
	<i>Bromus tectorum</i>	cheatgrass	2	2	2	2	1	0	0	0
	<i>Convolvulus arvensis</i>	field bindweed					2	0	0	0
	<i>Medicago lupulina</i>	black medic clover					2	0	0	0
	<i>Salsola tragus</i>	prickly Russian thistle	2	2	0	0	1	2	0	0
	<i>Taraxacum laevigatum</i>	rock dandelion					2	0	0	0
	<i>Verbascum thapsus</i>	common mullein	0	1	0	0	1	2	0	0
234R	<i>Bromus tectorum</i>	cheatgrass	0	2	0	0				
	<i>Chenopodium album</i>	lambsquarters					0	2	2	0
	<i>Convolvulus arvensis</i>	field bindweed					1	2	0	0
	<i>Medicago lupulina</i>	black medic clover	2	0	0	0				
	<i>Setaria viridis</i>	green bristleglass	2	0	0	0				
	<i>Taraxacum laevigatum</i>	rock dandelion					1	0	0	0
	<i>Tragopogon dubius</i>	western salsify	1	1	0	0				
251L	<i>Tragopogon dubius</i>	western salsify					0	1	X	X
251R	N/A	No Plant					0	0	X	X
252L	N/A	No Plant					0	0	X	X
252R	N/A	No Plant					0	0	X	X
253L	N/A	No Plant					0	0	X	X
253R	N/A	No Plant					0	0	X	X
254L	<i>Verbascum thapsus</i>	common mullein					1	1	X	X
254R	<i>Verbascum thapsus</i>	common mullein					2	1	X	X
255L	<i>Bromus tectorum</i>	cheatgrass					1	0	X	X
255R	<i>Marrubium vulgare</i>	horehound					1	2	X	X
	<i>Verbascum thapsus</i>	common mullein					0	2	X	X
256L	<i>Lactuca serriola</i>	prickly lettuce					1	0	X	X
256R	<i>Marrubium vulgare</i>	horehound					1	2	X	X
	<i>Verbascum thapsus</i>	common mullein					0	1	X	X
257L	<i>Bromus tectorum</i>	cheatgrass					2	0	X	X
257R	<i>Marrubium vulgare</i>	horehound					1	1	X	X
258L	<i>Bromus tectorum</i>	cheatgrass					0	2	X	X
	<i>Lactuca serriola</i>	prickly lettuce					1	0	X	X
	<i>Salsola tragus</i>	prickly Russian thistle					1	0	X	X
258R	<i>Marrubium vulgare</i>	horehound					1	2	X	X
	<i>Verbascum thapsus</i>	common mullein					0	1	X	X
259L	<i>Lactuca serriola</i>	prickly lettuce					2	1	X	X
	<i>Marrubium vulgare</i>	horehound					0	2	X	X
	<i>Verbascum thapsus</i>	common mullein					0	1	X	X
259R	<i>Tragopogon dubius</i>	western salsify					1	0	X	X
260L	<i>Achillea millefolium</i>	common yarrow					2	0	X	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
260L	<i>Lactuca serriola</i>	prickly lettuce					1	1	X	X
(cont.)	<i>Verbascum thapsus</i>	common mullein					1	0	X	X
260R	<i>Achillea millefolium</i>	common yarrow					2	1	X	X
	<i>Bromus tectorum</i>	cheatgrass					1	0	X	X
	<i>Marrubium vulgare</i>	horehound					1	0	X	X
261L	N/A	No Plant					0	0	X	X
261R	N/A	No Plant					0	0	X	X
262L	<i>Chenopodium album</i>	lambsquarters					1	0	X	X
	<i>Salsola tragus</i>	prickly Russian thistle					0	1	X	X
	<i>Verbascum thapsus</i>	common mullein					0	1	X	X
262R	<i>Achillea millefolium</i>	common yarrow					1	2	X	X
	<i>Tragopogon dubius</i>	western salsify					1	0	X	X
263L	N/A	No Plant					0	0	X	X
263R	<i>Salsola tragus</i>	prickly Russian thistle					0	1	X	X
264L	<i>Bromus tectorum</i>	cheatgrass					1	0	X	X
	<i>Salsola tragus</i>	prickly Russian thistle					1	0	X	X
264R	<i>Bromus tectorum</i>	cheatgrass					2	0	X	X
	<i>Verbascum thapsus</i>	common mullein					0	1	X	X
265L	<i>Achillea millefolium</i>	common yarrow					1	0	X	X
265R	<i>Achillea millefolium</i>	common yarrow					1	0	0	0
266L	<i>Bromus tectorum</i>	cheatgrass					1	2	X	X
266R	<i>Bromus tectorum</i>	cheatgrass					1	0	X	X
267L	<i>Bromus tectorum</i>	cheatgrass					2	2	X	X
267R	<i>Bromus tectorum</i>	cheatgrass					2	2	X	X
268L	<i>Bromus tectorum</i>	cheatgrass					2	2	X	X
	<i>Marrubium vulgare</i>	horehound					0	1	X	X
	<i>Tragopogon dubius</i>	western salsify					1	0	X	X
268R	<i>Tragopogon dubius</i>	western salsify					1	0	X	X
269L	<i>Bromus tectorum</i>	cheatgrass					2	0	2	X
269R	<i>Bromus tectorum</i>	cheatgrass					2	2	X	X
	<i>Tragopogon dubius</i>	western salsify					1	1	X	X
270L	N/A	No Plant					0	X	X	X
270R	<i>Tragopogon dubius</i>	western salsify					1	X	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

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