

Table 1-1  
Vegetation Monitoring Activities in Habitat Parcels of MRAs  
2008 - 2015

ESCA RP 2015 Annual Natural Resources Report

Munitions Response Area	Monitoring Activity	Number of Monitoring Events per Year																Total Baseline Transects and HMP Annuals Plots	Post-activity Transects, HMP Annuals Plots and Surveys	Total Transects, HMP Annuals Plots, and Surveys
		2008		2009		2010		2011		2012		2013		2014		2015				
		Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity			
Future East Garrison	Vegetation transects	-	-	-	-	-	-	39	-	2	-	-	6	-	17	-	32	41	55	96
	Herbaceous quadrats	-	-	-	-	-	-	-	-	-	-	-	-	-	18	-	18	0	36	36
	HMP herbaceous species plots	-	-	-	-	5	-	-	-	-	5	-	6	-	15	-	14	5	40	45
	HMP annual surveys (acres)*	-	-	-	-	-	-	-	-	-	-	-	64.7	-	71.6	-	138.2	0	275	274.5
	Toro manzanita surveys (acres)*	-	-	-	-	-	-	-	-	-	29	-	26.4	-	26.4	-	0	0	82	81.8
Interim Action Ranges-Army Remediation Areas	Vegetation transects	-	30	-	-	-	20	-	-	-	-	-	-	-	-	-	0	8	50	58
	Herbaceous quadrats	-	12	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	12	12
	HMP herbaceous species plots	-	63	-	-	-	63	-	-	-	-	-	-	-	-	-	0	0	126	126
Interim Action Ranges-ESCA Remediation Areas (SCAs/NCAs)	Vegetation transects	-	-	-	-	17	-	2	-	-	16	-	28	-	28	-	38	19	110	129
	Herbaceous quadrats	-	-	-	-	-	-	-	6	-	53	-	96	-	96	-	6	0	257	257
	HMP herbaceous species plots	-	-	-	-	187	-	-	-	-	44	-	173	-	161	-	263	187	641	828
	HMP annual surveys (acres)*	-	-	-	-	-	-	-	-	-	-	-	27.5	-	30.8	-	57.6	0	116	115.9

Table 1-1  
Vegetation Monitoring Activities in Habitat Parcels of MRAs  
2008 - 2015

ESCA RP 2015 Annual Natural Resources Report

Munitions Response Area	Monitoring Activity	Number of Monitoring Events per Year																Total Baseline Transects and HMP Annuals Plots	Post-activity Transects, HMP Annuals Plots and Surveys	Total Transects, HMP Annuals Plots, and Surveys
		2008		2009		2010		2011		2012		2013		2014		2015				
		Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity	Baseline	Post-activity			
Parker Flats Phase II	Vegetation transects	11	-	-	-	-	-	-	-	-	11	-	-	-	11	-	0	11	22	33
	Herbaceous quadrats	-	-	-	-	-	-	-	-	-	6	-	-	-	6	-	0	0	12	12
	HMP herbaceous species plots	10	-	-	-	-	-	-	10	-	10	-	6	-	5	-	0	10	31	41
	HMP annual surveys (acres)*	-	-	-	-	-	-	-	-	-	-	-	16.8	-	87.5	-	0	0	104	104.3
Parker Flats Phase I	Vegetation transects	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
	Herbaceous quadrats	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0
	HMP annual plots	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	0	0	32	32
	HMP annual surveys (acres)*	-	-	-	-	-	-	-	-	-	-	-	-	-	93.2	-	0	0	93	93.2
County North	HMP herbaceous species plots	-	-	15	-	-	-	-	-	-	-	-	-	-	-	-	0	15	0	15
<b>Total Vegetation Transects</b>		<b>11</b>	<b>30</b>	<b>-</b>	<b>-</b>	<b>17</b>	<b>20</b>	<b>41</b>	<b>-</b>	<b>2</b>	<b>27</b>	<b>-</b>	<b>34</b>	<b>-</b>	<b>56</b>	<b>-</b>	<b>70</b>	<b>79</b>	<b>237</b>	<b>316</b>
<b>Total Herbaceous Quadrats</b>		<b>0</b>	<b>12</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>6</b>	<b>-</b>	<b>59</b>	<b>-</b>	<b>96</b>	<b>-</b>	<b>117</b>	<b>-</b>	<b>24</b>	<b>0</b>	<b>77</b>	<b>77</b>
<b>Total HMP Herbaceous Species Plots</b>		<b>10</b>	<b>63</b>	<b>15</b>	<b>-</b>	<b>192</b>	<b>63</b>	<b>-</b>	<b>10</b>	<b>-</b>	<b>59</b>	<b>-</b>	<b>185</b>	<b>-</b>	<b>213</b>	<b>-</b>	<b>277</b>	<b>217</b>	<b>838</b>	<b>1055</b>
<b>Total Acres for HMP Herbaceous Species Surveys*</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>109</b>	<b>-</b>	<b>283</b>	<b>-</b>	<b>196</b>	<b>-</b>	<b>305</b>	<b>305</b>
<b>Total Acres for Toro Manzanita Surveys*</b>		<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>29</b>	<b>-</b>	<b>26</b>	<b>-</b>	<b>26</b>	<b>-</b>	<b>0</b>	<b>-</b>	<b>82</b>	<b>82</b>

\*Survey acreages are approximate, based on number of grid cells surveyed

**Table 2-1  
HMP Species Occurrence within MRA Habitat Parcels of Munition Response Areas**

ESCA RP 2015 Annual Natural Resources Report

Scientific Name	Common Name	Current Regulatory Status	Habitat	Recorded as Present or Habitat Present in MRAs <sup>1</sup>	Observed by ESCA RP
<b>Animals</b>					
<b>Amphibians</b>					
<i>Ambystoma californiense</i>	California tiger salamander	Federally Endangered/ California Threatened	Open woodlands and grasslands, ponds and vernal pools from Sonoma to Santa Barbara Counties, inland to portions of the Sierra Nevada.	CN, FEG, IAR, LS	2010-2011 FEG
<i>Rana draytonii</i>	California red-legged frog	Federally Threatened/ California Species of Concern	Coldwater ponds or river pools with emergent and submergent vegetation, often with riparian vegetation at margins from Humboldt to San Diego Counties and in portions of the Sierra Nevada.	CN, IAR, LS	None
<b>Birds</b>					
<i>Charadrius nivosus nivosus</i>	western snowy plover	Federally Threatened/ California Species of Concern	Flat sandy beach above the high tide level from Washington to Baja California.	None	None
<b>Invertebrates</b>					
<i>Euphilotes enoptes smithi</i>	Smith's blue butterfly	Federally Endangered	Coastal sand dunes and ravines associated with coast and seacliff buckwheat in Monterey, Santa Cruz, and San Mateo Counties.	None	None
<i>Linderiella occidentalis</i>	California linderiella	Not listed	Vernal pools and ponds from Lake to Riverside Counties and in the Great Central Valley.	CN, IAR, LS	2010-2011 FEG

**Table 2-1  
HMP Species Occurrence within MRA Habitat Parcels of Munition Response Areas**

ESCA RP 2015 Annual Natural Resources Report

Scientific Name	Common Name	Current Regulatory Status	Habitat	Recorded as Present or Habitat Present in MRAs <sup>1</sup>	Observed by ESCA RP
<b>Mammals</b>					
<i>Sorex ornatus salarius</i>	Monterey ornate shrew	California Species of Concern	Riparian, woodland, and upland communities where there is thick duff or downed logs. Endemic to Monterey region.	CN, CSUMB, FEG, IAR, MOUT, PF	None
<b>Reptiles</b>					
<i>Anniella pulchra nigra</i>	California black legless lizard	California Species of Concern	Various coastal plant communities where loose sandy soil and abundant invertebrate populations are available. Presently found in Monterey County and possibly extirpated from Santa Cruz and San Luis Obispo Counties	CN, CSUMB, DRO/M, IAR, PF, SEA	2009-2010 PF, 2012 IAR
<b>Plants</b>					
<b>Annuals</b>					
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spineflower	Federally Threatened/CNPS 1B.2	Sandy soils in coastal strand, coastal scrub, maritime chaparral, and disturbed sites in grassland, below 450 meters elevation. Endemic to Monterey and Santa Cruz Counties.	CN, CSUMB, DRO/M, FEG, IAR, MOUT, PF, SEA	2009 CN, 2010-2015 FEG, 2008-2015 IAR, 2008-2015 PF, 2012-2015 SEA
<i>Chorizanthe robusta</i> var. <i>robusta</i>	robust spineflower	Federally Endangered/CNPS 1B.1	Coastal strand, coastal scrub areas below 300 meters elevation from Marin to Monterey Counties.	None	None
<i>Cordylanthus rigidus</i> ssp. <i>littoralis</i>	seaside bird's beak	California Endangered/CNPS 1B.1	Coastal dunes, coastal scrub, and maritime chaparral, below 425 meters; root parasite, dependent on nearby host plant. Endemic to Monterey and Santa Barbara Counties.	DRO/M, FEG, IAR, PF, SEA	2013-2015 FEG, 2008-2015 IAR

**Table 2-1  
HMP Species Occurrence within MRA Habitat Parcels of Munition Response Areas**

ESCA RP 2015 Annual Natural Resources Report

Scientific Name	Common Name	Current Regulatory Status	Habitat	Recorded as Present or Habitat Present in MRAs <sup>1</sup>	Observed by ESCA RP
<b>Annuals</b>					
<i>Gilia tenuiflora</i> subsp. <i>arenaria</i>	Monterey (sand) gilia	Federally Endangered/ California Threatened/CNPS 1B.2	Open sandy soils in coastal dunes and maritime chaparral. Endemic to Monterey and Santa Cruz Counties.	CN, FEG, IAR, MOUT, PF, SEA	2008-2015 IAR, 2010-2015 FEG, 2010 SEA
<b>Herbaceous Perennials</b>					
<i>Erysimum ammophilum</i>	coast wallflower	CNPS 1B.2	Coastal dunes below 60 meters in San Mateo, Santa Cruz, Monterey, Santa Barbara, and San Diego Counties and on Santa Rosa Island.	IAR, SEA	2013-2015 IAR, 2013-2014 SEA
<i>Piperia yadoni</i>	Yadon's piperia	Federally Endangered/CNPS 1B.1	Sandy soil or sandstone coastal shrubland, Monterey pine forest and maritime chaparral below 510 meters. Restricted to Monterey region.	None	None
<b>Shrubs</b>					
<i>Arctostaphylos hookeri</i> subsp. <i>hookeri</i>	Hooker's manzanita	CNPS 1B.2	Sandy soils, sandy shales, sandstone outcrops, chaparral, below 536 meters elevation. Endemic to Monterey and Santa Cruz Counties.	FEG, IAR, LS, MOUT, PF	2012-2015 FEG, 2012-2014 PF
<i>Arctostaphylos montereyensis</i>	Toro manzanita	CNPS 1B.2	Chaparral in sandy soils below 730 meters elevation, especially on Aromas formation sandstone. Endemic to Monterey County.	FEG, IAR, LS, MOUT, PF, SEA	2010-2015 FEG, 2008-2014 PF
<i>Arctostaphylos pumila</i>	sandmat manzanita	CNPS 1B.2	Sandy soils, hills, chaparral, woodland, coniferous forest below 205 meters elevation. Endemic to Monterey County.	CN, DRO/M, FEG, IAR, LS, PF, SEA	2008-2015 IAR, 2008-2014 SEA

**Table 2-1  
HMP Species Occurrence within MRA Habitat Parcels of Munition Response Areas**

ESCA RP 2015 Annual Natural Resources Report

Scientific Name	Common Name	Current Regulatory Status	Habitat	Recorded as Present or Habitat Present in MRAs <sup>1</sup>	Observed by ESCA RP
<b>Shrubs</b>					
<i>Ceanothus rigidus</i>	Monterey ceanothus	CNPS 4.2	Sandy hills, flats, chaparral, close-coned-pine forest below 550 meters elevation. Restricted to Monterey County; historic collections in Santa Cruz County.	DRO/M, FEG, IAR, LS, MOUT, PF, SEA	2010-2015 FEG, 2008-2015 IAR
<i>Ericameria fasciculata</i>	Eastwood's ericameria	CNPS 1B.1	Sandy soils, chaparral, closed-cone pine forest, northern coastal scrub, elevation 29-275 meters. Endemic to Monterey County.	DRO/M, FEG, IAR, MOUT, PF, SEA	2010-2015 FEG, 2008-2015 IAR

<sup>1</sup> Occurrence records from 1992 Fort Ord Baseline Flora and Fauna

**MRA Abbreviations (\* habitat parcel present)**

CN = County North\*

CSUMB = California State University Monterey Bay

DRO/M = Del Rey Oaks/ Monterey\*

FEG = Future East Garrison\*

IAR = Interim Action Ranges\*

LS = Laguna Seca Parking

MOUT = Military Operations Urban Training Site

PF = Parker Flats\*

SEA = Seaside

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Trees</b>										
<i>Acacia baileyana</i>	Cootamunda wattle, Bailey's acacia						x			
<i>Acacia melanoxylon</i>	blackwood acacia			lim			x		x	
<i>Arbutus menziesii</i>	Pacific madrone					x	x	x		
<i>Eucalyptus camaldulensis</i>	red river gum			lim			x			
<i>Hesperocyparis macrocarpa</i>	Monterey cypress		1B.2			x	x	x	x	
<i>Myoporum laetum</i>	myoporum			mod			x		x	
<i>Pinus radiata</i>	Monterey pine		1B.1			x	x	x	x	x
<i>Populus trichocarpa</i>	black cottonwood					x	x			
<i>Quercus agrifolia</i>	coast live oak				x	x	x	x	x	x
<i>Quercus wislizenii</i> var. <i>wislizenii</i>	interior live oak						x			
<i>Salix lasiolepis</i>	arroyo willow				x	x	x	x	x	
<b>Shrubs and Subshrubs</b>										
<i>Acmispon glaber</i>	deerweed				x	x	x	x	x	x
<i>Adenostoma fasciculatum</i>	chamise				x	x	x	x	x	x
<i>Arctostaphylos crustacea</i> subsp. <i>crustacea</i>	brittleleaf manzanita						x	x		
<i>Arctostaphylos hookeri</i>	Hooker's manzanita	HMP	1B.2				x	x		x
<i>Arctostaphylos montereyensis</i>	Toro manzanita	HMP	1B.2				x	x		x
<i>Arctostaphylos pajaroensis</i>	Pajaro manzanita						x			
<i>Arctostaphylos pumila</i>	sandmat manzanita	HMP	1B.2		x	x		x	x	x
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita				x	x		x	x	x
<i>Artemisia californica</i>	California sagebrush				x	x	x	x	x	x
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote bush, coyote brush				x	x	x	x	x	x
<i>Baccharis pilularis</i> subsp. <i>pilularis</i>	coyote brush					x				
<i>Ceanothus dentatus</i>	dwarf ceanothus				x	x	x	x	x	x
<i>Ceanothus incanus</i>	coast whitethorn						x			
<i>Ceanothus rigidus</i>	Monterey ceanothus	HMP	4.2		x	x	x	x	x	x
<i>Ceanothus thyrsiflorus</i>	blue blossom						x	x		
<i>Cistus incanus</i>	hairy rock-rose						x	x		x
<i>Cistus salvifolius</i>	rock-rose								x	
<i>Crocanthemum scoparium</i>	rush-rose				x	x	x	x	x	x
<i>Ericameria ericoides</i>	dune-heather, mock-heather				x	x	x	x	x	x
<i>Ericameria fasciculata</i>	Eastwood's ericameria, Eastwood's goldenbush	HMP	1B.1		x	x	x	x	x	x
<i>Eriodictyon californicum</i>	California yerba santa							x		
<i>Eriogonum fasciculatum</i> var. <i>foliolosum</i>	California buckwheat							x		
<i>Eriophyllum confertiflorum</i>	golden yarrow				x	x	x	x	x	x
<i>Frangula californica</i>	California coffeeberry				x	x	x	x	x	x

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<i>Garrya elliptica</i>	coast silk-tassel				x	x	x	x	x	
<i>Genista monspessulana</i>	French broom			high			x	x	x	
<i>Heteromeles arbutifolia</i>	toyon				x	x	x	x	x	x
<i>Lepechinia calycina</i>	pitcher sage				x	x	x	x		
<i>Lupinus arboreus</i>	coastal bush lupine				x	x	x	x	x	x
<i>Lupinus chamissonis</i>	silver bush lupine				x	x	x	x	x	x
<i>Mimulus aurantiacus</i>	bush monkeyflower				x	x	x	x	x	x
<i>Pyracantha</i> sp.	firethorn			lim				x		
<i>Ribes malvaceum</i>	chaparral currant				x	x	x	x	x	x
<i>Ribes speciosum</i>	fuchsia-flowered gooseberry				x	x	x	x	x	x
<i>Rosa californica</i>	California wild rose						x			
<i>Rosa gymnocarpa</i> var. <i>gymnocarpa</i>	dwarf wood rose						x			
<i>Rubus ursinus</i>	California blackberry						x	x	x	
<i>Salvia mellifera</i>	black sage				x	x	x	x	x	x
<i>Solanum umbelliferum</i>	blue witch nightshade				x	x		x	x	
<i>Symphoricarpos mollis</i>	creeping snowberry				x	x	x	x	x	
<i>Toxicodendron diversilobum</i>	poison-oak				x	x	x	x	x	x
<i>Vaccinium ovatum</i>	California huckleberry, evergreen huckleberry						x			
<i>Acaena pinnatifida</i> var. <i>californica</i>	bidly bidly							x		
<i>Achillea millefolium</i>	common yarrow				x	x	x	x	x	x
<i>Acmispon americanus</i> var. <i>americanus</i>	Spanish lotus							x		
<i>Acmispon heermannii</i> var. <i>orbicularis</i>	wooly lotus				x	x	x	x	x	
<i>Acmispon strigosus</i>	Bishop's lotus				x	x	x	x	x	
<i>Agoseris aparagoides</i>	seaside dandelion						x	x		
<i>Agrostis exarata</i> var. <i>pacifica</i>	spike bentgrass						x	x		
<i>Agrostis pallens</i>	thin grass						x	x	x	



Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)</b>										
<i>Aira caryophyllaea</i>	common silver-hair grass				x	x	x	x	x	
<b>Allium sp.</b>	<b>onion</b>						x			
<i>Alopecurus saccatus</i>	Pacific foxtail						x			
<b>Amblyopappus pusillus</b>	<b>amblyopappus</b>				x	x				
<b>Amsinckia intermedia</b>	<b>common fiddleneck</b>				x	x				
<b>Amsinckia spectabilis var. microcarpa</b>	<b>small fruited seaside fiddleneck</b>						x			
<i>Anagallis arvensis</i>	scarlet pimpernel				x	x	x	x	x	x
<b>Antirrhinum kelloggii</b>	<b>Kellogg's snapdragon</b>						x			
<i>Antirrhinum majus</i>	snapdragon					x				
<b>Apiastrum angustifolium</b>	<b>wild celery</b>				x	x	x	x		x
<b>Armeria maritima subsp. californica</b>	<b>California sea pink, sea thrift</b>				x					
<b>Artemisia douglasiana</b>	<b>mugwort</b>					x	x			
<b>Artemisia dracunculus</b>	<b>tarragon</b>								x	
<b>Artemisia pycnocephala</b>	<b>sandhill sagebrush, beach sagewort</b>								x	
<i>Avena barbata</i>	slender wild oat			mod	x	x	x	x	x	x
<i>Avena fatua</i>	wild oat			mod			x	x		
<i>Briza maxima</i>	rattlesnake grass			lim		x	x	x	x	x
<i>Briza minor</i>	little rattlesnake grass						x	x		
<b>Brodiaea terrestris subsp. terrestris</b>	<b>dwarf brodiaea</b>						x			
<b>Bromus carinatus</b>	<b>California brome</b>						x	x	x	
<i>Bromus diandrus</i>	ripgut brome			mod	x	x	x	x	x	x
<i>Bromus hordeaceus</i>	soft chess			lim	x	x	x	x	x	x
<i>Bromus madritensis subsp. rubens</i>	red brome			high	x	x	x	x	x	x
<b>Calandrinia ciliata</b>	<b>red maids</b>				x	x	x	x	x	
<b>Calochortus albus var. albus</b>	<b>fairy lanterns, globe lily</b>				x	x	x	x	x	
<b>Calyptridium monandrum</b>	<b>pussy paws</b>				x	x				
<b>Calystegia subacaulis</b>	<b>hill morning -glory</b>				x		x	x		
<b>Camissonia contorta</b>	<b>contorted suncups</b>				x	x	x	x	x	
<b>Camissoniopsis cheiranthifolia subsp. cheiranthifolia</b>	<b>beach evening- primrose</b>					x				

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)</b>										
<i>Camissoniopsis micrantha</i>	small suncups				x	x	x	x	x	
<i>Cardionema ramosissimum</i>	sand mat				x	x	x	x	x	
<i>Carduus pycnocephalus</i>	Italian thistle			mod					x	
<i>Carex brevicaulis</i>	short-stemmed sedge						x			
<i>Carex globosa</i>	round-fruited sedge				x	x	x	x	x	
<i>Carex subbracteata</i>	small bract sedge						x			
<i>Carpobrotus edulis</i>	hottentot fig/ice plant			high	x	x	x	x	x	x
<i>Castilleja affinis</i> subsp. <i>affinis</i>	coast Indian paint-brush							x		
<i>Castilleja exserta</i> subsp. <i>latifolia</i>	wideleaf purple owl's clover				x	x			x	
<i>Castilleja foliolosa</i>	wooly paintbrush								x	
<i>Caulanthus lasiophyllus</i>	California mustard				x	x				
<i>Centaurea melitensis</i>	totalote			mod	x	x	x	x	x	x
<i>Cerastium glomeratum</i>	mouse-eared chickweed						x	x		
<i>Chenopodium californicum</i>	California goosefoot					x	x	x	x	
<i>Chlorogalum pomeridianum</i> var. <i>divaricatum</i>	soap plant/amole						x	x		
<i>Chorizanthe diffusa</i>	diffuse chorizanthe				x	x	x	x	x	
<i>Chorizanthe douglasii</i>	Douglas' spineflower						x			
<i>Chorizanthe</i> c.f. <i>minutiflora</i>	small-flowered spineflower							x		
<i>Chorizanthe pungens</i> var. <i>pungens</i>	Monterey spine-flower	HMP	1B.1		x	x	x	x	x	
<i>Cicendia quadrangularis</i>	Oregon timwort						x			
<i>Cirsium occidentale</i> var. <i>occidentale</i>	cobweb thistle				x	x	x		?	
<i>Cirsium occidentale</i> var. <i>venustum</i>	Venus thistle								x	
<i>Cirsium vulgare</i>	bull thistle			mod		x	x		x	
<i>Clarkia lewisii</i>	Lewis' clarkia		4.3					x		
<i>Clarkia amoenea</i>	farewell-to-spring					x				
<i>Clarkia purpurea</i>	wine cup clarkia							x		
<i>Claytonia perfoliata</i>	miner's lettuce				x	x				
<i>Clinopodium douglasii</i>	yerba buena						x	x		
<i>Collinsia heterophylla</i>	Chinese houses					x				

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)</b>										
<i>Conium maculatum</i>	poison-hemlock			mod			x			x
<b><i>Cordylanthus rigidus</i> subsp. <i>littoralis</i></b>	<b>seaside bird's-beak</b>	<b>HMP</b>	<b>1B.1</b>		x	x	x		x	
<b><i>Corethrogyne filaginifolia</i></b>	<b>California aster</b>				x	x	x	x	x	x
<i>Cortaderia jubata</i>	pampas grass, jubata grass			high	x	x	x	x	x	x
<i>Cotula coronopifolia</i>	brass buttons			lim			x			
<b><i>Crassula aquatica</i></b>	<b>water pygmyweed</b>						x			
<b><i>Crassula connata</i></b>	<b>pygmy weed</b>				x	x	x	x	x	
<b><i>Croton californicus</i></b>	<b>California croton</b>				x	x	x	x	x	x
<b><i>Cryptantha clevelandii</i> var. <i>florosa</i></b>	<b>coastal cryptantha</b>				x	x	x		x	
<b><i>Cryptantha micromeres</i></b>	<b>small-flowered cryptantha</b>				x	x	x			
<b><i>Cryptantha microstachys</i></b>	<b>Tejon cryptantha</b>					x				
<b><i>Danthonia californica</i></b>	<b>California oat grass</b>						x			
<b><i>Cyperus eragrostis</i></b>	<b>tall flatsedge</b>						x			
<b><i>Danthonia californica</i></b>	<b>California oat grass</b>						x	x		
<b><i>Daucus pusillus</i></b>	<b>rattlesnake weed</b>				x	x	x			
<b><i>Deinandra [Hemizonia] corymbosa</i> subsp. <i>corymbosa</i></b>	<b>tarplant</b>						x			
<b><i>Deinandra increscens</i> subsp. <i>increscens</i></b>	<b>coast tarplant</b>				x	x	x	x	x	x
<b><i>Delphinium parryi</i> subsp. <i>maritimum</i></b>	<b>seaside larkspur</b>							x		
<b><i>Deschampsia danthonioides</i></b>	<b>annual hairgrass</b>						x		x	
<b><i>Dichelostemma capitatum</i></b>	<b>blue dicks, wild hyacinth</b>				x	x	x	x		
<b><i>Distichlis spicata</i></b>	<b>saltgrass</b>						x			
<b><i>Dodecatheon clevelandii</i> var. <i>sanctarum</i></b>	<b>padre's shooting stars</b>						x			
<b><i>Dryocallis glandulosa</i> var. <i>glandulosa</i></b>	<b>sticky cinquefoil</b>				x	x	x	x	x	
<b><i>Dudleya lanceolata</i></b>	<b>lance-leaved live-forever</b>						x	x	x	
<b><i>Eleocharis acicularis</i> var. <i>acicularis</i></b>	<b>slender spikerush</b>						x			
<b><i>Eleocharis macrostachya</i></b>	<b>common spikerush</b>						x	x		
<b><i>Elymus glaucus</i></b>	<b>western ryegrass</b>				x	x	x	x	x	x
<b><i>Elymus triticoides</i></b>	<b>alkali rye</b>							x		
<b><i>Epilobium brachycarpus</i></b>	<b>tall annual willowherb</b>					x			x	
<b><i>Epilobium canum</i></b>	<b>California-fuchsia</b>					x	x			
<b><i>Epilobium ciliatum</i> var. <i>ciliatum</i></b>	<b>northern willowherb</b>					x				
<b><i>Eriastrum virgatum</i></b>	<b>wand woollystar</b>		<b>4.3</b>		x	x	x			

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)</b>										
<i>Erigeron canadensis</i>	horseweed				x	x	x	x	x	x
<i>Erigeron foliosus</i> var. <i>foliosus</i>	leafy daisy				x					
<i>Erigeron sumatrensis</i>	tropical horseweed					x				
<i>Eriogonum nudum</i> var. <i>auriculatum</i>	nude buckwheat						x			
<i>Erodium botrys</i>	long-beaked filaree				x	x	x	x	x	x
<i>Erodium cicutarium</i>	red-stemmed filaree			lim	x	x		x		
<i>Eryngium armatum</i>	coyote thistle						x			
<i>Erysimum ammophilum</i>	coast wallflower	HMP	1B.2		x				x	
<i>Eschscholzia californica</i>	California poppy				x	x	x	x	x	
<i>Euphorbia peplus</i>	petty spurge					x				
<i>Euthamia occidentalis</i>	western goldenrod						x	x		
<i>Festuca microstachya</i>	small fescue				x	x				
<i>Festuca myuros</i>	rattail fescue			mod	x	x	x	x	x	
<i>Festuca octoflora</i>	six-weeks fescue				x	x	x	x	x	
<i>Festuca perennis</i>	Italian rye grass			mod			x			
<i>Fritillaria affinis</i>	checker lily, Mission bells				x		x		x	
<i>Galium aparine</i>	bedstraw							x		
<i>Galium californicum</i> subsp. <i>californicum</i>	California bedstraw				x	x	x	x	x	
<i>Galium porrigens</i> var. <i>porrigens</i>	climbing bedstraw				x	x	x	x	x	x
<i>Gamochaeta ustulata</i>	purple cudweed				x	x	x	x		
<i>Gastridium phleoides</i>	nit grass						x			
<i>Geranium dissectum</i>	cut-leaved geranium			lim			x			
<i>Gilia capitata</i> subsp. <i>abrotanifolia</i>	ball gilia					x	x			
<i>Gilia capitata</i> subsp. <i>capitata</i>	ball gilia					x				
<i>Gilia tenuiflora</i> subsp. <i>arenaria</i>	sand [Monterey] gilia	HMP	1B.2		x	x	x		x	
<i>Gilia tricolor</i>	bird's eyes gilia					x				
<i>Helminthotheca echioides</i>	bristly ox-tongue			lim		x				
<i>Heliotropium curassivicum</i>	wild heliotrope							x	x	
<i>Herniaria hirsuta</i> subsp. <i>cinerea</i>	hairy rupturewort					x		x		

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)</b>										
<i>Hesperivax acaulis</i> var. <i>ambusticola</i>	fire evax, stemless dwarf cudweed							x		
<i>Heterotheca grandifolia</i>	telegraph weed				x	x	x	x	x	x
<i>Holcus lanatus</i>	velvet grass			mod				x		
<i>Hordeum brachyantherum</i> subsp. <i>brachyantherum</i>	meadow barley					x				
<i>Hordeum marinum</i> subsp. <i>gussoneanum</i>	Mediterranean barley			mod			x			
<i>Hordeum murinum</i>	foxtail barley			mod						
<i>Horkelia cuneata</i> var. <i>cuneata</i>	coast horkelia, wedge-leaved horkelia				x	x	x	x	x	x
<i>Hypochaeris glabra</i>	smooth cat's ears			lim	x	x	x	x		
<i>Hypochaeris radicata</i>	cat's ears			mod	x	x	x			
<i>Juncus bufonius</i> var. <i>occidentalis</i>	toad rush						x			
<i>Juncus effusus</i> var. <i>pacificus</i>	bog rush					x				
<i>Juncus mexicanus</i>	Mexican rush						x	x		
<i>Juncus occidentalis</i>	western rush						x			
<i>Juncus patens</i>	common rush							x		
<i>Juncus phaeocephalus</i> var. <i>phaeocephalus</i>	brown-headed rush						x	x		
<i>Koeleria macrantha</i>	June grass				x		x	x	x	
<i>Lagurus ovatus</i>	hare's tail grass						x	x		
<i>Lasthenia glaberrima</i>	smooth goldfields						x			
<i>Lasthenia gracilis</i>	slender goldfields						x			
<i>Lathyrus vestitus</i> var. <i>vestitus</i>	wild sweet pea, Pacific pea							x		x
<i>Layia hieraceioides</i>	tall layia						x			
<i>Layia platyglossa</i>	tidy tips				x	x				
<i>Lamarckia aurea</i>	goldentop grass							x		
<i>Lasstarriaea coriacea</i>	leather spineflower							x		
<i>Leontodon saxatilis</i>	hawkbit								x	
<i>Lepidium nitidum</i>	common peppergrass					x				
<i>Leptochloa fusca</i> subsp. <i>fascicularis</i>	bearded sprangletop					x				
<i>Leptosiphon parviflorus</i>	common linanthus					x				
<i>Leptosiphon pygmaeus</i> subsp. <i>continentalis</i>	pygmy linanthus						x			
<i>Lessingia pectinata</i> var. <i>pectinata</i>	common lessingia				x	x	x	x		
<i>Limonium sinuatum</i>	wavyleaf sealavender, statice						x			
<i>Lithophragma species</i>	woodland star						x			

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)</b>										
<i>Logfia gallica</i>	narrow-leaved filago				x	x	x	x	x	x
<b><i>Logfia filaginoides</i></b>	<b>California filago</b>				x	x	x	x	x	
<b><i>Lomatium parvifolium</i></b>	<b>coastal biscuitroot</b>		4.2		x		x		x	
<b><i>Lupinus bicolor</i></b>	<b>miniature lupine</b>				x		x			
<b><i>Lupinus concinnus</i></b>	<b>elegant lupine</b>					x	x			
<b><i>Lupinus nanus</i></b>	<b>sky lupine</b>				x	x	x	x		
<b><i>Lupinus truncatus</i></b>	<b>blunt-leaved lupine</b>					x	x		x	
<b><i>Luzula comosa</i></b>	<b>Pacific wood rush</b>						x	x		
<b><i>Lysimachia (Centunculus) minima</i></b>	<b>chaff weed</b>						x			
<i>Lythrum hyssopifolium</i>	hyssop-leaved loosestrife			lim			x			
<b><i>Madia exigua</i></b>	<b>small tarplant</b>				x	x	x			
<b><i>Madia sativa</i></b>	<b>coast tarplant</b>							x		
<b><i>Malvella leprosa</i></b>	<b>alkali mallow</b>						x			
<b><i>Marah fabaceus</i></b>	<b>wild cucumber</b>				x	x	x			
<i>Medicago polymorpha</i>	bur-clover			lim			x			
<b><i>Melica imperfecta</i></b>	<b>Coast Range melic</b>				x	x	x			
<i>Melilotus indicus</i>	yellow sweet-clover					x	x		x	
<b><i>Micropus californicus</i> var. <i>californicus</i></b>	<b>cottontop</b>				x					
<b><i>Mimulus cardinalis</i></b>	<b>scarlet monkeyflower</b>					x				
<b><i>Monardella sinuata</i> subsp. <i>nigrescens</i></b>	<b>northern curly-leaved monardella</b>		4.2		x	x				
<b><i>Monardella villosa</i> subsp. <i>obispoensis</i></b>	<b>San Luis Obispo coyote mint</b>						x	x		
<b><i>Muilla maritima</i></b>	<b>sea muilla</b>							x		
<b><i>Navarretia hamata</i> subsp. <i>parviloba</i></b>	<b>hooked navarretia</b>				x	x	x		x	
<b><i>Navarretia intertexta</i></b>	<b>needle-leaved navarretia</b>				x		x			
<b><i>Navarretia squarrosa</i></b>	<b>skunkweed</b>				x		x	x		
<b><i>Nemophila menziesii</i></b>	<b>baby blue-eyes</b>					x				
<b><i>Nuttallanthus texanus</i></b>	<b>toad-flax</b>				x	x	x	x	x	
<b><i>Orobanche bulbosa</i></b>	<b>chaparral broomrape</b>				x					
<b><i>Orobanche californica</i></b>	<b>California broomrape</b>				x					
<i>Oxalis micrantha</i>	dwarf woodsorrel							x		
<b><i>Oxalis pilosa</i></b>	<b>hairy woodsorrel</b>					x				
<b><i>Papaver californicum</i></b>	<b>fire poppy</b>						x			

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)</b>										
<i>Parapholis incurva</i>	sicklegrass					x				
<i>Pectocarya penicillata</i>	winged combseed				x	x	x	x	x	
<i>Pedicularis densiflora</i>	Indian warrior						x		x	
<i>Petrorhagia dubia</i>	hairypink				x	x	x	x		
<i>Phacelia campanularia</i>	desert bluebells					x				
<i>Phacelia distans</i>	wild heliotrope				x					
<i>Phacelia douglasii</i>	Douglas' phacelia				x	x				
<i>Phacelia malvifolia</i>	stinging phacelia							x		
<i>Phacelia ramosissima</i>	branching phacelia								x	
<i>Piperia michaelii</i>	Michael's rein-orchid		4.2		x		x		x	
<i>Plagiobothrys canescens</i>	valley popcorn flower							x		
<i>Plagiobothrys collinus</i> var. <i>fulvescens</i>	rusty-haired popcorn flower				x	x				
<i>Plantago coronopus</i>	cut-leaved plantain				x		x	x	x	
<i>Plantago erecta</i>	California plantain				x	x	x	x	x	
<i>Plantago lanceolata</i>	English plantain			lim			x			
<i>Poa annua</i>	annual bluegrass					x				
<i>Poa secunda</i>	one-sided bluegrass, pine bluegrass				x			x		x
<i>Pogogyne serpylloides</i>	thymeleaf mesamint						x	x		
<i>Polycarpon depressum</i>	California polycarp						x			
<i>Polygala californica</i>	California milkwort						x			
<i>Polypogon interruptus</i>	ditch beard grass					x				
<i>Polypogon monspeliensis</i>	rabbitsfoot grass			lim		x	x			
<i>Polypogon viridis</i>	water beard grass					x				
<i>Pseudognaphalium beneolens</i>	fragrant everlasting				x	x	x			
<i>Pseudognaphalium californicum</i>	California everlasting				x	x	x		x	
<i>Pseudognaphalium canescens</i>	white everlasting							x	x	
<i>Pseudognaphalium ramosissimum</i>	pink everlasting				x	x	x	x	x	x
<i>Pseudognaphalium stramineum</i>	cottonbatting plant				x	x	x			
<i>Psilocarphus tenellus</i>	slender woolly marbles					x	x	x	x	

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)</b>										
<i>Pterostegia drymarioides</i>	fairy mist				x	x	x	x	x	
<i>Ranunculus californicus</i>	California buttercup							x		
<i>Rumex acetosella</i>	sheep sorrel			mod	x	x	x	x	x	x
<i>Rumex crispus</i>	curly dock			lim			x			
<i>Rumex salicifolius</i> subsp. <i>salicifolius</i>	willow dock						x	x		
<i>Sagina apetela</i>	sticky pearlwort					x				
<i>Sanicula crassicaulis</i>	Pacific sanicle						x			
<i>Sanicula laciniata</i>	coast sanicle						x			
<i>Schismus arabicus</i>	Mediterranean grass			lim			x			
<i>Scutellaria tuberosa</i>	scull cap						x	x		
<i>Senecio</i> c.f. <i>aphanactis</i>	chaparral ragwort		2B.2		x					
<i>Senecio glomeratus</i>	cut-leaved fireweed			mod		x	x	x	x	x
<i>Senecio vulgaris</i>	common ragwort					x	x			
<i>Sidalcea malviflora</i> subsp. <i>malviflora</i>	checkbloom							x		
<i>Silene gallica</i>	windmill pink				x	x	x			
<i>Silybum marianum</i>	milk thistle			lim					x	
<i>Sisymbrium orientale</i>	Indian hedgemustard					x				
<i>Sisyrinchium bellum</i>	blue-eyed grass					x	x			
<i>Solanum americanum</i> (herbaceous)	American nightshade					x				
<i>Solidago californica</i>	California goldenrod							x		
<i>Soliva sessilis</i>	South American soliva						x			
<i>Sonchus asper</i> subsp. <i>asper</i>	prickly sow-thistle				x	x	x	x	x	
<i>Sonchus oleraceus</i>	common sow-thistle				x	x	x	x	x	x
<i>Spiranthes romanzoffiana</i>	hooded ladies tresses						x			
<i>Spergula arvensis</i>	corn spurrey					x		x	x	
<i>Spergularia rubra</i>	red sand-spurrey					x	x			
<i>Stachys bullata</i>	wood mint				x		x			x
<i>Stephanomeria virgata</i> subsp. <i>virgata</i>	tall milk aster							x		
<i>Stipa cernua</i>	nodding needlegrass							x		
<i>Stipa lepida</i>	foothill needlegrass						x	x		



Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
Herbaceous species (annuals, perennial herbs, grasses, and grass-like species)										
<i>Stipa pulchra</i>	purple needlegrass				x	x	x	x		
<i>Stylocline gnaphaliodes</i>	everlasting neststraw				x	x	x			
<i>Taraxia [Camissonia] ovata</i>	suncups				x	x	x	x		
<i>Thysanocarpus curvipes</i>	lace pod						x			
<i>Toxicoscordion fremontii</i>	Fremont's star lily				x		x		x	
<i>Tribolium obliterum</i> *	cape grass						x			
<i>Trichostema lanceolatum</i>	vinegar weed						x			
<i>Trifolium angustifolium</i>	narrow-leaved crimson clover						x	x		x
<i>Trifolium ciliolatum</i>	foothill clover				x					
<i>Trifolium dubium</i>	shamrock clover						x	x		
<i>Trifolium gracilentum</i>	pinpoint clover				x		x			
<i>Trifolium hirtum</i>	rose clover			mod		x	x	x	x	
<i>Trifolium microcephalum</i>	hairy clover, small-headed clover					x				
<i>Trifolium wormskoldii</i>	tomcat clover						x			
<i>Triteleia hyacinthina</i>	white brodiaea							x		
<i>Triteleia ixioides</i> subsp. <i>ixioides</i>	golden brodiaea, prettyface						x			
<i>Triglochin scilliioides</i>	flowering quillwort						x			
<i>Triodanis perfoliata</i>	venus' looking-glass						x	x		
<i>Typha domingensis</i>	southern cattail						x			
<i>Uropappus lindleyi</i>	silver puffs				x	x	x			
<i>Vicia americana</i> subsp. <i>americana</i>	American vetch						x			
<i>Viola cultivar</i>	pansy					x				
<i>Viola pedunculata</i>	Johnny jump-ups						x	x		
<i>Zeltnera davyi</i>	Davy's centaury						x			

Table 3-1  
Observed Plant Species in Munitions Response Areas 2008-2014

ESCA RP 2014 Annual Natural Resources Report

Scientific Name	Common Name	HMP species	CNPS Listing status	Cal-IPC Invasiveness Status	IAR MRA Range 44	IAR MRA Range 47	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>Ferns and Fern-relatives</b>										
<i>Dryopteris arguta</i>	coastal wood fern						x	x		
<i>Pellea mucronata</i> var. <i>mucronata</i>	bird's nest fern						x			
<i>Pentagramma triangularis</i> subsp. <i>triangularis</i>	goldenback fern						x	x		
<i>Pteridium aquilinum</i> var. <i>pubescens</i>	western bracken fern				x		x	x	x	

**Notes:**

**Native species in bold**

Species and locations noted in this table are for work areas, including monitoring areas and ingress/egress routes; this is not a comprehensive list

**Status Codes:**

**California Native Plant Society (CNPS)**

**Rare Plant Rank (RPR)**

RPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

RPR 2A: Plants Presumed Extirpated in California, but More Common Elsewhere

RPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

RPR 3: Plants About Which More Information is Needed - A Review List

RPR 4: Plants of Limited Distribution - A Watch List

**Extensions to List Categories**

0.1 - Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)

0.2 – Moderately threatened in California (20-80% occurrences threatened/moderate degree and immediacy of threat)

0.3 – Not very threatened in California (<20% of occurrences threatened/low degree and immediacy of threat or no current threats known)

**California Invasive Plant Council (Cal-IPC) ratings:**

- high – severe ecological impacts, high rates of dispersal and establishment.
- moderate – substantial and apparent ecological impacts, moderate to high rates of dispersal, establishment dependent upon
- limited – invasive but impacts not widespread statewide, low to moderate rates of dispersal, may be locally persistent and



Table 3-2  
Observed Wildlife Species in Munitions Response Areas

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	HMP species	IAR MRA Range 44	IAR MRA Range 47	IAR MRA	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>BIRDS</b>									
<i>Accipiter cooperii</i>	Cooper's hawk					x		x	
<i>Amphispiza belli</i>	Bell's sage sparrow			x				x	
<i>Anas platyrhynchos</i>	Mallard duck					x			
<i>Aphelocoma californica</i>	Western scrub jay		x	x	x	x	x	x	
<i>Asio otus</i>	Long-eared owl			x					
<i>Baeolophus inornatus</i>	Oak titmouse					x		x	
<i>Buteo lineatus</i>	Red-shouldered hawk					x			
<i>Buteo jamaicensis</i>	Red-tailed hawk		x	x	x	x	x	x	
<i>Callipepla californica</i>	California quail		x	x	x	x	x	x	
<i>Calypte anna</i>	Anna's hummingbird		x	x	x	x	x	x	
<i>Carduelis psaltria</i>	Lesser goldfinch		x	x	x	x	x		
<i>Carpodacus mexicanus</i>	House finch					x		x	
<i>Carpodacus purpureus</i>	Purple finch					x			
<i>Cathartes aura</i>	Turkey vulture			x					
<i>Chamaea fasciata</i>	Wrentit		x	x	x	x	x	x	
<i>Charadrius alexandrinus nivosus</i>	Western snowy plover	x							
<i>Charadrius vociferus</i>	Killdeer		x	x	x	x	x		
<i>Circus cyaneus</i>	Northern harrier		x	x	x				
<i>Colaptes auratus</i>	Northern flicker							x	
<i>Corvus brachyrhynchos</i>	American crow		x	x	x	x	x	x	x
<i>Dendroica coronata</i>	Yellow-rumped warbler							x	
<i>Dendroica occidentalis</i>	Hermit warbler							x	
<i>Dendroica townsendi</i>	Townsend's warbler							x	
<i>Empidonax difficilis</i>	Pacific-slope flycatcher					x			
<i>Falco sparverius</i>	American kestrel		x	x	x	x	x		
<i>Gallinago gallinago</i>	Common snipe					x			
<i>Geococcyx californianus</i>	Greater roadrunner		x	x	x				
<i>Hirundo rustica</i>	Barn swallow		x	x	x	x			
<i>Junco hyemalis</i>	Dark-eyed junco					x		x	
<i>Lanius ludovicianus</i>	Loggerhead shrike							x	
<i>Meleagris gallapavo</i>	Wild turkey					x	x		

Table 3-2  
Observed Wildlife Species in Munitions Response Areas

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	HMP species	IAR MRA Range 44	IAR MRA Range 47	IAR MRA	FEG MRA	Parker Flats MRA	Seaside MRA	County North MRA
<b>BIRDS</b>									
<i>Mimus polyglottos</i>	Northern mockingbird							x	
<i>Myiarchus cinerascens</i>	Ash-throated flycatcher					x			
<i>Petrochelidon pyrrhonota</i>	Cliff swallow					x			
<i>Phalacrocorax auritus</i>	Double-crested cormorant								
<i>Phalaenoptilus nuttallii</i>	Common poorwill					x			
<i>Phalaropus lobatus</i>	Red-necked phalarope					x			
<i>Picoides nuttallii</i>	Nuttall's woodpecker							x	
<i>Pipilo crissalis</i>	California towhee					x		x	
<i>Pipilo maculatus</i>	Spotted towhee					x		x	
<i>Poecile rufescens</i>	Chestnut-backed chickadee							x	
<i>Psaltriparus minimus</i>	Bushtit					x		x	
<i>Sayornis saya</i>	Say's phoebe							x	
<i>Sturnella neglecta</i>	Western meadowlark							x	
<i>Tachycineta bicolor</i>	Tree swallow							x	
<i>Thryomanes bewickii</i>	Bewick's wren					x		x	
<i>Toxostoma redivivum</i>	California thrasher		x	x	x			x	
<i>Vireo huttoni</i>	Hutton's vireo					x		x	
<i>Vermivora ruficapilla</i>	Nashville warbler								
<i>Zenaida macroura</i>	Mourning dove		x	x	x	x	x	x	
<i>Zonotrichia atricapilla</i>	Golden-crowned sparrow							x	
<b>INVERTEBRATES</b>									
<i>Linderiella occidentalis</i>	California linderiella	x				x			

Native species in bold

**Table 3-3**  
**Future East Garrison**  
**Observed Plant Species in or Surrounding Aquatic Features within the Grenade Range**  
**2011-2015**

ESCA RP 2015 Annual Natural Resources Report

Scientific Name	Common Name	Wetland Indicator Status <sup>1</sup>	AF09-1	AF09-1B	AF09-2
<i>Acmispon glaber</i>	deerweed	NL	x	x	x
<i>Agrostis exarata</i> var. <i>pacifica</i>	spike bentgrass	FACW	x		x
<i>Aira caryophyllea</i>	common silver-hair grass	FACU			x
<i>Alopecurus saccatus</i>	Pacific foxtail	OBL	x		
<i>Anagallis arvensis</i>	scarlet pimpernel	NL	x	x	x
<i>Arctostaphylos montereyensis</i>	Toro manzanita	NL			x
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	NL	x	x	x
<i>Briza minor</i>	little rattlesnake grass	NL			x
<i>Bromus diandrus</i>	ripgut brome	NL	x		
<i>Bromus hordeaceus</i>	soft chess	NL	x		
<i>Bromus madritensis</i> subsp. <i>rubens</i>	red brome	NL	x		
<i>Carex c.f. brevicaulis</i>	short-stemmed sedge	NL		x	
<i>Cicendia quadrangularis</i>	Oregon timwort	FAC			x
<i>Crassula connata</i>	pygmy weed	FAC		x	
<i>Crassula aquatica</i>	water pygmyweed	OBL			x
<i>Deschampsia danthonioides</i>	annual hairgrass	FACW			x
<i>Eleocharis acicularis</i> var. <i>acicularis</i>	slender spikerush	OBL	x	x	
<i>Eleocharis bella</i>	beautiful spikerush	FACW	x		x
<i>Eleocharis macrostachya</i>	common spikerush	OBL	x		x
<i>Euthamia occidentalis</i>	western goldenrod	FACW	x		
<i>Festuca myuros</i>	rattail fescue	NL		x	x
<i>Festuca perenne</i>	annual wild rye	NL			x
<i>Gamochaeta ustulata</i>	purple cudweed	NL	x	x	x
<i>Gastridium phleoides</i>	nit grass	FACU			x
<i>Geranium dissectum</i>	cut-leaved geranium	NL	x		

Table 3-3  
 Future East Garrison  
 Observed Plant Species in or Surrounding Aquatic Features within the Grenade Range  
 2011-2015

ESCA RP 2015 Annual Natural Resources Report

Scientific Name	Common Name	Wetland Indicator Status <sup>1</sup>	AF09-1	AF09-1B	AF09-2
<i>Helianthemum scoparium</i>	rush-rose	NL			x
<i>Hypochaeris glabra</i>	smooth cat's ear	NL	x		x
<i>Juncus bufonius</i> var. <i>occidentalis</i>	toad rush	FACW	x	x	x
<i>Juncus occidentalis</i>	western rush	FACW	x	x	x
<i>Juncus phaeocephalus</i> var. <i>phaeocephalus</i>	brown-headed rush	FACW	x	x	x
<i>Lasthenia glaberrima</i>	smooth goldfields	OBL			x
<i>Lasthenia gracilis</i>	slender goldfields	NL			x
<i>Logfia</i> [ <i>Filago</i> ] <i>gallica</i>	narrow-leaved filago	NL	x	x	x
<i>Luzula comosa</i>	Pacific wood rush	FAC			x
<i>Lysimachia</i> ( <i>Centunculus</i> ) <i>minima</i>	chaff weed	FACW			x
<i>Lythrum hyssopifolium</i>	hyssop-leaved loosestrife	OBL	x	x	x
<i>Madia exigua</i>	small tarweed	NL	x	x	x
<i>Medicago polymorpha</i>	bur-clover	NL	x		
<i>Navarretia hamata</i> subsp. <i>parviloba</i>	hooked navarretia	NL		x	
<i>Plantago coronopus</i>	cut-leaved plantain	FACW	x		x
<i>Plantago erecta</i>	California plantain	NL	x		x
<i>Polypogon monspeliensis</i>	rabbitsfoot grass	FACW	x	x	x
<i>Psilocarphus brevissimus</i> var. <i>brevissimus</i>	woolly marbles	FACW	x	x	
<i>Psilocarphus tenellus</i>	slender woolly marbles	OBL		x	x
<i>Quercus agrifolia</i>	coast live oak	NL			x
<i>Rubus ursinus</i>	California blackberry	FACU	x		
<i>Salix lasiolepis</i>	arroyo willow	FACW	x		
<i>Soliva sessilis</i>	South American soliva	FACU	x		
<i>Sonchus asper</i> subsp. <i>asper</i>	prickly sow-thistle	FACU	x		
<i>Spiranthes romanzoffiana</i>	hooded ladies tresses	FACW			x

**Table 3-3**  
**Future East Garrison**  
**Observed Plant Species in or Surrounding Aquatic Features within the Grenade Range**  
**2011-2015**

ESCA RP 2015 Annual Natural Resources Report

Scientific Name	Common Name	Wetland Indicator Status <sup>1</sup>	AF09-1	AF09-1B	AF09-2
<b><i>Triglochin scillioides</i></b>	flowering quillwort	OBL	x	x	
<i>Tribolium obliterum</i>	cape grass	NL	x	x	
<b><i>Typha latifolia</i></b>	<b>broadleaf cattail</b>	OBL			x

**Native species in bold**

1. United States Army Corps of Engineers. 2012. National Wetland Plant List. Arid West. Available online at: <http://rsgisias.crrel.usace.army.mil/NWPL/>. May 2012

Wetland indicator status -- OBL: obligate wetland species, occurs almost always in wetlands (99% of time or more); FACW: facultative wetland species, usually occurs in wetlands (66 to 99% of time); FAC: facultative species, equally likely to occur in wetlands or nonwetlands (33 to 66% of time); FACU: facultative upland species, found in wetlands 1 to 33% of the time, but usually found in upland habitats. NL: no listing.



Table 6-1  
 Future East Garrison  
 MRA Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2010 and 2012

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Baseline Data 2010 - 2011				
		Thirty-nine Transects				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.7%	3.5%	0.9%	0.7%	12.8%
<b>Total Mean Percent Native Tree Cover</b>		<b>0.7%</b>			<b>0.7%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos crustacea</i> subsp. <i>crustacea</i>	brittleleaf manzanita	45.8%	32.3%	8.7%	41.8%	89.7%
<i>Adenostoma fasciculatum</i>	chamise	27.4%	22.4%	6.0%	25.0%	100%
<b><i>Arctostaphylos montereyensis</i></b>	<b>Toro manzanita</b>	<b>14.4%</b>	<b>19.8%</b>	5.3%	13.1%	<b>64.1%</b>
<i>Salvia mellifera</i>	black sage	7.2%	15.5%	4.2%	6.6%	56.4%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	2.2%	4.1%	1.1%	2.0%	48.7%
<i>Mimulus aurantiacus</i>	sticky monkeyflower	2.1%	4.1%	1.1%	1.9%	59.0%
<i>Garrya elliptica</i>	coast silk tassel	1.5%	3.9%	1.0%	1.4%	28.2%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>1.5%</b>	<b>2.2%</b>	0.6%	1.4%	<b>48.7%</b>
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	1.3%	3.5%	0.9%	1.2%	20.5%
<i>Heteromeles arbutifolia</i>	toyon	1.0%	2.7%	0.7%	1.0%	17.9%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	0.7%	3.9%	1.1%	0.6%	5.1%
<i>Toxicodendron diversilobum</i>	poison-oak	0.4%	1.4%	0.4%	0.4%	10.3%
<i>Ceanothus thrysiflorus</i>	blue blossom	0.3%	1.8%	0.5%	0.3%	5.1%
<i>Artemisia californica</i>	California sagebrush	0.3%	1.4%	0.4%	0.2%	5.1%
<i>Ribes malvaceum</i>	chaparral currant	0.1%	0.6%	0.2%	0.1%	5.1%
<i>Acmipson glaber</i>	deerweed	0.1%	0.4%	0.1%	0.1%	2.6%
<i>Lepechinia calycina</i>	pitcher sage	0.0%	0.3%	0.1%	0.0%	2.6%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.0%</b>	<b>0.2%</b>	0.0%	0.0%	<b>2.6%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	0.0%	0.1%	0.0%	0.0%	5.1%
<i>Ceanothus dentatus</i>	dwarf ceanothus	0.0%	0.1%	0.0%	0.0%	2.6%
<i>Crocانthemum scoparium</i>	rush-rose	0.0%	0.0%	0.0%	0.0%	5.1%
<i>Rubus ursinus</i>	California blackberry	0.0%	--	--	0.0%	0.0%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.0%	--	--	0.0%	0.0%
<i>Rosa gymnocarpa</i> var. <i>gymnocarpa</i>	wood rose	0.0%	--	--	0.0%	0.0%
<i>Ribes speciosum</i>	fuschia-flowered gooseberry	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Quercus wislizenii</i> var. <i>wislizenii</i>	interior live oak	0.0%	0.0%	0.0%	0.0%	0.0%
<b><i>Arctostaphylos hookerii</i></b>	<b>Hooker's manzanita</b>	<b>0.0%</b>	--	--	0.0%	<b>0.0%</b>
<b>Total Mean Percent Native Shrub and Subshrub Cover</b>		<b>106.3%</b>			<b>97.5%</b>	
<b>Total Combined Mean Native Herbaceous Cover Between Shrubs and Subshrubs</b>		<b>2.0%</b>	<b>4.4%</b>	<b>1.2%</b>	--	<b>51.3%</b>
<b>Total Mean Cover of Target Weed Species (<i>Carpobrotus edulis</i>)</b>		<b>0.4%</b>	<b>2.7%</b>	<b>0.7%</b>	<b>0.4%</b>	<b>2.6%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>	<i>na</i>
<b>Total Mean Percent Native Vegetative Cover</b>		<b>109.0%</b>				
<b>Total Bare Ground (Including Masticated Vegetation)</b>		<b>7.1%</b>				
<b>Total Mean Percent Masticated Vegetation</b>		<i>na</i>				
<b>Total Mean Percent Bare Ground</b>		<b>7.1%</b>	<b>10.7%</b>	--	--	<b>84.6%</b>

HMP Species in Bold

Table 6-1  
Future East Garrison  
MRA Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2010 and 2012

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Post-activity Data 2015 (Year 5)				
		Six Transects (in Grid Cells Veg Cut in 2010)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.8%	1.5%	0.5%	1.1%	33.3%
<b>Total Mean Percent Native Tree Cover</b>		<b>0.8%</b>			<b>1.2%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos crustacea</i> subsp. <i>crustacea</i>	brittleleaf manzanita	18.5%	13.6%	4.2%	25.8%	100.0%
<i>Adenostoma fasciculatum</i>	chamise	12.8%	7.2%	2.2%	17.8%	100.0%
<b><i>Arctostaphylos montereyensis</i></b>	<b>Toro manzanita</b>	<b>0.5%</b>	<b>1.3%</b>	0.4%	0.7%	<b>16.7%</b>
<i>Salvia mellifera</i>	black sage	3.5%	6.6%	2.1%	4.9%	50.0%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	8.0%	7.7%	2.4%	11.2%	100.0%
<i>Mimulus aurantiacus</i>	sticky monkeyflower	4.3%	5.3%	1.7%	6.0%	83.3%
<i>Garrya elliptica</i>	coast silk tassel	0.3%	0.6%	0.2%	0.4%	16.7%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>0.8%</b>	<b>1.7%</b>	0.5%	1.1%	<b>33.3%</b>
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.7%	1.7%	0.5%	0.9%	16.7%
<i>Heteromeles arbutifolia</i>	toyon	0.4%	1.0%	0.3%	0.6%	33.3%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	0.3%	0.8%	0.2%	0.4%	16.7%
<i>Toxicodendron diversilobum</i>	poison-oak	0.1%	0.2%	0.1%	0.2%	33.3%
<i>Ceanothus thrysiflorus</i>	blue blossom	0.7%	0.8%	0.3%	1.0%	50.0%
<i>Artemisia californica</i>	California sagebrush	0.0%	--	--	0.0%	0.0%
<i>Ribes malvaceum</i>	chaparral currant	0.1%	0.3%	0.1%	0.1%	16.7%
<i>Acmipson glaber</i>	deerweed	4.8%	10.5%	3.3%	6.7%	66.7%
<i>Lepechinia calycina</i>	pitcher sage	0.0%	0.0%	0.0%	0.0%	0.0%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.0%</b>	<b>0.0%</b>	0.0%	0.0%	<b>0.0%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	0.4%	0.4%	0.1%	0.5%	66.7%
<i>Ceanothus dentatus</i>	dwarf ceanothus	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Crocanthemum scoparium</i>	rush-rose	2.0%	3.2%	1.0%	2.8%	66.7%
<i>Rubus ursinus</i>	California blackberry	0.0%	0.1%	0.0%	0.1%	16.7%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Rosa gymnocarpa</i> var. <i>gymnocarpa</i>	wood rose	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Ribes speciosum</i>	fuschia-flowered gooseberry	0.0%	0.0%	0.0%	0.0%	0.0%
<i>Quercus wislizenii</i> var. <i>wislizenii</i>	interior live oak	0.0%	0.0%	0.0%	0.0%	0.0%
<b><i>Arctostaphylos hookerii</i></b>	<b>Hooker's manzanita</b>	<b>0.2%</b>	<b>0.5%</b>	0.1%	0.3%	<b>16.7%</b>
<b>Total Mean Percent Native Shrub and Subshrub Cover</b>		<b>58.4%</b>	--	--	<b>94.9%</b>	
<b>Total Combined Mean Native Herbaceous Cover Between Shrubs and Subshrubs</b>		<b>2.4%</b>	<b>3.3%</b>	<b>1.0%</b>	<b>3.9%</b>	<b>100.0%</b>
<b>Total Mean Cover of Target Weed Species (<i>Carpobrotus edulis</i>)</b>		<b>0.0%</b>	--	--	--	--
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>9.9%</b>	<b>3.3%</b>	<b>1.0%</b>	--	--
<b>Total Mean Percent Native Vegetative Cover</b>		<b>61.6%</b>				
<b>Total Bare Ground (Including Masticated Vegetation)</b>		<b>28.7%</b>				
<b>Total Mean Percent Masticated Vegetation</b>		<b>14.1%</b>	<b>9.0%</b>	<b>2.8%</b>	--	<b>20.0%</b>
<b>Total Mean Percent Bare Ground</b>		<b>14.6%</b>	<b>10.2%</b>	<b>3.2%</b>	--	<b>17%</b>

HMP Species in Bold

Table 6-1  
Future East Garrison  
MRA Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2010 and 2012

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Post-activity Data 2015 (Year 3)				
		24 Transects (in Grid Cells Veg Cut in 2012)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	1.4%	5.4%	1.7%	2.0%	29.2%
<b>Total Mean Percent Native Tree Cover</b>		<b>1.4%</b>			<b>2.1%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos crustacea</i> subsp. <i>crustacea</i>	brittleleaf manzanita	23.5%	14.3%	4.4%	33.8%	95.8%
<i>Adenostoma fasciculatum</i>	chamise	15.4%	10.7%	3.3%	22.2%	100.0%
<b><i>Arctostaphylos montereyensis</i></b>	<b>Toro manzanita</b>	<b>3.3%</b>	<b>6.5%</b>	2.0%	4.7%	<b>54.2%</b>
<i>Salvia mellifera</i>	black sage	2.7%	6.6%	2.0%	3.9%	45.8%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	3.0%	5.4%	1.7%	4.4%	54.2%
<i>Mimulus aurantiacus</i>	sticky monkeyflower	3.6%	4.1%	1.3%	5.1%	87.5%
<i>Garrya elliptica</i>	coast silk tassel	0.5%	1.6%	0.5%	0.7%	16.7%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>0.5%</b>	<b>0.8%</b>	0.3%	0.7%	<b>54.2%</b>
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.8%	2.1%	0.7%	1.1%	20.8%
<i>Heteromeles arbutifolia</i>	toyon	1.0%	2.9%	0.9%	1.5%	16.7%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	0.1%	0.3%	0.1%	0.1%	4.2%
<i>Toxicodendron diversilobum</i>	poison-oak	0.5%	1.6%	0.5%	0.8%	25.0%
<i>Ceanothus thrysiflorus</i>	blue blossom	0.4%	1.6%	0.5%	0.5%	8.3%
<i>Artemisia californica</i>	California sagebrush	0.1%	0.4%	0.1%	0.1%	4.2%
<i>Ribes malvaceum</i>	chaparral currant	0.2%	0.6%	0.2%	0.3%	20.8%
<i>Acmipson glaber</i>	deerweed	0.3%	0.9%	0.3%	0.5%	25.0%
<i>Lepechinia calycina</i>	pitcher sage	0.7%	1.8%	0.6%	1.1%	29.2%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.0%</b>	<b>0.0%</b>	0.0%	0.0%	<b>0.0%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	2.0%	3.7%	1.1%	2.8%	45.8%
<i>Ceanothus dentatus</i>	dwarf ceanothus	0.0%	0.1%	0.0%	0.1%	8.3%
<i>Crocanthemum scoparium</i>	rush-rose	1.3%	2.2%	0.7%	1.9%	62.5%
<i>Rubus ursinus</i>	California blackberry	0.6%	3.0%	0.9%	0.9%	4.2%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.2%	1.0%	0.3%	0.3%	6.7%
<i>Rosa gymnocarpa</i> var. <i>gymnocarpa</i>	wood rose	0.0%	0.1%	0.0%	0.0%	4.2%
<i>Ribes speciosum</i>	fuschia-flowered gooseberry	0.0%	0.1%	0.0%	0.0%	8.3%
<i>Quercus wislizenii</i> var. <i>wislizenii</i>	interior live oak	0.1%	0.4%	0.1%	0.1%	4.2%
<b><i>Arctostaphylos hookerii</i></b>	<b>Hooker's manzanita</b>	<b>0.0%</b>	--	--	0.0%	<b>0.0%</b>
<b>Total Mean Percent Native Shrub and Subshrub Cover</b>		<b>60.9%</b>			<b>94.2%</b>	
<b>Total Combined Mean Native Herbaceous Cover Between Shrubs and Subshrubs</b>		<b>2.4%</b>	<b>3.0%</b>	<b>0.9%</b>	<b>3.7%</b>	<b>100.0%</b>
<b>Total Mean Cover of Target Weed Species (<i>Carpobrotus edulis</i>)</b>		<b>1.0%</b>	<b>4.2%</b>	<b>1.5%</b>	<b>1.4%</b>	
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>4.9%</b>	<b>10.9%</b>	<b>3.4%</b>	<b>7.1%</b>	
<b>Total Mean Percent Native Vegetative Cover</b>		<b>64.7%</b>				
<b>Total Bare Ground (Including Masticated Vegetation)</b>		<b>35.9%</b>				
<b>Total Mean Percent Masticated Vegetation</b>		<b>18.4%</b>	<b>10.7%</b>	<b>3.3%</b>		<b>76.7%</b>
<b>Total Mean Percent Bare Ground</b>		<b>17.4%</b>	<b>11.9%</b>	<b>3.7%</b>		<b>70%</b>

HMP Species in Bold

Table 6-2  
 Future East Garrison 2015 Cover and Frequency of Herbaceous Species  
 After Vegetation Cutting (12 Quadrats)

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Post-activity Data 2014 (Year 3)					Post-activity Data 2015 (Year 3)				
		Eighteen Quadrats in Cut Vegetation					Twelve Quadrats in Cut Vegetation				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Relative Percent Cover	Main Frequency	Mean Percent Cover	Standard Deviation	90% Confidence Interval	Relative Percent Cover	Main Frequency
<b>Shrub and Subshrubs</b>											
<i>Adenostoma fasciculatum</i>	chamise	4.0%	9.1%	7.5%	37.4%	33.3%	1.6%	3.1%	1.6%	5.7%	25.0%
<i>Acmispon glaber</i>	deerweed	0.5%	1.0%	0.8%	4.3%	33.3%	1.8%	3.7%	1.9%	6.3%	25.0%
<i>Arctostaphylos crustacea</i> subsp. <i>crustacea</i>	brittleleaf manzanita	0.0%	--	--	0.0%	0.0%	0.3%	0.7%	0.3%	1.2%	25.0%
<b><i>Arctostaphylos montereyensis</i></b>	<b>Toro manzanita</b>	<b>0.0%</b>	--	--	<b>0.0%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>0.1%</b>	<b>0.3%</b>	<b>8.3%</b>
<i>Artemisia californica</i>	California sagebrush	0.0%	--	--	0.0%	0.0%	0.6%	1.5%	0.8%	2.1%	16.7%
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	0.0%	--	--	0.0%	0.0%	0.1%	0.3%	0.1%	0.3%	8.3%
<i>Crocantemum scoparium</i>	rush-rose	0.0%	--	--	0.0%	0.0%	0.2%	0.6%	0.3%	0.6%	8.3%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.0%	--	--	0.0%	0.0%	0.9%	2.6%	1.3%	3.3%	25.0%
<i>Salvia mellifera</i>	black sage	0.0%	--	--	0.0%	0.0%	1.3%	3.3%	1.7%	4.5%	16.7%
<i>Ericamera ericoides</i>	dune-heather, mock-heather	0.0%	0.1%	0.1%	0.4%	16.7%	0.0%	--	--	0.0%	0.0%
<b>Total Cover by Native Shrub and Subshrub Species</b>		<b>4.5%</b>			<b>42.5%</b>		<b>6.8%</b>			<b>37.7%</b>	
<b>Herbaceous Species</b>											
<i>Acmispon strigosus</i>	Bishop's lotus	0.0%	--	--	0.0%	0.0%	0.6%	1.4%	0.7%	2.2%	41.7%
<i>Cirsium brevistylum</i>	Indian thistle	0.0%	--	--	0.0%	0.0%	0.5%	1.4%	0.7%	1.8%	33.3%
<i>Corethrogyne filaginifolia</i>	California aster	1.0%	2.6%	2.1%	9.8%	16.7%	0.0%	--	--	0.0%	0.0%
<i>Cryptantha micromeres</i>	small-flowered cryptantha	0.0%	--	--	0.0%	0.0%	0.4%	1.4%	0.7%	1.5%	8.3%
<i>Cryptantha microstachys</i>	Tejon cryptantha	0.2%	0.2%	0.2%	1.6%	50.0%	0.0%	--	--	0.0%	0.0%
<i>Daucus pusillus</i>	rattlesnake weed	0.0%	--	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%
<i>Deinandra increscens</i> subsp. <i>increscens</i>	grassland tarweed	0.0%	--	--	0.0%	0.0%	0.1%	0.3%	0.1%	0.3%	8.3%
<i>Dichelostemma capitatum</i> subsp. <i>capitatum</i>	blue dicks, wild hyacinth	0.0%	0.1%	0.1%	0.4%	16.7%	0.0%	--	--	0.0%	0.0%
<i>Erigeron canadensis</i>	horseweed	0.0%	--	--	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	8.3%
<i>Eriogonum nudum</i> var. <i>auriculatum</i>	nude buckwheat	0.4%	0.6%	0.5%	3.9%	33.3%	0.0%	--	--	0.0%	0.0%
<i>Festuca octoflora</i>	six-weeks fescue	0.0%	--	--	0.0%	0.0%	1.8%	6.3%	3.3%	6.6%	16.7%
<i>Galium porrigens</i> var. <i>porrigens</i>	climbing bedstraw	0.0%	--	--	0.0%	0.0%	0.1%	0.3%	0.1%	0.3%	8.3%
<i>Gamochaeta ustulata</i>	purple cudweed	0.0%	--	--	0.0%	0.0%	0.1%	0.1%	0.1%	0.2%	16.7%
<i>Horkelia cuneata</i> var. <i>cuneata</i>	coast horkelia, wedge-leaved horkelia	0.0%	--	--	0.0%	0.0%	0.3%	0.9%	0.4%	0.9%	8.3%
<i>Madia sativa</i>	coast tarweed	0.0%	--	--	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	8.3%
<i>Marah fabaceus</i>	wild cucumber	0.0%	--	--	0.0%	0.0%	0.6%	2.0%	1.0%	2.1%	8.3%
<i>Melica imperfecta</i>	California melic	0.0%	--	--	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	8.3%
<i>Pentagramma triangularis</i> subsp. <i>triangularis</i>	goldenback fern	0.0%	--	--	0.0%	0.0%	0.3%	0.9%	0.4%	0.9%	8.3%
<i>Pseudognaphalium californicum</i>	California everlasting	0.0%	--	--	0.0%	0.0%	0.3%	0.9%	0.4%	1.0%	16.7%
<i>Pterostegia drymarioides</i>	fairy mist	0.0%	--	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%
<i>Stephanomeria virgata</i> subsp. <i>virgata</i>	tall milk aster	0.0%	--	--	0.0%	0.0%	0.3%	1.1%	0.6%	1.1%	8.3%
<i>Stipa lepida</i>	foothill needlegrass	0.0%	--	--	0.0%	0.0%	0.3%	0.6%	0.3%	0.9%	16.7%
<i>Trifolium</i> sp.	clover	0.0%	--	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%
<b>Total Cover by Native Herbaceous Species</b>		<b>1.7%</b>			<b>15.9%</b>		<b>5.7%</b>			<b>31.8%</b>	
<i>Aira caryophylla</i> *	hairy grass	0.0%	--	--	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	8.3%
<i>Anagallis arvensis</i> *	scarlet pimpernel	0.0%	--	--	0.0%	0.0%	0.2%	0.3%	0.2%	0.6%	33.3%
<i>Avena barbata</i> *	slender wild oat	1.3%	3.1%	2.5%	11.8%	16.7%	0.1%	0.3%	0.1%	0.3%	8.3%
<i>Briza minor</i> *	little rattlesnake grass	0.0%	--	--	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	8.3%
<i>Bromus diandrus</i> *	riggut brome	0.2%	0.2%	0.2%	1.6%	50.0%	0.0%	0.0%	0.0%	0.0%	8.3%
<i>Bromus hordeaceus</i> *	smooth brome	0.0%	--	--	0.0%	0.0%	0.1%	0.3%	0.2%	0.4%	16.7%
<i>Bromus madritensis</i> subsp. <i>rubens</i> *	red brome	2.7%	2.6%	2.1%	25.2%	100.0%	0.8%	1.7%	0.9%	2.7%	41.7%
<i>Carpobrotus edulis</i> *	iceplant	0.0%	--	--	0.0%	0.0%	1.8%	6.4%	3.3%	6.6%	8.3%
<i>Cerastium glomeratum</i> *	mouseear chickweed	0.0%	--	--	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	8.3%
<i>Erodium cicutarium</i> *	red-stemmed filaree	0.2%	0.5%	0.4%	2.0%	16.7%	0.3%	0.6%	0.3%	0.9%	16.7%
<i>Festuca myuros</i> *	rattail fescue	0.0%	--	--	0.0%	0.0%	0.3%	0.6%	0.3%	0.9%	25.0%
<i>Hypochaeris glabra</i> *	smooth cat's ear	0.1%	0.1%	0.1%	0.8%	33.3%	1.1%	2.0%	1.0%	3.9%	66.7%
<i>Logfia gallica</i> *	narrowleaf cottonrose	0.0%	--	--	0.0%	0.0%	0.3%	0.4%	0.2%	0.9%	33.3%
<i>Senecio glomeratus</i> *	cutleaf burnweed	0.0%	--	--	0.0%	0.0%	0.2%	0.4%	0.2%	0.6%	16.7%
<i>Senecio vulgaris</i> *	commom groundsel	0.0%	--	--	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	8.3%
<i>Sonchus asper</i> subsp. <i>asper</i> *	sow thistle	0.0%	--	--	0.0%	0.0%	0.3%	1.1%	0.6%	1.1%	8.3%
<b>Total Cover by Non-native Herbaceous Species</b>		<b>4.4%</b>			<b>41.7%</b>		<b>5.5%</b>			<b>30.5%</b>	
<b>Total Cover by Non-native Grass Cover</b>		<b>4.1%</b>					<b>1.3%</b>				
<b>Total Cover by All Herbaceous Species</b>		<b>6.0%</b>			<b>57.5%</b>		<b>11.1%</b>			<b>62.3%</b>	
<b>Total Mean Percent All Vegetative Cover</b>		<b>10.5%</b>					<b>17.9%</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>6.1%</b>					<b>12.4%</b>				
<b>Total Mean Percent Litter</b>		<b>na</b>					<b>5.3%</b>				
<b>Total Mean Percent Bare ground</b>		<b>89.5%</b>					<b>87.5%</b>				

\*non-native species

HMP species in bold

**Table 6-2**  
**Future East Garrison 2015 Cover and Frequency of Herbaceous Species**  
**After Vegetation Cutting (12 Quadrats)**

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Post-activity Data 2014 (Year 3)					Post-activity Data 2015 (Year 3)				
		Eighteen Quadrats in Cut Vegetation					Twelve Quadrats in Cut Vegetation				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Relative Percent Cover	Frequency	Mean Percent Cover	Standard Deviation	90% Confidence Interval	Relative Percent Cover	Frequency
<i>Bromus madritensis</i> subsp. <i>rubens</i> *	red brome	2.7%	2.6%	2.1%	25.2%	100.0%	0.8%	1.7%	0.9%	2.7%	41.7%
<i>Carpobrotus edulis</i> *	iceplant	0.0%	--	--	0.0%	0.0%	1.8%	6.4%	3.3%	6.6%	8.3%
<i>Cerastium glomeratum</i> *	mouseear chickweed	0.0%	--	--	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	8.3%
<i>Erodium cicutarium</i> *	red-stemmed filaree	0.2%	0.5%	0.4%	2.0%	16.7%	0.3%	0.6%	0.3%	0.9%	16.7%
<i>Festuca myuros</i> *	rattail fescue	0.0%	--	--	0.0%	0.0%	0.3%	0.6%	0.3%	0.9%	25.0%
<i>Hypochaeris glabra</i> *	smooth cat's ear	0.1%	0.1%	0.1%	0.8%	33.3%	1.1%	2.0%	1.0%	3.9%	66.7%
<i>Logfia gallica</i> *	narrowleaf cottonrose	0.0%	--	--	0.0%	0.0%	0.3%	0.4%	0.2%	0.9%	33.3%
<i>Senecio glomeratus</i> *	cutleaf burnweed	0.0%	--	--	0.0%	0.0%	0.2%	0.4%	0.2%	0.6%	16.7%
<i>Senecio vulgaris</i> *	commom groundsel	0.0%	--	--	0.0%	0.0%	0.0%	0.1%	0.1%	0.1%	8.3%
<i>Sonchus asper</i> subsp. <i>asper</i> *	sow thistle	0.0%	--	--	0.0%	0.0%	0.3%	1.1%	0.6%	1.1%	8.3%
<b>Total Cover by Non-native Herbaceous Species</b>		<b>4.4%</b>			41.7%		<b>5.5%</b>			30.5%	
<b>Total Cover by Non-native Grass Cover</b>		<b>4.1%</b>					<b>1.3%</b>				
<b>Total Cover by All Herbaceous Species</b>		<b>6.0%</b>			<b>57.5%</b>		<b>11.1%</b>			<b>62.3%</b>	
<b>Total Mean Percent All Vegetative Cover</b>		<b>10.5%</b>					<b>17.9%</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>6.1%</b>					<b>12.4%</b>				
<b>Total Mean Percent Litter</b>		<b>na</b>					<b>5.3%</b>				
<b>Total Mean Percent Bare ground</b>		<b>89.5%</b>					<b>87.5%</b>				

\*non-native species

**HMP species in bold**

Table 6-3  
 Future East Garrison  
 MRA Vegetation Cover in Areas Subject to Small-scale Excavation Conducted in 2012

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Baseline Data 2012				
		Two Transects in Small-scale Excavation in 2012				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Mean Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	37.2%	15.6%	69.5%	46.6%	100%
<b>Total Mean Percent Native Tree Cover</b>		<b>37.2%</b>			<b>46.6%</b>	
<b>Shrub and Sub-Shrub Species</b>						
<i>Rubus ursinus</i>	California blackberry	12.1%	6.3%	28.2%	15.2%	100%
<i>Arctostaphylos crustacea</i> subsp. <i>crustacea</i>	brittleleaf manzanita	11.3%	14.7%	65.7%	14.1%	100%
<i>Mimulus aurantiacus</i>	sticky monkeyflower	3.5%	1.6%	7.1%	4.4%	100%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	2.7%	1.1%	5.1%	3.4%	100%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	2.6%	3.4%	15.2%	3.3%	100%
<i>Acropson glaber</i>	deerweed	2.1%	1.8%	8.0%	2.6%	100%
<i>Toxicodendron diversilobum</i>	poison-oak	1.8%	1.5%	6.7%	2.3%	100%
<i>Adenostoma fasciculatum</i>	chamise	1.1%	1.5%	6.8%	1.4%	50%
<i>Salvia mellifera</i>	black sage	0.0%	0.0%	0.0%	0.0%	0%
<i>Crocanthemum scoparium</i>	rush-rose	0.0%	0.0%	0.0%	0.0%	0%
<b><i>Arctostaphylos montereyensis</i></b>	<b>Toro manzanita</b>	0.0%	0.0%	0.0%	0.0%	0%
<i>Garrya elliptica</i>	coast silk tassel	0.0%	--	--	0.0%	0%
<i>Heteromeles arbutifolia</i>	toyon	0.0%	--	--	0.0%	0%
<i>Ceanothus dentatus</i>	dwarf ceanothus	0.0%	--	--	0.0%	0%
<b>Total Mean Percent Native Shrub and Subshrub Cover</b>		<b>37.1%</b>			<b>46.6%</b>	
<b>Total Combined Mean Native Herbaceous Cover Between Shrubs and Subshrubs</b>		<b>5.4%</b>	<b>6.3%</b>	<b>28.2%</b>	<b>15.2%</b>	<b>100%</b>
<b>Target Mean Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>
<b>Total Mean Percent Native Vegetative Cover</b>		<b>79.8%</b>				
<b>Total Bare Ground (Including Masticated Vegetation)</b>		<b>61.8%</b>	<b>23.2%</b>	--		
<b>Total Mean Percent Masticated Vegetation (calculated in 2015 only)</b>		--	--			
<b>Total Mean Percent Bare Ground</b>		<b>61.8%</b>	<b>23.2%</b>	--		<b>100%</b>

HMP Species in Bold

Table 6-3  
 Future East Garrison  
 MRA Vegetation Cover in Areas Subject to Small-scale Excavation Conducted in 2012

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Post-activity Data 2015 (Year 3)				
		Two Transects in Small-scale Excavation in 2012				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Mean Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	12.3%	15.8%	70.6%	21.6%	100.0%
<b>Total Mean Percent Native Tree Cover</b>		<b>12.3%</b>			<b>27.9%</b>	
<b>Shrub and Sub-Shrub Species</b>						
<i>Rubus ursinus</i>	California blackberry	0.6%	0.0%	0.1%	1.1%	100%
<i>Arctostaphylos crustacea</i> subsp. <i>crustacea</i>	brittleleaf manzanita	6.8%	0.3%	0.1%	12.0%	100%
<i>Mimulus aurantiacus</i>	sticky monkeyflower	0.9%	0.6%	2.8%	1.7%	100%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	4.0%	5.4%	1.7%	7.0%	100%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.8%	1.1%	0.3%	1.4%	50%
<i>Acropson glaber</i>	deerweed	11.3%	9.7%	3.0%	19.9%	100%
<i>Toxicodendron diversilobum</i>	poison-oak	1.0%	1.5%	6.6%	1.8%	50%
<i>Adenostoma fasciculatum</i>	chamise	0.5%	0.8%	0.2%	0.9%	50%
<i>Salvia mellifera</i>	black sage	0.1%	0.2%	0.7%	0.2%	50%
<i>Crocanthemum scoparium</i>	rush-rose	1.7%	0.2%	0.7%	3.1%	100%
<b><i>Arctostaphylos montereyensis</i></b>	<b>Toro manzanita</b>	<b>0.2%</b>	<b>0.2%</b>	0.1%	0.4%	<b>100%</b>
<i>Garrya elliptica</i>	coast silk tassel	0.8%	1.1%	0.3%	1.4%	50%
<i>Heteromeles arbutifolia</i>	toyon	0.3%	0.4%	0.1%	0.5%	50%
<i>Ceanothus dentatus</i>	dwarf ceanothus	0.0%	0.1%	0.0%	0.1%	50%
<b>Total Mean Percent Native Shrub and Subshrub Cover</b>		<b>29.1%</b>			<b>66.4%</b>	
<b>Total Combined Mean Native Herbaceous Cover Between Shrubs and Subshrubs</b>		<b>2.5%</b>	<b>2.4%</b>	<b>10.9%</b>	<b>4.4%</b>	<b>100%</b>
<b>Target Mean Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>1.6%</b>	<b>2.2%</b>	<b>0.7%</b>	<b>2.8%</b>	<b>50%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>14.6%</b>	<b>15.3%</b>	<b>68.5%</b>	<b>25.0%</b>	<b>100%</b>
<b>Total Mean Percent Native Vegetative Cover</b>		<b>43.9%</b>				
<b>Total Bare Ground (Including Masticated Vegetation)</b>		<b>41.5%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2015 only)</b>		<b>6.1%</b>	<b>4.8%</b>	<b>21.3%</b>	--	<b>100%</b>
<b>Total Mean Percent Bare Ground</b>		<b>35.4%</b>	<b>0.0%</b>	<b>0.0%</b>	--	<b>100%</b>

HMP Species in Bold

Table 6-4  
 Future East Garrison 2015 Cover and Frequency of Herbaceous Species  
 After Small-scale Excavation (6 Quadrats)

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Post-activity Data 2015 (Year 3)				
		6 Quadrats in Small-scale Excavation				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Relative Percent Cover	Main Frequency
<b>Shrub and Subshrubs</b>						
<i>Baccharis pilularis</i> subsp. <i>consan</i>	coyote bush, coyote brush	0.0%	0.0%	0.0%	0.1%	16.7%
<i>Acmispon glaber</i>	deerweed	5.2%	5.9%	4.8%	44.4%	50.0%
<i>Arctostaphylos crustacea</i> subsp. <i>crustacea</i>	brittleleaf manzanita	3.3%	8.2%	6.7%	28.7%	16.7%
<b><i>Arctostaphylos montereyensis</i></b>	<b>Toro manzanita</b>	<b>0.2%</b>	<b>0.4%</b>	<b>0.3%</b>	<b>1.6%</b>	<b>33.3%</b>
<i>Garrya elliptica</i>	coast silk-tassel	0.2%	0.4%	0.3%	1.4%	16.7%
<i>Rubus ursinus</i>	California blackberry	1.0%	1.7%	1.4%	8.6%	33.3%
<i>Crocanthemum scoparium</i>	rush-rose	0.2%	0.4%	0.3%	1.4%	16.7%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.0%	0.0%	0.0%	0.1%	16.7%
<i>Eriophyllum confertiflorum</i>	golden yarrow	1.2%	2.9%	2.4%	10.0%	16.7%
<b>Total Cover by Native Shrub and Subshrub Species</b>		<b>11.2%</b>		<b>46.1%</b>		
<b>Herbaceous Species</b>						
<i>Acmispon strigosus</i>	Bishop's lotus	0.0%	0.0%	0.0%	0.1%	16.7%
<i>Agrostis exarata</i> var. <i>pacifica</i>	spike bentgrass	3.0%	--	--	25.8%	16.7%
<i>Cardionema ramosissimum</i>	sand mat	0.0%	0.0%	0.0%	0.1%	16.7%
<i>Elymus glaucus</i> subsp. <i>glaucus</i>	western ryegrass	0.8%	2.0%	1.7%	7.2%	16.7%
<i>Gamochaeta ustulata</i>	purple cudweed	0.4%	0.8%	0.7%	3.3%	66.7%
<b>Total Cover by Native Herbaceous Species</b>		<b>4.3%</b>		<b>17.5%</b>		
<i>Aira caryophyllea</i> *	hairy grass	0.5%	0.8%	0.7%	4.3%	33.3%
<i>Anagallis arvensis</i> *	scarlet pimpernell	0.0%	0.0%	0.0%	0.1%	16.7%
<i>Avena barbata</i> *	slender wild oat	0.7%	1.2%	1.0%	5.9%	50.0%
<i>Plantago coronopus</i> *	cut leaf plantain	0.6%	1.3%	1.1%	5.2%	16.7%
<i>Polypogon monspeliensis</i> *	rabbitsfoot grass	0.2%	0.4%	0.3%	1.4%	16.7%
<i>Spergula arvensis</i> *	corn spurry	0.2%	0.4%	0.3%	1.4%	16.7%
<i>Tribolium obliterum</i> *	Capetown grass	1.7%	2.3%	1.9%	14.3%	66.7%
<i>Festuca myuros</i> *	rattail fescue	2.2%	1.8%	1.5%	18.8%	83.3%
<i>Hypochaeris glabra</i> *	smooth cat's ear	2.8%	1.6%	1.3%	24.4%	100.0%
<i>Logfia gallica</i> *	narrowleaf cottonrose	0.1%	0.1%	0.0%	0.4%	50.0%
<i>Senecio glomeratus</i> *	cutleaf burnweed	0.0%	0.0%	0.0%	0.1%	16.7%
<b>Total Cover by Non-native Herbaceous Species</b>		<b>8.9%</b>		<b>36.5%</b>		
<b>Total Cover by Non-native Grass Cover</b>		<b>6.0%</b>				
<b>Total Cover by All Herbaceous Species</b>		<b>13.1%</b>		<b>53.9%</b>		
<b>Total Mean Percent All Vegetative Cover</b>		<b>24.4%</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>15.5%</b>				
<b>Total Mean Percent Litter</b>		<b>5.3%</b>				
<b>Total Mean Percent Bare ground</b>		<b>81.0%</b>				

\*non-native species

HMP species in bold



Table 6-5  
 Future East Garrison MRA  
 2015 Plant Species Richness and Diversity

ESCA RP 2015 Annual Natural Resource Report

Future East Garrison MRA										
Activity Year	Vegetation Cutting in Central Maritime Chaparral							Small-scale Excavation in Oak Woodland		
	Baseline (2011)	Year 3 (2014)	Year 3 with species within 1 meter included (2014)	Year 3 (2015)	Year 3 with species within 1 meter included (2015)	Year 5 (2015)	Year 5 with species within 1 meter included (2015)	Baseline (2012)	Year 3 (2015)	Year 3 with species within 1 meter included (2015)
<b>Number of Transects/Quadrats</b>	39 Transects	17 Transects and 18 Quadrats		24 Transects and 12 Quadrats		6 Transects		2 Transects	2 Transects and 6 Quadrats	
<b>Total Number of Native Species</b>	25	28	94	51	104	30	71	14	25	38
<b>Total Number of HMP Species Present</b>	3	3	5	2	3	3	3	0	1	1
<b>Total Number of HMP Herbaceous Species Present</b>	0	0	2	0	0	0	0	0	0	0
<b>Total Native Tree Species in All Transects</b>	1	1	1	2	2	1	1	1	1	1
<b>Total Shrub Species in All Transects</b>	22	22	27	24	27	18	21	11	15	17
<b>Total Native Herbaceous Species in All Transects or Related Herbaceous Plots</b>	1	5	64	23	73	11	48	1	9	20
<b>Total Native Ferns and Fern Allies in All Transects or Related Herbaceous Plots</b>	1	0	2	2	2	0	1	0	0	0
<b>Mean Number Tree Species per Transect</b>	0.1	0.3	0.6	0.3	0.5	0.3	0.8	0.5	1.0	1.0
<b>Mean Number Shrub Species per Transect</b>	5.7	8.4	11.6	8.3	11.2	8.8	12.5	5.5	10.5	13.0
<b>Mean Number of Native Herbaceous Species per Transect<sup>1</sup></b>	0.05	0.3	10.7	2.4	13.3	3.7	12.7	0.0	5.0	14.0
<b>Mean number of Native Ferns and Fern Allies per Transect</b>	0.1	0.0	0.2	0.1	0.2	0.0	0.2	0.0	0.0	0.0
<b>Diversity - Shannon Index</b>	1.1	1.5	--	1.3	--	1.5	--	1.5	1.6	--
<b>Evenness</b>	0.2	0.2	--	0.2	--	0.2	--	0.2	0.1	--
<b>Total Percent Mean Native Cover (Transects)</b>	109.0%	66.5%	--	64.7%	--	61.6%	--	79.8%	43.9%	--
<b>Total Percent Mean Native Shrub Cover (Transects)</b>	106.3%	57.8%	--	60.9%	--	58.5%	--	37.1%	29.1%	--
<b>Total Percent Mean Native Herbaceous Species Cover (Transects)</b>	2.0%	8.4%	--	2.4%	--	2.4%	--	5.4%	2.5%	--
<b>Total Percent Mean Native Cover (Herbaceous Quadrats)</b>	0% <sup>2</sup>	6.3%	--	12.4%	--	0% <sup>2</sup>	--	0% <sup>2</sup>	15.5%	--

<sup>1</sup>Data collected from those transects in which herbaceous plots were monitored

<sup>2</sup>Quadrat data were not collected in baseline, due to lack of herbaceous cover

Table 6-6  
IAR MRA South Range 44 SCA and Central Area NCAs  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Twenty-nine Baseline Transects				
		Baseline Data 2010 - 2011 (all IAR MRA baseline transects)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Mean Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Cover by Native Tree Species</b>		<b>0.0%</b>			<b>0%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	29.3%	15.6%	4.9%	31.0%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>13.5%</b>	<b>9.3%</b>	<b>2.9%</b>	<b>14.3%</b>	<b>96.6%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	20.2%	16.0%	5.0%	21.4%	89.7%
<i>Adenostoma fasciculatum</i>	chamise	9.0%	6.9%	2.2%	9.5%	89.7%
<i>Crocanthemum scoparium</i>	rush-rose	8.1%	9.1%	2.9%	8.6%	86.2%
<i>Salvia mellifera</i>	black sage	5.3%	7.2%	2.3%	5.6%	69.0%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>1.6%</b>	<b>2.0%</b>	<b>0.6%</b>	<b>1.7%</b>	<b>65.5%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	1.5%	2.2%	0.7%	1.6%	65.5%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.9%	1.9%	0.6%	1.0%	31.0%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.5%	0.9%	0.3%	0.5%	27.6%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	1.5%	5.6%	1.8%	1.6%	24.1%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	0.7%	1.8%	0.6%	0.7%	24.1%
<i>Lepechinia calycina</i>	pitcher sage	0.4%	1.4%	0.5%	0.4%	20.7%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.2%</b>	<b>0.5%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>17.2%</b>
<i>Lupinus chamissonis</i>	silver bush lupine	0.4%	1.1%	0.4%	0.4%	13.8%
<i>Acmispon glaber</i>	deerweed	1.4%	0.0%	--	1.5%	0.0%
<i>Garrya elliptica</i>	coast silk-tassel	0.0%	0.0%	--	0.0%	0.0%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.0%	0.0%	--	0.0%	0.0%
<i>Toxicodendron diversilobum</i>	poison-oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Cover by Native Shrub and Subshrub Species</b>		<b>94.5%</b>			<b>99%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>1.3%</b>	<b>2.3%</b>	<b>1.3%</b>	<b>1%</b>	<b>90%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>0.0%</b>	<b>0.0%</b>		<b>0%</b>	<b>0%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>na</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>95.8%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>19.3%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Total Mean Percent Bare Ground Only</b>		<b>19.3%</b>	<b>9.3%</b>	<b>2.9%</b>	<b>--</b>	<b>100%</b>

HMP Species in Bold

Note: Not all species observed along transects listed in this table

Table 6-6  
IAR MRA South Range 44 SCA and Central Area NCAs  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Seven Baseline Transects				
		Baseline Data 2010 - 2011 (South Range 44 MRA baseline transects only)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Mean Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Cover by Native Tree Species</b>		<b>0%</b>			<b>0%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	25.8%	9.5%	6.9%	23.7%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>16.3%</b>	<b>5.0%</b>	<b>3.7%</b>	14.9%	<b>100%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	30.4%	14.9%	10.9%	27.9%	100%
<i>Adenostoma fasciculatum</i>	chamise	9.9%	7.1%	5.2%	9.1%	100%
<i>Crocanthemum scoparium</i>	rush-rose	10.0%	8.5%	6.2%	9.2%	100%
<i>Salvia mellifera</i>	black sage	8.7%	9.7%	7.1%	8.0%	100%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>0.7%</b>	<b>0.6%</b>	<b>0.4%</b>	0.7%	<b>71.4%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	3.0%	2.7%	2.0%	2.8%	85.7%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.1%	0.2%	0.2%	0.1%	14.3%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.0%	0.0%	--	0.0%	0.0%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	0.0%	0.0%	--	0.0%	0.0%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	0.2%	0.4%	0.3%	0.2%	28.6%
<i>Lepechinia calycina</i>	pitcher sage	0.0%	0.0%	--	0.0%	0.0%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.1%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>0.1%</b>	<b>14.3%</b>
<i>Lupinus chamissonis</i>	silver bush lupine	1.2%	2.1%	1.5%	1.1%	28.6%
<i>Acmispon glaber</i>	deerweed	1.2%	1.1%	0.8%	1.1%	85.7%
<i>Garrya elliptica</i>	coast silk-tassel	0.0%	0.0%	--	0.0%	0.0%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.0%	0.0%	--	0.0%	0.0%
<i>Toxicodendron diversilobum</i>	poison-oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Cover by Native Shrub and Subshrub Species</b>		<b>108%</b>			<b>99%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>1.2%</b>	<b>1.2%</b>	<b>0.9%</b>	<b>1.1%</b>	<b>71%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>0%</b>	<b>0%</b>	<b>--</b>	<b>0%</b>	<b>0%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>na</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>108.8%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>16.2%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>--</b>
<b>Total Mean Percent Bare Ground Only</b>		<b>16.2%</b>	<b>7.9%</b>	<b>5.8%</b>	<b>14.8%</b>	<b>100%</b>

HMP Species in Bold

Note: Not all species observed along transects listed in this t

Table 6-6  
IAR MRA South Range 44 SCA and Central Area NCAs  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Seven Transects in Cut Vegetation Conducted in 2011				
		Post-activity Data 2015 (Year 4)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Mean Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.4%	1.1%	0.8%	1.1%	14.3%
<b>Total Cover by Native Tree Species</b>		<b>0.4%</b>			<b>1.1%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	12.7%	7.4%	5.4%	34.9%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>0.4%</b>	<b>0.6%</b>	<b>0.4%</b>	<b>1.2%</b>	<b>57.1%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	0.0%	0.0%	0.0%	0.1%	42.9%
<i>Adenostoma fasciculatum</i>	chamise	5.9%	3.0%	2.2%	16.3%	100%
<i>Crocanthemum scoparium</i>	rush-rose	0.1%	0.1%	0.1%	0.2%	42.9%
<i>Salvia mellifera</i>	black sage	3.7%	5.0%	3.7%	10.3%	85.7%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>4.9%</b>	<b>2.9%</b>	<b>2.1%</b>	<b>13.5%</b>	<b>100.0%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	0.4%	0.6%	0.4%	1.2%	71.4%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.0%	0.0%	--	0.0%	0.0%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.1%	0.2%	0.1%	0.2%	28.6%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	0.9%	2.3%	1.7%	2.4%	14.3%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	0.0%	0.0%	--	0.0%	0.0%
<i>Lepechinia calycina</i>	pitcher sage	0.0%	0.0%	--	0.0%	0.0%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.0%</b>	<b>0.0%</b>	0.0%	<b>0.0%</b>	<b>14.3%</b>
<i>Lupinus chamissonis</i>	silver bush lupine	0.0%	0.0%	--	0.0%	0.0%
<i>Acmispon glaber</i>	deerweed	2.5%	3.9%	2.9%	6.9%	86%
<i>Garrya elliptica</i>	coast silk-tassel	0.5%	1.3%	0.9%	1.3%	14.3%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.3%	0.7%	0.5%	0.7%	14.3%
<i>Toxicodendron diversilobum</i>	poison-oak	0.2%	0.3%	0.2%	0.5%	28.6%
<b>Total Cover by Native Shrub and Subshrub Species</b>		<b>32.6%</b>			<b>89.8%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>3.3%</b>	<b>4.0%</b>	<b>2.9%</b>	<b>5.1%</b>	<b>100.0%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>0.0%</b>	<b>0.0%</b>	--	--	<b>0.0%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>0.0%</b>	--	--	--	
<b>Total Mean Percent Native Vegetative Cover</b>		<b>36.3%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>62.1%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		<b>4.3%</b>	<b>5.1%</b>	<b>3.7%</b>	--	<b>57.1%</b>
<b>Total Mean Percent Bare Ground Only</b>		<b>57.7%</b>	<b>10.3%</b>	<b>7.5%</b>	--	<b>100%</b>

HMP Species in Bold

Note: Not all species observed along transects listed in this t

Table 6-7  
Interim Action Ranges MRA North Range 44 SCAs  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Twenty-nine Baseline Transects				
		Baseline Data 2010 - 2011 (all IAR MRA baseline transects)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Cover by Native Tree Species</b>		<b>0.0%</b>			<b>0%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	29.3%	15.6%	9.0%	31.0%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>13.5%</b>	<b>9.3%</b>	<b>5.4%</b>	<b>14.3%</b>	<b>96.6%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	20.2%	16.0%	9.2%	21.4%	89.7%
<i>Adenostoma fasciculatum</i>	chamise	9.0%	6.9%	4.0%	9.5%	89.7%
<i>Crocanthemum scoparium</i>	rush-rose	8.1%	9.1%	5.3%	8.6%	86.2%
<i>Salvia mellifera</i>	black sage	5.3%	7.2%	4.1%	5.6%	69.0%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>1.6%</b>	<b>2.0%</b>	<b>1.2%</b>	<b>1.7%</b>	<b>65.5%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	1.5%	2.2%	1.3%	1.6%	65.5%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.9%	1.9%	0.6%	1.0%	31.0%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.5%	0.9%	0.5%	0.5%	27.6%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	1.5%	5.6%	3.3%	1.6%	24.1%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	0.7%	1.8%	1.1%	0.7%	24.1%
<i>Lepechinia calycina</i>	pitcher sage	0.4%	1.4%	0.8%	0.4%	20.7%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.2%</b>	<b>0.5%</b>	<b>0.3%</b>	<b>0.2%</b>	<b>17.2%</b>
<i>Lupinus chamissonis</i>	silver bush lupine	0.4%	1.1%	0.4%	0.4%	13.8%
<i>Acmispon glaber</i>	deerweed	1.4%	0.0%	0.0%	1.5%	0.0%
<i>Garrya elliptica</i>	coast silk-tassel	0.0%	0.0%	--	0.0%	0.0%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.0%	0.0%	--	0.0%	0.0%
<i>Toxicodendron diversilobum</i>	poison-oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Mean Percent Shrub and Subshrub Cover</b>		<b>94.5%</b>			<b>99%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>1.3%</b>	<b>2.3%</b>	<b>1.3%</b>	<b>1.4%</b>	<b>90.0%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>0.0%</b>	<b>0.0%</b>	<b>--</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>na</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>95.8%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>19.3%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		<b>--</b>				
<b>Total Mean Percent Bare Ground</b>		<b>19.3%</b>	<b>9.3%</b>	<b>2.9%</b>	<b>--</b>	<b>100%</b>

HMP Species in Bold

Table 6-7  
Interim Action Ranges MRA North Range 44 SCAs  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Five Baseline Transects				
		Baseline Data 2010 -2011 (North Range 44 MRA baseline transects only)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Cover by Native Tree Species</b>		<b>0%</b>			<b>0%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	21.7%	6.3%	6.0%	21.8%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>9.4%</b>	<b>10.3%</b>	<b>9.9%</b>	<b>9.4%</b>	<b>100.0%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	23.4%	19.3%	18.4%	23.5%	100.0%
<i>Adenostoma fasciculatum</i>	chamise	16.1%	6.1%	5.8%	16.2%	100.0%
<i>Crocanthemum scoparium</i>	rush-rose	11.6%	11.0%	10.5%	11.6%	100.0%
<i>Salvia mellifera</i>	black sage	6.1%	5.8%	5.6%	6.1%	60.0%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>2.4%</b>	<b>3.3%</b>	<b>3.1%</b>	<b>2.4%</b>	<b>60.0%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	2.8%	3.2%	3.0%	2.8%	100.0%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	1.8%	2.2%	2.1%	1.8%	60.0%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.0%	0.1%	0.1%	0.1%	20.0%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	0.8%	1.2%	1.1%	0.8%	40.0%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	0.0%	0.0%	--	0.0%	0.0%
<i>Lepechinia calycina</i>	pitcher sage	0.0%	0.0%	--	0.0%	0.0%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.6%</b>	<b>0.9%</b>	<b>0.8%</b>	<b>0.6%</b>	<b>40.0%</b>
<i>Lupinus chamissonis</i>	silver bush lupine	0.3%	0.7%	0.7%	0.3%	20.0%
<i>Acmispon glaber</i>	deerweed	0.8%	0.9%	0.8%	0.8%	80.0%
<i>Garrya elliptica</i>	coast silk-tassel	0.0%	0.0%	--	0.0%	0.0%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.0%	0.0%	--	0.0%	0.0%
<i>Toxicodendron diversilobum</i>	poison-oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Mean Percent Shrub and Subshrub Cover</b>		<b>98.0%</b>			<b>98%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>1.7%</b>	<b>1.4%</b>	<b>1.3%</b>	<b>1.7%</b>	<b>100.0%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>0.0%</b>	<b>0.0%</b>	<b>--</b>	<b>0.0%</b>	<b>0.0%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>na</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>99.6%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>20.3%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		<b>--</b>				
<b>Total Mean Percent Bare Ground</b>		<b>20.3%</b>	<b>10.4%</b>	<b>9.9%</b>	<b>--</b>	<b>100%</b>

HMP Species in Bold

Table 6-7  
Interim Action Ranges MRA North Range 44 SCAs  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Five Transects areas with Vegetation Cutting Conducted in 2012				
		Post-activity Data 2015 (Year 3)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.0%	--	--	--	0.0%
<b>Total Cover by Native Tree Species</b>		<b>0.0%</b>			<b>0.0%</b>	
<b>Shrub and Sub-shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	9.9%	5.7%	5.5%	17.6%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.5%</b>	<b>1.0%</b>	<b>80.0%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	1.3%	1.3%	1.3%	2.2%	80.0%
<i>Adenostoma fasciculatum</i>	chamise	13.3%	6.7%	6.3%	23.6%	100.0%
<i>Crocanthemum scoparium</i>	rush-rose	3.7%	3.0%	2.8%	6.5%	100.0%
<i>Salvia mellifera</i>	black sage	6.9%	7.0%	6.6%	12.3%	60.0%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>4.0%</b>	<b>2.4%</b>	<b>2.3%</b>	<b>7.2%</b>	<b>80.0%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	2.5%	1.5%	1.4%	4.5%	100.0%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.2%	0.4%	0.4%	0.4%	40.0%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.0%	--	--	--	0.0%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	0.3%	0.4%	0.4%	0.5%	40.0%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	0.1%	0.2%	0.2%	0.2%	20.0%
<i>Lepechinia calycina</i>	pitcher sage	0.0%	--	--	--	0.0%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>1.8%</b>	<b>1.8%</b>	<b>1.7%</b>	<b>3.2%</b>	<b>60.0%</b>
<i>Lupinus chamissonis</i>	silver bush lupine	0.0%	--	--	--	0.0%
<i>Acmispon glaber</i>	deerweed	1.0%	1.6%	1.5%	1.8%	40.0%
<i>Garrya elliptica</i>	coast silk-tassel	0.1%	0.3%	0.3%	0.2%	20.0%
<i>Symphoricarpos mollis</i>	creeping snowberry	0.0%	--	--	--	0.0%
<i>Toxicodendron diversilobum</i>	poison-oak	0.7%	1.4%	1.3%	1.2%	60.0%
<b>Total Mean Percent Shrub and Subshrub Cover</b>		<b>46.3%</b>			<b>84%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>8.8%</b>	<b>10.9%</b>	<b>10.4%</b>	<b>24.9%</b>	<b>100.0%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>0.4%</b>	<b>0.8%</b>	<b>0.8%</b>	<b>0.7%</b>	<b>20.0%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>1.0%</b>	<b>1.1%</b>	<b>1.0%</b>	<b>1.8%</b>	<b>80.0%</b>
<b>Total Mean Percent Native Vegetative Cover</b>		<b>55.2%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>43.7%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		<b>0.0%</b>	<b>0.1%</b>	<b>0.0%</b>	<b>--</b>	<b>20.0%</b>
<b>Total Mean Percent Bare Ground</b>		<b>43.6%</b>	<b>13.1%</b>	<b>12.5%</b>	<b>--</b>	<b>100%</b>

HMP Species in Bold

Table 6-8  
Interim Action Range MRA - Range 47 Subarea C  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Twenty-nine Baseline Transects				
		Baseline Data 2010 - 2011 (all IAR MRA baseline transects)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Mean Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.0%	0.0%	--	--	0.0%
<b>Total Mean Percent Native Tree Cover</b>		<b>0.0%</b>			<b>0.0%</b>	
<b>Shrub and Sub-Shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	29.3%	15.6%	4.9%	31.0%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>13.5%</b>	<b>9.3%</b>	<b>2.9%</b>	<b>14.3%</b>	<b>96.6%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	20.2%	16.0%	5.0%	21.4%	89.7%
<i>Adenostoma fasciculatum</i>	chamise	9.0%	6.9%	2.2%	9.5%	89.7%
<i>Crocanthemum scoparium</i>	rush-rose	8.1%	9.1%	2.9%	8.6%	86.2%
<i>Salvia mellifera</i>	black sage	5.3%	7.2%	2.3%	5.6%	69.0%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>1.6%</b>	<b>2.0%</b>	<b>0.6%</b>	<b>1.7%</b>	<b>65.5%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	1.5%	2.2%	0.7%	1.6%	65.5%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.9%	1.9%	0.6%	1.0%	31.0%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.5%	0.9%	0.3%	0.5%	27.6%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	1.5%	5.6%	1.8%	1.6%	24.1%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	0.7%	1.8%	0.6%	0.7%	24.1%
<i>Lepechinia calycina</i>	pitcher sage	0.4%	1.4%	0.5%	0.4%	20.7%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.2%</b>	<b>0.5%</b>	<b>0.2%</b>	<b>0.2%</b>	<b>17.2%</b>
<i>Lupinus arboreus</i>	yellow bush lupine	0.0%	0.0%	--	--	0.0%
<i>Lupinus chamissonis</i>	silver bush lupine	0.4%	1.1%	0.4%	0.4%	13.8%
<i>Acmispon glaber</i>	deerweed	1.4%	0.0%	--	1.5%	0.0%
<i>Toxicodendron diversilobum</i>	poison-oak	0.0%	0.0%	--	--	0.0%
<b>Total Mean Percent Shrub and Subshrub Cover</b>		<b>94.5%</b>			<b>98.6%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>1.3%</b>	<b>2.3%</b>	<b>1.3%</b>	--	<b>90.0%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>0.0%</b>	<b>0.0%</b>			<b>0.0%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>na</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>95.8%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>19.3%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		--				
<b>Total Mean Percent Bare Ground</b>		<b>19.3%</b>	<b>9.3%</b>	<b>2.9%</b>	--	<b>100%</b>

HMP Species in Bold

Note: Not all species observed along the transects listed in this table



Table 6-8  
Interim Action Range MRA - Range 47 Subarea C  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Six Baseline Transects				
		Baseline Data 2010 - 2011 (Range 47 Subarea C baseline transects)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Mean Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.0%	0.0%	--	--	0.0%
<b>Total Mean Percent Native Tree Cover</b>		<b>0.0%</b>			<b>0.0%</b>	
<b>Shrub and Sub-Shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	34.4%	15.3%	0.5%	30.2%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>16.6%</b>	<b>12.3%</b>	<b>0.4%</b>	<b>14.6%</b>	<b>100.0%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	13.7%	15.1%	0.5%	12.1%	83.3%
<i>Adenostoma fasciculatum</i>	chamise	10.5%	6.3%	5.2%	9.2%	83.3%
<i>Crocanthemum scoparium</i>	rush-rose	6.1%	7.6%	0.3%	5.4%	83.3%
<i>Salvia mellifera</i>	black sage	2.3%	2.5%	0.1%	2.1%	66.7%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>0.8%</b>	<b>1.1%</b>	<b>0.0%</b>	<b>0.7%</b>	<b>50.0%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	0.6%	0.7%	0.0%	0.5%	66.7%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.4%	0.9%	0.0%	0.4%	33.3%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.7%	1.4%	0.0%	0.6%	33.3%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	1.2%	2.0%	0.1%	1.1%	50.0%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	1.2%	2.6%	0.1%	1.1%	33.3%
<i>Lepechinia calycina</i>	pitcher sage	1.3%	3.1%	0.1%	1.1%	16.7%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.4%</b>	<b>0.7%</b>	<b>0.0%</b>	<b>0.4%</b>	<b>33.3%</b>
<i>Lupinus arboreus</i>	yellow bush lupine	0.0%	0.0%	--	--	0.0%
<i>Lupinus chamissonis</i>	silver bush lupine	0.3%	0.7%	0.0%	0.2%	16.7%
<i>Acmispon glaber</i>	deerweed	1.2%	1.3%	0.0%	1.1%	83.3%
<i>Toxicodendron diversilobum</i>	poison-oak	0.0%	0.0%	--	0.0%	0.0%
<b>Total Mean Percent Shrub and Subshrub Cover</b>		<b>91.7%</b>			<b>99.4%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>0.5%</b>	<b>1.3%</b>	<b>0.0%</b>	<b>0.5%</b>	<b>16.7%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>						
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>na</b>				
<b>Total Mean Percent Native Vegetative Cover</b>		<b>92.2%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>21.5%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		<b>--</b>				
<b>Total Mean Percent Bare Ground</b>		<b>21%</b>	<b>10%</b>	<b>0%</b>	<b>19%</b>	<b>100%</b>

HMP Species in Bold

Note: Not all species observed along the transects I

Table 6-8  
Interim Action Range MRA - Range 47 Subarea C  
Vegetation Cover in Areas Subject to Vegetation Cutting Conducted in 2011

ESCA RP 2015 Annual Natural Resource Report

Scientific Name	Common Name	Three transects with Vegetation Cutting Conducted in 2011				
		Post-activity Data 2015 (Year 4)				
		Mean Percent Cover	Standard Deviation	90% Confidence Interval	Mean Relative Cover	Mean Frequency
<b>Tree Species</b>						
<i>Quercus agrifolia</i>	coast live oak	0.0%	0.0%	--	--	0.0%
<b>Total Mean Percent Native Tree Cover</b>		<b>0.0%</b>			<b>0.0%</b>	
<b>Shrub and Sub-Shrub Species</b>						
<i>Arctostaphylos tomentosa</i> subsp. <i>tomentosa</i>	shaggy-barked manzanita	35.7%	18.6%	31.4%	52.1%	100%
<b><i>Ceanothus rigidus</i></b>	<b>Monterey ceanothus</b>	<b>1.7%</b>	<b>1.1%</b>	<b>1.8%</b>	<b>2.5%</b>	<b>100.0%</b>
<i>Ceanothus dentatus</i>	dwarf ceanothus	0.3%	0.2%	0.4%	0.4%	66.7%
<i>Adenostoma fasciculatum</i>	chamise	10.0%	5.9%	10.0%	14.6%	100%
<i>Crocianthemum scoparium</i>	rush-rose	0.2%	0.3%	0.4%	0.3%	66.7%
<i>Salvia mellifera</i>	black sage	5.5%	6.8%	11.5%	8.0%	66.7%
<b><i>Arctostaphylos pumila</i></b>	<b>sandmat manzanita</b>	<b>3.2%</b>	<b>3.6%</b>	<b>6.0%</b>	<b>4.6%</b>	<b>66.7%</b>
<i>Eriophyllum confertiflorum</i>	golden yarrow	0.3%	0.4%	0.7%	0.4%	33.3%
<i>Frangula californica</i> subsp. <i>californica</i>	California coffeeberry	0.0%	0.0%	--	--	0.0%
<i>Mimulus aurantiacus</i>	bush monkeyflower	0.1%	0.1%	0.2%	0.1%	33.3%
<i>Ericameria ericoides</i>	dune-heather, mock-heather	0.0%	--	--	0.0%	0.0%
<i>Baccharis pilularis</i> subsp. <i>consanguinea</i>	coyote brush	0.0%	0.0%	--	0.0%	0.0%
<i>Lepechinia calycina</i>	pitcher sage	0.6%	0.9%	1.6%	0.9%	33.3%
<b><i>Ericameria fasciculata</i></b>	<b>Eastwood's ericameria</b>	<b>0.0%</b>	<b>0.0%</b>	<b>--</b>	<b>--</b>	<b>0.0%</b>
<i>Lupinus arboreus</i>	yellow bush lupine	0.2%	0.3%	0.4%	0.3%	33.3%
<i>Lupinus chamissonis</i>	silver bush lupine	0.0%	0.0%	--	--	0.0%
<i>Acmispon glaber</i>	deerweed	6.3%	4.0%	6.7%	9.1%	100%
<i>Toxicodendron diversilobum</i>	poison-oak	0.4%	0.6%	1.0%	0.6%	33.3%
<b>Total Mean Percent Shrub and Subshrub Cover</b>		<b>64.4%</b>			<b>98.1%</b>	
<b>Total Combined Mean Native Cover Between Shrubs and Subshrubs</b>		<b>1.2%</b>	<b>1.7%</b>	<b>2.8%</b>	<b>1.4%</b>	<b>66.7%</b>
<b>Target Weed Total (<i>Carpobrotus edulis</i>)</b>		<b>3.0%</b>	<b>4.6%</b>	<b>7.7%</b>	<b>4.4%</b>	<b>33.3%</b>
<b>Total Mean Non-native Herbaceous Species Cover</b>		<b>3.4%</b>	<b>0.0%</b>	<b>0.1%</b>	<b>5.0%</b>	<b>100.0%</b>
<b>Total Mean Percent Native Vegetative Cover</b>		<b>65.6%</b>				
<b>Total Mean Percent Bare Ground (Including Masticated Vegetation)</b>		<b>22.1%</b>				
<b>Total Mean Percent Masticated Vegetation (calculated in 2014 and 2015)</b>		<b>0.6%</b>	<b>0.9%</b>	<b>1.5%</b>	<b>--</b>	<b>33%</b>
<b>Total Mean Percent Bare Ground</b>		<b>21.5%</b>	<b>7.1%</b>	<b>12.0%</b>	<b>--</b>	<b>100%</b>

HMP Species in Bold

Note: Not all species observed along the transects I



Table 6-10  
Interim Action Ranges MRA Range 47 Subarea C  
2015 Plant Species Richness and Diversity

ESCA RP 2015 Annual Natural Resource Report

<b>Interim Action Ranges MRA in Central Maritime Chaparral</b>							
<b>Location</b>	<b>Range 47</b>						
<b>Area</b>	<b>Subarea C</b>						
<b>Activity Type</b>	<b>Cut Vegetation</b>						
<b>Activity Year</b>	<b>Baseline (2010)</b>	<b>Year 1 (2012)</b>	<b>Year 2 (2013)</b>	<b>Year 3 (2014)</b>	<b>Year 3 with surrounding species included (2014)</b>	<b>Year 4 (2015)</b>	<b>Year 4 with surrounding species included (2015)</b>
<b>Number of Transects/Quadrats</b>	<b>Six Transects</b>	<b>Three Transects</b>					
<b>Total Number of Native Species</b>	<b>17</b>	12	12	17	33	22	46
<b>Total Number of HMP Species Present</b>	<b>3</b>	2	3	3	3	3	3
<b>Total Number of HMP Herbaceous Species Present</b>	<b>0</b>	0	0	1	1	1	1
<b>Total Tree Species in All Transects</b>	<b>0</b>	0	0	0	0	0	0
<b>Total Shrub Species in All Transects</b>	<b>16</b>	7	7	9	12	13	16
<b>Total Herbaceous Species in All Transects or Related Herbaceous Plots</b>	<b>1</b>	5	5	8	21	9	30
<b>Total Fern and Fern Allies Species in All Transects</b>	<b>0</b>	0	0	0	0	0	0
<b>Mean Number of Tree Species per Transect</b>	<b>0.0</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Mean Number of Shrub Species per Transect</b>	<b>9.3</b>	5.3	6.0	7.5	9.0	8.3	11.0
<b>Mean Number of Herbaceous Species per Transect<sup>2</sup></b>	<b>0.0</b>	2.3	2.6	3.5	9.3	3.7	16.3
<b>Mean Number of Fern and Fern Allies Species per Transect</b>	<b>0.0</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Diversity - Shannon Index</b>	<b>1.6</b>	1.0	1.3	1.1	--	1.4	--
<b>Evenness</b>	<b>0.2</b>	0.2	0.2	0.2	--	0.2	--
<b>Total Percent Mean Native Cover (Transects)</b>	<b>92.2%</b>	46.0%	70.1%	63.7%	--	65.3%	--
<b>Percent Mean Shrub Cover</b>	<b>91.7%</b>	43.2%	67.2%	62.7%	--	64.4%	--
<b>Percent Mean Herbaceous Cover (Transects)</b>	<b>0.5%</b>	2.7%	2.9%	1.0%	--	0.9%	--

Table 6-11  
 Future East Garrison MRA  
 2013-2015 Presence and Density of Monterey Spineflower  
 after Vegetation Cutting

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline <sup>1</sup>
<b>Post Activity Data 2013 - 2015</b>								
<b>Vegetation Cut/Target Specific Excavation</b>								
Post-activity Year 1 (2014)	0 (0)	0	0	0.0	--	--	6	0%
Post-activity Year 2 (2013)	138 (1)	138	138	138.0	--	--	2	50%
Post-activity Year 2 (2014)	0 (0)	0	0	0.0	--	--	46	0%
Post-activity Year 3 (2014)	377 (3)	126	92	30.7	38.9	66	307	100%*
Post-activity Year 3 (2015)	0 (0)	0	0	0.0	--	--	346	0%
Post-activity Year 4 (2014)	0 (0)	0	0	0.0	--	--	20	0%
Post-activity Year 4 (2015)	12 (2)	6	3	1.5	0.7	3	47	100%
Post-activity Year 5 (2015)	0 (0)	0	0	0.0	--	--	26	0%
<b>Small-scale Excavation</b>								
Post-activity Year 3 (2015)	0	0	0	--	--	--	4	0%
<b>2015 Sampling Totals</b>	<b>12 (2)</b>	<b>6</b>	<b>3</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>423</b>	<b>100%</b>
<b>Baseline Pre-disturbance</b>								
2010	236 (2)	118	236	118.0	106.0	473.2	2	--
2012	110 (2)	55	110	55.0	52.3	233.6	2	--

\*exceeds number of baseline grids sampled

<sup>1</sup>2012 baseline used for comparison because 2010 was an above-average rainfall year.

Table 6-12  
 Future East Garrison MRA  
 2013-2015 Presence and Density of Sand (Monterey) Gilia  
 after Vegetation Cutting

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline <sup>1</sup>
<b>Post Activity Data 2013 - 2015</b>								
<b>Vegetation Cut/Target Specific Excavation</b>								
Post-activity Year 1 (2014)	0 (0)	0	0	0.0	--	--	6	0%
Post-activity Year 2 (2013)	11 (1)	11	11	11.0	--	--	39	100%
Post-activity Year 2 (2014)	0 (0)	0	0	0.0	--	--	46	0%
Post-activity Year 3 (2013)	5 (2)	3	4	2.0	0.0	--	37	100%*
Post-activity Year 3 (2014)	30 (1)	30	9	9.0	--	--	307	100%
Post-activity Year 3 (2015)	0 (0)	0	0	0.0	--	--	346	0%
Post-activity Year 4 (2014)	0 (0)	0	0	0.0	--	--	20	0%
Post-activity Year 4 (2015)	13 (3)	4	11	3.7	3.8	6	47	100%*
Post-activity Year 5 (2015)	0 (0)	0	0	0.0	--	--	26	0%
<b>Small-scale Excavation</b>								
Post-activity Year 3 (2015)	0 (0)	0	0	--	--	--	4	0%
<b>2015 Sampling Totals</b>	<b>13 (3)</b>	<b>4</b>	<b>11</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>423</b>	<b>100%*</b>
<b>Baseline Pre-Activity</b>								
2010	330 (3)	110	90	30.0	22.9	38.6	3	--
2012	15 (1)	15	15	7.5	6.4	28.4	2	--

\*exceeds number of baseline grids sampled

<sup>1</sup>2012 baseline used for comparison because 2010 was an above-average rainfall year.

Table 6-13  
 Future East Garrison MRA  
 2013-2015 Presence and Density of Seaside Bird's-beak  
 after Vegetation Cutting

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline <sup>1</sup>
<b>Post-Activity Data 2013 -2015</b>								
<b>Vegetation Cut/Target Specific Excavation</b>								
Post-activity Year 1 (2014)	0 (0)	--	--	--	--	--	6	--
Post-activity Year 2 (2014)	132 (2)	66	38	19.0	1.4	6	46	100%*
Post-activity Year 3 (2013)	187 (1)	187	61	61.0	0.0	--	37	100%*
Post-activity Year 3 (2014)	243 (4)	61	46	11.5	10.2	12	307	100%*
Post-activity Year 3 (2015)	202 (2)	101	19	9.5	12.0	54	346	100%*
Post-activity Year 4 (2014)	0 (0)	0	0	--	--	--	20	100%*
Post-activity Year 4 (2015)	220 (4)	44	47	9.4	7.4	7	47	100%*
Post-activity Year 5 (2015)	0 (0)	0	0	0.0	--	--	26	100%*
<b>Small-scale Excavation</b>								
Post-activity Year 3 (2015)	0	0	0	--	--	--	4	0%
<b>2015 Sampling Totals</b>	<b>422 (6)</b>	<b>70</b>	<b>66</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>423</b>	<b>100%*</b>
<b>Baseline Pre-disturbance</b>								
2010	--	--	--	--	--	--	--	--
2012	--	--	--	--	--	--	--	--
<b>Reference Plots</b>								
2014 Survey	139 (3)	46	15	5.0	1.7	2.9	4	100%*
2015 Survey	112 (3)	37	16	5.3	2.1	3.5	3	100%*

\*exceeds number of baseline grids sampled

<sup>1</sup>2012 baseline used for comparison because 2010 was an above-average rainfall year.

Table 6-14  
2015 Total Presence and Density of Monterey Spineflower  
After Remedial Activities in IAR North Range 44

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 1 - Year 3 (2013 - 2015)</b>								
<b>Activity B - Vegetation Cut</b>								
Post-activity Year 1 (2013)	64,228 (30)	2,141	2,067	68.9	54.5	16.9	31	100%*
Post-activity Year 2 (2014)	35,492 (35)	1,042	1,226	35.0	45.4	13.0	41	100%*
Post-activity Year 3 (2015)	40,832 (39)	1,047	1,908	48.9	72.6	19.6	41	100%*
<b>Activity C - Small-scale Excavation</b>								
Post-activity Year 1 (2013)	1,294 (11)	118	301	23.2	31.1	17.0	13	100%*
Post-activity Year 2 (2014)	1,528 (13)	118	239	18.4	44.4	22.0	19	100%*
Post-activity Year 3 (2015)	3,216 (16)	201	403	25.2	61.1	26.8	20	100%*
<b>2015 Sampling Totals</b>	<b>44,048</b>	<b>1,248</b>	<b>2,311</b>	--	--	--	<b>61</b>	<b>100%*</b>
<b>Reference Plot</b>								
2013 Survey	450 (1)	450	19	19.0	--	--	1	17%
2014 Survey	1,267 (2)	634	120	60.0	5.7	25.3	2	33%
2015 Survey	990 (2)	495	208	104.0	65.1	290.4	8	33%
<b>Baseline Pre-disturbance</b>								
2012	163 (6)	27	163	27.2	32.4	26.7	6	--

\* exceeds number of baseline grid cells sampled



Table 6-15  
2015 Total Presence and Density of Monterey Spineflower  
After Remedial Activities in IAR South Range 44

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 2 - Year 4 (2013 - 2015)</b>								
<b>Activity A - Ingress/Egress Routes</b>								
Post-activity Year 2 (2013)	3,349 (4)	837	876	219.0	124.5	146.5	4	29%
Post-activity Year 3 (2014)	21,235 (2)	10,617	1,100	1100.0	--	--	22	14%
Post-activity Year 4 (2015)	9,459 (6)	1,577	579	463.8	31.7	30.2	22	43%
<b>Activity B - Vegetation Cut</b>								
Post-activity Year 2 (2013)	3,601 (3)	1,200	476	158.6	162.0	273.0	3	21%
Post-activity Year 3 (2014)	49,168 (24)	2,049	4,138	1548.1	133.3	228.6	79	100%*
Post-activity Year 4 (2015)	36,701 (50)	734	3,008	674.1	613.2	2465.3	79	100%*
<b>Activity C - Small-scale Excavation</b>								
Post-activity Year 2 (2013)	7,763 (4)	1,941	1,640	410.1	428.8	504.6	4	33%
Post-activity Year 3 (2014)	8,422 (10)	842	1,548	154.8	276.3	160.2	26	71%
Post-activity Year 4 (2015)	15,997 (13)	1,231	1,405	108.1	136.3	67.4	26	93%
<b>2015 Sampling Totals</b>	<b>62157 (69)</b>	<b>3,542</b>	<b>4,992</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>127</b>	<b>100%*</b>
<b>Reference Plot</b>								
2013 Survey	450 (1)	450	19	19.0	--	--	1	7%
2014 Survey	2,017 (3)	672	870	290.0	398.4	671.6	3	21%
2015 Survey	990 (2)	495	208	104.0	65.1	290.4	8	14%
<b>Baseline Pre-disturbance</b>								
2012	567 (14)	41	567	40.5	47.8	22.6	14	--
* exceeds number of baseline grid cells sampled								

Table 6-16  
2015 Total Presence and Density of Monterey Spineflower  
After Remedial Activities in IAR Range 47 Subarea C

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 2 - Year 4 (2013 - 2015)</b>								
<b>Activity B - Vegetation Cut/Target-specific Excavation</b>								
Post-activity Year 2 (2013)	1,716 (7)	245	78	7.8	13.4	9.8	12	100%*
Post-activity Year 3 (2014)	13353 (9)	1,484	1,106	122.9	146.2	90.6	18	100%*
Post-activity Year 4 (2015)	18932 (9)	2,104	1,052	116.9	192.5	119.3	18	100%*
<b>Activity C - Small-scale Excavation</b>								
Post-activity Year 2 (2013)	--	--	--	--	--	--	--	--
Post-activity Year 3 (2014)	1 (1)	1	1	1.0	--	--	4	20%
Post-activity Year 4 (2015)	1 (1)	1	1	1.0	--	--	4	20%
<b>2015 Sampling Totals</b>	<b>18933 (10)</b>	<b>2,105</b>	<b>1,053</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>22</b>	<b>100%*</b>
<b>Reference Plot</b>								
2013 Survey	450 (1)	450	19	19.0	--	--	1	20%
2014 Survey	2,017 (3)	672	870	290.0	398.4	671.6	3	60%
2015 Survey	990 (2)	495	208	104.0	65.1	290.4	8	40%
<b>Baseline Pre-disturbance</b>								
2012	30 (4)	6	30	6.0	4.8	4.6	4	--

\* exceeds number of baseline grid cells sampled

Note- Year 1 data calculated in different manner, see 2012 Annual Natural Resources Report

Table 6-17  
2015 Total Presence and Density of Sand (Monterey) Gilia  
After Remedial Activities in IAR North Range 44

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Number of Occupied Grids	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 1 - Year 3 (2013 - 2015)</b>									
<b>Activity B - Vegetation Cut</b>									
Post-activity Year 1 (2013)	2,329 (29)	80	278	5.8	5.5	1.7	29	38	100%*
Post-activity Year 2 (2014)	147 (17)	9	76	4.5	3.7	1.6	17	41	100%*
Post-activity Year 3 (2015)	1,233 (27)	46	199	7.4	7.0	2.3	27	41	100%*
<b>Activity C - Small-scale Excavation</b>									
Post-activity Year 1 (2013)	108 (10)	11	70	4.4	4.3	2.5	10	11	100%*
Post-activity Year 2 (2014)	331 (12)	28	138	11.5	11.9	6.2	12	19	100%*
Post-activity Year 3 (2015)	1,163 (17)	68	158	9.3	8.6	3.6	17	20	100%*
<b>2015 Sampling Totals</b>	<b>2,396 (44)</b>	<b>55</b>	<b>357</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>44</b>	<b>61</b>	<b>100%*</b>
<b>Reference Plot</b>									
2013 Survey	12 (1)	12	12	12.0	--	--	1	1	100%*
2014 Survey	12 (3)	4	4	1.3	0.6	1.0	3	3	100%*
2015 Survey	136 (3)	45	33	11.0	1.7	2.9	3	8	100%*
<b>Baseline Pre-disturbance</b>									
<b>2012 Totals</b>									
2012	0	0	0	0.0	--	--	0	--	--

\* exceeds number of baseline grid cells sampled

Table 6-18  
2015 Total Presence and Density of Sand (Monterey) Gilia  
After Remedial Activities in IAR South Range 44

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 2 - Year 4 (2013 - 2015)</b>								
<b>Activity A - Ingress/Egress Routes</b>								
Post-activity Year 2 (2013)	3 (1)	3	3	3.0	--	--	1	7%
Post-activity Year 3 (2014)	0 (0)	0	0	0.0	--	--	22	0%
Post-activity Year 4 (2015)	19 (2)	9	5	2.5	0.7	3.2	22	14%
<b>Activity B - Vegetation Cut/Target-specific Excavation</b>								
Post-activity Year 2 (2013)	33 (8)	4	28	3.1	2.2	1.5	8	57%
Post-activity Year 3 (2014)	6 (3)	2	6	2.0	1.0	1.7	79	21%
Post-activity Year 4 (2015)	183 (12)	15	63	5.3	4.2	2.2	79	86%
<b>Activity C - Small-scale Excavation</b>								
Post-activity Year 2 (2013)	11 (3)	27	11	3.7	3.1	5.2	3	21%
Post-activity Year 3 (2014)	237 (10)	24	76	7.6	6.9	4.0	26	71%
Post-activity Year 4 (2015)	1240 (18)	69	103	5.7	3.7	1.5	26	100%*
<b>2015 Sampling Totals</b>	<b>1,442</b>	<b>93</b>	<b>171</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>127</b>	<b>100%*</b>
<b>Reference Plot</b>								
2013 Survey	12 (1)	12	12	12.0	--	--	1	7%
2014 Survey	12 (3)	4	4	1.3	0.6	1.0	3	21%
2015 Survey	136 (3)	45	33	11.0	1.7	2.9	8	21%
<b>Baseline Pre-disturbance 2012 Totals</b>								
2012	94 (12)	7	38	2.7	2.3	1.1	12	--

\* exceeds number of baseline grid cells sampled

Table 6-19  
2015 Total Presence and Density of Sand (Monterey) Gilia  
After Remedial Activities in Range 47 Subarea C

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Number of Occupied Grids	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 2- Year 4 (2013 - 2015)</b>									
<b>Activity B - Vegetation Cut/Target-specific Excavation</b>									
Post-activity Year 2 (2013)	74 (3)	25	74	14.6	8.9	39.7	--	17	100%*
Post-activity Year 3 (2014)	0 (0)	0	0	0.0	0.0	0.0	0	18	0%
Post-activity Year 4 (2015)	80 (4)	20	25	6.3	6.0	7.1	4	18	100%*
<b>Activity C - Small-scale Excavation</b>									
Post-activity Year 2 (2013)	1 (1)	1	1	1.0	--	--	--	5	50%
Post-activity Year 3 (2014)	0 (0)	0	0	0.0	0.0	0.0	0	4	0%
Post-activity Year 4 (2015)	8 (1)	8	3	3.0	--	--	1	4	50%
<b>2015 Sampling Totals</b>	<b>88</b>	<b>28</b>	<b>28</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>5</b>	<b>22</b>	<b>100%*</b>
<b>Reference Plot</b>									
2013 Survey	12 (1)	12	12	12.0	--	--	1	1	50%
2014 Survey	12 (3)	4	4	1.3	0.6	1.0	3	3	100%*
2015 Survey	136 (3)	45	33	11.0	1.7	2.9	3	8	100%*
<b>Baseline Pre-disturbance</b>									
2012	6 (2)	3	4	2.0	--	--	2	2	--

\* exceeds number of baseline grid cells sampled

Note- Year 1 data calculated in different manner, see 2012 Annual Natural Resources Report

Table 6-20  
2015 Total Presence and Density of Seaside Bird's-beak  
After Remedial Activities in IAR North Range 44

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Average Number of Plants per Occupied Grid	Total Number of Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 1 - Year 3 (2013 - 2015)</b>								
<b>Activity B - Vegetation Cut</b>								
Post-activity Year 1 (2013)	4,549 (10)	455	386	38.6	35.6	20.6	35	100%*
Post-activity Year 2 (2014)	751 (11)	68	123	11.2	7.1	3.9	41	100%*
Post-activity Year 3 (2015)	2,051 (9)	228	147	16.3	12.3	7.6	41	100%
<b>Activity C - Small-scale Excavation</b>								
Post-activity Year 1 (2013)	2 (2)	1	2	1.0	0.0	--	17	22%
Post-activity Year 2 (2014)	203 (15)	14	51	3.4	2.8	1.3	19	100%*
Post-activity Year 3 (2015)	361 (16)	23	69	4.3	2.1	0.9	20	100%*
<b>2015 Sampling Totals</b>	<b>2,412 (25)</b>	<b>97</b>	<b>216</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>61</b>	<b>100%*</b>
<b>Reference Plot</b>								
2013 Survey	108 (1)	108	9	8.5	--	--	1	11%
2014 Survey	31	16	6	3.0	0.0	--	2	22%
2015 Survey	127	64	20	10.0	2.8	12.6	8	22%
<b>Baseline Pre-disturbance 2012 Totals</b>								
2012	39 (8)	5	20	3.3	2.6	2.1	8	--

\* exceeds number of baseline grid cells sampled

Table 6-21  
2015 Total Presence and Density of Seaside Bird's-beak  
After Remedial Activities in IAR South Range 44

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Mean Number of Plants per Occupied Grid	Total Number of All Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 2 - Year 4 (2013 - 2015)</b>								
<b>Activity A - Ingress/Egress Routes</b>								
Post-activity Year 2 (2013)	2 (1)	2	2	2.0	--	--	1	11%
Post-activity Year 3 (2014)	0 (0)	0	0	0.0	--	--	22	0%
Post-activity Year 4 (2015)	0 (0)	0	0	0.0	--	--	22	0%
<b>Activity B - Vegetation Cut/Target-specific Excavation</b>								
Post-activity Year 2 (2013)	123 (3)	41	123	41.0	62.4	73.4	4	33%
Post-activity Year 3 (2014)	19 (3)	6	19	6.3	2.3	3.9	79	33%
Post-activity Year 4 (2015)	10 (2)	5	10	5.0	0.0	--	79	22%
<b>2014 Sampling Totals</b>	<b>10</b>	<b>5</b>	<b>10</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>101</b>	<b>22%</b>
<b>Reference Plot</b>								
2013 Survey	108 (1)	108	8	8.5	--	--	1	11%
2014 Survey	31 (2)	15	6	3.0	0.0	--	2	22%
2015 Survey	127 (2)	64	20	10.0	2.8	12.6	8	22%
<b>Baseline Pre-disturbance 2012 Totals</b>								
2012	84 (8)	10	84	9.3	7.8	4.9	8	--

\* exceeds number of baseline grid cells sampled

Table 6-22  
 2015 Total Presence and Density of Coast Wallflower  
 After Remedial Activities in IAR North Range 44

ESCA RP 2015 Annual Natural Resource Report

	Total Plants (Occupied Grids)	Average Number of Plants per Occupied Grid	Total Number of Plants in Plots	Mean Density per Plot	Standard Deviation	90% Confidence Interval	Number of Occupied Grids	Total Surveyed Grids	Percentage of Occupied Grid Compared to Baseline
<b>Post-activity Data Year 1 - Year 3 (2013 - 2015)</b>									
<b>Activity B - Vegetation Cut</b>									
Post-activity Year 1 (2013)	54 (6)	--	28	4.7	3.1	5.2	6	6	100%*
Post-activity Year 2 (2014)	33 (3)	11	15	5.0	3.6	6.1	3	41	100%*
Post-activity Year 3 (2015)	38 (1)	38	6	6.0	--	--	1	41	100%*
<b>Activity C - Small-scale Excavation</b>									
Post-activity Year 1 (2013)	0 (0)	0	0	0.0	--	--	0	6	--
Post-activity Year 2 (2014)	10 (1)	10	5	5.0	--	--	1	19	100%*
Post-activity Year 3 (2015)	2 (2)	1	2	1.0	0.0	--	2	20	100%*
<b>2015 Sampling Totals</b>	<b>40 (3)</b>	<b>13</b>	<b>8</b>	<b>--</b>	<b>--</b>	<b>--</b>	<b>3</b>	<b>61</b>	<b>100%*</b>
<b>Reference Plot</b>									
2013 Survey	11 (2)	--	--	--	--	--	--	--	--
<b>Baseline Pre-disturbance</b>	<b>2012 Totals</b>								
2012	--	--	--	--	--	--	--	--	--

\* exceeds number of baseline grid cells sampled