

Supplementary material

Disturbance affects biotic community composition at desert wind farms

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Table S1. Average weather conditions and total survey effort during predator surveys conducted from mid-June to late July of 2014 at nine study sites in the SGWRA.

Study site	Weather			Predator survey effort	
	Wind (mph)	Relative humidity (%)	Temperature (°C)	Total observation hours (Number of surveys)	
No turbines					
SG	3.80	30.94	27.99	25.95 (11)	
MI	3.64	35.74	29.61	28.93 (11)	
WW	5.65	26.31	31.63	24.20 (11)	
DH	2.58	41.95	30.38	29.63 (12)	
I-10	13.13	57.63	26.22	36.03 (11)	
Turbines					
ME	8.40	36.25	28.57	27.28 (11)	
PH	8.25	25.35	31.87	30.68 (11)	
MV	10.15	43.05	28.95	33.45 (12)	
DI	6.84	35.93	32.20	29.42 (11)	
Average \pm SD	-	5.8 \pm 4.3	38.5 \pm 12.2	29.2 \pm 2.1	28.9 \pm 4.5
	+	8.4 \pm 1.4	35.1 \pm 7.3	30.4 \pm 1.9	30.2 \pm 2.6

Weather data taken at the start and end of each predator survey and then averaged.

Table S2. Predator community surveys at turbine and non-turbine sites in the SGWRA. Taxa were classified by clade (or guild), habitat, propensity for scavenging, and diet.

Clade	Scientific name	Common name	Sites encountered
Sauria		Lizards	
	<i>Callisaurus draconoides</i>	Zebra-tailed Lizard	DI, MV, WW
	<i>Sceloporus uniformis</i>	Yellow-backed Spiny Lizard	MV, ME, I10, DH, WW, MI, SG
	<i>Sceloporus occidentalis</i>	Western Fence Lizard	SG
	<i>Aspidoscelis tigris</i>	Western Whiptail	DI, MV, PH, ME, I10, DH, WW, MI, SG
	<i>Crotaphytus bicinctores</i>	Great Basin Collared Lizard	I10
Serpentes		Snakes	
	<i>Coluber flagellum</i>	Coachwhip	DI, MV, ME, I10, MI
	<i>Lampropeltis californiae</i>	California Kingsnake	WW
	<i>Phyllorhynchus decurtatus</i>	Leaf-nosed Snake	MV
	<i>Crotalus ruber</i>	Red Diamond Rattlesnake	DH
	<i>Crotalus cerastes</i>	Sidewinder	PH
	<i>Crotalus mitchellii</i>	Speckled Rattlesnake	SG
Aves		Birds	
	<i>Aquila chrysaetos</i>	Golden Eagle	SG
	<i>Buteo jamaicensis</i>	Red-tailed hawk	ME, DH, WW, MI, SG
	<i>Falco mexicanus</i>	Prairie Falcon	MV, PH
	<i>Falco sparverius</i>	American Kestrel	DI, MV, I10, DH, WW, MI
	<i>Athene cucularia</i>	Burrowing Owl	DI, MV, DH
	<i>Corvus corax</i>	Common Raven	MV, PH, ME, I10, DH, WW
	<i>Lanius ludovicianus</i>	Loggerhead Shrike	DI, MV, PH, ME, I10, DH, WW, MI, SG
	<i>Geococcyx californianus</i>	Greater Roadrunner	DI, PH, ME, SG
	<i>Mimus polyglottos</i>	Northern Mockingbird	ME, DH, MI
	<i>Campylorhynchus brunneicapillus</i>	Cactus Wren	I10, DH, MI
	<i>Salpinctes obsoletus</i>	Rock Wren	PH, ME, I10, DH, WW, MI, SG
Mammalia		Mammals	
	<i>Taxidea taxus</i>	American Badger	MI
	<i>Canis latrans</i>	Coyote	DI, MV, PH, ME, I10, DH, WW, MI, SG
	<i>Canis (lupus) familiaris</i>	Domestic Dog	DI, ME, WW
	<i>Urocyon cinereoargenteus</i>	Gray Fox	SG
	<i>Lynx rufus</i>	Bobcat	DI, MV, PH, ME, I10, DH, WW, MI, SG
Arachnida		Spiders and Scorpions	
	Solifugae (combined)	Sun Spiders	I10, DH
	Scorpiones (combined)	Scorpions	DI, I10
	<i>Latrodectus hesperus</i>	Western Black Widow	I10
	Lycosidae (combined)	Wolf Spiders	ME, I10, MI, SG
	<i>Aphonopelma</i> sp.	Tarantula	DI, MV, PH, ME, I10, DH, WW, MI

Sites with wind farms (DI, MV, PH, and ME) and without wind farms (I-10, DH, WW, MI, SG); for area descriptions, see Fig. 1.

Table S2. Plant species encountered during richness surveys at 1600 m² study plots from nine sites at wind farms and nearby reference in the SGWRA. Arranged alphabetically by family and genus.

Family	Scientific name	Native	Type	Sites encountered
Agavaceae	<i>Hesperoyucca whipplei</i>	E	shrub	SG
Asteraceae	<i>Acamptopappus sphaerocephalus</i>	N	shrub	I-10, WW
	<i>Ambrosia dumosa</i>	N	shrub	DI, MV, PH, I-10, DH, WW, MI
	<i>Ambrosia salsola</i>	N	shrub	DI, I-10, DH, SG
	<i>Artemisia californica</i>	N	shrub	ME, MI, SG
	<i>Baccharis brachyphylla</i>	N	shrub	MI
	<i>Bahiopsis parishii</i>	N	shrub	DH, WW, MI, SG
	<i>Bebbia juncea</i>	N	shrub	DI, MV, PH, I-10, DH, WW, MI
	<i>Chaenactis fremontii</i>	N	annual herb	DI, MV, PH, ME, I-10, DH, WW, MI, SG
	<i>Chaenactis glabriuscula</i>	E	annual herb	MI
	<i>Encelia actoni</i>	N	shrub	SG
	<i>Encelia farinosa</i>	N	shrub	DI, PH, ME, I-10, DH, WW, MI, SG
	<i>Ericameria paniculata</i>	N	shrub	I-10
	<i>Erigeron foliosus</i>	E	perennial herb	SG
	<i>Eriophyllum wallacei</i>	N	annual herb	WW
	<i>Lactuca</i> sp	I	annual herb	DI, ME, I-10, WW, SG
	<i>Lasthenia californica</i>	N	annual herb	SG
	<i>Lasthenia coronaria</i>	E	annual herb	ME, I-10, WW, MI
	<i>Logfia</i> sp	N	annual herb	DI, MV, PH, ME, I-10, DH, WW, MI, SG
	<i>Malacothrix glabrata</i>	N	annual herb	DI, MV, PH, ME, I-10, DH, WW, MI
	<i>Monoptilon bellioides</i>	N	annual herb	DH
	<i>Oncosiphon piluliferum</i>	I	annual herb	DI, MV, ME, I-10, WW
	<i>Rafinesquia</i> sp	N	annual herb	I-10, DH, MI
	<i>Senecio vulgaris</i>	I	annual herb	ME
	<i>Sonchus oleraceus</i>	I	annual herb	DI, PH, ME, I-10, DH, WW
	<i>Stephanomeria exigua</i>	N	annual herb	DI, MV, ME, I-10
	<i>Stephanomeria pauciflora</i>	N	perennial herb	DI, MV, PH, ME, I-10, WW, MI
	<i>Stephanomeria tenuifolia</i>	N	perennial herb	SG
	<i>Uropappus lindleyi</i>	N	annual herb	ME, SG
Boraginaceae	<i>Amsinckia intermedia</i>	N	annual herb	ME, MI, SG
	<i>Cryptantha angustifolia</i>	N	annual herb	DI, MV, ME, DH
	<i>Cryptantha barbiger</i>	N	annual herb	DI, MV, PH, ME, I-10, DH, WW, MI, SG
	<i>Cryptantha maritima</i>	N	annual herb	PH, I-10, DH, MI
	<i>Cryptantha micrantha</i>	N	annual herb	DI, MV, WW
	<i>Pectocarya</i> sp	N	annual herb	DI, MV, PH, ME, I-10, DH, WW, MI, SG
Brassicaceae	<i>Brassica tournefortii</i>	I	annual herb	DI, MV, PH, ME, I-10, DH, WW, MI, SG
	<i>Caulanthus</i> sp	N	annual herb	ME
	<i>Descurainia pinnata</i>	N	annual herb	PH
	<i>Lepidium lasiocarpum</i>	N	annual herb	PH, I-10, WW
	<i>Lepidium strictum</i>	N	annual herb	MI
	<i>Sisymbrium irio</i>	I	peren. herb	ME, I-10
	<i>Tropidocarpum gracile</i>	E	annual herb	PH, ME, I-10, SG
Cactaceae	<i>Cylindropuntia ramosissima</i>	N	stem succulent	I-10, WW

<i>Echinocereus engelmannii</i>	N	stem succulent	PH, MI
<i>Ferrocactus cylindricatus</i>	N	stem succulent	I-10, MI
<i>Opuntia basilaris</i>	N	stem succulent	SG
Capparaceae			
<i>Peritoma arborea</i>	E	shrub	MV
Caryophyllaceae			
<i>Loeflingia squarrosa</i>	N	annual herb	DI, MV, WW
Convolvulaceae			
<i>Cuscuta</i> sp	N	annual herb	DH
Crassulaceae			
<i>Crassula connata</i>	N	annual herb	DI, MV, ME, I-10, DH, WW, MI
<i>Dudleya</i> sp	E	perennial herb	WW
Cucurbitaceae			
<i>Marah macrocarpa</i>	E	perennial herb	SG
Ephedraceae			
<i>Ephedra californica</i>	N	shrub	MV, DH, WW, MI
Euphorbiaceae			
<i>Ditaxis neomexicana</i>	N	perennial herb	PH, I-10
<i>Euphorbia polycarpa</i>	N	perennial herb	DI, MV, PH, I-10, DH, WW
<i>Stillingia linearifolia</i>	N	perennial herb	DI, PH, DH, MI
Fabaceae			
<i>Acmispon glaber</i>	N	perennial herb	SG
<i>Acmispon</i> sp	N	perennial herb	MI
<i>Acmispon strigosus</i>	N	annual herb	ME, I-10, WW, MI, SG
<i>Lupinus bicolor</i>	N	perennial herb	ME, SG
<i>Lupinus hirsutissimus</i>	N	annual herb	WW
<i>Lupinus sparsiflorus</i>	N	annual herb	ME, MI
<i>Psoralea arborescens</i>	N	shrub	WW
<i>Psoralea schottii</i>	N	shrub	DI, DH
<i>Senegalia greggii</i>	N	shrub	DH, MI
Geraniaceae			
<i>Erodium botrys</i>	I	annual herb	SG
<i>Erodium cicutarium</i>	I	annual herb	DI, MV, PH, ME, I-10, DH, WW, MI, SG
Hydrophyllaceae			
<i>Emmenanthe penduliflora</i>	N	annual herb	I-10, DH, WW, MI, SG
<i>Eriodictyon trichocalyx</i>	N	shrub	SG
<i>Eucrypta chrysanthemifolia</i>	N	annual herb	DH, SG
<i>Eucrypta micrantha</i>	N	annual herb	I-10, WW
<i>Nama demissum</i>	N	annual herb	DH
<i>Nemophila menziesii</i>	N	annual herb	SG
<i>Phacelia distans</i>	N	annual herb	PH, DH, WW, SG
<i>Phacelia minor</i>	E	annual herb	DH, SG
<i>Phacelia parryi</i>	E	annual herb	PH
Krameriaceae			
<i>Krameria bicolor</i>	N	shrub	MV, PH, DH, WW, MI
Lamiaceae			
<i>Salvia columbariae</i>	N	annual herb	MV, PH, I-10, DH, WW, MI, SG
Liliaceae			
<i>Dichelostemma capitatum</i>	N	perennial herb	ME, MI, SG
Loasaceae			
<i>Mentzelia involucrata</i>	N	annual herb	DH
Malvaceae			
<i>Sphaeralcea coulteri</i>	N	annual herb	MI
Nyctaginaceae			
<i>Mirabilis laevis</i>	N	perennial herb	MV, PH, I-10, DH, WW, MI, SG
Onagraceae			
<i>Camissonia strigulosa</i>	E	annual herb	SG
<i>Camissoniopsis pallida</i>	N	annual herb	DI, MV, PH, I-10, DH, WW, MI
<i>Chylismia claviformis</i>	N	perennial herb	DH

<i>Eulobus californicus</i>	N	annual herb	DI, MV, PH, DH, WW, MI, SG
Papaveraceae			
<i>Eschscholzia californica</i>	N	perennial herb	SG
<i>Eschscholzia minutiflora</i>	N	annual herb	PH, DH
Plantaginaceae			
<i>Plantago ovata</i>	N	annual herb	WW
Poaceae			
<i>Avena barbata</i>	I	annual grass	SG
<i>Bromus diandrus</i>	I	annual grass	SG
<i>Bromus madritensis</i>	I	annual grass	MV, PH, ME, WW, MI, SG
<i>Hilaria rigida</i>	N	perennial grass	PH, MI
<i>Schismus</i> sp	I	annual grass	DI, MV, PH, ME, I-10, DH, WW, MI, SG
Polemoniaceae			
<i>Eriastrum eremicum</i>	N	annual herb	DH
<i>Gilia angelensis</i>	E	annual herb	SG
<i>Gilia stellata</i>	N	annual herb	DH, MI
<i>Saltugilia australis</i>	E	annual herb	WW
Polygonaceae			
<i>Chorizanthe brevicornu</i>	N	annual herb	DI, MV, PH, I-10, DH, WW
<i>Eriogonum elongatum</i>	E	perennial herb	SG
<i>Eriogonum fasciculatum</i>	N	shrub	MV, PH, ME, MI
<i>Eriogonum gracile</i>	N	annual herb	SG
<i>Eriogonum inflatum</i>	N	perennial herb	PH, DH, WW
<i>Eriogonum palmerianum</i>	N	annual herb	SG
<i>Eriogonum thomasi</i>	N	annual herb	DH
<i>Eriogonum thurberi</i>	N	annual herb	MV, PH, I-10
<i>Pterostegia drymarioides</i>	N	annual herb	DH, WW
Portulacaceae			
<i>Calandrinia menziesii</i>	N	annual herb	ME, SG
<i>Calyptridium monandrum</i>	N	annual herb	DI, DH, WW, MI
Pteridaceae			
<i>Pentagramma triangularis</i>	N	fern	DHS
Rhamnaceae			
<i>Ziziphus paryii</i>	N	shrub	SG
Rosaceae			
<i>Adenostoma fasciculatum</i>	N	shrub	SG
Rutaceae			
<i>Thammosma montana</i>	N	shrub	WW
Scrophulariaceae			
<i>Keckiella antirrhinoides</i>	N	shrub	SG
Selaginellaceae			
<i>Selaginella bigelovii</i>	E	fern	WW, MI, SG
Solanaceae			
<i>Datura wrightii</i>	N	perennial herb	SG
<i>Lycium andersonii</i>	N	shrub	ME
Zygophyllaceae			
<i>Larrea tridentata</i>	N	shrub	DI, MV, PH, I-10, DH, WW, MI
<i>Tribulus terrestris</i>	I	annual herb	SG

Species were classified as Endemic (E) to California, United States and Baja California, Mexico; Native (N) to the United States; Introduced (I) non-native species from outside of the United States. Sites with wind farms (DI, MV, PH, and ME) and without wind farms (I-10, DH, WW, MI, SG); for area descriptions, see Fig. 1.