

DOCKETED

Docket Number:	09-AFC-07C
Project Title:	Palen Solar Power Project - Compliance
TN #:	201901
Document Title:	Palen Solar Holdings, LLC's Updated Compilation of Avian Data as of 3-21-14
Description:	N/A
Filer:	Marie Fleming
Organization:	Galati Blek LLP
Submitter Role:	Applicant Representative
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March 21, 2014

California Energy Commission
Dockets Unit
1516 Ninth Street
Sacramento, CA 95814-5512

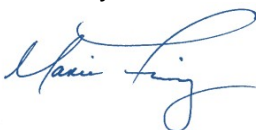
**Subject: PALEN SOLAR HOLDINGS, LLC'S UPDATED COMPILATION OF AVIAN DATA AS OF 3-21-14
PALEN SOLAR ELECTRIC GENERATING SYSTEM
DOCKET NO. (09-AFC-7C)**

Enclosed please find an updated table containing avian mortality information for the Genesis, Desert Sunlight, and Ivanpah projects for 2012, 2013 and 2014. This version replaces the table that was previously docketed on February 28, 2014. The table has been updated to reflect the following:

- The previous version contained an accidental duplication of some of the data shown for the Desert Sunlight Project, resulting in incorrect yearly totals. PSH apologizes for this unintentional error and has reached out to Desert Sunlight representatives for their assistance in correcting the entries. The 2013 mortality total has been corrected downward from 105 to 83. No changes were made to the 2012 or 2014 totals.
- PSH also reached out to Genesis representatives and worked with them to confirm the accuracy of their data – a few refinements to some of the Genesis entries have been made as a result of that effort and the yearly totals for 2012 and 2013 have been reduced from 14 to 12 and 140 to 139, respectively.
- Three of the January 2014 ISEGS entries were modified to change the color coding to indicate that the suspected cause of mortality for the American kestrel, yellow-rumped warbler, and Anna's hummingbird was singing or scorching from solar flux.
- In order to be consistent between the three projects, bat mortality information was added to the monthly listings if available.
- Information regarding the source of the data used to compile the table has been added to the front page.
- February 2014 mortality information has been added for each of the three projects.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Marie Fleming

2012/2013/2014 AVIAN MORTALITY INFORMATION FOR THE GENESIS, DESERT SUNGLIGHT, AND ISEGS PROJECTS

Updated as of 3/21/14

Monthly Totals	2012												2013												2014	
	jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	jan	feb
Genesis (Trough)	0	0	0	0	0	1	6	1	0	4	0	0	0	0	3	4	10	4	26	68	7	12	1	4	4	3
Desert Sunlight (PV)	2	0	2	0	2	2	3	4	4	4	6	0	1	1	1	8	10	11	11	8	6	19	6	1	2	2
ISEGS (Tower)	1	0	1	3	1	0	2	1	2	1	1	2	2	1	1	4	6	5	8	8	42	58	12	13	25	17
Totals by Month	3	0	3	3	3	3	11	6	6	9	7	2	3	2	5	16	26	20	45	84	55	89	19	18	31	22

Yearly Totals	2012	2013	2014
Genesis (Trough)	12	139	7
Desert Sunlight (PV)	29	83	4
ISEGS (Tower)	15	160	42

NOTE: Systematic, statistically rigorous carcass surveys began at ISEGS in November 2013 under the CEC and BLM approved Avian and Bat Monitoring and Management Plan

Color Code Legend

Specific location not reported	Open area	Fence	Pond	Solar array, trough, panel, or heliostat	Solar Tower	Solar Flux	Power block or building	T/L, power line, sub-station	Road or vehicle	Drainage channel	Construct or laydown area	Carcass surveys conducted
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THIS IS A SUMMARY SHEET--PROJECT SPECIFIC DATA FOR EACH PROJECT IS PROVIDED ON SEPARATE SHEETS WITHIN THIS EXCEL FILE.

SOURCE INFORMATION:

1. Monthly Compliance Reports for Genesis and ISEGS as publically filed with the California Energy Commission.
2. Publically available biological monitoring reports available from the Desert Sunlight Solar Farm website.
3. Information provided by the Project Owners based on communications with PSH representatives.

GENESIS	2012												2013												2014		
	Month	jan	feb	mar	apr	may	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Monthly Total	0	0	0	0	0	0	1	6	1	0	4	0	0	0	0	3	4	10	4	26	68	7	12	1	4	4	3
							Unknown	Bullocks Oriole	Mourning dove		American coot				Lesser goldfinch	Black throated grey warbler	Pied billed grebe	Mourning dove	Barn owl	Tree swallow	Grebe species (netting)	Clark's grebe (netting)	Gadwall	House finch	Pigeon	White-throated swift	
								Bullocks Oriole			Unknown small bird				Lesser goldfinch	House wren	Hermit thrush	Barn owl	Cliff swallow	Tree swallow	MacGillivray's warbler	Unknown		Bullock's oriole	Dove	Unknown	
							Western meadow lark				American kestrel				Bufflehead	Orange-crowned warbler	Townsend's warbler	Barn owl	Yellow headed blackbird	Tree swallow	Yellow breasted blackbird	Green wing teal		Unknown	Rock wren	Unknown	
							Unknown species				Barn owl					Pied-billed grebe (netting)	Wilson's warbler	Great Blue Heron	Mourning dove	Tree swallow	Unknown water bird	Green wing teal		White crowned sparrow	American kestrel		
							Brewers blackbird										Yellow warbler			Barn owl	White winged dove	Horned grebe (netting)	Blue wing teal				
							Mourning dove										Yellow warbler			American coot	Cowbird	Mourning dove	Marsh wren				
																	Yellow warbler			Bat western pipistrelle	Cowbird	Unknown	Lesser goldfinch				
																	Warbler			Great blue heron	Herring gull		Cooper's hawk				
																	Sparrow			American kestrel	Say's Phoebe		Passerine species				
																	American coot			Yellow headed blackbird	Cliff swallow		Orange-crowned warbler				
																				Unknown	Gull		Bat				
																				Bat western pipistrelle	Bullock's Oriole		Bat				
																				Great roadrunner	Cliff swallow						
																				Brown pelican	Eared grebe						
																				Cliff swallow	Yellow headed blackbird						
																				Lesser nighthawk	Common loon						
																				Cliff swallow	Bullock's Oriole						
																				Cowbird	Tree swallow						
																				Brewer's blackbird	Rough wing swallow						
																				Say's Phoebe	Cowbird						
																				Cowbird	Cowbird						
																				Great blue heron	Mourning dove						
																				Cowbird	Black headed Grosbeak						
																				Great tailed grackle	Common loon						
																				American kestrel	Black phoebe						
																				Canyon bat	Mourning dove						
																					Cliff swallow						
																					Cliff swallow						
																					Flycatcher						
																					Mourning dove						
																					Lesser nighthawk						
																					Sora						

Entries for August continue on next page

LEGEND

Specific location not reported	Open area	Fence	Pond	Solar array, trough, panel, or heliostat	Solar Tower	Solar Flux	Power block or building	T/L, power line, sub-station	Road or vehicle	Drainage channel	Construct or laydown area	Carcass surveys conducted
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GENESIS, cont.	2012												2013												2014	
	Month	jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	jan

Tree swallow
Blue winged teal
Mourning dove
Sora
Tree swallow
Tree swallow
Unknown
Cowbird
Cowbird
Bullock's Oriole
Bullock's Oriole
Bunting (Lazul?)
Bunting (Lazul?)
Cowbird
Cowbird
Cowbird
Passerine species
Passerine species
Passerine species
Passerine species
Unknown
Unknown
Unknown
Yellow headed blackbird
Passerine species
Eared grebe
Gull - ring billed
Hermit warbler
Lesser nighthawk
Unknown
American Kestral
Unknown
Bat
Bat
Bat
Bat

LEGEND												
Specific location not reported	Open area	Fence	Pond	Solar array, trough, panel, or heliostat	Solar Tower	Solar Flux	Power block or building	T/L, power line, sub-station	Road or vehicle	Drainage channel	Construct or laydown area	Carcass surveys conducted

DESERT SUNLIGHT	2012												2013												2014	
	Month	jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	jan
Monthly Total	2	0	2	0	2	2	3	4	4	4	6	0	1	1	1	8	10	11	11	8	6	19	6	1	2	2
	Burrowing owl		Black tailed gnatcatcher		Western grebe	Unknown	Yellow headed blackbird	Yellow headed blackbird	Cowbird	White crowned sparrow	Barn owl		Common poorwill	Common poorwill	Logger-head shrike	Eared grebe	Common raven	Mourning dove	Town-send's warbler	Brewer's blackbird	Common yellow throat	Yellow-headed blackbird	Sora	Eared grebe	Loggerhead shrike	Sora
	Prairie falcon		Costa's humming bird		Brewer's blackbird	American kestrel	Sparrow	Wilson's warbler	American avocet	American avocet	Long-eared owl					Logger-head shrike	Logger-head shrike	Common loon	Brown pelican	Western tanager	Pied-billed grebe	Western grebe	Red-necked phalarope		White-crowned sparrow	House finch
							Loggerhead shrike	Yellow rumped warbler	American avocet	Blackbird	Unknown					Surf scoter	Double crested commorant	Western grebe	Brown pelican	Eared grebe	Unidenti- fied bird	Western grebe	Western grebe			
								Pallid bat	American avocet	Eared grebe	American avocet					Great-tailed grackle	Clapper rail	Eared grebe	Brown pelican	Cowbird	Unidenti- fied bird	Blue winged teal	Great egret			
											Mourning dove					Red-breasted Merganser	Wilson's warbler	American coot	Black crowned night heron	Western tanager	Savannah sparrow	Mourning dove	Western grebe			
											American avocet					White-crowned sparrow	Western tanager	Double crested commorant	Ash throated fly catcher	Ash throated flycatcher	American coot	American coot	Western meadow lark			
																Horned lark	Lesser nighthawk	Common raven	Black headed grosbeak	Wilson's warbler		American coot				
																Western mastiff bat	Town-send's warbler	Double crested commorant	Tree swallow	Pied- billed grebe		Western grebe				
																	Logger head shrike	Great tailed grackle	Horned lark			Western grebe				
																	Wilson's warbler	Mourning dove	Common poorwill			Western grebe				
																		Costa humming bird	Great tailed grackle			Western grebe				
																						Mourning dove				
																						Eared grebe				
																						American Avocet				
																						Western grebe				
																						Eared grebe				
																						American coot				
																						Sora				
																						Eared grebe				

LEGEND

Specific location not reported	Open area	Fence	Pond	Solar array, trough, panel, or heliostat	Solar Tower	Solar Flux	Power block or building	T/L, power line, sub-station	Road or vehicle	Drainage channel	Construct or laydown area	Carcass surveys conducted
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ISEGS	2012												2013										2014				
	Month	jan	feb	mar	apr	may	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb
Monthly Total	1	0	1	3	1	0	2	1	2	1	1	2	2	2	1	1	4	6	5	8	8	42	58	12	13	25	17
	Eared grebe		Black-throated sparrow	Savannah sparrow	Western tanager		Yellow-billed Cuckoo	Lesser nighthawk	Western tanager	Pine siskin	Chipping sparrow	American coot	White-crowned sparrow	Cooper's hawk	Loggerhead shrike	Brewer's sparrow	Loggerhead shrike	White throated swift	Greater roadrunner	Lesser Nighthawk	Western tanager	House finch	Rock pigeon	American Pipit	Unknown	Western meadowlark	
				Yellow-rumped warbler			Cooper's hawk		American coot			Unknown	Logger head shrike			White-crowned sparrow	Unknown passerine	Lesser nighthawk	Blue-gray gnatcatcher	Common raven	Unknown	House finch	Unknown	American kestrel	Yellow-rumped warbler	Brewer's blackbird	
				American coot												Green-tailed Towhee	Horned lark	Western wood pewee	Ash-throated flycatcher	White-throated swift	Chipping sparrow	Yellow-rumped Warbler	Greater roadrunner	Northern Flicker	Greater roadrunner	House finch	
																Myotis bat	Western tanager	Common Poorwill	Northern rough winged swallow	Common raven	Unknown	Verdin	Blackbird species	Mourning dove	Common yellow throat	Loggerhead shrike	
																	Wilson's warbler	Greater roadrunner	Black-throated sparrow	Lazuli bunting	MacGillivray's warbler	Unknown	Yellow-rumped Warbler	American coot	Mourning dove	House finch	
																	Myotis bat				Blue-Gray Gnatcatcher	House finch	Yellow-rumped Warbler	American pipit	Brewer's blackbird	Mourning dove	
																			Lesser nighthawk	Northern rough winged swallow	Blue-Gray Gnatcatcher	House finch	Yellow-rumped Warbler	American pipit	Brewer's blackbird	Mourning dove	
																			Black-throated sparrow	Loggerhead shrike	Brewer's sparrow	House finch	Greater roadrunner	Great tailed Grackle	Mourning dove	Greater roadrunner	
																			Northern mockingbird	Myotis bat	Unknown	Wilson's warbler	Greater roadrunner	Great tailed Grackle	American kestrel	Greater roadrunner	
																					Mourning dove	Verdin	Savannah sparrow	Say's Phoebe	Mourning dove	Western tanager	
																					Unknown	Yellow-rumped warbler	American Pipit	Western meadow lark	Mourning dove	Anna's humming bird	
																					Unknown	Blue-winged teal	Unknown	Western meadow lark	Yellow-rumped warbler	Brewer's blackbird	
																					White-throated swift	Blue-winged teal	Pallid bat	Mourning dove	Mourning dove	American kestrel	
																					American coot	Mourning dove		Brewer's blackbird	Mourning dove	White-thrt swift	
																					Cowbird	American coot		Greater roadrunner	Costa's humming bird		
																					Wilson's warbler	Lincoln's sparrow		Anna's humming bird	Anna's humming bird		
																					Black throated gr warbler	Unknown		American kestrel	Mourning dove		
																					Cassin's vireo	House finch		Rock pigeon	Western small-footed myotis		
																					House finch	American coot		Black-throated sparrow			
																					Mourning dove	Unknown		Mourning dove			
																					Unknown	Yellow-rumped warbler		Greater roadrunner			
																					Mourning dove	Unknown		Cactus wren			
																					Mourning dove	Verdin		Mourning dove			
																					Unknown	Yellow-rumped warbler		Northern Flicker			
																					Mourning dove	Unknown		Canyon bat			
																					Mourning dove	Unknown		Unknown bat			

Entries for Sept & Oct continue on next page

LEGEND

Specific location not reported	Open area	Fence	Pond	Solar array, trough, panel, or heliostat	Solar Tower	Solar Flux	Power block or building	T/L, power line, sub-station	Road or vehicle	Drainage channel	Construct or laydown area	Carcass surveys conducted
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ISEGS, cont.	2012												2013								2014					
	Month	jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	jan	feb	mar	apr	may	june	july	aug	sept	oct	nov	dec	jan

Mourning dove	House finch
Mourning dove	House finch
Unknown	Unknown
Unknown	Unknown
Townsend's Warbler	Yellow-rumped warbler
Unknown	Yellow-rumped warbler
Pipistrellis hesperus	White-crowned sparrow
Unk. Bat	House finch
Unk. Bat	Yellow-rumped warbler
Unk. Bat	Yellow-rumped warbler
Unk. Bat	Yellow-rumped warbler
Unk. Bat	House finch
Unk. Bat	Mourning dove
Unk. Bat	Yellow-rumped warbler
Unk. Bat	Black and white warbler
Unk. Bat	Unknown
Unk. Bat	American coot
Unk. Bat	Great-tailed grackle
	Yellow-rumped warbler
	Yellow-rumped warbler
	Great-tailed grackle
	Unknown
	Spotted sandpiper
	Yellow-rumped warbler
	Mourning doe
	Townsend's warbler
	White-crowned sparrow
	Unknown
	CA myotis bat
	Unk. Bat
	Unk. Bat
	Unk. Bat
	Unk. Bat
	Unk. Bat

LEGEND

Specific location not reported	Open area	Fence	Pond	Solar array, trough, panel, or heliostat	Solar Tower	Solar Flux	Power block or building	T/L, power line, sub-station	Road or vehicle	Drainage channel	Construct or laydown area	Carcass surveys conducted
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