



# RENEWABLE ENERGY PROJECTS – UPDATE ON ENVIRONMENTAL REVIEW

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# PURPOSE

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- RETI EWG produced CREZ rating factors
- ARRA projects are introducing new local information
- Project examples confirm rating factors and illustrate challenges
- Based on what we have learned, what additional criteria might be helpful?

# JOINT FAST-TRACK PROJECTS – ENERGY COMMISSION AND BLM

Project Name	Gen. (MW)	Size (Acres)	Technology	CREZ
<b>Ivanpah SEGS</b>	400	4,000	Solar Power Tower	Mtn. Pass
<b>SES Solar Two</b>	750	6,500	Stirling Solar Engines	Imperial South
<b>Blythe Solar Power Project</b>	1,000	7,030	Solar Trough	Riverside East
<b>Palen Solar Power Project</b>	500	2,970	Solar Trough	Riverside East
<b>Genesis Solar Energy Project</b>	250	1,800	Solar Trough	Riverside East
<b>Calico Solar Project (formerly SES Solar One)</b>	850	8,230	Stirling Solar Engines	Pisgah
<b>Ridgecrest Solar Power Project</b>	250	3,920	Solar Trough	Inyokern

# FAST-TRACK PROJECTS – ENERGY COMMISSION ONLY

Project Name	Gen. (MW)	Size (Acres)	Technology	CREZ
Beacon Solar Energy Project	250	2,012	Solar Trough	Kramer
Abengoa Mojave Solar 1	250	1,765	Solar Trough	Kramer
San Joaquin Solar 1 and 2	107	640	Solar hybrid (biomass/solar)	Carrizo North?
Palmdale Hybrid Power Project Unit 1	50	380	Solar Thermal	Fairmont

# FAST-TRACK PROJECTS – BLM ONLY

Project Name	Generation (MW)	Size (Acres)	Technology	CREZ
Desert Sunlight (FS)	550	4,410	Solar PV	Eagle Mountain
Tule Wind (Iberdrola)	200	15,493	Wind	San Diego South
Daggett Ridge (AES)	84	1,577 (BLM) + 380 (private)	Wind	Victorville
Granite Wind, LLC	81	1,968	Wind	San Bernardino-Lucerne
Lucerne Valley Solar (Chevron)	45	516	Solar PV	San Bernardino-Lucerne

# FAST-TRACK PROJECTS – COUNTIES (EXAMPLES)

Project Name	Gen. (MW)	Size (Acres)	Technology	CREZ
Alta-Oak Creek Mojave	800	9,300	Wind	Kramer
City of Vernon Wind Energy	300	N/A	Wind	Tehachapi
Maricopa Sun Solar Complex	700	N/A	Solar PV	n/a
Topaz Solar Farm	550	6,200	Solar PV	Carrizo South
California Valley Solar Farm	250	1,900	Solar PV	Carrizo South
Panoche Valley Solar Farm	420	4,720	Solar PV	n/a

- There are approximately 30 solar and wind fast-track projects under review by California Counties. Source: Renewable Energy Action Team – Generation Tracking for ARRA Projects
- (Revised 2/19/10) [http://www.energy.ca.gov/33by2020/documents/renewable\\_projects/2010-02-22\\_Proposed\\_ARRA\\_Renewable\\_Projects.pdf](http://www.energy.ca.gov/33by2020/documents/renewable_projects/2010-02-22_Proposed_ARRA_Renewable_Projects.pdf))

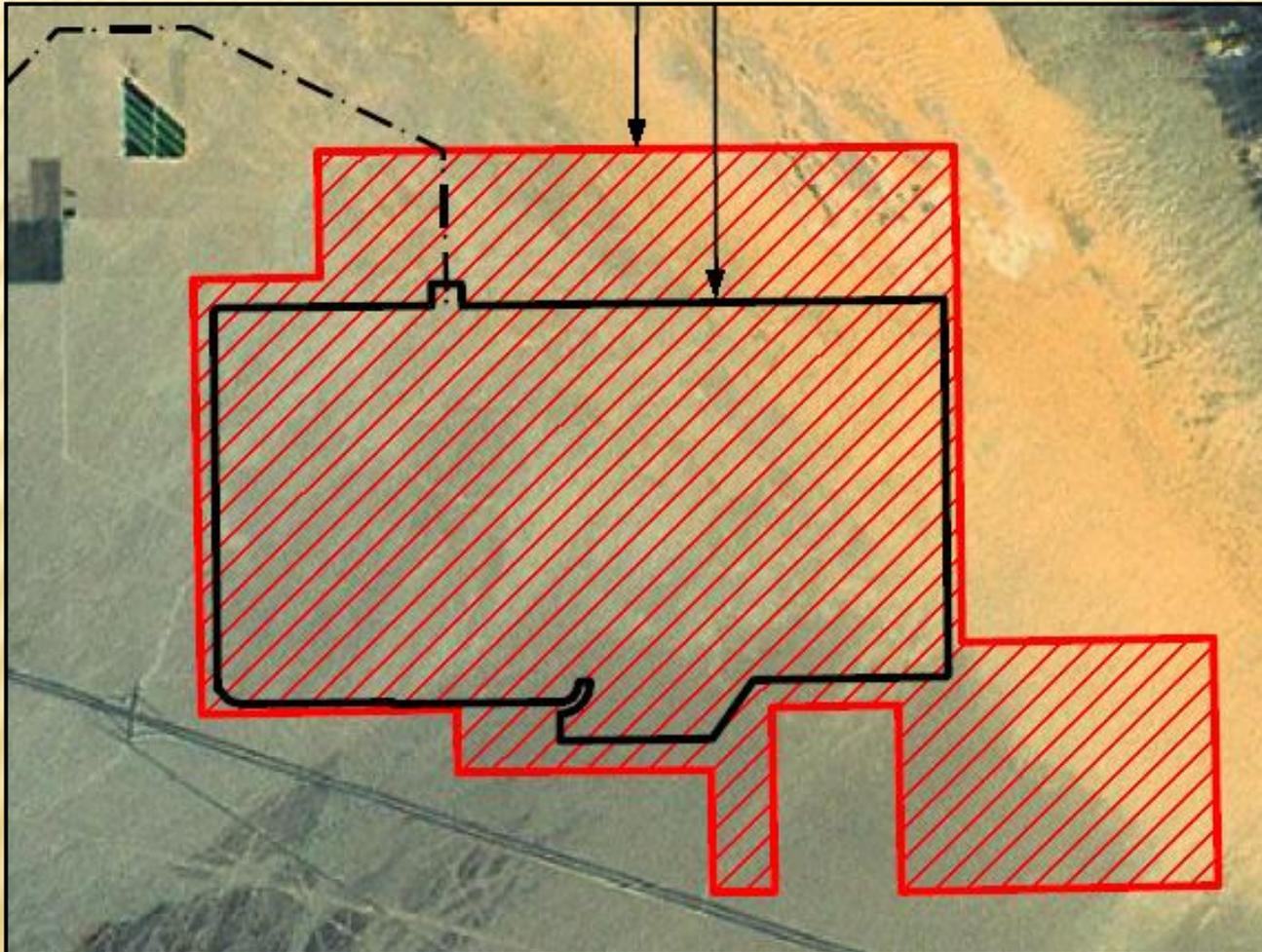
# RETI EWG RANKING CRITERIA

1. Energy Development Footprint
2. Transmission Footprint
3. Land Disturbance
4. Sensitive Areas in CREZs
5. Sensitive Areas in CREZ Buffer Zone
6. Significant Species
7. Wildlife Corridors
8. Other Issues of Concern
  - Visual Impacts
  - Native American Issues
  - USFS Lands

# EWG #1: ENERGY DEVELOPMENT FOOTPRINT

- **Flexibility** in facility design is more important than project size
  - Can the most sensitive resources be avoided?
  - All solar technologies have enough flexibility to design around key resource areas
  - See examples

# SOLAR FOOTPRINT - PROPOSED



**Palen Solar  
Power Project**

**As Proposed**

**I-10 corridor SE  
of Desert Center**



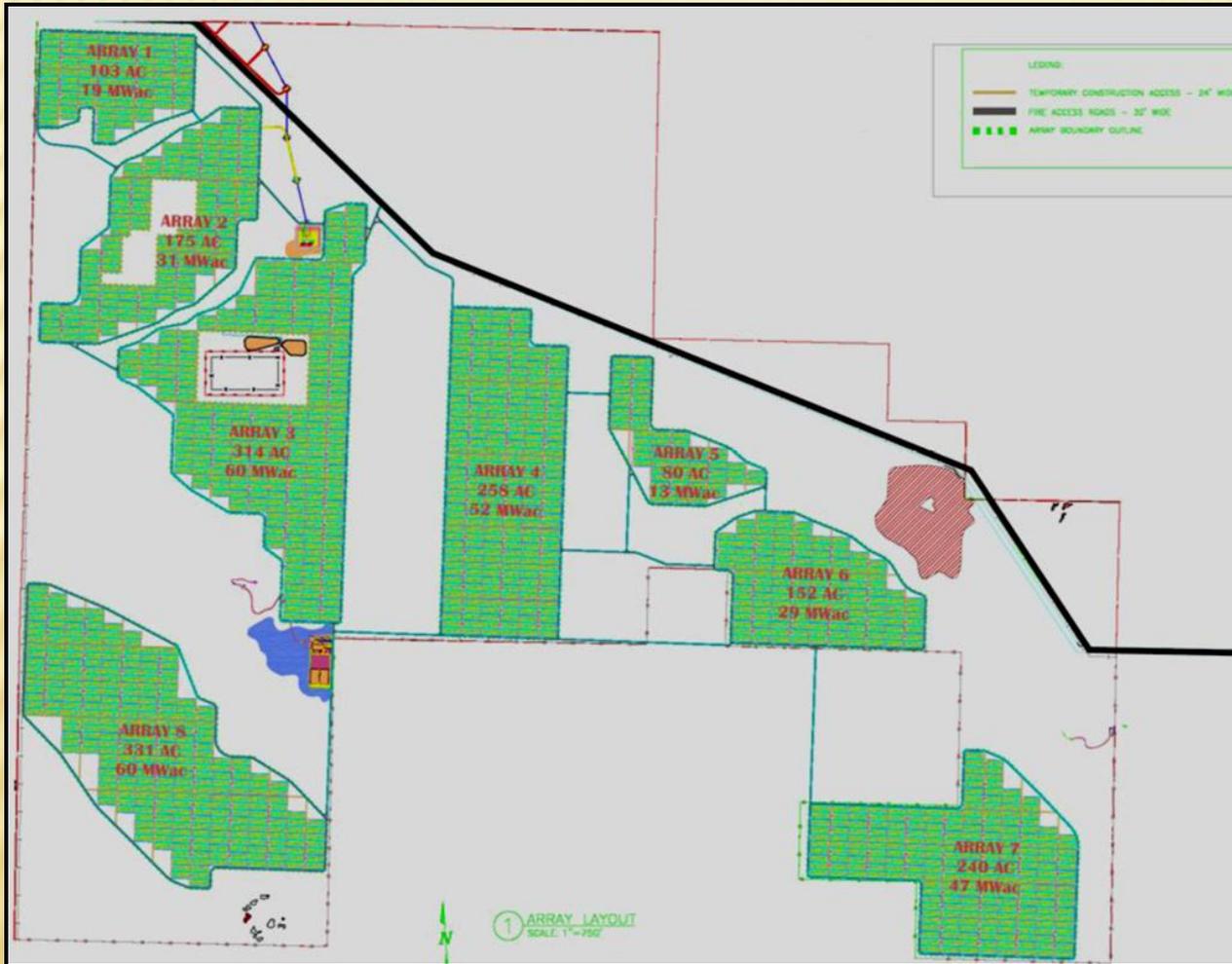
## EWG #3: PREFERENCE FOR DISTURBED LANDS

- Clear preference: development of disturbed lands rather than undisturbed habitat on public lands
- Challenge – how to assess habitat values of disturbed lands?
  - Learn from ongoing challenging private land projects
  - Examples on next slide

# EWG #3: PREFERENCE FOR DISTURBED LANDS?

- **California Valley Solar Ranch – Carrizo South CREZ**
  - Grazing land; minimal water limiting more ag or residential development
  - Surprise: huge population of GKR w/no mitigation precedent plus SJKF and ground squirrel
- **Panoche Valley Solar Farm – San Benito County**
  - Grazing land; history of active agriculture
  - BNLL (NO take species), GKR, SJKF
  - Large list of protected birds

# DISTURBED LANDS & FLEXIBLE CONFIGURATION

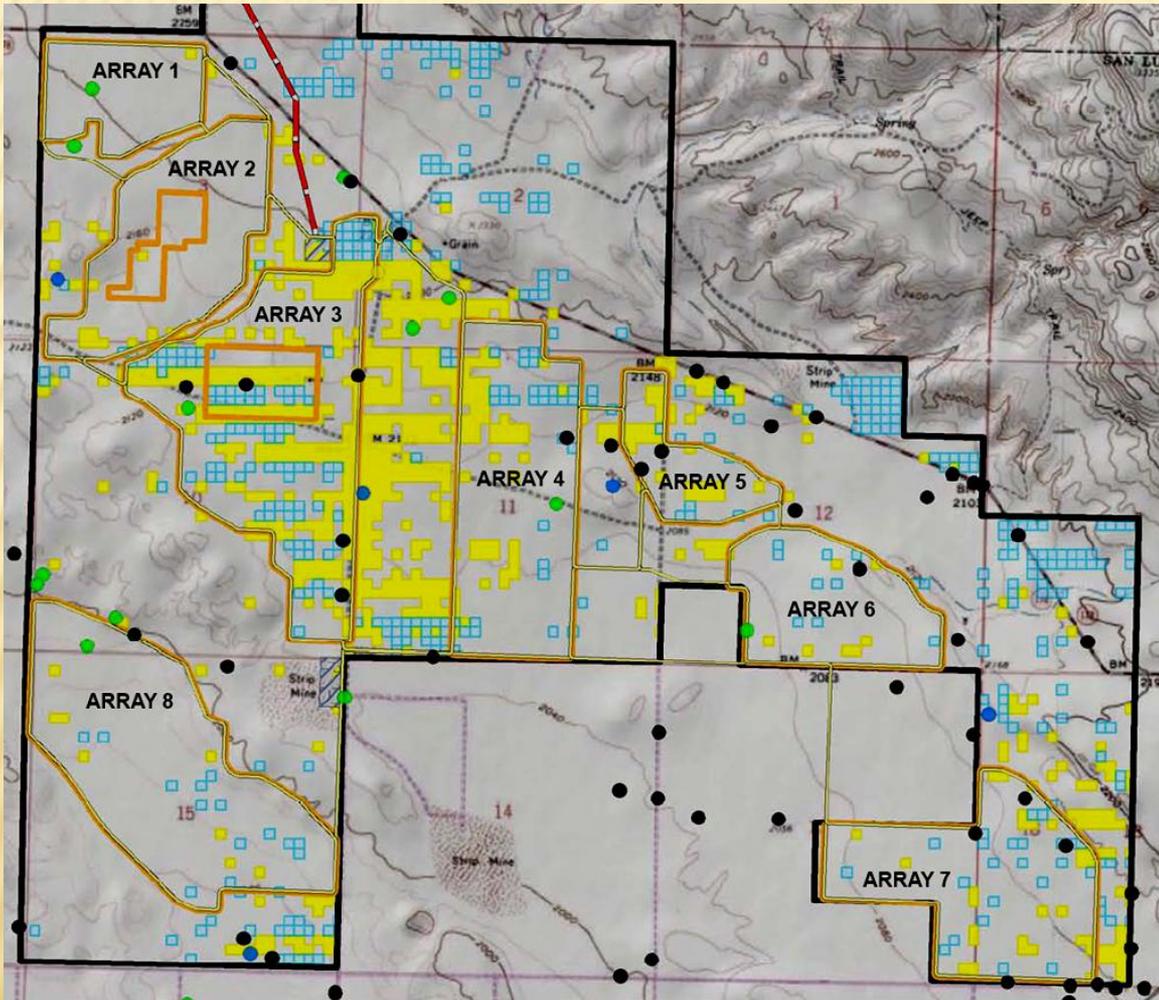


**Carrizo Plain**

**SunPower  
California Valley  
Solar Ranch**

**8 separate arrays  
(Tracking PV)**

# DISTURBED LAND & FLEXIBLE CONFIGURATION



Carrizo Plain

SunPower  
California Valley  
Solar Ranch

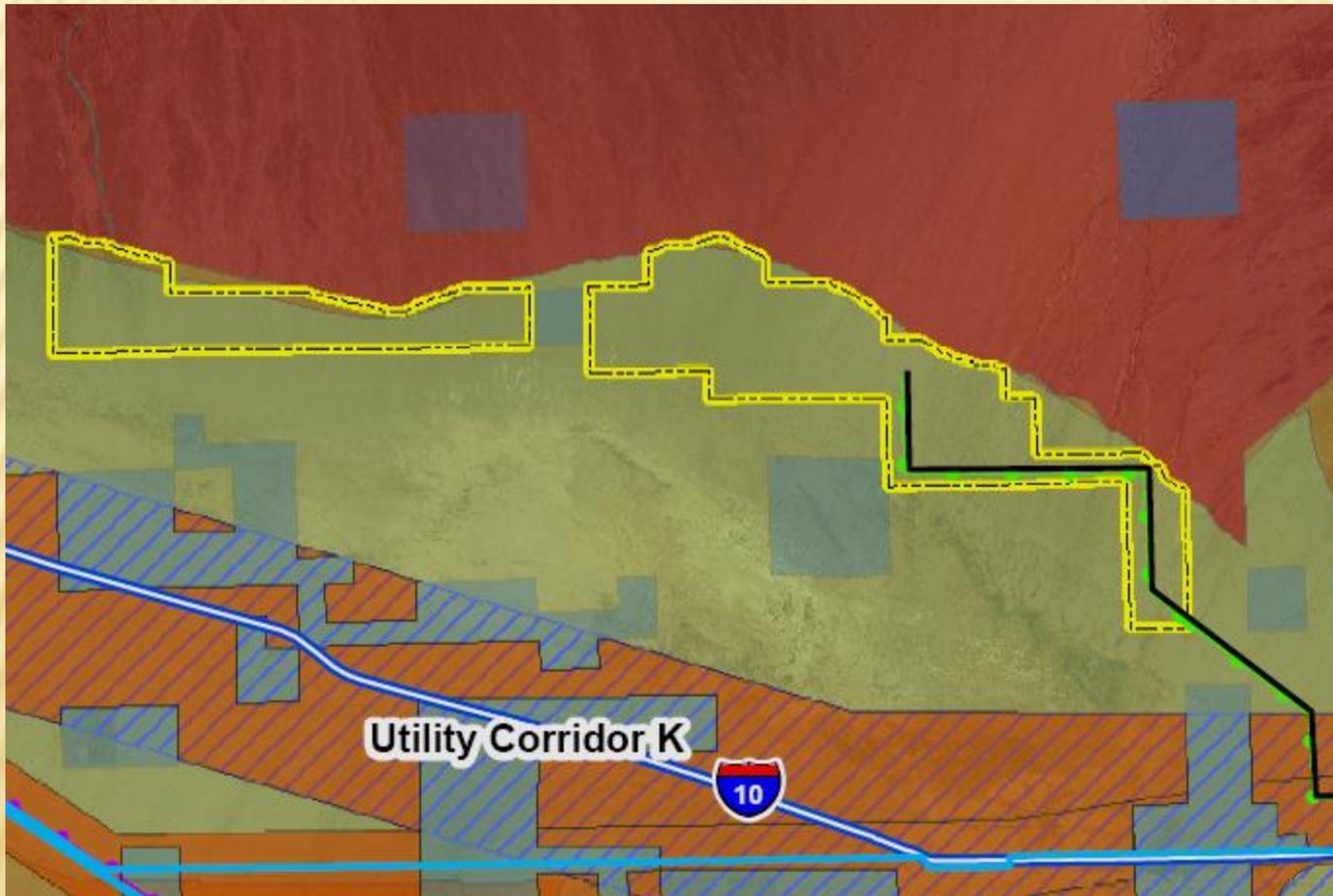
Biological  
Resources  
Mapped on  
Arrays

- GKR (yellow-blue)
- SJKF (dots)

# EWG #4 & #5: SENSITIVE AREAS IN/NEAR CREZ

- Two EWG factors address value of protected lands
- Avoidance of designated protected lands (e.g., Wilderness, Park Service lands, ACEC's w/i limits) is essential
  - Generally implemented by BLM by working with developers
- Several proposed solar projects are near or adjacent to wilderness
  - This issue doesn't raise permitting or mitigation challenges like those associated with species

# SENSITIVE AREAS



## Genesis Solar Energy Project

BLM Wilderness  
in red  
immediately  
adjacent to  
proposed project  
boundary

# EWG #6: SIGNIFICANT SPECIES

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- Critically important factor, with obvious anticipated challenge:
  - Existing (pre-project) data doesn't tell the story
- Examples:
  - CA Valley Solar Ranch: GKR
  - Ridgecrest: DT and MGS
  - Ivanpah: special status plants
- Can we use great data now acquired from fast-track projects to more accurately predict impacts on future projects?

# ADDITIONAL FACTORS TO CONSIDER?

- Potential important criterion: Site Elevation
  - Projects >2,000 feet desert appears to have more severe impacts (e.g., Ivanpah, Ridgecrest)
- Consider sand transport / dune habitat
- Consider ranking differences in habitat effects' of different solar technologies
  - Grading/leveling requirements & fencing
- Emphasize: Applicant flexibility with layout and design