

Escalante Valley Solar Energy Zone – Summary Table: Impacts That May Warrant Regional Compensatory Mitigationⁱ

Escalante Valley Solar Energy Zone Resource/ Issue	Residual or Unavoidable Impact?	How certain is it that the residual impacts will occur?	How significant are the residual impacts onsite?	How significant are the residual impacts of developing the Escalante Valley SEZ in the region?	Role in the ecosystem?	Other Considerations	Are potential residual impacts likely to warrant regional mitigation?
Air Quality	Maybe (if site is graded).	Moderate. Depends on whether the entire developable area (i.e., ~6,533 acres, 80% of the SEZ area) is graded.	Low	Very low	Human element	PM levels will be monitored during all phases of development. An adaptive management approach will allow for increased mitigation if significant residual air quality degradation is detected.	No. Impacts are not expected to result in noncompliance with National Air Quality Standards.
Acoustics	Maybe	Moderate. Noise level depends on technology, and on construction and operational phase traffic.	Moderate. Low current ambient noise on site. Construction-phase noise of limited duration. Operation –phase traffic noise levels would be a long-term change. Residual operation-phase noise resulting from 80% buildout of ~6,533 acres may impact residents, recreation, wildlife, and/or livestock.	Low. Generally, impacts from solar development are expected to be temporary, localized, and readily mitigated onsite.	Human element that may also impact wildlife and livestock	Solar development may be limited to photovoltaic (no moving parts) within a certain distance of residences.	No.

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Cultural	Yes. Impacts on non-renewable resources are both irretrievable and irreversible.	High.	Moderate. Unknown until surveys are completed.	Moderate. Unknown until surveys are completed.	Human element	Avoidance is preferred for significant resources. Adequate mitigation would be dependent on consultation and the resources and their relative significance in the region. Procedures to handle inadvertent discoveries will be addressed in a monitoring and discovery plan developed during the right-of-way process.	Maybe. Impacts warranting mitigation to be evaluated in consultation with the UT State Historic Preservation Office (SHPO) and tribes.
Ecology: Vegetation	Yes. Development would result in direct removal or disturbance of native plant communities, special soil environments, and the ecosystem services they provide.	Very high.	Very high. Expect the loss of all vegetation in the developed areas, though mitigation may result in some remaining vegetation.	Very low.	Basic component		Yes.
Ecology: Invasive & Noxious Weeds	Maybe. Onsite mitigation will reduce, but not eliminate, the potential for invasive and noxious species. The degree of disturbance creates a significant opportunity for the establishment of invasive and noxious species.	Very high.	Moderate.	Very low.	Change agent - invasives	Impacts will be minimized through development of a Weed Management Plan and use of weed-free seed to support re-vegetation efforts, control invasive species, and prevent increase in fires.	No.

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Ecology: Terrestrial Wildlife & Aquatic Biota	Yes. Development of the Escalante Valley SEZ will likely impact up to 6,533 acres of wildlife habitat. Level of site grading and disturbance to native vegetation would be the primary driver of residual impacts on functional habitat for full build-out of SEZ.	Very high. Development of the Escalante Valley SEZ will likely impact up to 6,533 acres of wildlife habitat.	Very high. Expect the loss of habitat for most general wildlife species over the entire developable area.	Decreasing trend in the ecoregion. Expect the loss of habitat for most general wildlife species over the entire developable area.	Basic component	Little can be done onsite to mitigate the loss of up to 6,533 acres of general wildlife habitat. Coordination needed with the UDWR.	Yes.
Ecology: Migratory Birds	Yes. Some level of bird injury/fatality has been observed for all types of solar facilities (through collisions with equipment or from burns). Research is ongoing to quantify impacts and identify effective mitigation measures.	Very high. Linked to vegetation and riparian habitat.	Very high.	Decreasing trends in the ecosystems.	Basic component (along with other wildlife).	Linked to Vegetation & Riparian Areas. Need to consider prohibitions on take in the Migratory Bird Treaty Act MBTA, also direction in Executive Order 13186. Coordination and consultation needed with the USFWS.	Yes.

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Ecology: Animal Special Status Species (SSS)	<p>Yes.</p> <p>Level of site grading and disturbance to native vegetation would be the primary driver of residual impact on functional habitat for full build out of the SEZ.</p> <p>Loss of habitat (for prairie dog, bald eagle, golden eagle, western burrowing owl, pygmy rabbit, kit fox, and the dark kangaroo mouse).</p>	Very high.	Very high.	Decreasing trends in the ecosystem.	Basic component (along with other wildlife).	Mitigation of SSS is required by BLM policy, in coordination and consultation with USFWS and UDWR.	Yes.
Hydrology: Surface Water	<p>Yes.</p> <p>Reconfiguration of topography for solar development would have residual impacts on surface hydrology with potential impacts on other resources, including vegetation.</p> <p>Development may disrupt watershed processes that can impact runoff responses, groundwater recharge, and ecological habitats.</p>	Very high.	Low.	Very low.	Basic component	<p>Mitigation measures to avoid ephemeral waters.</p> <p>The SEZ and downslope areas will be monitored for signs of rapid runoff and excessive erosion. An adaptive management approach will require increased mitigation if problems with runoff and/or erosion are observed.</p>	No.

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Hydrology: Groundwater	Maybe. It is possible for impacts on groundwater to be avoided with the UDWR's judicious evaluation of water rights change applications.	Low.	Appreciable impacts are unlikely.	Appreciable impacts are unlikely.	Basic component	The UDWR administers the appropriation and the SEZ is within a basin that is considered to be closed to new appropriations. Applications to change or transfer water rights should be evaluated by the UDWR to achieve (at minimum) a net-neutral impact on the basin. Any individual or organization (or combination) can protest these water rights change applications.	No. Impacts on groundwater resources will likely be resolved in the courts rather than by mitigation.
Livestock Grazing	Maybe.	Probable, assuming 80% SEZ build-out and residual impacts on about 20% of the Butte allotment.	Moderate to High.	Moderate.	Change agent – human development	IM No. 2013-142 states that regional mitigation for loss of AUMs is not required.	No. However, reimbursement for loss of range improvements will be addressed in project-specific NEPA.
Soils/Erosion	Yes. Solar development on the SEZ is expected to result in a residual loss of sensitive soils and soil functions.	Very high.	High to very high. Impacts will be dependent on the degree of grading and vegetation removal required for the projects.	Low to moderate. Regional impacts will be proportional to the area of disturbance within the SEZ versus the undisturbed area of the region.	Basic component	Little can be done to mitigate the loss of up to 6,533 acres of soil. Avoidance (not developing some areas) will reduce the acreage and soil stabilization measures can reduce soil erosion post disturbance.	Yes.

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Specially Designated Areas	Yes, for the Old Spanish National Historic Trail (OSNHT).	High.	Visual contrast could be very high if power towers are located within the SEZ; otherwise, low.	Low. Impacts to relatively small portions the OSNHT within the region.	Human element		Maybe. If power towers are located within the SEZ, there could be large visual impacts on the OSNHT.
Tribal Concerns	Yes.	High.	Very high.	Very high. Decreasing trend in plant and animal resources. Visual impacts on the Thermo Hot Springs, Table Butte, Sulfur Spring, Mountain Spring Peak, and the Indian Peak Range, which contains Eagle Rock.	Human element	Consultation on project applications will determine whether regional mitigation for Native American Concerns is warranted.	Maybe.
Visual	Yes. Solar development in the SEZ is expected to result in residual visual impacts on the Old Spanish National Historic Trail (OSNHT), and the communities of Newcastle and Modena.	High.	Visual contrast could be very high if power towers are located within the SEZ; otherwise, low.	Low. The SEZ is in an area of low scenic quality and low use, and would have residual impacts on only a few visually sensitive areas.	Human element		Maybe. If power towers are located within the SEZ, there could be large visual impacts on the OSNHT, and moderate visual impacts on Newcastle and Modena.

¹ Only resources for which residual impacts may occur ("yes" or "maybe") are included in this table. Resources/Issues with no residual impacts include Climate Change, Special Status Species-Plants, Riparian Vegetation, Environmental Justice, Lands & Realty, Lands with Wilderness Characteristics, Paleontology, Recreation, Socioeconomics, and Wild Horses and Burros.