

Utah Solar Regional Mitigation Strategy – Draft Regional Goals and Objectives, Mitigation Desired Outcomes, and Potential Mitigation Actions

Resource Impacted that May Warrant Compensatory Mitigation ¹	Regional Goals and Regional Objectives	Mitigation Desired Outcomes ²	Potential Mitigation Actions ³ (preliminary)
<p>Ecology: Vegetation (Inter-Mountain Basins Mixed Salt Desert Scrub, Inter-Mountain Basins Desert Shrub Steppe, and Inter-Mountain Basins Big Sagebrush Shrubland)</p>	<p>Goal: Manage or enhance vegetation resources to ensure future ecological biodiversity, stability and sustainability, and to respond to climate change. This would include diverse vegetative community and structural types to maintain soil site stability and hydrologic function while also maintaining the ecological integrity necessary to sustain or enhance viable and resilient wildlife populations.</p> <p>Objectives:</p> <p>Maintain or enhance the functional integrity of vegetation systems to ensure sustainable wildlife populations.</p> <p>Respond to the effects of climate change by maintaining vegetative communities in good vegetative and soil health. Manage communities to a standard which have decadent, dying or dead vegetation (carbon releaser) as a minor component (less than 10 percent) as compared to live, vigorous vegetation, which stores carbon.</p> <p>Within sagebrush and sagebrush steppe communities, identify areas in need of restoration due to pinyon and juniper expansion or sagebrush dominance. Initiate restoration and/or rehabilitation efforts to ensure sustainable population of sage-grouse, mule deer and other sagebrush obligate species.</p> <p>Maintain vegetation treatment areas to provide suitable habitats for wildlife and wild horses and adequate forage for livestock.</p> <p>Meet rangeland health standards and guidelines.</p>	<p>Restore, enhance, and/or acquire roughly proportional acreage of vegetation communities lost to SEZ development within 5 years of the start of SEZ development; area restored or acquired will depend on the health of the impacted vegetation community.</p>	<p>Acquire high quality habitat to compensate for the loss of comparable habitat and ensure preservation through conservation easements or other mechanisms</p> <p>Habitat enhancement and restoration (e.g., restore areas of pinyon-juniper encroachment).</p> <p>Rehabilitate existing disturbed areas.</p>

¹ Only resources for which residual impacts warranting compensatory mitigation may occur (“yes” or “maybe”) are included in this table. Resources/Issues with no residual impacts found to warrant compensatory mitigation include: Acoustics, Air Quality, Climate Change, Hydrology - Surface and Groundwater, Environmental Justice, Lands & Realty, Livestock Grazing, Paleontology, Recreation, Socioeconomics, and Wild Horses and Burros.

² The mitigation desired outcome is a measurable objective on the scale of an SEZ that is tied explicitly to the impacts and can be applied to achieve regional goals and objectives for the resource.

³ A mitigation action is an activity, process, or measure that may include establishment, enhancement, restoration, and preservation of resources offsetting residual effects.

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<p>Ecology: Terrestrial Wildlife, Aquatic Biota, and Migratory Birds</p>	<p>Goal: Manage the biological integrity of terrestrial and aquatic ecosystems to sustain or enhance habitat, fish and wildlife populations with emphasis on ecosystem health, and species biodiversity. Manage activities on federal lands to avoid, minimize, or mitigate adverse impacts to fish and wildlife species and their habitat. Maintain habitat connectivity and wildlife movement between ecological zones and seasonal use areas. Manage for the continuity and productivity of fish and wildlife and their habitat to support federal and State of Utah wildlife population objectives and other management plans.</p> <p>Objectives: Maintain crucial habitats in public ownership, and acquire additional crucial habitat through acquisition or exchange.</p> <p>Maintain enhance, or restore desired plant communities within important wildlife habitat.</p> <p>Manage pesticide, rodenticide, and herbicide application in a manner compatible with fish and wildlife health.</p> <p>Manage to prevent or control diseases that threaten fish and wildlife populations or their habitat.</p> <p>Manage to prevent the spread of terrestrial and aquatic invasive species.</p> <p>Manage to reduce or eliminate adverse impacts to or conflicts between resource uses and fish and wildlife populations and their habitats.</p> <p>Maintain or enhance movement corridors and seasonal habitat-use patterns and minimize habitat fragmentation for important species through avoidance and site-specific reclamation.</p> <p>Maximize partnership and cooperative management opportunities to maintain or reestablish habitat connectivity across federal and non-federal lands.</p> <p>Manage habitats to maintain or improve functional ecosystems on public lands.</p> <p>Manage for the introduction, translocation, augmentation and reestablishment of fish and wildlife to restore or expand populations within appropriate habitats.</p> <p>Maintain or enhance desired fish and wildlife populations and habitats to achieve goals established by the State of Utah.</p>	<p>Within 5 years of the start of SEZ development, restore, enhance, and/or acquire roughly proportional habitat acreage conditions and biological function lost to SEZ development.</p> <p>Re-establish and maintain migration corridors specifically for pronghorn.</p> <p>Do not allow construction in SEZs during spring and fall migratory bird seasons.</p> <p>Reduce noise from operations during spring and fall migratory bird seasons.</p>	<p>Improve existing wildlife habitat conditions through restoration (e.g., see vegetation actions above).</p> <p>Acquire high quality habitat to compensate for the loss of comparable habitat and ensure preservation through conservation easements or other mechanisms.</p> <p>Remove unnecessary fences or install wildlife friendly fences where fences are necessary.</p> <p>Restore wildlife connectivity and habitat conditions through restoration by modification of wildlife fencing in the area to meet wildlife friendly standards.</p> <p>Note: Through an ecosystem-based approach to mitigation, mitigation actions for vegetation (above) may also mitigate impacts on terrestrial wildlife, aquatic biota, and special status species.</p>
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<p>Ecology: Special Status Species⁴ (Burrowing Owl, Golden Eagle, Greater Sage-grouse, Dark Kangaroo Mouse, Pygmy Rabbit, Utah Prairie Dog)</p>	<p>Goal for all Special Status Species: Manage the biological integrity of terrestrial and aquatic ecosystems to sustain or enhance habitat and special status species populations with an emphasis on ecosystem health and species biodiversity. Manage environmental risks in a manner to sustain or enhance special status species populations.</p> <p>Maintain viable populations (equal or larger) of affected special status species in the region.</p> <p>Objectives: See objectives for vegetation and wildlife – the objectives listed are also applicable for management of special status species. To address impacts to special status species, the pattern of vegetation mitigated should be functionally equivalent to impacted habitat for special status species.</p> <p>The following objectives pertain specifically to special status species:</p> <p>Maintain, protect, and enhance habitats (including but not limited to designated critical habitat) of federally listed threatened, endangered, or candidate fish and wildlife species to actively promote recovery to the point that they no longer need protection under the Endangered Species Act (ESA).</p> <p>Maintain, protect, and enhance habitats of BLM sensitive fish and wildlife species, consistent with the conservation needs of the species, to prevent the listing of these species under the ESA.</p> <p>Manage for desired habitat conditions through vegetation practices or prescriptive resource management.</p> <p>Support research of threatened, endangered, candidate, proposed and sensitive species and their habitats.</p>	<p>Within 5 years of start of SEZ development, restore, enhance, and/or acquire roughly proportional habitat acreage and condition and biological function lost to SEZ development for all special status species.</p> <p>Restore, enhance, and/or acquire roughly proportional wildlife connectivity areas, specifically for pygmy rabbit and Utah prairie dog.</p> <p>Restore, enhance, and/or acquire roughly proportional area of golden eagle foraging habitat.</p> <p>Areas restored or acquired will depend on the habitat value.</p>	<p>Habitat enhancement and restoration.</p> <p>Improve existing wildlife permeability habitat conditions (for example, for Western Burrowing Owl, through restoration of old agricultural fields).</p> <p>Acquisition and/or preservation of habitat that meets standards for high quality habitat.</p> <p>For Western Burrowing Owl, Utah prairie dog and pygmy rabbits, prior to construction identify or acquire site(s) for relocation for individuals disturbed by construction on the SEZ.</p>

⁴ Applicable species vary by SEZ.

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Soils	<p>Goal: Maintain or enhance soil health (e.g., chemical, physical, and biotic properties) with emphasis on making significant progress toward meeting the Utah Standards for Rangeland Health.</p> <p>Objectives: Apply guidelines and appropriate measures to all management actions (including reclamation) affecting soil health to decrease wind and water erosion and sedimentation, to achieve and maintain stability, and to support the hydrologic cycle by providing for water capture, storage, and release.</p> <p>Manage the vegetation resource in a condition that will provide sufficient cover and litter to protect the soil surface from excessive wind and water erosion, reduce bare ground, promote infiltration, detain surface flow and reduce soil moisture loss by evaporation. This includes making provisions for reducing percentage of invasive or noxious weed relative to desired plant populations.</p> <p>Protect fragile soils, such as those with high or severe erosion potential and those with steep slopes.</p>	<p>Within 5 years of the start of SEZ development, restore, enhance, and/or acquire roughly proportional acreage of soil cover lost through development on SEZ.</p>	<p>Restore, enhance, and/or acquire high quality soil habitat to compensate for the loss of comparable soils and ensure preservation through conservation easements or other mechanisms</p> <p>Rehabilitate existing disturbed areas.</p>
Cultural Resources	<p>Goal: Identify, preserve, and protect significant cultural resources and ensure that the values of these resources are available for current and future generations.</p> <p>Objectives: Monitor and protect significant cultural resources from natural or human-caused deterioration.</p> <p>Conserve targeted cultural resources that face immediate threat or are in high public interest areas in stable condition.</p> <p>Promote partnerships (including with tribes), stewardship, conservation, and appreciation of cultural resources.</p> <p>Make available cultural resources for educational use, interpretive use, and scientific research.</p>	<p>Where possible, avoid cultural resources, particularly high concentrations, through identification of non-development areas within SEZs.</p> <p>Within 5 years of the start of SEZ development, protect and preserve at-risk cultural resources.</p> <p>Within 5 years of the start of SEZ development, enhance present and future public use and enjoyment of cultural resources in the region.</p>	<p>Implement security and enforcement measures.</p> <p>Implement interpretive and educational measures.</p>

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<p>Specially Designated Areas (Note – only applicable for residual impacts to the Old Spanish National Historic Trail (OSNHT) from power tower development in the Escalante Valley SEZ)</p>	<p>Goal: Manage National Historic Trails for long-term heritage and educational values. Enhance public experience through interpretive facilities and support of heritage tourism.</p> <p>Objectives: Maintain compatible recreational use with National Historic Trail values. Maintain setting for those contributing trail segments where setting is an aspect of integrity by utilizing viewshed management tools. Increase opportunities for public education and interpretation along National Historic Trails. Maximize partnership and cooperative management opportunities (e.g., cooperate with private landowners to install trail markers, provide public access, etc.) to provide a continuous experience along designated National Historic Trails.</p>	<p>Implement mitigation such that there is no net loss of scenic experience (day and night), as seen from the OSNHT.</p>	<p>For every acre/linear mile of the OSNHT with residual visual effects within the viewshed of the project, provide funds to enhance visual resources, on a sliding scale based on distance from the project.</p> <p>Use land acquisitions, conservation easements, or public access easements to protect, preserve, and enhance the existing setting of the Old Spanish National Historic Trail.</p>
<p>Tribal Concerns</p>	<p>Goal: Develop and maintain working relationships with those tribes having an interest in the area.</p> <p>Objectives: Consult with tribal governments regarding proposed land uses having the potential to impact resources identified as having tribal interests or concerns. Determine the types of resources of concern to various tribes, and take tribal views into consideration when making land use allocations or decisions. Provide opportunities for traditional (Native American) uses.</p>	<p>To be developed in consultation with tribes.</p>	<p>To be developed in consultation with tribes.</p>

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<p>Visual Resources (Note – only applicable for residual impacts to the Old Spanish National Historic Trail (OSNHT) and the communities of Newcastle and Modena from power tower development in the Escalante Valley SEZ)</p>	<p>Goals: Plan, modify, and implement management actions, consistent with visual resource management objectives.</p> <p>Preserve and/or enhance scenic quality in the region through preservation of open-space landscapes and undisturbed views, or through restoration of habitat to compensate for visual resources impaired by development.</p> <p>Objective: Minimize potential development impacts on visual resources through implementation of mitigation measures including, but not limited to, proper siting and location, color treatment, and reduction of unnecessary site disturbance..</p>	<p>Implement mitigation such that there is no net loss of inventoried scenic values and scenic experience (day and night), as seen from visually-sensitive areas.</p>	<p>For every acre/linear mile of a visually sensitive area with residual visual effects within the viewshed of the project, provide funds to enhance visual resources, on a sliding scale based on distance from the project.</p> <p>Implement landscape remediation and reclamation on derelict landscapes (such as decommissioned construction sites, abandoned roads) that results in the reduction of visual contrast.</p> <p>Reduce visual contrast of existing cultural modifications through color treatment and/or vegetative screening that reduce visual contrast and enhance overall landscape scenic quality.</p> <p>Use land acquisitions, conservation easements, or public access easements to protect and preserve existing scenic quality, and to increase amount of high scenic quality lands.</p> <p>Re-allocate lands within VRM Class III or IV to a higher level of protection for areas that are visually intact with no human modifications and that have VRI values that are equal to or greater in value than those of the impacted lands in the SEZ.</p>