

Review of Solar Regional Mitigation Strategy Progress to Date

Presented by:

Heidi Hartmann and Mike Dwyer, Argonne National Laboratory
Utah Solar Regional Mitigation Strategy Workshop

Cedar City, UT

December 13, 2016

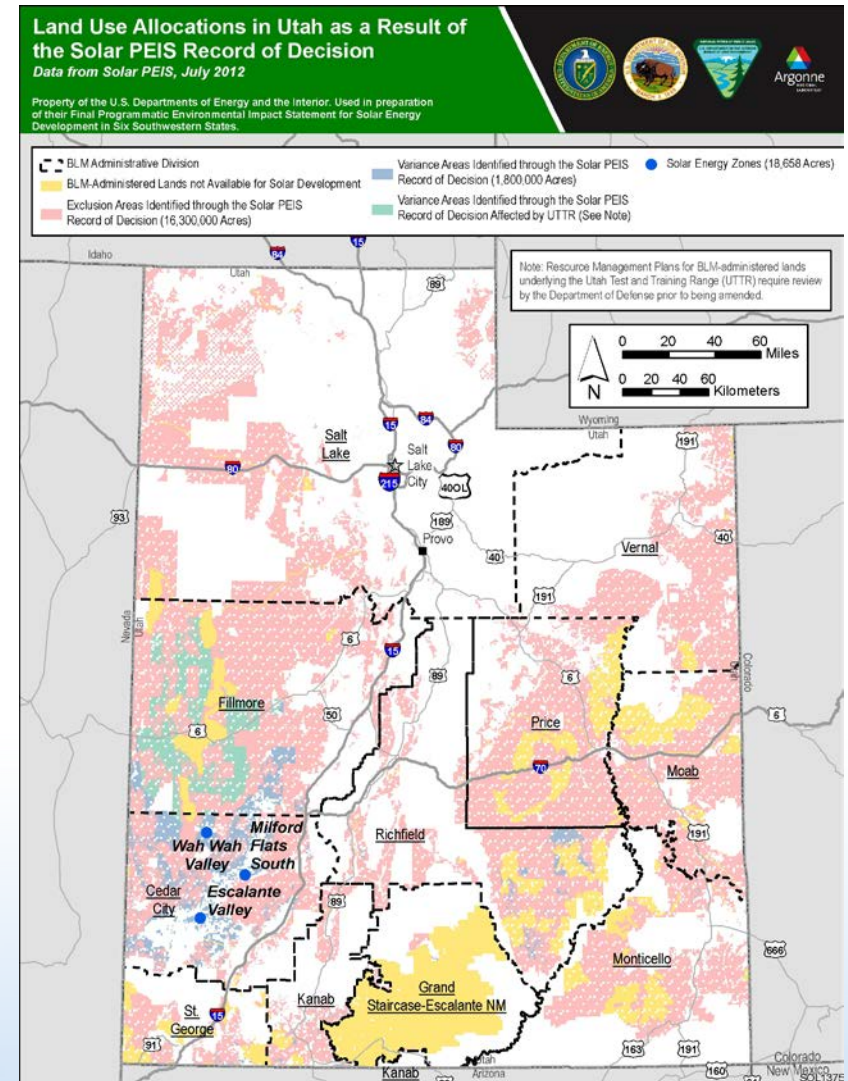
Key Events to Date:

- April Stakeholder Workshop:
 - Overview of 3 Utah Solar Energy Zones, Regional Mitigation Strategy Purpose, Elements, and Process.
 - Preliminary list of residual impacts from solar development.
 - Process for identifying residual impacts that may warrant compensatory mitigation (C.M.).
- August Webinar:
 - Preliminary list of residual impacts that may warrant C.M.;
 - Goals, objectives, and mitigation desired outcomes.
- October Webinar:
 - Mitigation obligation/fee development.
 - Request candidate mitigation site locations and actions.

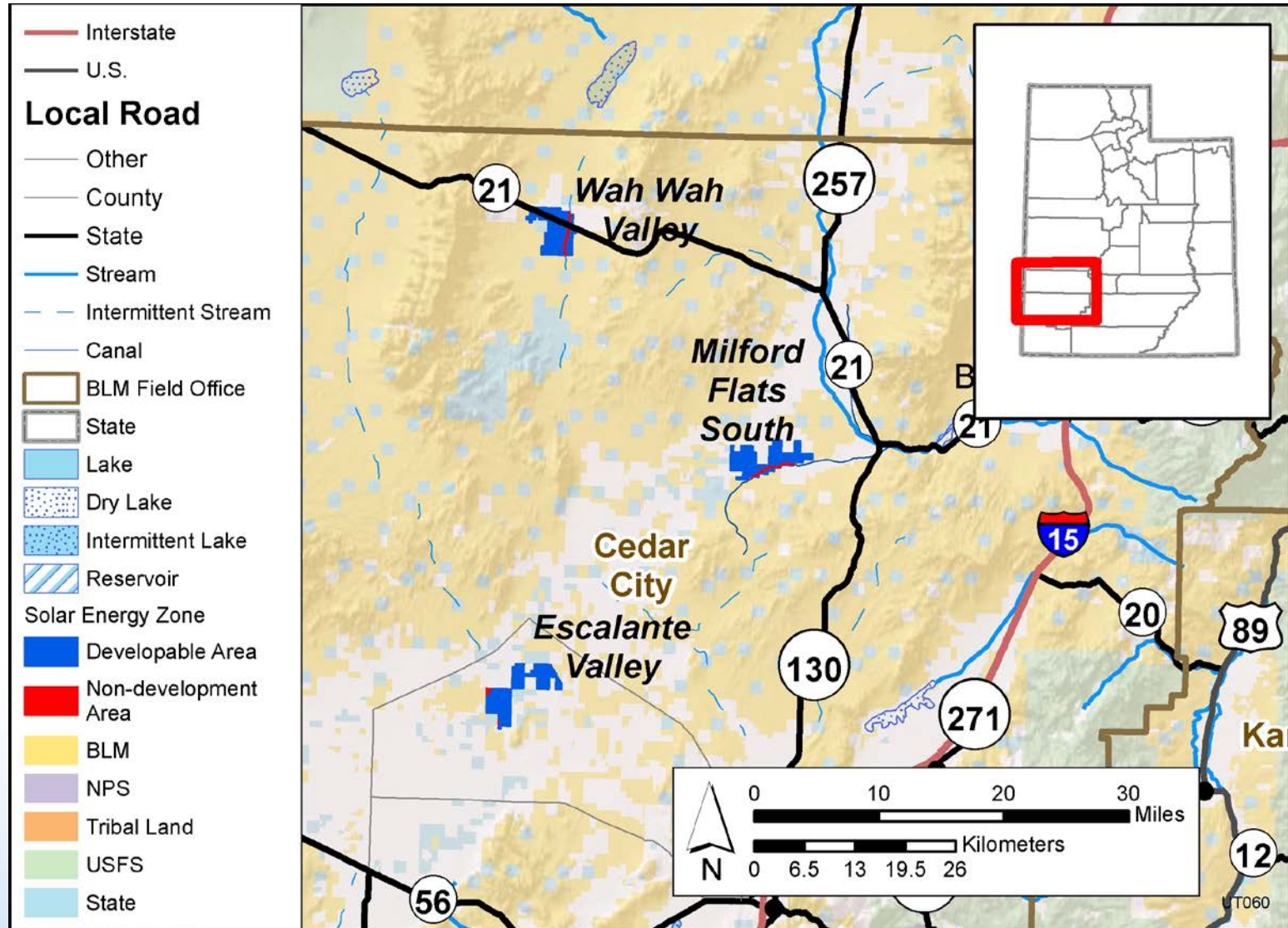
Background: BLM's Solar Energy Program

For BLM Utah Public Lands the Solar PEIS and ROD (2012) established:

- **1.8 M acres of solar variance lands**
 - ✓ 177,089 acres of variance lands within the Cedar City Field Office
- **Three (3) SEZs totaling 18,658 acres**
 - ✓ Escalante Valley – 6,533 acres
 - ✓ Milford Flats South – 6,252 acres
 - ✓ Wah Wah Valley – 5,873 acres
- **Programmatic required design features (aka onsite mitigation)**



Utah SEZs and Surrounding Areas





Escalante Valley Solar Energy Zone



Milford Flats South Solar Energy Zone



Wah Wah Valley Solar Energy Zone

Source BLM 2012, Solar PEIS



Examples of Solar Project Types and Scale

Desert Sunlight Solar Farm (PV)

- 550 MWs Project on 4,165 acres of Public Land
- 6.5 Square Miles of Single Land Use

Examples of Solar Project Types and Scale



Ivanpah Solar Energy Generation Station (SEGS)

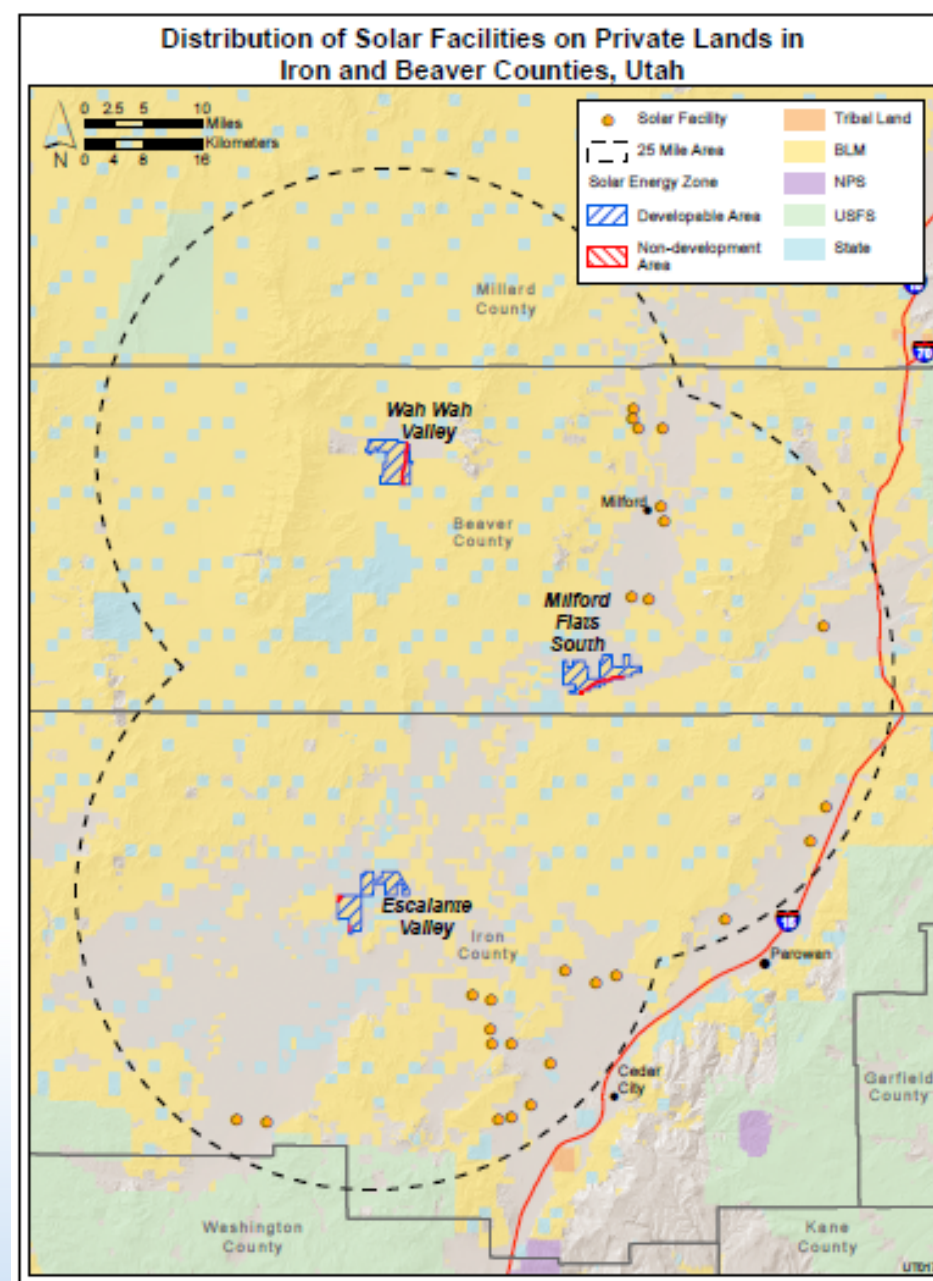
- 3 Concentrated Solar Power Towers (392 MWs)
- \$2.8B Project on 3,472 acres of Public Land

Solar Energy Development Near Utah Solar Energy Zones

Currently no solar facilities on BLM-administered lands.

There are 26 solar PV facilities near the Utah SEZs:

- 8 within 25 mi of Wah Wah Valley SEZ,
- 12 within 25 mi of Milford Flats South SEZ, and
- 14 within 25 mi of Escalante Valley SEZ.



Purpose of the Utah SRMS

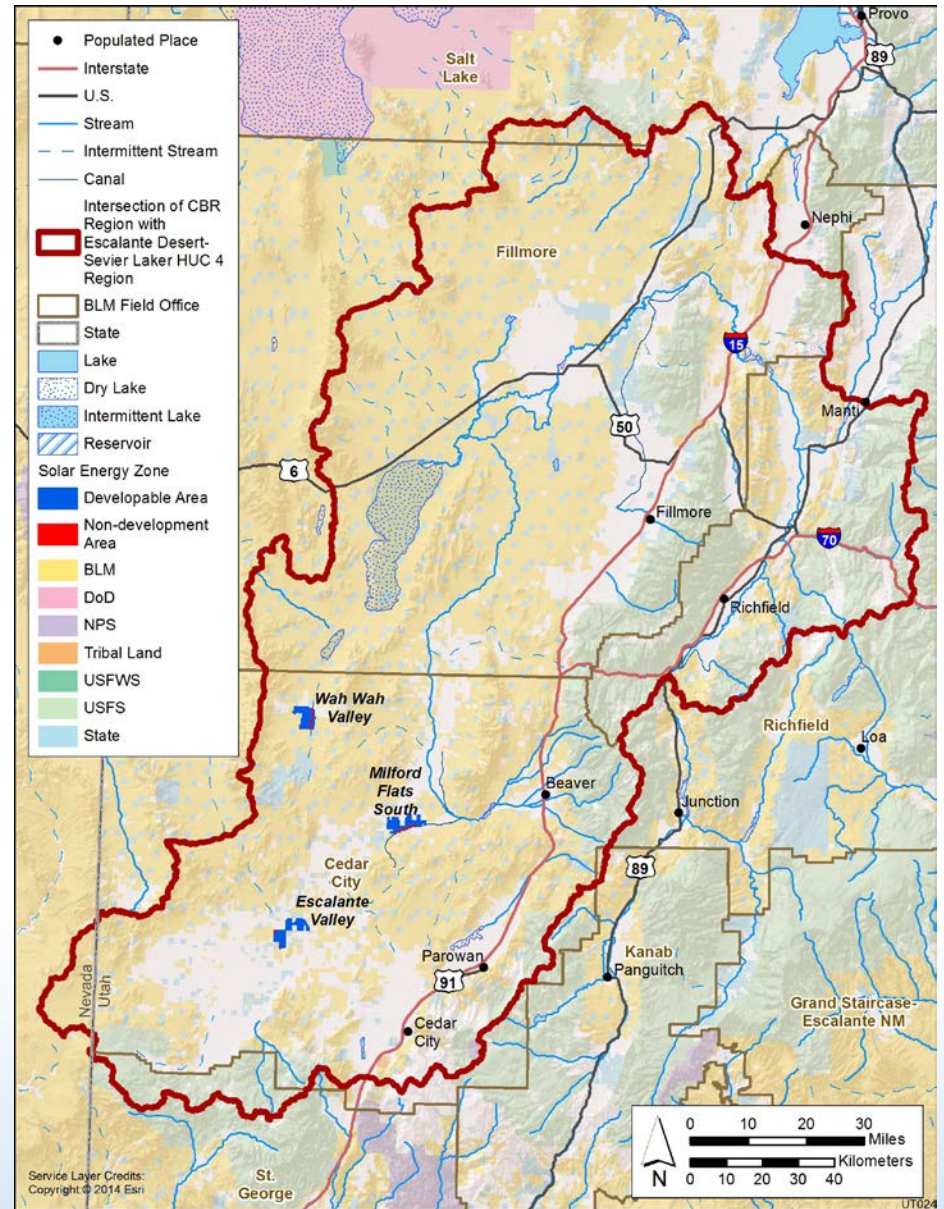
- **Identify** residual impacts of solar development in the SEZs.
- **Identify** which residual impacts warrant compensatory mitigation.
 - Based on evaluation of regional resource status and trends.
 - Informed by conceptual and spatial models developed for the BLM's Central Basin and Range Rapid Ecoregional Assessment.
- **Identify** regional goals/objectives and mitigation desired outcomes.
- **Recommend** mitigation sites, actions, and outcomes that would work to achieve mitigation desired outcomes.
- **Recommend** a compensatory mitigation fee, including basis (e.g., acquisition, preservation, and/or restoration); recommended adjustments, administration, monitoring, and other fee components.
- **Recommend** monitoring and adaptive management approaches to ensure actions achieve desired results.

Purpose of the Utah SRMS (Continued)

- Regional mitigation strategy is NOT a binding decision document.
- It is a RECOMMENDATION that will inform future project-specific NEPA analysis.
- To the extent possible, impacts will be AVOIDED or MINIMIZED ONSITE.

SRMS REGION:

- Intersection of Hydrologic Unit Code (HUC) 4 Watershed and Central Basin and Range Rapid Ecoregional Assessment Area



BLM Mitigation Hierarchy:



Element 1 Describe SEZ & Regional Baseline Conditions Against which Adverse Residual (Unavoidable) Impacts Are Assessed

Element 2 Assess Residual Impacts and Identify Which Resources May Warrant Regional Compensatory Mitigation

Element 3 Identify Regional Goals/Objectives and Mitigation Desired Outcomes

Element 4 Identify a Method for Calculating Recommended Mitigation Fees

Element 5 Identify & Recommend a Management Structure to Hold & Apply Mitigation Funds

Element 6 Evaluate & Recommend Appropriate Mitigation Sites and Actions

Element 7 Develop Mitigation Monitoring and Adaptive Management Plan

Element 1: What are the potential residual impacts on the Utah SEZs?

Yes

- Vegetation
- Wildlife Habitat
 - Special Status Species (Utah prairie dog, greater sage-grouse)
- Soils/Erosion
- Surface Water
- Cultural
- Native American Concerns
- Specially-Designated Areas
 - Old Spanish National Historic Trail
- Visual Resources

Maybe

- Acoustics
- Air Quality
- Invasive/Noxious Weeds
- Groundwater
- Livestock Grazing

Element 2: What are the potential residual impacts that may warrant regional compensatory mitigation?

- BLM interdisciplinary team evaluated residual impacts in light of regional status and trends.
- August webinar: presented draft assessment and requested comments.

Preliminary Identification of Resources that May Warrant Regional Mitigation in Utah SEZs

- Ecology: Vegetation
- Ecology: Terrestrial Wildlife
- Ecology: Migratory Birds
- Ecology: Animal Special Status Species
- Soils/Erosion

Maybe – Cultural Resources, Specially Designated Areas (Escalante – OSNHT), Tribal Concerns, Lands with Wilderness Characteristics (Wah Wah Valley SEZ), and Visual Resources (Escalante Valley SEZ).



Revisions to Draft Tables

- In August, posted draft “Impacts Warranting Mitigation” and “Regional Goals, Objectives, Mitigation Desired Outcomes, and Potential Actions” tables.
- Comments Received:
 - National Park Service (National Trails Intermountain Region).
 - The Wilderness Society and Southern Utah Wilderness Alliance.
 - Utah Rock Art and Research Association.
- BLM continues to incorporate comments; tables in folders include revisions made to date.

Changes in Tables for Impacts Warranting Mitigation

- Livestock Grazing: Clarified that, based on BLM policy, mitigation for loss of AUMs is not required (though reimbursement for loss of range improvements will be addressed).
- Changes to Lands with Wilderness Characteristics, Specially Designated Areas, and Visual Resources to account for updated visual analysis and clarification of impacts.
- Terrestrial Wildlife: Comment to list all of the species identified in the Solar PEIS – will be added to Draft SRMS tables.

Element 3: Mitigation Regional Goals and Objectives and Mitigation Desired Outcomes

- Presented in August webinar.
- Based on regional goals and objectives considered in Cedar City BLM Field Office resource management planning efforts and other area planning documents.

Regional Goals & Objectives and Mitigation Desired Outcomes & Mitigation Actions:

- Mitigation Desired Outcomes and Mitigation Actions should:
 - Consider all resources that may warrant regional mitigation due to SEZ development;
 - Consider affected ecosystem, landscape condition, current trends, external actions that may affect regional conditions;
 - Enhance the ability of agencies to invest in larger scale conservation and mitigation efforts, and to prioritize investments;
 - Use SMART principles (specific, measurable, attainable, relevant, timely).

Regional Goals and Objectives, Mitigation Desired Outcomes, and Potential Mitigation Actions for the Utah SEZs

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>

Changes in Regional Goals and Objectives, Mitigation Desired Outcomes, and Potential Mitigation Actions Table

- Mitigation Desired Outcomes:
 - To match BLM Interim Policy on Regional Mitigation and increase flexibility, changed desired outcome for restore/enhance/acquire from “equivalent functional area” to “roughly proportional area.”
 - Added specific mitigation timeframe where previously missing.
- Specially Designated Areas: refined mitigation desired outcomes and potential mitigation actions to be directly applicable for the Old Spanish National Historic Trail.
- Visual Resources: Identified specific visually sensitive areas for which mitigation might be warranted; refined mitigation desired outcomes and potential mitigation actions (e.g., mitigation amount proportional to impacts based on distance from project).

Element 4: Identify a Method for Calculating a Recommended Mitigation Fee

- Discussed in October webinar

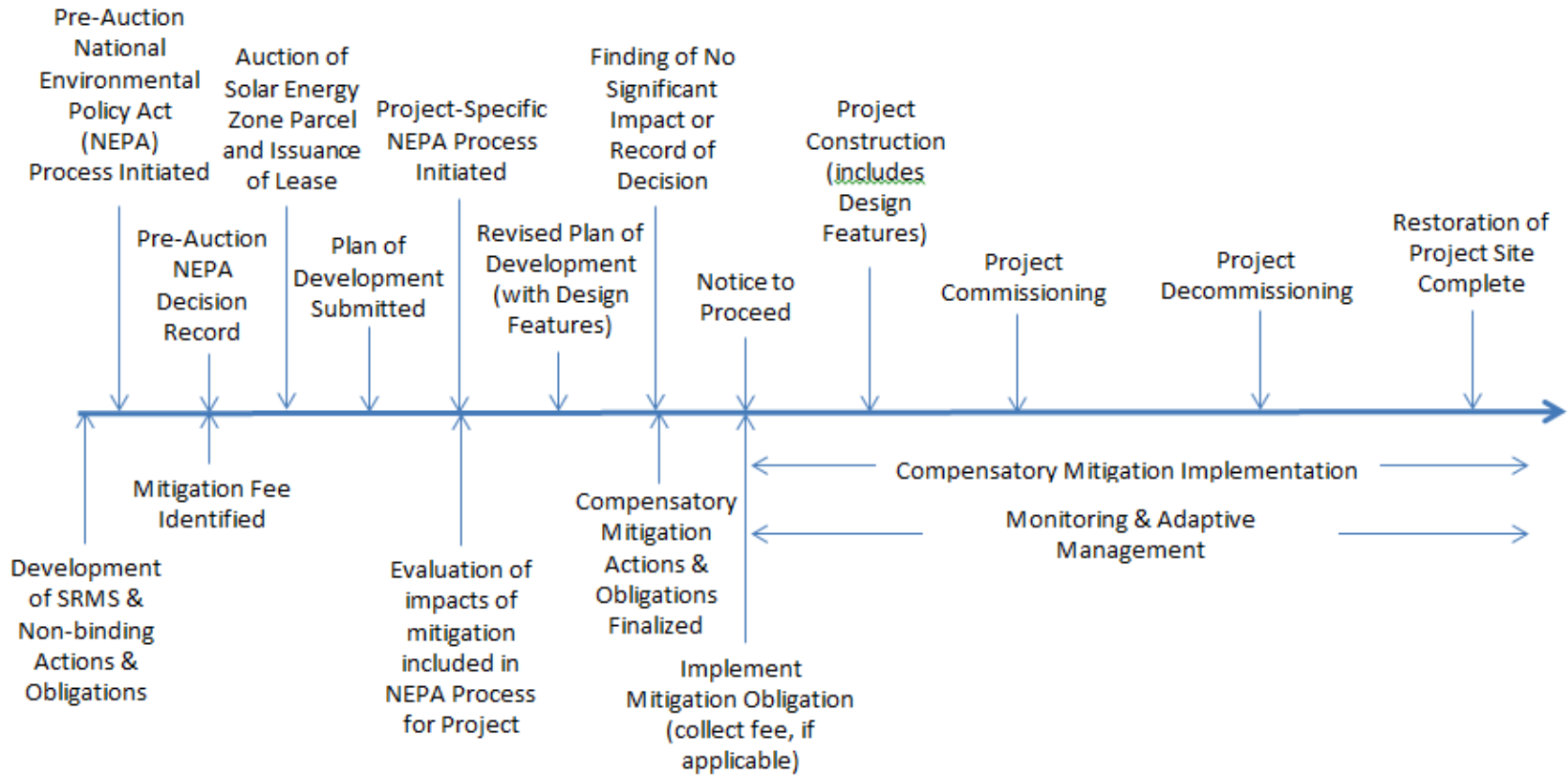
*Project Mitigation Fee =
(Acres Leased) x (Per Acre Mitigation Fee)*

One time fee paid by the developer funding mitigation over the life of solar project impacts.

- The fee is identified at pre-auction NEPA (may be adjusted if project-level NEPA indicates a need).
 - Fund may be used for one mitigation location/action or multiple locations/actions.

Project Implementation Timeline

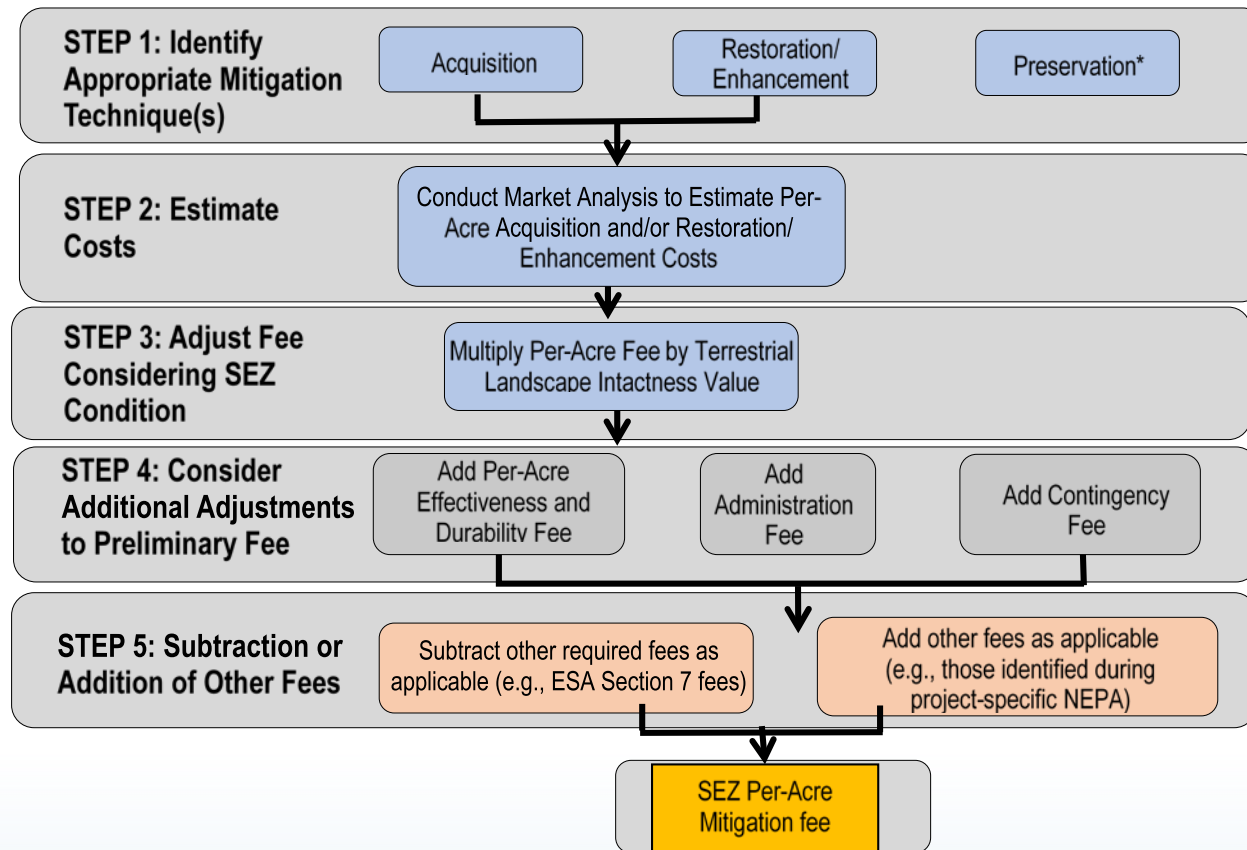
(Above Blue Line)



Compensatory Mitigation Implementation Timeline

(Below Blue Line)

Note that in some cases NEPA for mitigation actions could be completed after the project-specific NEPA and closer in time to when the mitigation action is implemented.



Preservation through new land use planning and designations is acknowledged as an important form of mitigation but related costs are not included in recommended fee - costs are assumed to be internal to BLM operations.

Element 5: Identify & Recommend a Management Structure to Hold & Apply Mitigation Investment Funds

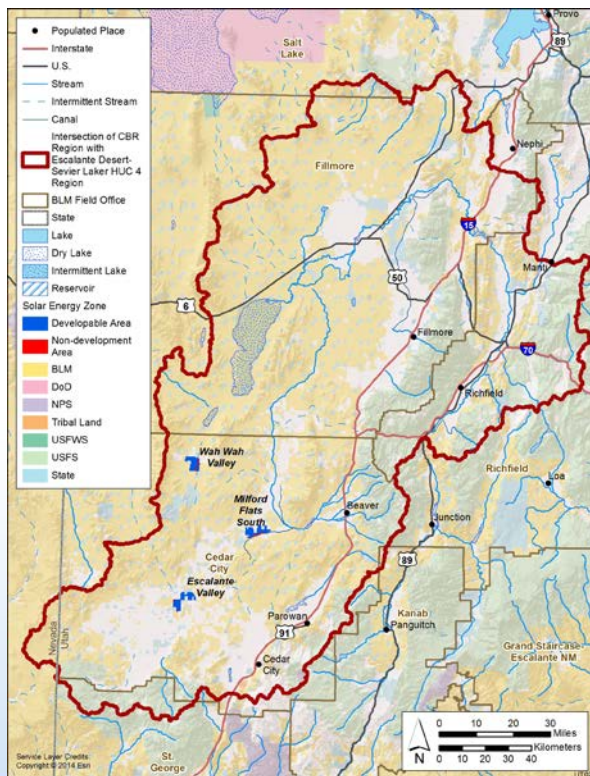


BLM will select management options consistent with:

- the BLM's interim regional mitigation policy, draft Manual Section 1794, issued June 13, 2013 and
- DOI's Departmental Manual Part 600 DM 6 Landscape-Scale Mitigation Policy (DOI 2015), issued October 23, 2015.

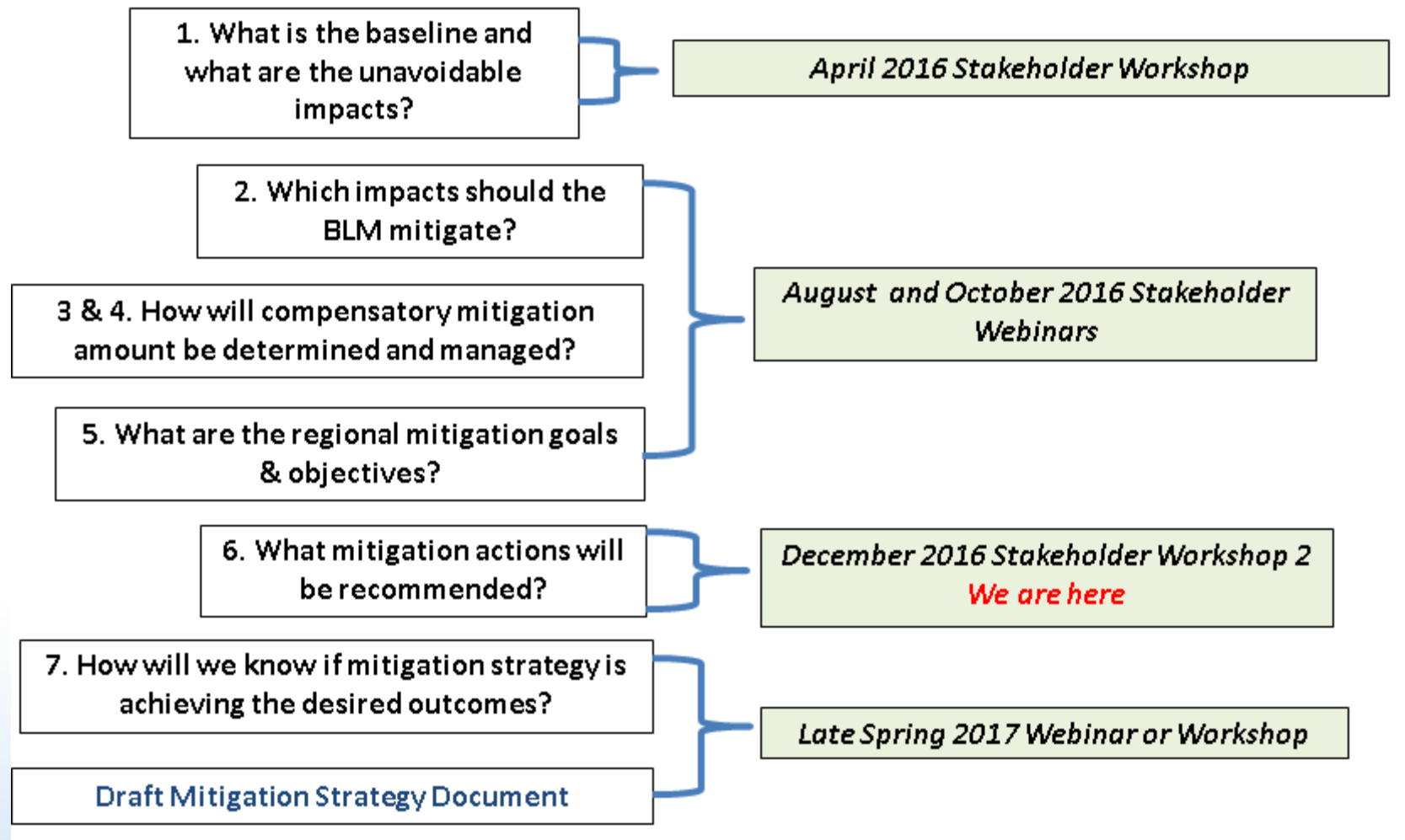
Element 6: Evaluate & Recommend Appropriate Mitigation Sites and Actions

- Requested stakeholder recommendations during October webinar; BLM also developed recommendations
- BLM- and stakeholder-recommended candidate sites and actions to be reviewed in December workshop.



- Criteria for ranking alternative locations
 - Same region and state
 - Opportunities to achieve mitigation desired outcomes
 - Consistency with Resource Management Plan
 - Feasibility, Effectiveness/Additionality, Risk, Durability

Utah SRMS Process – 7 Element Schedule



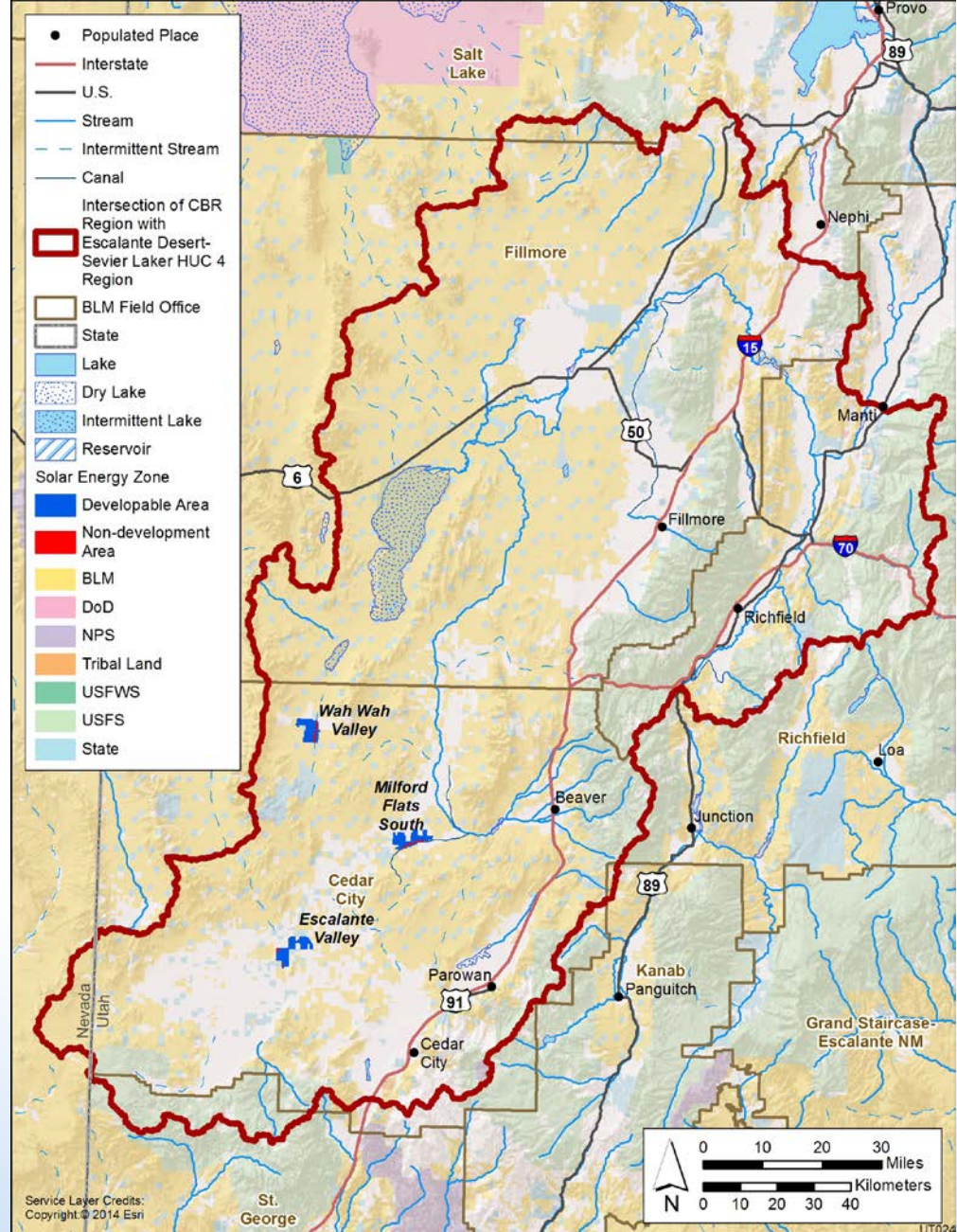
Candidate Site and Action Recommendations for Regional Mitigation

Evaluating Candidate Sites for Implementing Mitigation Actions

- Candidate Site Requirements:
 - Appropriately located (within ecoregion or watershed of SEZ).
 - Meet criteria to support attainment of regional mitigation goals and objectives.
- Screen and evaluate candidate sites using BLM-developed matrix.
- Supports systematic and objective comparison and ranking of mitigation sites/actions, stakeholder communication, and informing future BLM decisions.
- Matrix (originally developed for the Dry Lake SEZ pilot) has been posted on the project website.

SRMS REGION:

Intersection of HUC4 Watershed and Central Basin and Range Rapid Ecoregional Assessment Area



How Stakeholders Will Help Identify Candidate Regional Mitigation Locations and Actions

- Stakeholders were asked to provide candidate mitigation locations and actions (including G.I.S. data and rationale).
- BLM IDT is also proposing locations and actions.
- Screening of mitigation locations and actions is informed by regional goals and objectives.
- Locations and actions should mitigate for residual impacts warranting mitigation and address regional goals and objectives.
- Evaluating mitigation locations and actions will be an iterative process.

Key Compensatory Mitigation Criteria:

- Mitigates for all or most impacts that warrant mitigation;
- Addresses regional goals and objectives; and
- ***Is Feasible, Effective, Additive, Low-Risk, and Durable.***

Candidate Site Screening Matrix Tool:

- Supports systematic comparison and ranking of proposals;
- Can support identification of several locations and/or actions and corresponding objectives.

Candidate Site Screening Matrix

Criteria	SEZs Being Evaluated			Candidate Sites	
	Escalante Valley	Milford Flats South	Wah Wah Valley	Location 1	Location 2, etc.
SITE CHARACTERISTICS					
1. Contiguous area of site (acres).					
BLM developable acres					
Private acres					
Other Public Management (State, County, Tribal, other federal)					
2. Sources of data for the site					
3. Mitigates for all or most identified residual impacts that warrant compensatory mitigation?					
4. Mitigation tool(s) (restoration/enhancement, acquisition, banking, withdrawal, special designation, etc.) and actions proposed					
5. Site and its proposed actions meet regional conservation/mitigation goals, objectives, and desired outcomes?					
6. If site is located on BLM-administered land, is use consistent with the Resource Management Plan?					
7. Same geographic region as the SEZs?					
8. Visual Resource Management (VRM) and Visual Resource Inventory (VRI) Class - BLM lands only					
9. Similar landscape value, ecological functionality, biological value, species, habitat types, and/or natural features?					
9a. Current landscape intactness score? (Using Landscape Assessment) and acres associated with each condition category.					
9b. Dominant vegetation communities (based on LANDFIRE Existing Vegetation data)					

Available on the project website.



BLM

Candidate Site Recommendations

Mitch Bayles
Rangeland Management Specialist
Bureau of Land Management
Cedar City Field Office

Overview of Presentation

Mitigation Desired Outcomes

- Mitigation objectives to be achieved in order to compensate for development of solar facilities within the SEZs.
- Sum of recommended mitigation locations and actions should achieve all mitigation desired outcomes.

BLM Candidate Mitigation Locations and Actions:

- Chipman Peak
- Sigurd - Red Butte
- Horse Hollow
- Pine Valley

Mitigation Desired Outcomes

Ecology – Vegetation

- Restore, enhance, and/or acquire roughly proportional acreage of vegetation communities lost to SEZ development within 5 years after development starts; area restored or acquired will depend on the health of the impacted vegetation community.
 - Escalante Valley – SEZ comprised of mixed salt desert scrub (79%) and active and stabilized dune (7%).
 - Milford Flats – SEZ comprised of mixed salt desert scrub (49%) and big sagebrush shrubland (31%).
 - Wah Wah Valley – SEZ comprised of mixed salt desert scrub (87%) and greasewood flats (10%).

Ecology – Wildlife and Migratory Birds

- Restore, enhance, and/or acquire roughly proportional habitat acreage conditions and biological function lost to SEZ development.
- Re-establish and maintain migration corridors specifically for pronghorn.
- Do not allow construction and reduce noise in SEZs during spring and fall migratory bird seasons.

Mitigation Desired Outcomes (continued)

Ecology – Special Status Species (Within 5 years of start of development)

- Restore, enhance, and/or acquire roughly proportional habitat acreage and condition and biological function lost to SEZ development for all SSS species.
- Restore, enhance, and/or acquire roughly proportional wildlife connectivity area acreage SEZ (specifically for pygmy rabbit and Utah prairie dog); areas restored or acquired will depend on the habitat value.
- Restore, enhance, and/or acquire roughly proportional acreage of golden eagle foraging habitat .
- SEZ specific SSS Information:
 - **Escalante Valley:** No plants; ESA – Utah prairie dog; BLM - bald eagle, golden eagle, Western burrowing owl, kit fox, pygmy rabbit, kangaroo mouse.
 - **Milford Flats:** No plants; ESA – Utah prairie dog; BLM – greater sage-grouse, golden eagle, kit fox, and Western burrowing owl
 - **Wah Wah Valley:** No plants; BLM – golden eagle, kit fox, Western burrowing owl.

Soils

- Restore, enhance, and/or acquire roughly proportional acreage of soil cover lost through development on the SEZ within 5 years after initiation of development.

Mitigation Desired Outcomes (continued)

Cultural Resources

- Where possible, avoid cultural resources, particularly high concentrations, through identification of non-development areas.
- Within 5 years of start of development, protect and preserve at-risk cultural resources to provide mitigation for residual impacts.
- Within 5 years of start of development, enhance present and future public use and enjoyment of cultural resources in the region.

Specially Designated Areas

- Implement mitigation such that there is no net loss of scenic experience (day and night), as seen from visually-sensitive Special Designations.

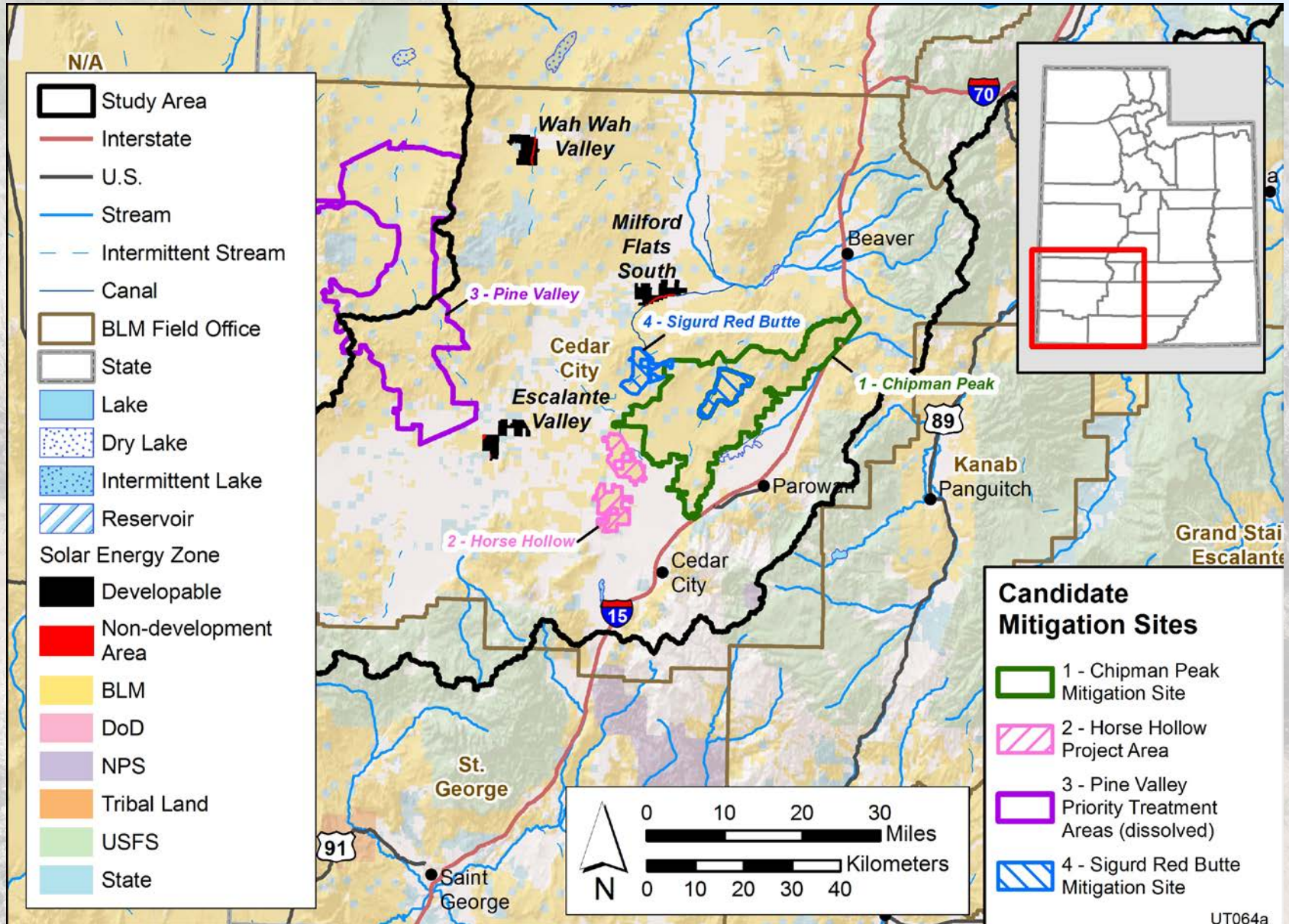
Tribal Concerns

- To be developed in consultation with tribes.

Visual Resources

- 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.

Map of BLM Recommended Candidate Sites



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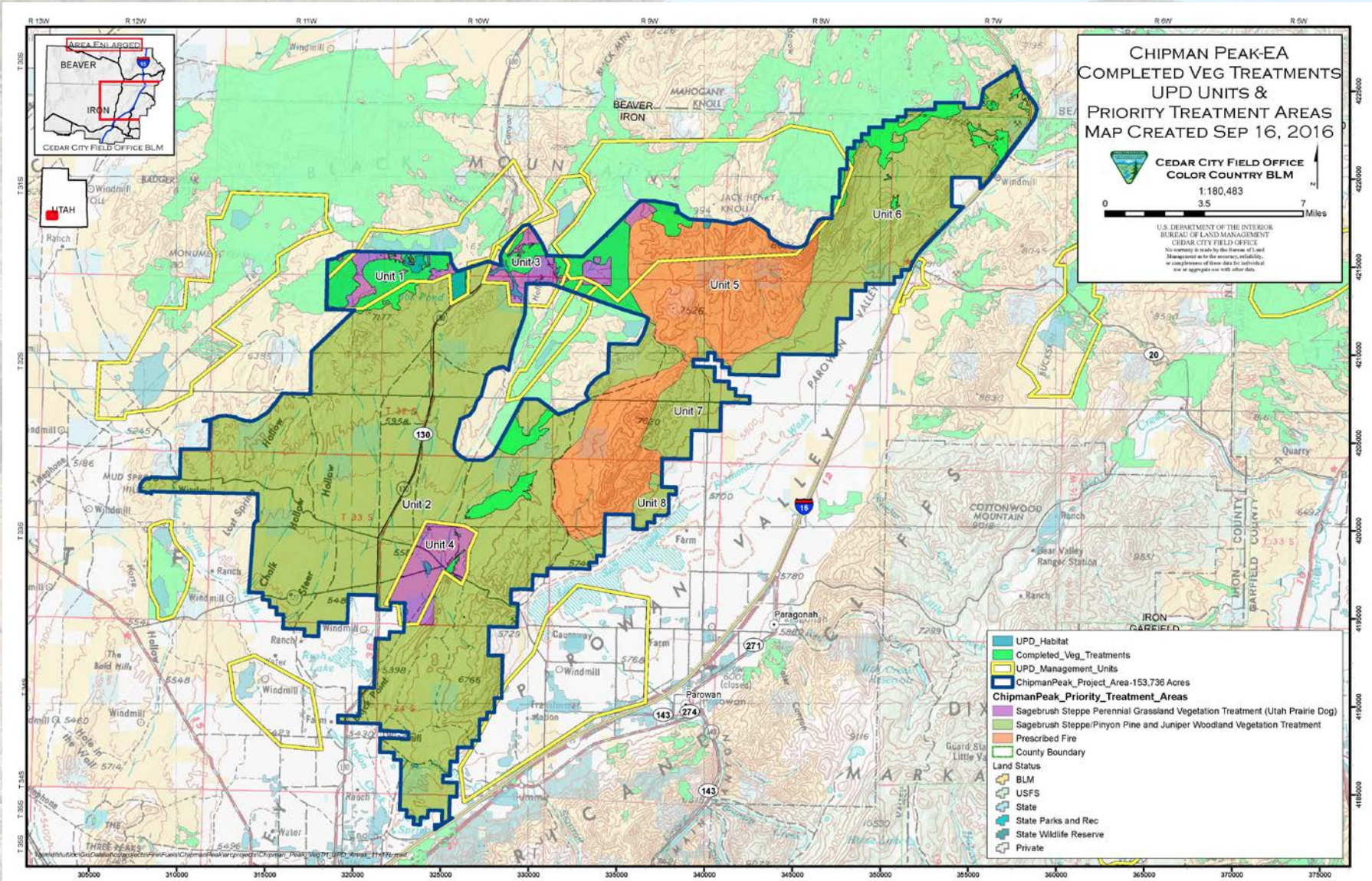
Chipman Peak

Vegetation Treatment Areas

SEZ Regional Mitigation Site

Mitch Bayles
Rangeland Management Specialist
Bureau of Land Management
Cedar City Field Office

Chipman Peak Vegetation Treatment Areas



Site Description

- EA in progress; final and public review period planned for 2017.
- The purpose of the proposed action is to improve the vegetative health and diversity in the Chipman Peak project area, including greater sage-grouse and Utah prairie dog habitat.
- The Chipman Peak mitigation site includes sagebrush, mountain shrub, mixed shrub/grass and pinyon juniper with grass/shrub understory.
- From 1976-2013, 75 cultural resource pedestrian surveys were conducted within the area of potential affect. The 229 sites recorded include 19 historical sites, 16 multicomponent sites (containing both historical and prehistoric components), and 194 prehistoric sites.
- The area supports mule deer and pronghorn habitat. T&E species; Utah Prairie Dog, Candidate species; Greater Sage-Grouse and BLM Sensitive species; Ferruginous Hawk and Pygmy Rabbit habitat which will be residually impacted by SEZ development.

Site Description (Continued)

Candidate Mitigation Site Extent (~ 153,736 acres)

- 138,736 BLM acres.
- 13,706 SITLA acres.
- 1,879 Private acres.

Residual Impacts offset and/or Resources Protected

- Pronghorn & Mule deer habitat.
- BLM Sensitive Species, T&E and Candidate species habitat.
- Hydrology & Soils.
- Vegetation.
- Cultural sites, including the Dominguez & Escalante Trail.
- Livestock Grazing.
- Fire risk.

Proposed Mitigation Site Goals/Objectives

- Enhance habitat conditions for Utah prairie dog.
- Provide habitat connectivity for Utah prairie dog.
- Enhance habitat conditions for greater sage-grouse.
- Provide habitat connectivity for greater sage-grouse.
- Reduce hazardous fuels and risk to life and property from catastrophic wildland fire.
- Restore and improve the sagebrush/steppe ecosystem.

Proposed Mitigation Site Goals/Objectives (Continued)

- Increase plant species diversity and improve watershed conditions and water quality.
- Improve the health of both woodlands/forestry and sagebrush/grasslands by increasing biological diversity in age class and/or stand structure.
- Enhance habitat conditions for mule deer, sagebrush-obligate wildlife and other wildlife species.
- Decrease the amount of pinyon-juniper encroachment into areas historically dominated by big sagebrush.
- Decrease the amount of undesired tree species in riparian areas, historically dominated by aspen, cottonwoods and willows.
- Protect the setting (i.e. juniper and pinyon pine in excess of 2 centuries) of the Dominguez-Escalante trail.

Mitigation Site Scoring Criteria

Effectiveness-Additionality

- Enhancing vegetation resources to ensure future ecological biodiversity, stability and sustainability, maintaining soil site stability and hydrologic function.
- Protecting the biological integrity of terrestrial ecosystems.
- Enhancing habitat for Sensitive species.
- Restoring healthy rangeland ecosystems for livestock grazing.
- Identified, preserved and protected cultural resources.

Feasibility

- EA in final draft stages, planned to have out for public review and signed decision 2017.

Durability

- EA is in conformance with the Cedar Beaver Garfield Antimony Resource Management Plan and has been amended to incorporate the greater sage-grouse measures included in the GRSR ARMPA.

Risk

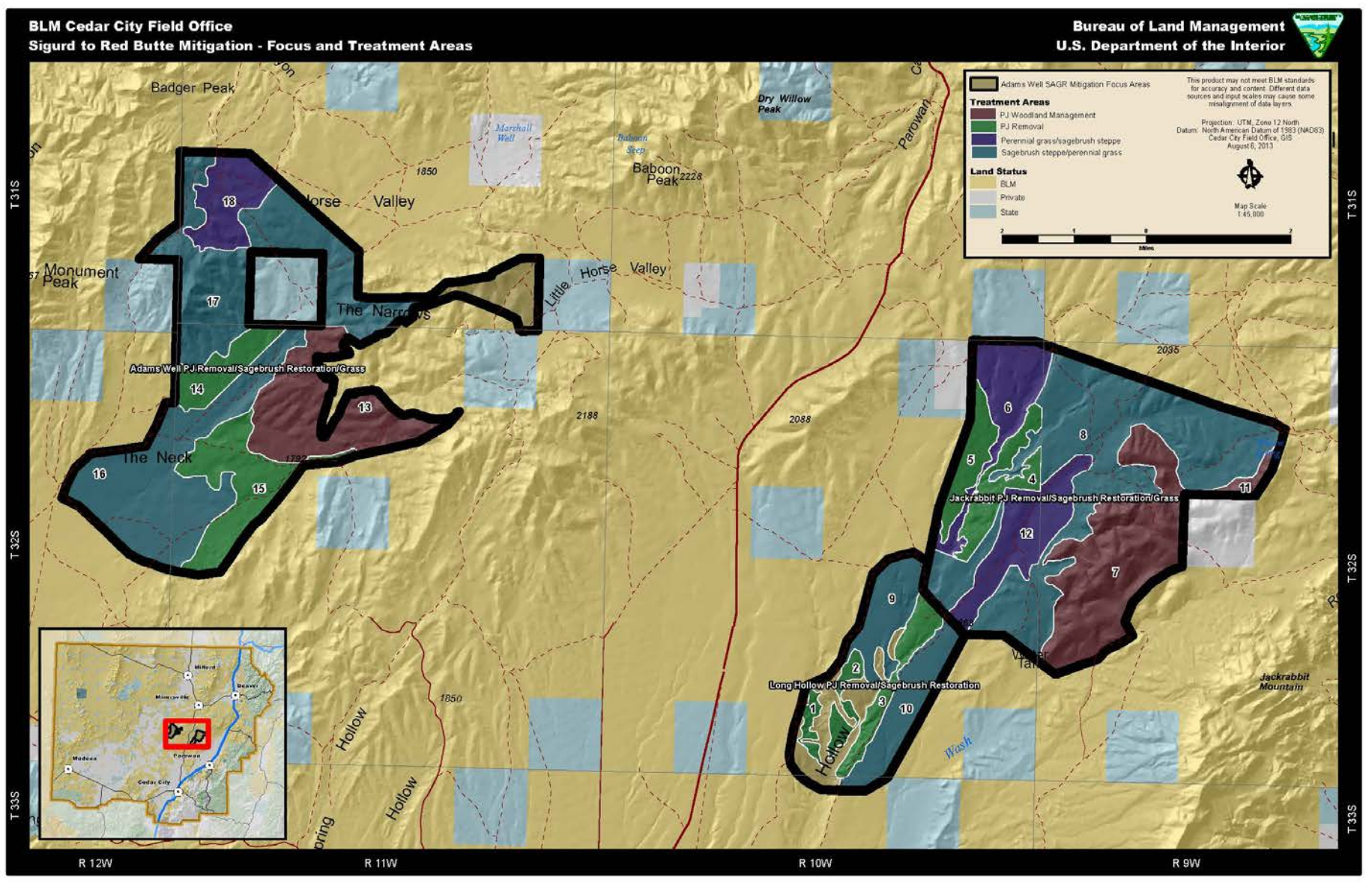
- A BLM interdisciplinary team had considered all potential impacts to resources and had addressed the issues throughout the E.A.



Sigurd-Red Butte
Vegetation Treatment Areas
SEZ Regional Mitigation Site

Mitch Bayles
Rangeland Management Specialist
Bureau of Land Management
Cedar City Field Office

Sigurd-Red Butte Treatment Areas



Site Description

- EA signed; projects currently in progress; the projects purpose is to complete habitat improvement projects within Greater Sage Grouse and Utah Prairie Dog Habitat and to offset impacts of the Sigurd-Red Butte transmission line.
- To provide a context for the Proposed Action, “desired future conditions” have been outlined for each treatment within three Focus Areas.
- The Sigurd-Red Butte mitigation site vegetation types include mainly sagebrush, mountain shrub, mixed shrub/grass and pinyon pine and juniper with grass/shrub understory.
- The area supports mule deer and pronghorn habitat. T&E species; Utah Prairie Dog, Candidate species; Greater Sage-Grouse and BLM Sensitive species; Bald Eagle, Burrowing Owl, Ferruginous Hawk, Kit Fox, Pygmy Rabbit, Big Free Tailed Bat, Fringed Myotis and Townsend’s Big-eared Bat habitat.
- Bald Eagle, Greater Sage-Grouse, Burrowing Owl, Kit Fox and Pygmy Rabbit will be residually impacted by SEZ development.

Site Description (Continued)

- **Candidate Mitigation Site Extent ~ 20,684 BLM acres**
- **Residual Impacts offset and/or Resources Protected**
 - Pronghorn & Mule deer habitat, Seasonal Habitat
 - BLM Sensitive Species Habitat: Bald Eagle, Burrowing Owl, Ferruginous Hawk, Kit Fox, Pygmy Rabbit, Big Free Tailed Bat, Fringed Myotis and Townsend's Big-eared Bat.
 - Candidate Species Habitat: Greater Sage Grouse.
 - T&E Species Habitat: Utah Prairie Dog.
 - Hydrology & Soils.
 - Vegetation
 - Livestock Grazing

Proposed Mitigation Site Goals/Objectives

Divided in three focus areas:

- Adams Well
- Jackrabbit
- Long Hollow

Sagebrush Steppe/Perennial Grassland Treatment (Year 2 – Year 10 Treatment Plan)

- Improve health, composition, and diversity of grasses, forbs, and subshrubs.
- Reduce sagebrush and other shrub canopy cover to less than 10%.
- Reduce pinyon pine & juniper density by 100%.
- Maintain adequate habitat components to meet needs of Utah prairie dog and brood-rearing for greater sage-grouse in accordance with current Guidelines and in coordination with USFWS, UDWR and SWARM.
- Provide opportunities for Utah prairie dogs to ensure connectivity of populations through corridors and opportunity for expansion and dispersal.
- Reduce predator perch opportunities within these habitats.

Proposed Mitigation Site Goals/Objectives (Continued)

Pinyon Pine and Juniper Woodland Treatment (Year 2 – Year 10 Treatment Plan)

- Improve heterogeneity by creating a mosaic of multiple-age classes and structure.
- Improve vertical shrub cover and grass/forb cover.
- Reduce threats from stand-replacing wildfire, disease, and insect outbreaks.

Mitigation Site Scoring Criteria

Effectiveness-Additionality

- Enhancing vegetation resources to ensure future ecological biodiversity, stability and sustainability, maintaining soil site stability and hydrologic function.
- Protecting the biological integrity of terrestrial ecosystems.
- Enhancing habitat for Sensitive species.
- Restoring healthy rangeland ecosystems for livestock grazing.
- Identified, preserved and protected cultural resources.

Feasibility


- EA is signed, projects have been implemented in project area.

Durability

- EA is in conformance with the Cedar Beaver Garfield Antimony Resource Management Plan.

Risk

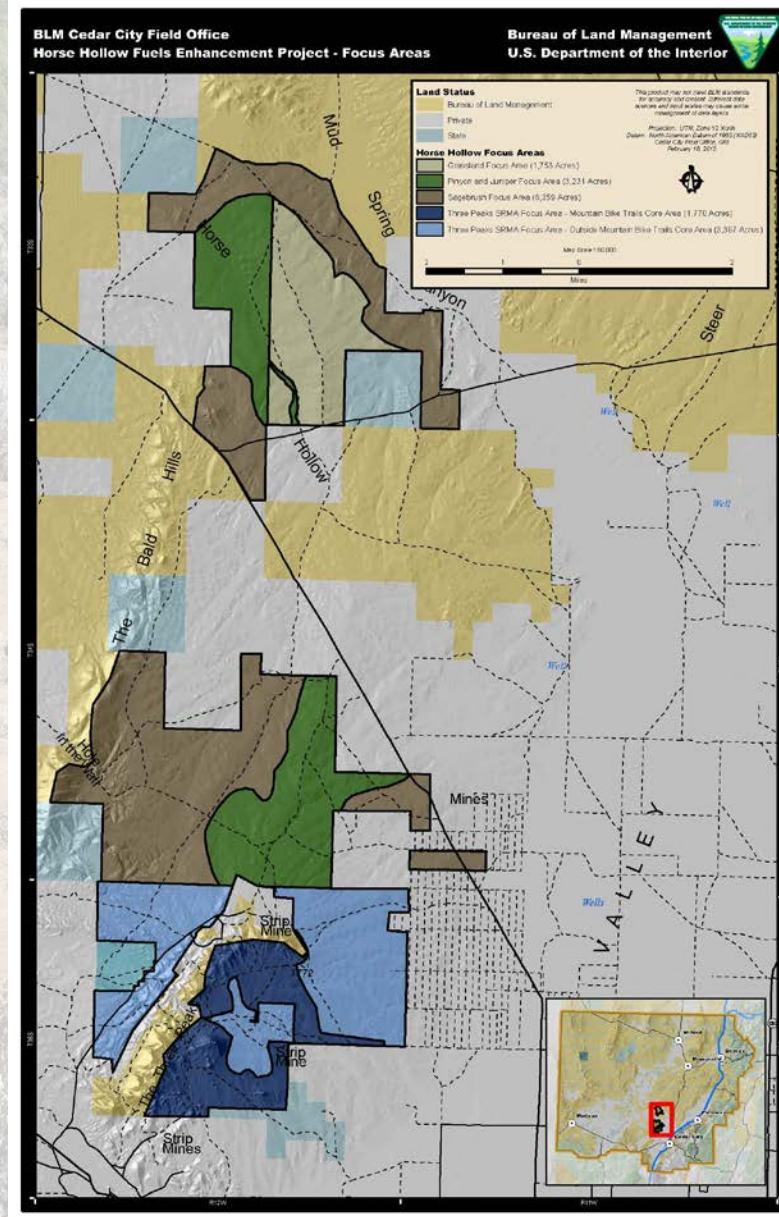
- A BLM interdisciplinary team had considered all potential impacts to resources and had addressed the issues throughout the EA.



Horse Hollow
Vegetation Treatment Areas
SEZ Regional Mitigation Site

Mitch Bayles
Rangeland Management Specialist
Bureau of Land Management
Cedar City Field Office

Horse Hollow Vegetation Treatment Areas



Site Description

- Decision Record for the EA was signed in March 2015; projects currently in progress; Purpose of EA was to provide opportunity to enhance wildlife habitat and provide fuel breaks around communities built in wildland urban interface.
- The Horse Hollow mitigation site includes native cool and warm season grasses, upland shrubs, pinyon pine and Utah juniper woodlands.
- Previous investigations show presence of cultural resources with low to moderate potential for undiscovered and undocumented resources.
- The area supports mule deer and pronghorn habitat. T&E species; Utah Prairie Dog and California Condor, BLM Sensitive species; Burrowing Owl, Ferruginous Hawk and Pygmy Rabbit habitat (*Note: Utah Greater Sage-Grouse Approved Resources Management Plan Amendment was approved in September 2015*).
- Utah Prairie Dog, Burrowing Owl and Pygmy Rabbit habitat will be residually impacted by SEZ development.

Site Description (Continued)

- **Candidate Mitigation Site Extent ~ 16,497 BLM acres**
- A variety of treatments including mechanical, manual, seeding and herbicides are proposed to be implemented over a multi-year period.
- **Residual Impacts offset and/or Resources Protected:**
 - Pronghorn & Mule deer habitat, Seasonal Habitat.
 - BLM Sensitive Species Habitat: Borrowing Owl, Ferruginous Hawk, Pygmy Rabbit.
 - T&E Species Habitat: Utah Prairie Dog & California Condor.
 - Hydrology & Soils.
 - Vegetation.
 - Livestock Grazing.

Proposed Mitigation Site Goals/Objectives

Vegetation Treatment Focus Areas

Pinyon and Juniper

- Improve heterogeneity by creating a mosaic of multiple-age classes and structure.
- Improve vertical shrub cover and grass/forb cover.
- Reduce threats from stand-replacing wildfire, disease, and insect outbreaks.

Sagebrush Steppe/Grasslands

- Improve health, composition, and diversity of shrubs, grasses, and forbs.
- Reduce pinyon pine & juniper density by 90-100%.
- Maintain adequate habitat components to meet the needs of wildlife.
- Manage to maintain/create large, un-fragmented blocks of sagebrush habitat with a variety of seral stages.

Proposed Mitigation Site Goals/Objectives (Continued)

Vegetation Treatment Focus Areas (Continued)

Three Peaks (SRMA) – Mountain Bike Trails Core Area

- Remove Pinyon and Juniper that is less than 6 feet tall in accordance with identified design features.
- Leave trees >6 feet tall unless they are diseased.
- Use appropriate, manual tools (preferred method and mechanical to remove invading pinyon and juniper to improve sagebrush areas and understory.
- Implement project following the implementation of trail network (mountain bike, hiking, equestrian, OHV) is completed.
- Place trees <6 feet in the nearest wash with the top of the tree pointing upstream.
- No vegetation would be removed from the 155 acre Iron County RMPP.

Three Peaks (SRMA) – Outside of Mountain Bike Trails Core Area

- Fuel Breaks and green strips including the existing seeding would be implemented using mechanical or manual treatment methods to reduce existing cover while providing a barrier to control the spread of a wildfire to property or resources.
- *Drill seeding would be utilized where possible using a seed mix comprised of species based upon their attributes in retarding wildfire and ease of maintenance and longevity. Ariel or broadcast seeding methods would be used if drill seeding is not possible.*

Mitigation Site Scoring Criteria

Effectiveness-Additionality

- Enhancing vegetation resources to ensure future ecological biodiversity, stability and sustainability, maintaining soil site stability and hydrologic function.
- Protecting the biological integrity of terrestrial ecosystems.
- Enhancing habitat for Sensitive species.
- Restoring healthy rangeland ecosystems for livestock grazing.
- Identified, preserved and protected cultural resources.

Feasibility

- EA is signed, projects have been implemented in project area.

Durability

- EA is in conformance with the Cedar Beaver Garfield Antimony Resource Management Plan.

Risk

- A BLM interdisciplinary team had considered all potential impacts to resources and had addressed the issues throughout the EA.



Pine Valley
Vegetation Treatment Areas
SEZ Regional Mitigation Site

Mitch Bayles
Rangeland Management Specialist
Bureau of Land Management
Cedar City Field Office

Site Description

- EA in Progress: The purpose of the proposed project is to utilize a variety of resource management tools (such as prescribed fire, mechanical treatments, seedings and grazing management) to enhance sagebrush/grassland areas and reduce invading pinyon/juniper throughout the project area. The project includes participation from a variety of resource specialists with diverse backgrounds and skills to achieve multiple resource benefits within the project area.
- The Pine Valley mitigation site is predominantly sagebrush ecosystems and pinyon-juniper (PJ) woodlands with mixed amounts of native and introduced perennial grasses.
- Pinyon/juniper expansion and the need for sagebrush/grassland restoration have been recognized over twenty years ago in BLM Site Write-up Areas (SWA's) conducted in the early 1980's. These declines have continued beyond that documented and mapped during the 1980's.

Site Description (Continued)

- **Candidate Mitigation Site Extent (~189,262 acres)**
 - 167,145 BLM acres
 - 18,420 State acres
 - 3,697 Private acres
- **Residual Impacts offset and/or Resources Protected**
 - Pronghorn & Mule deer habitat, Big game movement corridor, Seasonal Habitat, Connectivity.
 - BLM Sensitive Species, T&E and Candidate Species Habitat.
 - Hydrology & Soils.
 - Vegetation.
 - Livestock Grazing

Proposed Mitigation Goals/Objectives

- Reduce hazardous fuels and risk to life and property from catastrophic wildland fire.
- Restore and improve the sagebrush/steppe ecosystem.
- Increase plant species diversity and improve watershed conditions and water quality.
- Improve the health of both woodlands/forestry and sagebrush/grasslands by increasing biological diversity in age class and/or stand structure.
- Enhance habitat conditions for mule deer, sagebrush-obligate wildlife and other wildlife species.
- Decrease the amount of pinyon-juniper encroachment into areas historically dominated by big sagebrush.
- Decrease the amount of undesired tree species in riparian areas, historically dominated by aspen, cottonwoods and willows.

Mitigation Site Scoring Criteria

Effectiveness-Additionality

- Enhancing vegetation resources to ensure future ecological biodiversity, stability and sustainability, maintaining soil site stability and hydrologic function.
- Protecting the biological integrity of terrestrial ecosystems.
- Enhancing habitat for Sensitive species.
- Restoring healthy rangeland ecosystems for livestock grazing.
- Identified, preserved and protected cultural resources.

Feasibility

- EA in draft, Decision planned to be completed by 2018.

Durability

- EA is in conformance with the Cedar Beaver Garfield Antimony Resource Management Plan.

Risk

- A BLM interdisciplinary team had considered all potential impacts to resources and are currently addressing the issues throughout the EA document.

A semi-transparent landscape image of a desert valley. In the foreground, a dirt road winds through a field of dry, scrubby bushes. The middle ground shows a dense field of similar vegetation. In the background, a line of green trees marks the edge of a hillside under a clear blue sky. The word "Questions?" is overlaid in the center in a large, bold, black serif font.

Questions?

Utah Solar Regional Mitigation Strategy Next Steps

Utah Solar Regional Mitigation Strategy Workshop
Cedar City, UT
December 13, 2016

Next Steps - Stakeholders

- Provide any additional comments on workshop documents posted on project website – by January 31.
- Provide any additional proposed mitigation sites/actions and proposed matrix scoring - by February 17.
- Please send comments/proposals to
 - blm_ut_solar_mitigation@blm.gov

Next Steps - BLM

- Finish matrix scoring for other candidate sites – by February 17.
- Work with stakeholders to complete scoring of their candidate sites – by Feb 28.
- Provide Draft SRMS document for Utah SEZs and hold final workshop – June (estimated).

*Project website URL: blmsolar.anl.gov/sez/ut/regional-mitigation/

Utah SRMS Process – 7 Element Schedule

