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BLM Arizona State Office

Renewable Energy Coordination Office (RECO)

Solar Regional Mitigation Strategy

Presented by

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Agenda

SRMS

- Intent
- Process
- Key Milestones
  - Resource evaluation
  - Goals, Objectives, and Actions
  - Candidate sites
  - Valuation criteria
- Status
- Next Steps

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General Process

Element 1 Collect Baseline Data for Assessing Unavoidable Impacts

Element 2 Assess Degree of Impacts and Identify Resources that May Warrant Regional Mitigation

Element 3 Identify Regional Mitigation Goals

Element 4 Evaluation of Appropriate Mitigation Locations, Objectives, and Actions

Element 5 Recommend Method for Calculating Mitigation Compensation for SEZs

Element 6 Recommend Solar Regional Mitigation Fee Structure

Element 7 Develop Mitigation Monitoring and Adaptive Management Plan

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Overview of the AZ landscape

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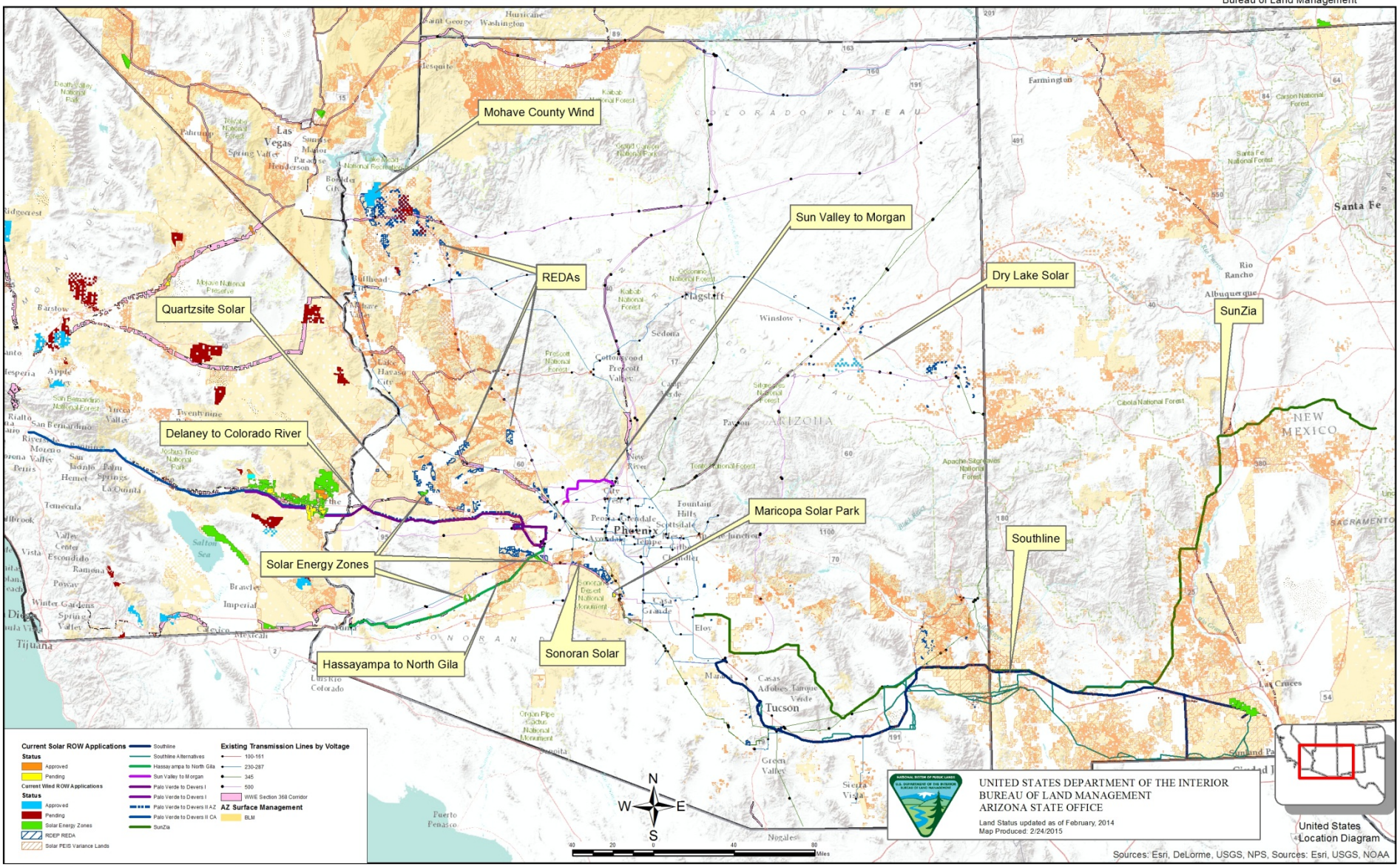

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Intent

What is regional mitigation?

- Regional mitigation: landscape approach to dealing with impacts
- To identify and address unavoidable impacts of development in the Solar Energy Zones (SEZs) that may warrant offsite mitigation
- Commitment made in BLM's Solar Energy Program (PEIS)
- Prepare in advance for solar development in SEZs
- Better define needed mitigation and costs
- Set a per acre mitigation fee
- Stakeholder-driven, collaborative process

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Intent

What is the regional mitigation strategy?

- Regional mitigation strategy is not a binding decision document
- It is a recommendation that will inform future project-specific NEPA analysis
- Will be a per/acre fee paid by developer- $1800 in NV

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Process

BLM Mitigation Hierarchy

Avoid Impacts → Establishment of SEZs (Solar PEIS)
- Also, non-development areas within a SEZ

Minimize Impacts → Design Features (Solar PEIS)

Offset Unavoidable Impacts → Regional Mitigation Strategy

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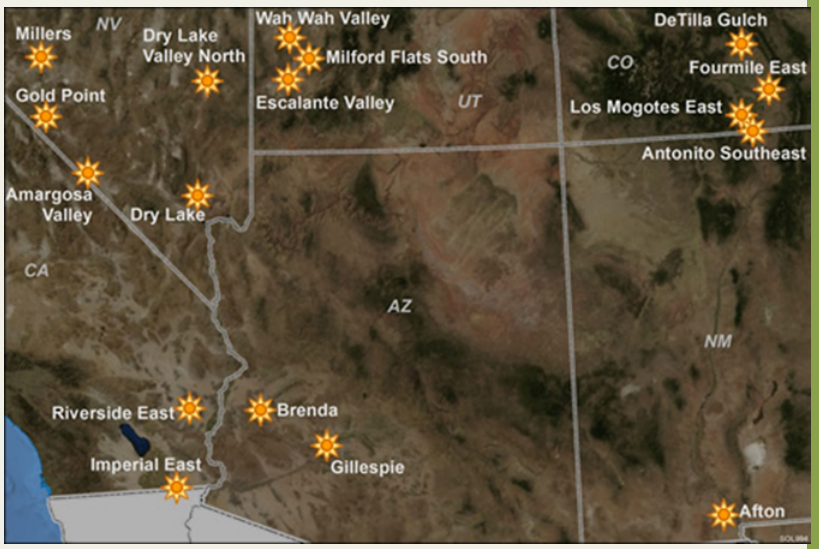
Process for the Strategy

General Process (modeled after Dry Lake SEZ in NV)

- Compile a list of resources within the SEZs (data from REAs, RMPs, Stakeholders, local agencies etc.)
- Identify those that warrant regional mitigation (or the residual impacts that cannot be avoided or mitigated onsite)
- Identify the goals and objectives
- Identify the actions
- Identify the criteria for site selection
- Valuation criteria
- Mitigation strategy document



Next steps

- Monitoring (is the mitigation working?)

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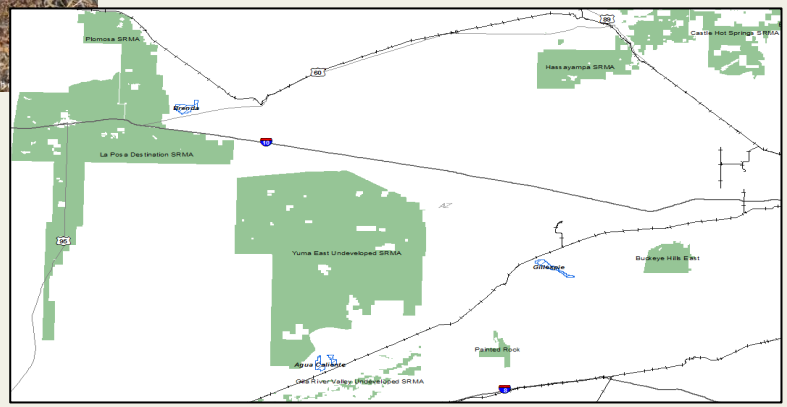
Unavoidable Impacts

Resources in AZ SEZs with the Potential for Unavoidable Adverse Impacts from Solar Energy Development

- Vegetation and Riparian Areas- Creosote Bursage and Desert Scrub
- Wildlife and Migratory Birds
- Animal Special Status Species
- Surface Water
- Soils/Erosion
- Visual
- Cultural Resources
- Native American Concerns
- Public Access and Recreation
- Specially Designated Areas

Creosote Bush-White Bursage Scrub Alliance

Sonoran Desert tortoise



SRMAs in the Vicinity of the Arizona SEZs

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Goals and Objectives

Clearly define goals for the resources identified as having unavoidable impacts.

The goal is essentially the desired future condition of a resource (s) (qualitative).

The objective is to implement a specific measurable desired future condition (quantitative).

The action is where and how to implement the objective.

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Goals

- **Articulate Overarching Regional Mitigation Goals and Desired Outcomes**
  - Regional mitigation goals should consider all of the resources and values that will be unavoidably impacted by SEZ development
  - Should be based on understanding of:
    - affected ecosystem
    - landscape condition
    - current trends in the condition of resources and values
    - external actions that affect condition
    - potential for restoration, enhancement, and/or preservation.
  - Should enhance the ability of state and federal agencies to invest in larger scale conservation and mitigation efforts and prioritize investments

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Goals (cont.)

WHAT?

- Identify the resources we are mitigating for based on the impacts from development and regional trends in the ecosystem

HOW?

- Offset impacts of development by improving or protecting affected resources or resource values elsewhere in the region

WHY?

- Incentivizes development in SEZs, rather than elsewhere
- Creates greater certainty of actions and costs for all parties (BLM, stakeholders, developers)

Where do the goals come from?

- Review of potential impacts step-down from PEIS and RDEP
- BLM Resource Management Plans (RMPs)
  - RMP Designations and Desired Future Conditions

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Candidate Site (Submitter)	SEZ	Regional Goal/ Regional Objective/ RMP Guidance	Mitigation Action	Mitigation Objective
Cactus Plain WSA (TNC)	Brenda	**ECO1:** **Goal**: Preserve and/or restore creosote bursage and desert scrub ecosystem/habitat community disrupted by development (taking onto account the existing landscape condition). **Objective**: Create, restore, and/or acquire equivalent acreage of creosote-bursage and desert scrub ecosystem/habitat community lost through development on the SEZ to 80% of cover and composition of primary plant species within 5 years of initiation of land disturbing development on the SEZ. **RMP guidance**: Require mitigation where plants and parts of plants will be destroyed from an unavoidable impact as a result of development, disturbance, or disposal. For BLM-authorized surface disturbing activities within desired plant communities, impacts to vegetation will be mitigated through: avoidance, minimization, soil stabilization and vegetative rehabilitation, transplanting appropriate species, salvage of plant and plant parts. (Yuma RMP) Identified as a "desired plant community" or "native plant/vegetative community." (Yuma, Lake Havasu, Lower Sonoran RMPs)	Maintain & Restore Wilderness Characteristics Close and revegetate unauthorized roads within the WSA boundaries.. Improve vehicle barriers and signage along WSA boundaries.	**MO1:** Maintain or restore Sonoran-Mojave Creosotebush-White Bursage Desert Scrub in moderately-high to very-high intactness across 80% of its current distribution in the Sonoran Desert in Arizona. (TNC) Desired Ground Cover--Maintain or achieve 10% of cryptogam cover and >100 plants/acre of creosotebush. (TNC)
		ECO2: **Goal**: Preserve and/or restore riparian vegetation and habitat disrupted by development. **Objective**: Designation of non-development areas serves to avoid many impacts to this vegetation/habitat type. **Objective**: Create restore and/or acquire equivalent acreage of riparian vegetation and habitat lost through development on the SEZ to 80% of cover and composition of primary plant species within 5 years of initiation of land disturbing development on the SEZ. **RMP guidance**: Avoid desert wash woodlands to the greatest extent possible during BLM-authorized surface disturbing activities. (Yuma RMP) Identified as a "desired plant community" or "native plant/vegetative community." (Yuma, Lake Havasu, Lower Sonoran RMPs)		
		SSS: **(Note**: Need to list specific SSS; not included in matrix submission) **Goal**: Maintain viable populations (equal to or larger) of affected BLM or other special status species in the region. **SSS1: Desert Tortoise** **Objective**: See objectives for creosote-bursage and desert scrub ecosystem and	Maintain & Restore Wilderness Characteristics, Species Specific Management Action **Desert Tortoise Action:** Secure through acquisition Sonoran desert tortoise habitat in an amount at least equal to that converted to non-habitat through	

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Example: Goal and Objective

Goal: Preserve and/or restore creosote bursage and desert scrub ecosystem/habitat community disrupted by development (taking onto account the existing landscape condition).

Objective: Create, restore, and/or acquire equivalent acreage of creosote-bursage and desert scrub ecosystem habitat community lost through development on SEZ to 80% of existing vegetative cover (acres) and composition of primary plant species within 5 years of initiation of land disturbing development on the SEZ.

RMP guidance: Require mitigation where plants and parts of plants will be destroyed from an unavoidable impact as a result of development, disturbance, or disposal. For BLM-authorized surface disturbing activities within desired plant communities, impacts to vegetation will be mitigated through: avoidance, minimization, soil stabilization and vegetative rehabilitation, transplanting appropriate species, salvage of plant and plant parts. (Yuma RMP)

Identified as a "desired plant community" or "native plant/ vegetative community." (Yuma, Lake Havasu, Lower Sonoran RMPs)

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Evaluating Candidate Sites

- Candidate Site Requirements
  - appropriately located (e.g., within ecoregion or watershed of SEZ)
  - support regional mitigation goals and objectives
- Evaluate candidate sites using BLM-developed matrix

Draft Matrix for Stakeholder Comment

Draft BLM Matrix for Candidate Regional Mitigation Sites for Arizona SEZs

Criteria	SEZs Being Evaluated			Candidate Sites[1]		
	Brenda	Gillespie	Agua Caliente	Cactus Plain (TNC)	La Posa Plain (TNC)	Rainbow Valley (TNC)
SITE CHARACTERISTICS						
1. Contiguous area of site (acres).	3,348	2,618	2,550	58,928	64,880	24,439
BLM acres	3,348	2,618	2,550	58,928	64,073	21,644
private acres					807	2,795
State Trust acres						
2. For ACECs, reason for designation.						
3. VRI Class	IV	III	III	IV (100%)		
4. Consistent with the Resource Management Plan?	Yes – RMP amended by PEIS ROD	Yes – RMP amended by PEIS ROD	Yes – RMP amended by PEIS ROD	√	√	√
√ for yes (1 point) or X for no (-2); Justification:						
5. Same HUC 4 watershed?	1503-Lower Colorado River below Lake Mead	1507-Lower Gila River	1507-Lower Gila River	√	√	√
√ for yes (1 point) or X for no (-2); Justification:				Lower Colorado River below Lake Mead	Lower Colorado River below Lake Mead	Lower Gila River
6. Landscape Condition						
7. Mitigation tool (restoration/enhancement, acquisition, banking, withdrawal, special designation, etc.).				Restoration Close and revegetate unauthorized roads	Restoration, remove barriers, wildlife crossing structures	Acquisition, remove barriers, restoration, wildlife crossing structures
8. In SEZ Ecoregion?	Sonoran Desert	Sonoran Desert	Sonoran Desert	√	√	√
9. In SEZ ecological subregion?	Colorado Desert-EPA: 81j	Colorado Desert-EPA: 81j	Colorado Desert-EPA: 81j	√	√	√
√ for yes (1 point) or X for no (-2); Justification:				Colorado Desert - EPA: 81j, 81d		Colorado Desert - EPA: 81j; Arizona upland-EPA: 81k
10. If applicable, meets priorities for ESA critical habitat?	No critical habitat	No critical habitat	No critical habitat	N/A	N/A	N/A

[1] For candidate sites with blank cells, BLM is looking for additional information from stakeholder communities to complete the matrix.

- 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 modified based on stakeholder feedback – additional comments welcome

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24 recommended sites

Source	Candidate Sites	
AZ Game and Fish Dept	• Cactus Plain • Hoodoo Wash • Palomas Plain	• Ranegras Plain • Sacaton Flats
The Nature Conservancy (with letters of support from TWS, Sonoran Inst., and DoW)	• Cactus Plain • La Posa Plain	• Rainbow Valley • Sears Point ACEC
The Wilderness Society	• Saddle Mountain ACEC	
Archaeology Southwest	• Enterprise Central • Enterprise North • Enterprise South • Gillespie Dam North • Gillespie Dam South	• Quail Point (adjacent to Sears Point) • Red Rock Canyon • Robbins Butte • Sears Point ACEC
Pima County, AZ	• Boa Sorte • Cocoraque Butte • La Osa Ranch • Marana Mound	• Los Robles Archaeological/Historic District
BLM Yuma Field Office	• Fred J. Weiler Vegetation Habitat Management Area	• Sears Point ACEC

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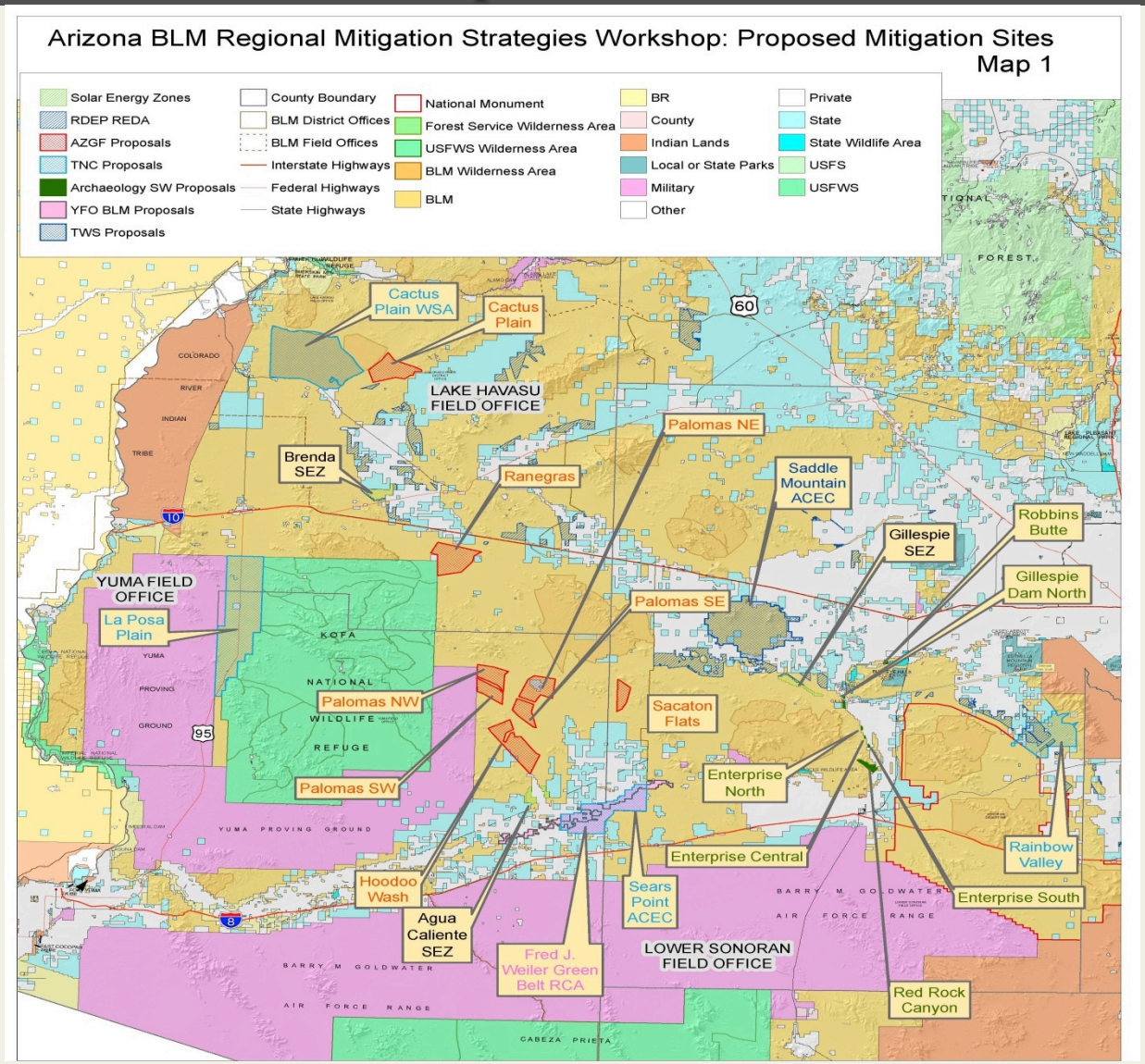
Candidate Sites Map



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Valuation Ideas

Exploring ideas for setting a base compensation fee:

Acquisition of nonfederal land or rights in land: Cost to purchase and manage functionally equivalent acreage in the same ecoregion.

Restoration/enhancement of disturbed federal land: Cost to restore/enhance and manage similar disturbed lands and vegetation in the same ecoregion.

Preservation: Cost of a variety of mitigation techniques essential to preserve an area of land, including, but not limited to:

- amendments to existing land-use plans
- withdrawals from mineral entry or other use restrictions
- capital improvements to encourage preservation

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Fee for individual ROWs

Calculation example

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.

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Intactness model example

- Use the BLM Sonoran Desert REA Terrestrial Landscape Intactness models
- Estimate how residual impacts of solar development could affect condition and trend of the at-risk resource values at both local and regional scales.

Adjusted Base Per-Acre Fee =

Base Per-Acre Fee * Terrestrial Landscape Intactness Value for SEZ

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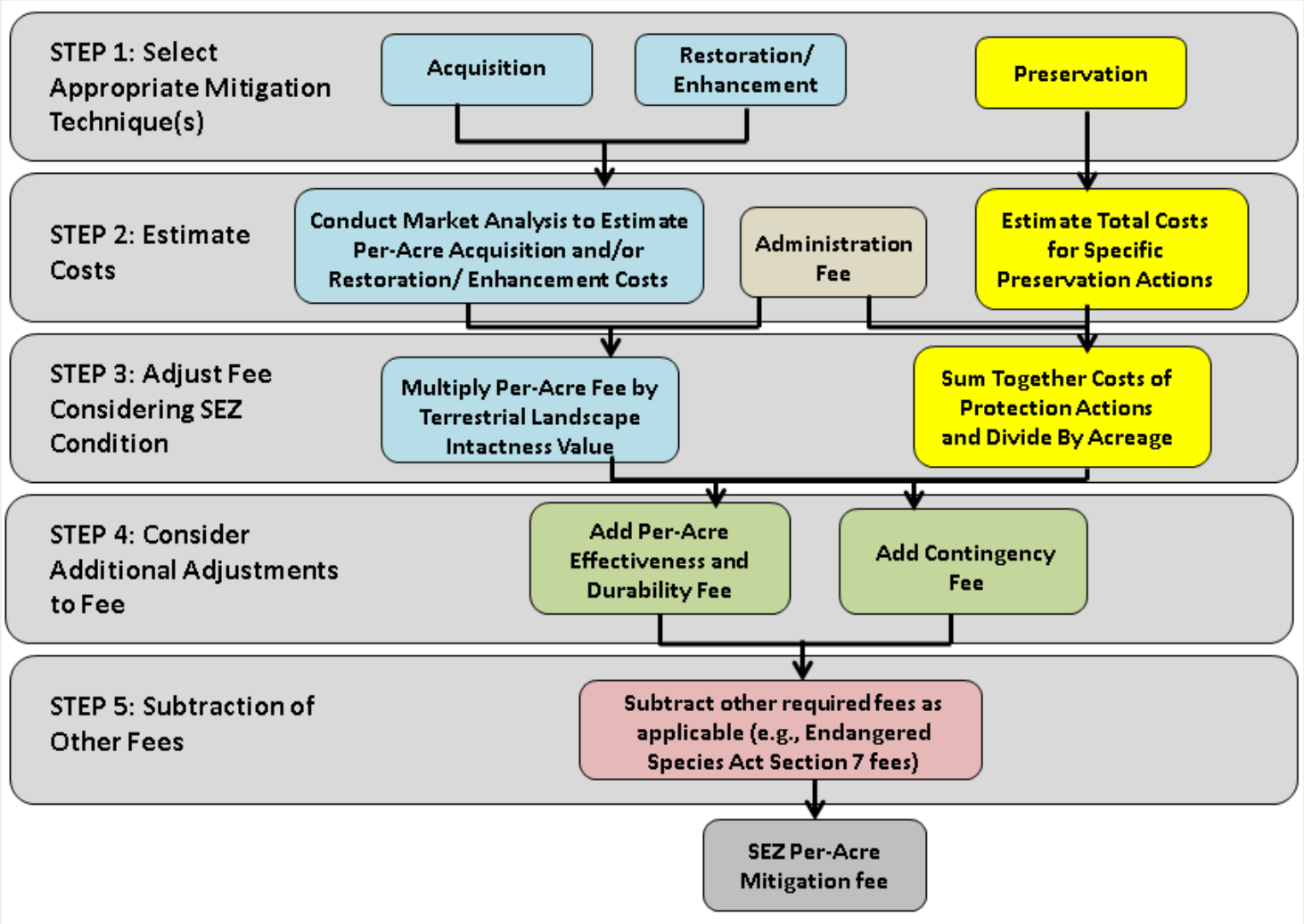
Example – Per acre mitigation fee steps



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Status – AZ SRMS

1. What is the baseline and what are the residual impacts?

April 2014 Stakeholder Workshop

2. Which impacts should the BLM mitigate?

July 2014 Stakeholder Webinar

3. What are the regional mitigation objectives?

4. What mitigation projects and/or actions will be undertaken?

November 2014 Workshop– February 2015 Webinar

5. How will mitigation projects and/or actions be funded, etc.?

6. How will we know if mitigation is achieving the desired outcomes?

March/April 2015

Draft Mitigation Strategy Document

June 2015

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Questions?

Contact information

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