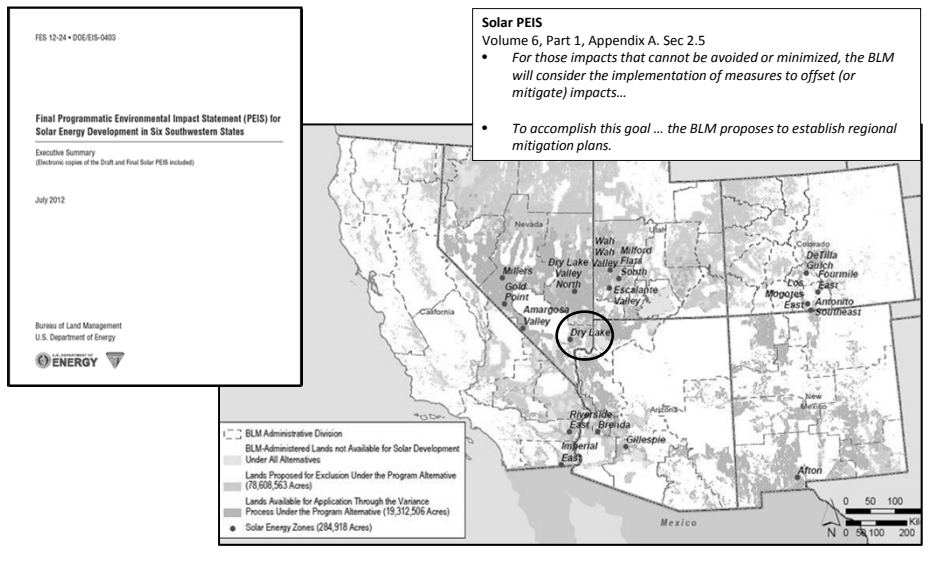
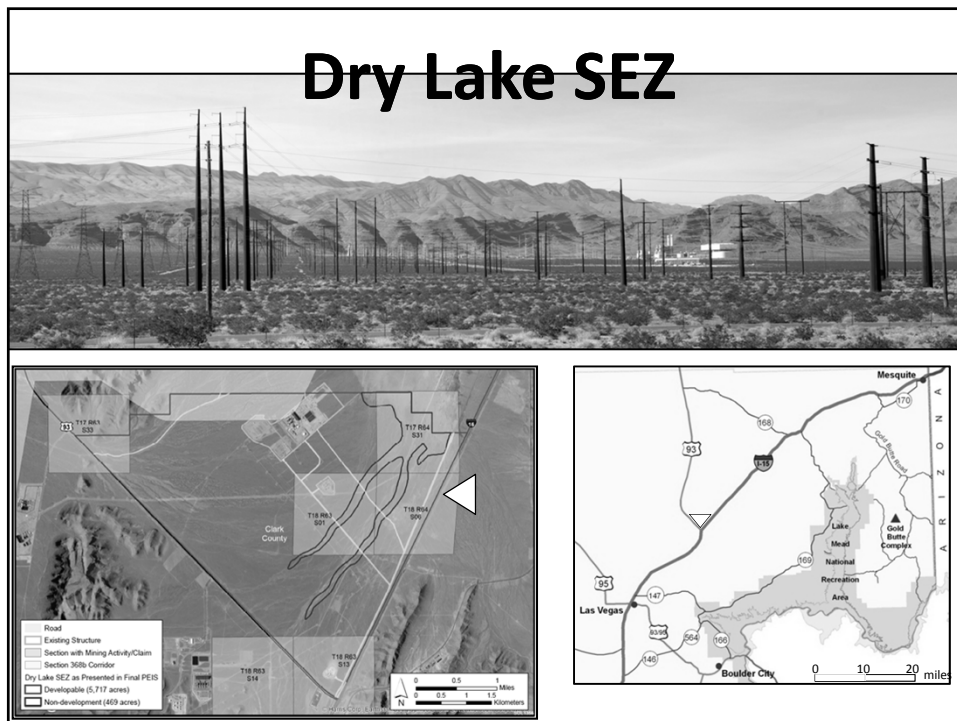
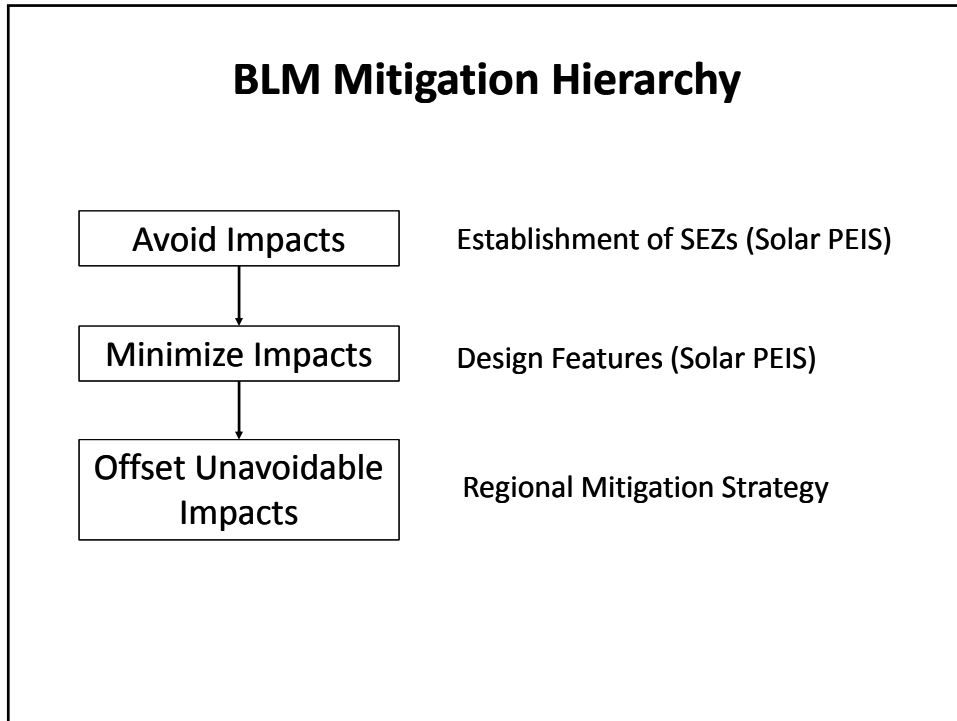


# Developing a Regional Off-site Mitigation Strategy for the Dry Lake Solar Energy Zone

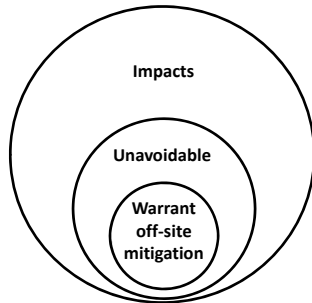
Michael Dwyer, Ph.D.  
BLM, Nevada

## BLM Solar Energy Zones (SEZs) Solar Programmatic EIS, 2012



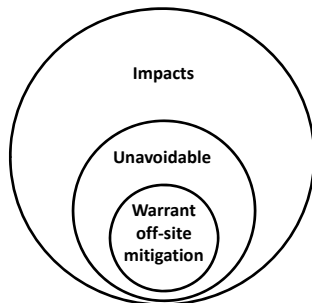


## Regional Mitigation Strategy Process/Content



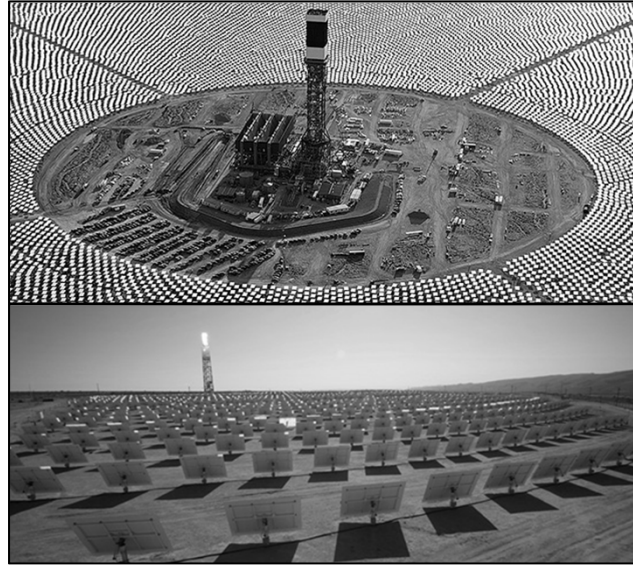
1. Impacts?
2. Unavoidable impacts?
3. Unavoidable impacts that warrant off-site mitigation?
4. Mitigation goals?
5. Mitigation actions & locations?
6. Fee?
7. Monitoring & Adaptive Management?

## Regional Mitigation Strategy Process/Content



1. Impacts?
2. Unavoidable impacts?
3. Unavoidable impacts that warrant off-site mitigation? }
  - Risks?
  - Resilience?
  - Importance?
  - Region?
  - Distribution?
4. Mitigation goals?
5. Mitigation actions & locations?
6. Fee?
7. Monitoring & Adaptive Management?

# 1. Impacts



## 2. What are the Unavoidable Impacts?

### Definitely

- Soils/Erosion
- Vegetation
- Wildlife
- Special Status Species
- Visual Resources



### Maybe

- Invasive/Noxious Weeds
- Hydrology
- Riparian
- Military uses
- Cultural
- Native American Concerns

Monitoring & Adaptive Management

### 3. Unavoidable Impacts that Warrant Off-site Mitigation?

- Criteria from draft off-site mitigation handbook
  - Level of protection in law/policy
  - Rarity
  - Resilience
  - Importance in land-use plans
- Effect on problematic regional trends
- Role in ecosystem

### 3. Unavoidable Impacts that Warrant Off-site Mitigation?



Gila Monster

- Loss of Special Status Species habitat
  - Animals
  - Plant
- Loss of ecosystem services
  - Soils, vegetation, wildlife
- Visual Resources

## 4. What are the Regional Mitigation Goals?



Desert Tortoise

- Sustain the populations of the Federally listed species
- Sustain viable populations of the affected special status species
- Sustain ecosystem services
- Restore visual resource values

Clark County  
Habitat  
Conservation  
Plan

Las Vegas RMP (1998)

## 5. What Mitigation Actions at What Locations will be Undertaken to Off-set the Selected Impacts?

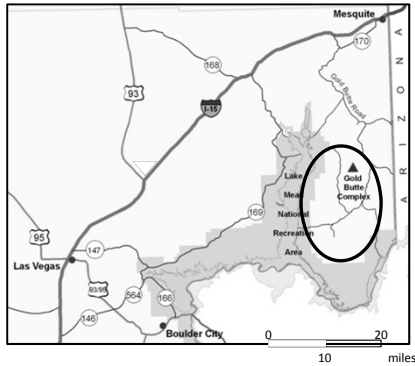


Ferruginous Hawk

- Criteria for ranking alternative locations
  - Same region and state
  - Opportunities to achieve mitigation goals
  - Consistency with Resource Management Plan
  - Potential for durability of mitigation investment
  - Actions are 'additive'

### 5. What Mitigation Actions at What Locations will be Undertaken to Off-set the Selected Impacts?

#### Gold Butte Area of Critical Environmental Concern (ACEC)



#### Primary resource values:

- Special status species habitat
- Botanical resources
- Scenic values
- Wildlife habitat
- Cultural and historic resources

### Why Gold Butte?

- Same region and state
- Opportunities to achieve mitigation goals
  - Multiple wildfires in 2005-6
  - Transportation Plan
- Consistency with Resource Management Plan
  - Important wildlife corridor
- Potential for durability of mitigation investment
  - ACEC designation
  - Climate change analysis
- Benefits multiple resources



### **5. What Mitigation Actions will be Undertaken in the Gold Butte ACEC to Off-set the Selected Impacts?**

1. Restore creosote-bursage vegetation on closed roads, burn scars, and other disturbed areas.
2. Prevent further degradation and ensure the durability of the conservation investment by:
  - a. Adding staff to monitor and respond to activities that threaten resource values
  - b. Providing treatment for noxious weeds
  - c. Maintaining fuel breaks

### **6. How will the Off-site Mitigation Actions be Funded?**

- Basis for Mitigation Fee
  - Estimated cost of regional mitigation actions over the life of the lease
  - Replacement cost (appraised value)
- Other Considerations
  - Adjusted for the existing landscape condition in the SEZ
  - Credit for Endangered Species Act Section 7 fee
- Recommend a third-party entity manage mitigation funds



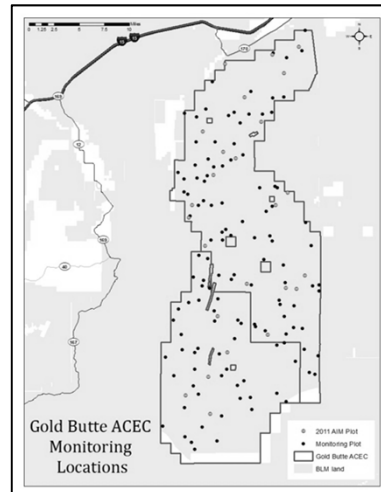
## 7. Monitoring & Adaptive Management

### Monitoring & Assessment

- How do actual impacts compare to projected impacts?
- Design features effective?
- Off-site mitigation actions achieve their objectives?
- Regional conditions and trends?

### Adaptive Management

- What if not achieving desired results?



## Findings, Observations

- Triggered by a commitment in the Solar PEIS
  - As opposed to an application
- Started with an EIS
  - Started with impacts and design features
- Not a Decision Document
  - Informs future solar decisions
- Will be incorporated with NEPA process
- Not required to mitigate for all impacts

## Findings, Observations

- Big picture
  - Regional perspective
    - Big picture of cumulative impacts
  - Ecosystem perspective
    - Conceptual understanding of interrelationships
    - Functioning system versus component parts
- Mitigation Fee
  - Finding the right balance

## Findings, Observations

- Stakeholders
  - Conservation interests concerned that mitigation actions are
    - Durable
    - Additive
  - Industry concerns
    - Cost
    - Certainty



# Questions?

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