Workshop 4: BLM Solar Regional Mitigation Planning – Dry Lake SEZ Pilot Project

February 27, 2013; 9 am - 4:30 pm Pacific Standard Time
Participant Dial-In: 1-877-685-5350; Passcode: 830546
Webinar URL: http://anl.adobeconnect.com/r2dgydbt7o6/

Call-In Instructions:

- ***Please mute phone and computer when you are not speaking***
- ***Group discussion and Q&A periods will be included after presentations & panels***

- If you have a question, please click on "Raise Hand" under the Set Status icon (on status bar at top of web page)

- You will be called on to state your name, organization, question. When you have finished speaking, please lower your hand and re-mute your phone

Introductions

- **BLM**
- **Argonne**
- **Pilot Project Participants (Stakeholders)**

Workshop Objectives – Joe Vieira, BLM

BLM – Stakeholder Discussion: Dry Lake SEZ Pilot – Regional Mitigation Planning Framework

- Original Workshop 4 Objective – Review Draft Outlines for Dry Lake SEZ Regional Mitigation Plan & BLM Framework for SEZ Regional Mitigation Planning

- BLM Workshop 4 revised - responding to Stakeholder Input on schedule & framework topic readiness

- Revised Workshop 4 Objective - Present BLM procedural options and receive additional stakeholder input on:
  - Mitigation fee valuation/costing;
  - Regional mitigation objectives and priority setting; and
  - Mitigation fee structures/pooled investment funds and implementation

Workshop Overview

One Day:

- *Duration*
  - *9am-4:30pm*

- *Topics:*
  - *Mitigation Fee Valuation*
  - *Regional Mitigation Goals & Objectives*
  - *Mitigation Fee Structures*

- *Format:*
  - *Presentations*
  - *Group Discussion*

AGENDA (Times are Pacific Standard Time)

Wednesday February 27, 2013

- 8:30-9:00 Registration
- 9:00-9:15 Workshop Overview (Joe Vieira, BLM; Karen Smith, Argonne)
- 9:15-10:00 Mitigation Fee Valuation/Costing: BLM Draft Options (Mike Dwyer, BLM)
- 10:00-10:15 Break

AGENDA (Times are Pacific Standard Time)

Wednesday January 30, 2013

- 10:15-11:15 Questions/Discussion on BLM's Draft Options for Costing – Moderated by Dave Murphy, Argonne
- 11:15-12:00 Solar Mitigation Objectives and Priority Setting: BLM Draft Options – Joe Vieira, BLM
- 12:00-1:30 Lunch
- 1:30-2:15 Questions/Discussion on BLM Draft Options for Solar Mitigation Objectives and Priority Setting Moderate by Karen Smith, Argonne

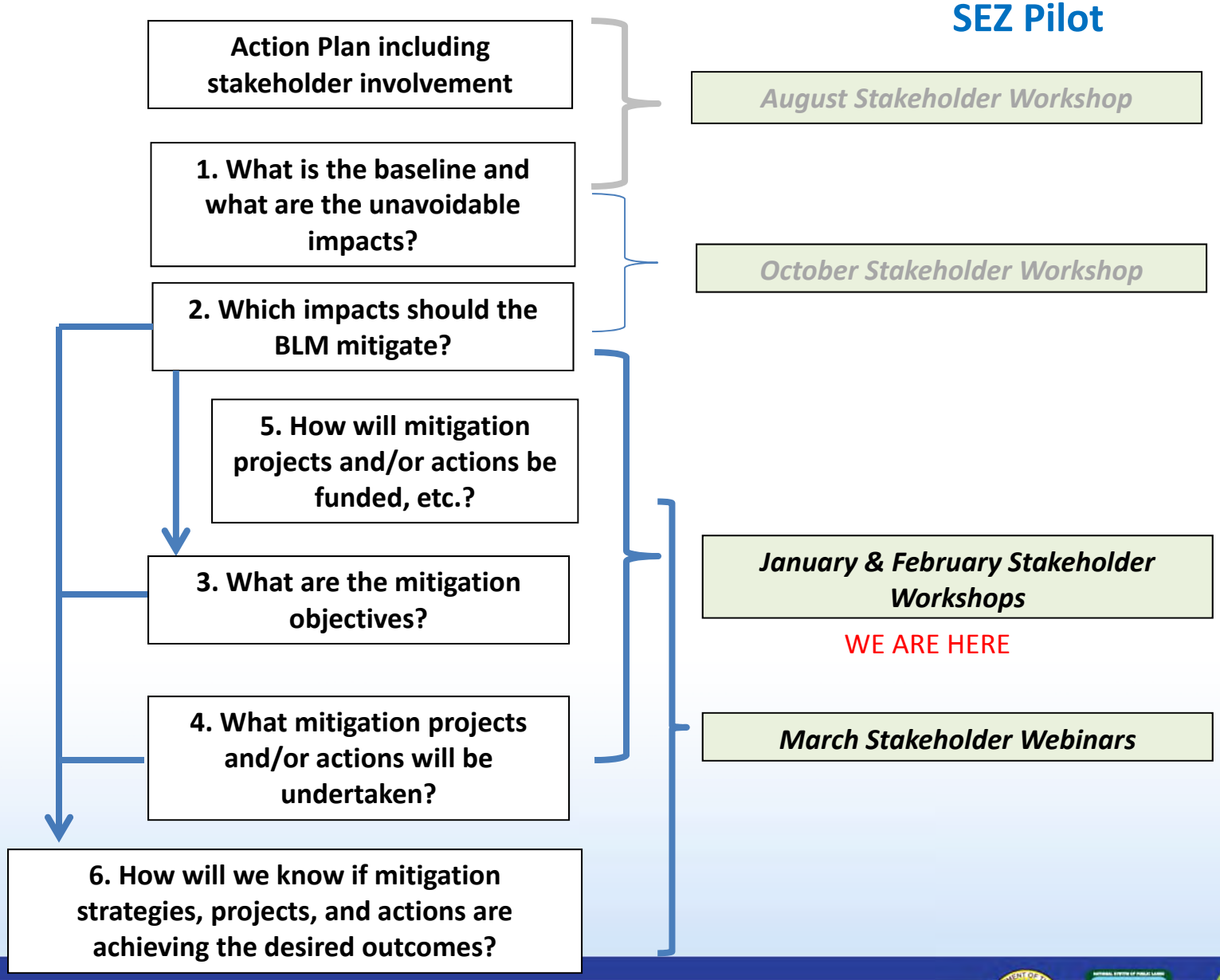
AGENDA (Times are Pacific Standard Time)

Wednesday January 30, 2013

- 2:15-2:45 Mitigation Fee Structures/Pooled Investment Funds and Implementation: Options - Criteria, Key Considerations – Stephanie Tom-Coupe, NFWF
- 2:45-3:00 Break
- 3:00-3:45 Questions/Discussion on Options for Mitigation Fee Structures – Moderated by Karen Smith, Argonne
- 3:45-4:15 Wrap-Up & Next Steps - BLM Off-site Mitigation Manual - Dry Lake SEZ Regional Mitigation Plan/ Pilot Lessons Learned / BLM Draft Technical Note / Planning for Other SEZs (Joe Vieira, BM)

Where are we in the Regional Mitigation Planning Process?

Action Plan: Dry Lake SEZ Pilot



Establishing a Mitigation Fee

Michael Dwyer

BLM

Mitigation Fee

- **Fee paid by a developer**

  Total mitigation fee =

  (number of acres) X (mitigation fee per acre)

- **Fees collected will be used to fund mitigation actions that compensate for the unavoidable impacts**

Establishing a Mitigation Fee

Stakeholder Input

- **The mitigation fee should:**
  - Be based on the cost of implementing mitigation actions
  - Take into account the condition (intactness) of the land to be developed
  - Take into account the ecological (conservation) value of the land to be developed
  - Allow for adjustment over time as implementation costs change
  - Provide an incentive for developing in a SEZ

Establishing a Mitigation Fee
Stakeholder Input

- **Mitigation goals should address displaced land uses**
  - Fee structure?

Establishing a Mitigation Fee: Considerations

Total mitigation fee = (number of acres) x (mitigation fee per acre)

- **Mitigation fee per acre**
  - Cost of mitigation actions/projects
  - Condition of landscape in the area to be developed
  - Ecological (conservation) value of the area to be developed
  - Other required mitigation fees (e.g. tortoise mitigation fee)?

Establishing a Mitigation Fee: Challenges

Total mitigation fee = (number of acres) X (mitigation fee per acre)

- **How to:**
  - Calculate the cost of mitigation actions/projects?
  - Estimate the condition of landscape in the area to be developed? Adjust the fee accordingly?
  - Estimate the ecological (conservation) value of the area to be developed? Adjust the fee accordingly?
  - Deal with other required mitigation fees (e.g. tortoise mitigation fee)?

Calculating the cost of mitigation actions/projects?
Challenges*

- **Variation in project costs due to:**
  - What (nature of mitigation action)
    - Acquisition, restoration, protection
    - Intensity of restoration actions
    - Capital costs versus operational and maintenance costs
  - Where
    - Distance, accessibility
  - When
- **Multiple projects**
- **Changing priorities/Opportunities**

**Not an exhaustive list*

How do we calculate the cost of mitigation actions/projects?

- **Per Acre Cost Estimates**
  - Restoration/acquisition/protection costs
  - Capital costs versus operations/maintenance costs

How do we estimate the condition of landscape in the area to be developed?

- BLM Rapid Ecoregional Assessment (REA)
- TNC Ecoregional Assessment
- Other data

BLM REA

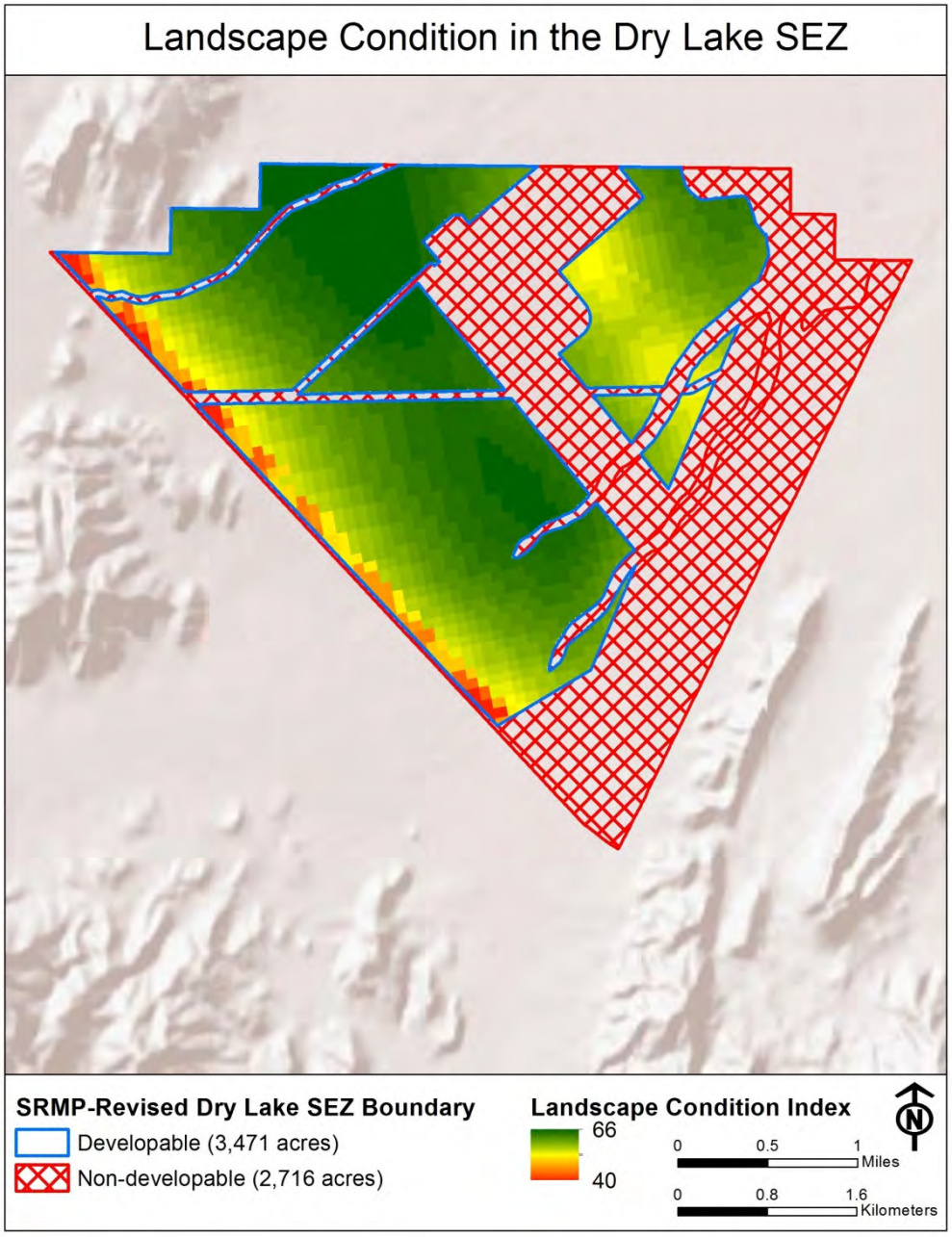
Cell size: 30 x 30 meters

Value for each cell: 0 – 100

0 = totally altered

100 = totally intact

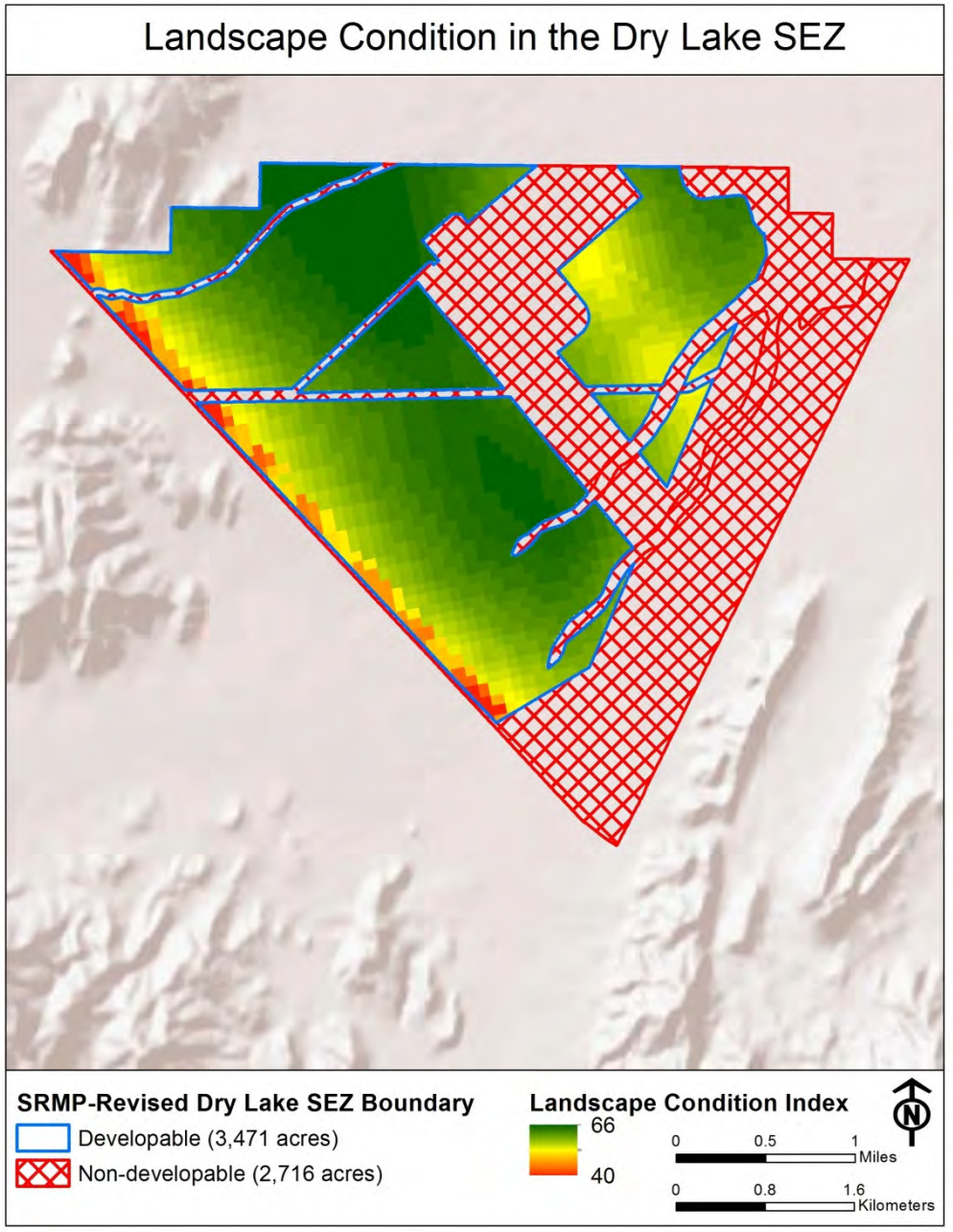
Value	Count	Value	Count
40	30	54	729
41	61	55	777
43	1	56	842
44	77	57	871
45	126	58	890
46	77	59	923
47	139	60	1130
48	146	61	1237
49	151	62	1311
50	75	63	1474
51	120	64	1654
52	173	65	1294
53	561	66	730



BLM REA

Cell size: 30 x 30 meters
Value for each cell: 0 – 100
0 = totally altered
100 = totally intact

Bin	Count	%	Acres	
0 – 10	0	0	0	Highly Altered
11 – 20	0	0	0	
21 – 30	0	0	0	
31 – 40	30	0%	0	Mostly Altered
41 – 50	853	5%	173	
51 – 60	7,016	45%	1,561	Mostly Intact
61 – 70	7,700	49%	1,670	
71 – 80	0	0	0	
81 – 90	0	0	0	Highly Intact
91 - 100	0	0	0	
TOTAL	15,599	100%	3,469	



How do we estimate the condition of landscape in the area to be developed?

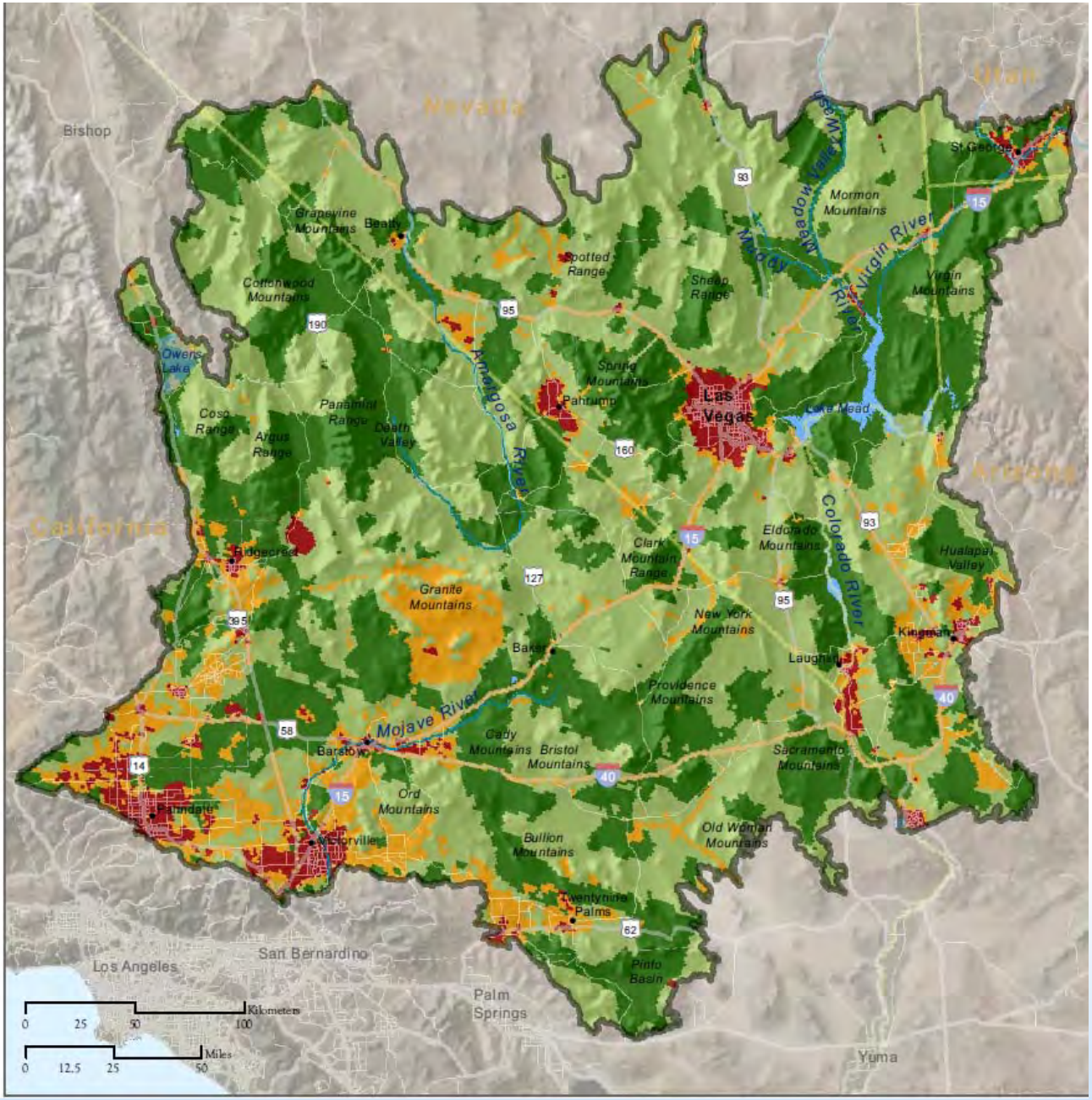
- **Challenges***
  - Uncertainty associated with the algorithm
  - Accuracy & precision
    - Scale
  - Effect of the condition of adjacent lands
  - Thresholds
    - *Is 10% intact virtually gone? Is 90% virtually intact?*
  - How combine with 'ecological value'?

**Not an exhaustive list*

How do we estimate the ecological (conservation) value of the area to be developed?

- **Conservation Value(s)**
  - BLM Rapid Ecoregional Assessment (REA)
  - TNC Ecoregional Assessment
  - BLM Resource Management Plans
  - Other plans

Mojave Desert Conservation Value



Project Area

Mojave Desert

Conservation Value

Ecologically Core

Land with low levels of anthropogenic disturbance which support conservation targets and whose protection is critical for the long-term conservation of the ecoregion's biological diversity

Ecologically Intact

Land with low levels of anthropogenic disturbance or which supports conservation targets and which requires a level of protection that will enable it to continue to support ecological processes and provide connectivity

Moderately Degraded

Land fragmented by roads, off-road-vehicle trails or in close proximity to urban, agricultural and other developments

Highly Converted

Land in urban and agricultural areas that is fragmented and most impacted by human uses

Boundaries

State

County

Transportation

Major Road

Other Road

Hydrology

Major River

Produced by The Nature Conservancy
California South Coast & Deserts Program
Map Date: July 1, 2010
See Table A.1 for sources

How do we estimate the conservation value(s) of the area to be developed?

- **Challenges***
  - Uncertainty associated with any algorithm used to derive importance
  - Accuracy & precision
    - Scale
  - Double counting where conservation value is tied to condition class
  - Combining with landscape condition

**Not an exhaustive list*

How do we adjust the fee for the conservation value(s) of the area to be developed?

TNC Conservation Value Category	Ecological Value Category
Ecological Core	Critical
Ecologically Intact	High
Moderately Degraded	Moderate
Highly Converted	Low

Establishing a Mitigation Fee: Considerations

Total mitigation fee = (number of acres) X (mitigation fee per acre)

- **Mitigation fee per acre**
  - Cost of mitigation actions/projects
  - Condition of landscape in the area to be developed
  - Ecological (conservation value) of the area to be developed?
  - Other required mitigation fees (e.g. tortoise mitigation fee)?

Establishing a Mitigation Fee: Considerations

Total mitigation fee = (number of acres) X (mitigation fee per acre)

- *Mitigation fee per acre = (Cost of mitigation actions/projects) X (multiplier for landscape condition and ecological value)*

Other required mitigation fees (e.g. tortoise mitigation fee)?

Multiplier (%) for Landscape Condition, Ecological Value, and SEZ

Not in SEZ / In SEZ

Landscape Condition	Ecological Value: Critical	Ecological Value: High	Ecological Value: Moderate	Ecological Value: Low
Highly Intact	200 / 100	100 / 75	75 / 50	50 / 25
Mostly Intact	100 / 75	75 / 50	50 / 25	25 / 10
Mostly Altered	75 / 50	50 / 25	25 / 10	10 / 0
Highly Altered	50 / 25	25 / 10	10 / 0	0

Example: Option 1

- Assumptions
  - If landscape condition of developable area = **mostly altered**
  - If ecological value of developable area = **moderate**
  - If developable area is **inside a SEZ**

Multiplier (%)

Not in SEZ / In SEZ

Landscape Condition	Ecological Value: Critical	Ecological Value: High	Ecological Value: Moderate	Ecological Value: Low
Highly Intact	200 / 100	100 / 75	75 / 50	50 / 25
Mostly Intact	100 / 75	75 / 50	50 / 25	25 / 10
Mostly Altered	75 / 50	50 / 25	25 / 10	10 / 0
Highly Altered	50 / 25	25 / 10	10 / 0	0

Example:

- Assumptions
  - If landscape condition of developable area = mostly altered
  - If ecological value of developable area = moderate
  - If developable area is inside a SEZ
  - If average cost of the proposed mitigation actions = $10,000/acre

Mitigation fee per acre = (Cost of mitigation actions/projects) X (multiplier for landscape condition and ecological value)

Mitigation fee per acre = ($10,000/acre) X (10%)

*Mitigation fee per acre = **$1,000/acre***

Establishing a Mitigation Fee: Considerations

Assumption: Size of proposed development = 750 acres

Total mitigation fee = (number of acres) X (mitigation fee per acre)

Total mitigation fee = (750 acres) X ($1,000/acre)

Total mitigation fee = $750,000

Other required mitigation fees (e.g. tortoise mitigation fee)?

How will this fee be combined with other mitigation fees?

- Required by a habitat conservation Plan
- State and/or Local Government

- **Options**
  - Add
  - Subtract (Credit given for all or some of the required fees if):
    - The off-site mitigation fee exceeds the required fee
    - The required fee would be used in a manner that would achieve the mitigation goals.

Example: Credit given for Required Fee

- Assumptions
  - If Tortoise mitigation fee required by Clark County MSHCP = $810/acres
  - Tortoise mitigation fees used for purposes that help achieve BLM mitigation goals & objectives

Mitigation fee per acre = (Cost of mitigation actions/projects) X (multiplier for landscape condition and ecological value)

Mitigation fee per acre = $1,000/acre

$810 per acre paid to Tortoise mitigation fund
$190 per acre paid to off-site mitigation fund

Proposed Method to Establish the Mitigation Fee

- **Per Acre Restoration Cost**
  - Seek expert help to calculate cost
- **Multiplier for landscape condition**
  - BLM REA and field verification
- **Multiplier for conservation value**
  - Importance of resources in the RMP and other assessments
- **Combine with other mitigation fees**
  - Credit for HCP fees if they support mitigation goals
  - Maybe for other fees if they support mitigation goals

Discussion Questions

- Overall mitigation fee calculation strategy?
- Ideas for calculating mitigation project cost?
- What are appropriate thresholds/criteria for defining categories for:
  - Landscape condition?
  - Ecological (conservation) values?
- Multiplier values appropriate?
- Strategies for combining with other required mitigation fees?
- Displaced land-uses?
  - Values other than 'ecological'

BLM Proposed Process & Options:

Identifying Regional Mitigation Goals & Objectives ,

Selection and Screening of Candidate Tools and Sites to Direct Off-site Mitigation Investments

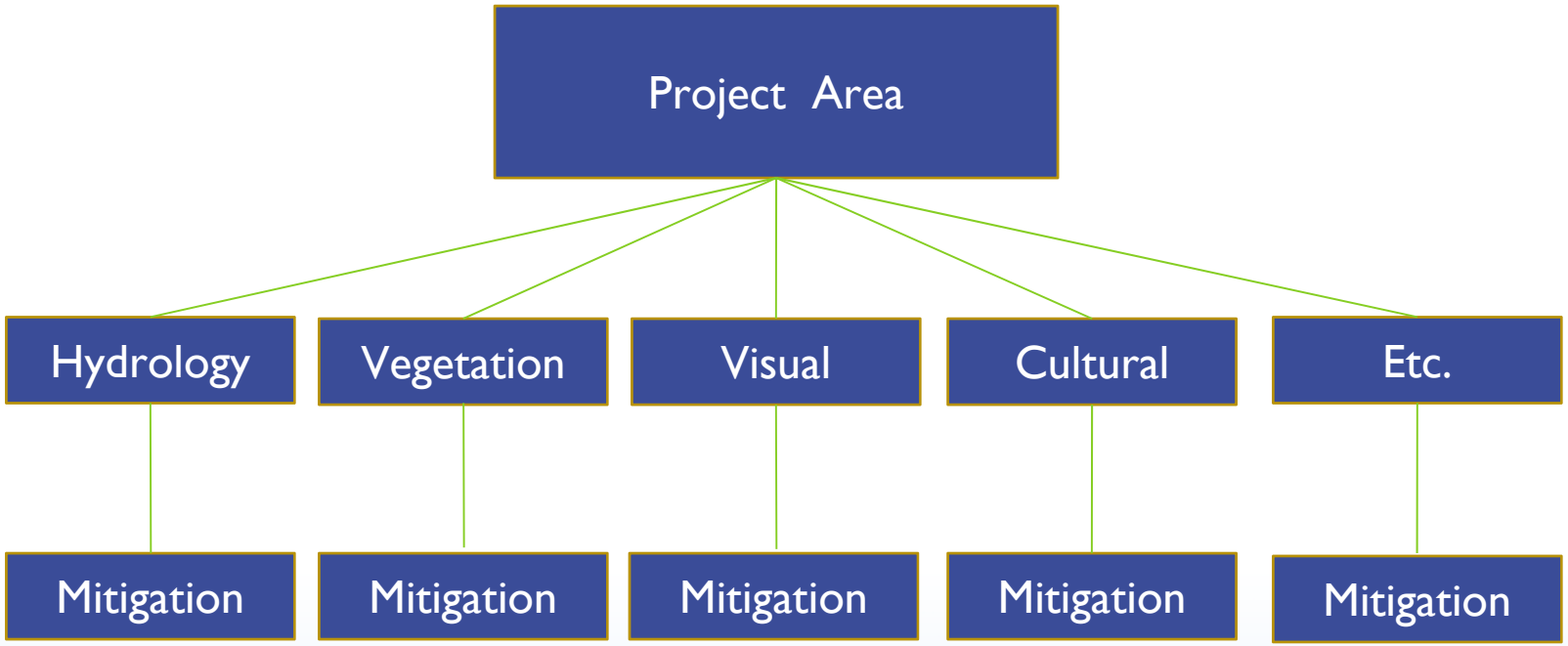
Joe Vieira
BLM Renewable Energy Program
2/27/2013

Presentation Objective

- **Review assumptions, proposed process, and criteria**
  - Regional mitigation goal & objective setting
  - Selection & screening of candidate mitigation sites and actions
- **Review example Dry Lake SEZ mitigation goals-objectives**
- **Summarize *Preliminary* Candidate Mitigation Sites - Actions**
- **Clarify stakeholder issues, concerns, options in open forum**

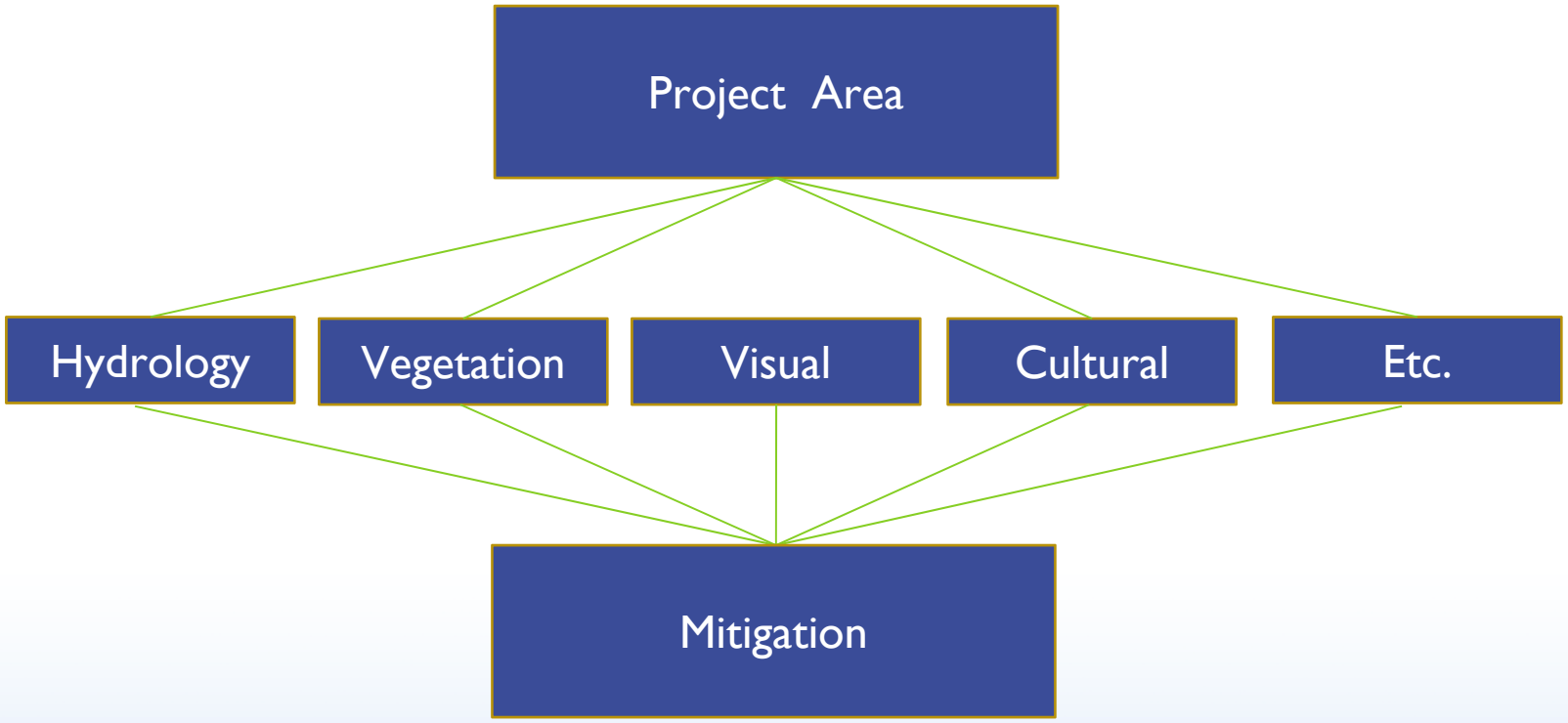
Mitigation Objectives – Implementation Strategy

Traditional Approach: Mitigating resources independently



Mitigation Objectives – Implementation Strategy

Integrated Approach: Mitigating resource impacts collectively



Proposed Process: assumptions

- **Regional mitigation goal & objective development**
  - Mitigation hierarchy 1st
  - Unavoidable impacts warranting off-site mitigation = focus
  - BLM RMP & other management direction: FLPMA foundation; ESA Permits
  - Best available baseline data, science, expert knowledge
  - Nested ecosystem-level or landscape geographic scale reference
  - Bridge regional mitigation planning = ecosystem function + species conservation + other resource values
  - Goal-objective setting + candidate tool/approach/action screening is iterative

Proposed Process: assumptions

- **Screening & selection: Candidate Tools and Sites to Direct Off-site Mitigation Investments**
  - Regional mitigation approach & site meet goal & objectives
  - A range of mitigation “tools” or approaches exist
  - Varied candidate sites exist: BLM, FWS, State Agencies, Counties, Stakeholders
  - Priority candidate mitigation site & location criteria can be clarified
  - Secondary candidate mitigation sites & location criteria may support selection
  - Tool & site combinations for successful mitigation outcomes and conservation benefits are realistic and drive selection
  - An iterative BLM-stakeholder review & vetting process is defined in schedule

Proposed Process –
Identifying Regional mitigation goal & objectives

1. **Cross-walk existing resource protection goals, objectives, or other management related direction**

2. **Articulate overarching SEZ regional mitigation goal(s)**

3. **Develop specific, measureable, realistic SEZ regional mitigation objective(s) – *restoration, acquisition, allocation, designation, other***

4. **Consider integrated (holistic) goals & objectives**

5. **Clarify monitoring and adaptive management principles for unavoidable impacts identified not warranting offsite mitigation**

6. **Vet mitigation goals & objectives with stakeholders, modify as appropriate**

Proposed Process –

Screening and Selection of Candidate Tools and Sites to Direct Off-site Mitigation Investments

1. **Identify and screen a range of mitigation tools/approaches to achieve regional mitigation goal and objectives.**

2. **Identify and assess alternative candidate mitigation sites (3-10).**

3. **Assess, rank, and prioritize which combination of candidate mitigation sites and tools best meet regional mitigation goals & objectives.**

Proposed Process –

Screening and Selection of Candidate Tools and Sites to Direct Off-site Mitigation Investments

4. **Select best mitigation tool(s) or approach(s) & site(s)**

   Document reasoning

5. **Vet candidate tools, approaches, sites reasoning with stakeholders**

6. **Modify where and as appropriate**

Process - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

1. **Identify and screen a range of mitigation tools available to achieve regional mitigation goal and objectives, including, but not limited to:**

   - *restoration and enhancement activities,*
   - *land acquisition,*
   - *mitigation banking,*
   - *withdrawing BLM-administered lands from other uses, and*
   - *special land designations or uses*.

Process - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

2. **Identify and assess alternative candidate mitigation sites (recommendation 3-10) that meet regional mitigation goals and objectives as well as the following prioritization criteria:**
   - *SEZ ecoregion & ecological sub-region*
   - *SEZ Endangered Species Act recovery unit & State*
   - *SEZ Hydrologic basin*
   - *Geographic distribution of the species or feature being impacted.*
   - *SEZ similarity in terms of landscape value, ecological functionality, biological value, species, habitat types and natural features*
   - *Land configuration, level of protection, and extent*
     - *Contiguous blocks and comparable size with the SEZ, and/or include lands contiguous to or within much larger protected areas*

Process - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

3. **Assess, rank, and prioritize which combination of candidate mitigation sites and tools or approaches best meet mitigation objectives. Assessment, ranking, and prioritization criteria should consider:**
   - *Best available scientific information at time of planning*
     - Is there sufficient local or site-level information on mitigation approach, context, and area to justify mitigation investment?
   - *Site-specific mitigation action requirements*
     - What actions would need to be taken at each of the identified mitigation candidate sites to achieve the regional mitigation goals and objectives?
       - » Land acquisition?
       - » Restoration activities?
       - » Other public land management actions on public land?
       - » Congressional action?

Process - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

3. **Assess, rank, and prioritize which combination of candidate mitigation sites and tools or approaches best meet mitigation objectives. Assessment, ranking, and prioritization criteria should consider (continued):**
   - *Feasibility, durability, risk, and likelihood of long-term success of regional mitigation approach and site*
     - Will mitigation measures at the candidate mitigation sites achieve primary regional mitigation goals and objectives?
     - What is the period of time needed to achieve mitigation goals & objectives?
     - What are constraints?
     - What threats does the site location face and what is the relative risk?
   - *Opportunity for combined regional mitigation goals & objectives*
     - What is the extent to which mitigation goals for additional ecological and other resource values can be achieved in a single location (e.g., biological, ecological, cultural, military, recreation etc.)

Process - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

3. **Assess, rank, and prioritize which combination of candidate mitigation sites and tools or approaches best meet mitigation objectives. Assessment, ranking, and prioritization criteria should consider (continued):**
   - *Surrounding land use impact on regional mitigation goals & objectives*
     - Will surrounding land uses enhance mitigation benefits over time? How so?
   - *Presence of ecologically or biologically unique or valuable features*
     - Does the site include aquatic and riparian habitats supplied by perennial, protected sources of water?
     - Does the location afford distinct or unique assemblages of species or communities or locations that provide valuable ecosystem services?
     - Are there rare plant assemblages? Desert washes? Ephemeral playas?
     - Does the site include high-quality habitat for, and healthy populations of, both target species (especially special status species) and non-target species?

Process - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

3. **Assess, rank, and prioritize which combination of candidate mitigation sites and tools or approaches best meet mitigation objectives. Assessment, ranking, and prioritization criteria should consider (continued):**
   - *Contribution to the permanence of conservation and biodiversity protections*
     - Does the location offer assurance of long-term protection of conservation values?
     - Does the site accommodate scarcity or rarity of biological or ecological features to promote conservation?
   - *Cost effectiveness, complexity, and political considerations*
     - Does the site offer a positive return and value in terms of time and investment?
     - What are the trade-offs in terms of time and resources if either or both mitigation approach and site are complex, controversial?

Process - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

4. ***Propose the area or areas which represent the best regional locations for mitigation investment and review with stakeholders.***

Example – Regional Mitigation Goals & Objectives for Dry Lake SEZ

- **Unavoidable impacts that warrant off-site mitigation include :**
  - *Loss of Desert Tortoise habitat & potential loss of Tortoises.*
  - *Loss of habitat & potential loss of BLM special status species - animals:*
    - Gila Monster, Mojave Desert Sidewinder, Ferruginous Hawk, Golden Eagle, Loggerhead Shrike, and the LeConte's Thrasher.
  - *Loss of habitat & potential loss of BLM special status species- plants.*
    - Rosy Two-toned Penstemon

Example – Regional Mitigation Goals & Objectives for Dry Lake SEZ

- **Unavoidable impacts that warrant off-site mitigation (continued):**
  - *Loss of ecosystem services and the human uses that depend on them*.
    - The primary components of an ecological system are: soils, vegetation, water, air, and wildlife.
  - *Non-conforming visual impacts*
    - Designated as Visual Resource Management Class III - Southern Nevada Resource Management Plan.

Example – Regional Mitigation Goals & Objectives for Dry Lake SEZ

- Unavoidable impacts that may occur
  - Introduction and spread of invasive/noxious weeds
  - Alterations to surface hydrology
  - Loss of cultural resources
  - Increased density of Desert Tortoise in the Coyote Springs ACEC (established for Tortoise recovery)
  - Visual resources as seen from nearby specially designated areas & other sensitive *Key Observation Points*
  - Certain Native American concerns (habitat loss and spiritual values)

Example 1 – Desert Tortoise - Regional Mitigation Goals & Objectives for Dry Lake SEZ

1. ***Cross-walk existing resource protection goals, objectives, or other management related direction***

– BLM Las Vegas RMP (1998);

- Manage habitat to further sustain the populations of Federally listed species so that they would no longer need protection of the Endangered Species Act (Objective SS-2):
- Manage desert tortoise habitat to achieve the recovery criteria defined in the Tortoise Recovery Plan (USFWS 1994) and ultimately to achieve delisting of the desert tortoise (Objective SS-3).

– USFWS Revised Desert Tortoise Recovery Plan (2011) :

- Maintain self-sustaining populations of desert tortoises within each recovery unit into the future (Objective 1 – Demography)
- Maintain well distributed populations of desert tortoises throughout each recovery unit (Objective 2 – Distribution)
- Ensure that habitat within each recovery unit is protected and managed to support long-term viability of desert tortoise populations (Objective 3 - Habitat)

Example 1 – Desert Tortoise - Regional Mitigation Goals & Objectives for Dry Lake SEZ

2. ***Articulate an overarching SEZ regional mitigation goal(s)***
   - Dry Lake SEZ Regional Mitigation Goal:
     - Partnership support of USFWS recovery plan goals as defined for desert tortoise recovery in the Northeastern Mojave Recovery Unit.

3. ***Develop specific, measureable, realistic SEZ regional mitigation objective(s)***
   - Dry Lake SEZ Regional Mitigation Objectives (Protection)
     - Comply with the ESA Section 7 permit issued to the BLM by the USFWS for disturbance of tortoise habitat in the BLM SNDO RMP area.
     - Collect off-site mitigation fee ($810 per acre/2013) for Dry Lake SEZ under existing interagency protocols and funding structures.
     - Protect existing desert tortoise populations and habitat as defined under USFWS Revised Recovery Plan (2011) Objective 3 (Habitat) and recovery actions.

Example 2 – Special Status Species - Animals- Regional Mitigation Goals & Objectives for Dry Lake

1. ***Cross-walk existing resource protection goals, objectives, or other management related direction***
   - BLM Las Vegas RMP (1998):
     - Manage habitats for non-listed special status species to support viable populations so that future listing would not be necessary (Objective SS-2).

2. ***Articulate an overarching SEZ regional mitigation goal***
   - Dry Lake SEZ Regional Mitigation Goal (Restoration):
     - Restore degraded Eastern Mojave Desert habitat across representative environmental gradients to better support viable populations of six impacted special status species.

Example 2 – SEZ Special Status Species - Animals- Regional Mitigation Goals & Objectives for Dry Lake

3. ***Develop specific, measureable, realistic SEZ regional mitigation objective(s)***

   – Dry Lake SEZ Regional Mitigation Objective (Restoration):
     - Restore disturbed creosote bursage vegetation communities including new and old burn scars & closed roads proportionate to Dry Lake SEZ developed acreage through an annual restoration and protection account and investments spread over the Dry SEZ ROW 30-year grant period.

Example 3 – SEZ Special Status Species - Animals- Regional Mitigation Goals & Objectives for Dry Lake

1. ***Cross-walk existing resource protection goals, objectives, or other management related direction***

   - BLM Las Vegas RMP (1998):
     - Manage habitats for non-listed special status species to support viable populations so that future listing would not be necessary (Objective SS-2).

2. ***Articulate an overarching SEZ regional mitigation goal(s)***

   - Protect high quality Northeastern Mojave Desert to support viable populations of six impacted special status species.

Example 3 – SEZ Special Status Species - Animals- Regional Mitigation Goals & Objectives for Dry Lake

3. ***Develop specific, measureable, realistic SEZ regional mitigation objective(s)***

   – Dry Lake SEZ Regional Mitigation Objective (Acquisition):
     - Acquire solar development mitigation bank lands to provide compensatory creosote bursage, playa, dunes, mesquite vegetation communities proportionate to Dry Lake SEZ developed acreage through a pooled land acquisition account.

Example – SEZ Special Status Species - Animals- Regional Mitigation Goals & Objectives for Dry Lake

1. *Cross-walk existing resource protection goals, objectives, or other management related direction*
   - BLM Las Vegas RMP (1998):
     - Manage habitats for non-listed special status species to support viable populations so that future listing would not be necessary (Objective SS-2).

2. *Articulate an overarching SEZ regional mitigation goal(s)*
   - Restore degraded Eastern Mojave Desert habitat across representative environmental gradients to better support viable populations of six impacted special status species.

Example – Ecosystem Function - Regional Mitigation Goals & Objectives for Dry Lake SEZ -

1. ***Cross-walk existing resource protection goals, objectives, or other management related direction***

   BLM Las Vegas RMP 1998:

   - Restore plant productivity on disturbed areas of public lands (VG-2)
   - Reduce erosion and sedimentation while maintaining or where possible enhancing soil productivity through the maintenance and improvement of watershed conditions (SL-1).
   - Support viable and diverse wildlife populations by providing and maintaining sufficient quality and quantity of food, water, cover, and space to satisfy needs of wildlife species using habitats on public land (FW-3).

2. ***Articulate an overarching SEZ regional mitigation goal(s)***

   - Dry Lake SEZ Regional Mitigation Goal:
     - No net loss of ecosystem function in the Northeastern Mojave Desert

3. ***Develop specific, measureable, realistic SEZ regional mitigation objective(s)***
4. ***Consider integrated or "holistic" goals & objectives***

   - Dry Lake SEZ Regional Mitigation Objective (Restoration):
     - Restore and/or protect ecosystem function in the region proportionate to the condition of the ecosystem of the SEZ and, where possible, in concert with protection/restoration of special status species (animals and plants) habitat, and visual resource values

Unavoidable Impacts that May Occur
Example – Dry Lake SEZ

5. ***Apply monitoring and adaptive management principles for unavoidable impacts that may occur but identified not warranting offsite mitigation***

- Unavoidable impacts that may occur:
  - Introduction and spread of invasive/noxious weeds
  - Alterations to surface hydrology
  - Loss of cultural resources
  - Increased density of Desert Tortoise in the Coyote Springs ACEC (established for Tortoise recovery)
  - Visual resources as seen from nearby specially designated areas and other Key Observation Points.
  - Certain Native American concerns (habitat loss and spiritual values)

Dry Lake Example - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

1. **Identify and screen a range of mitigation tools available to achieve regional mitigation goal and objectives, including, but not limited to:**

   - *land acquisition,*
   - *mitigation banking,*
   - *restoration and enhancement activities,*
   - *Others?*

Dry Lake Example - Screening and Selection of Candidate Sites to Direct Off-site Mitigation Investments

2. Identify and assess alternative candidate mitigation sites (3-10):

- *Coyote Springs Valley*
- *Eldorado Valley*
- *Roach Lake/Ivanpah*
- *Stump Springs/Hidden Hills*
- *Gold Butte ACEC*
- *Mormon Mesa ACEC*
- *Coyote Springs ACEC*
- *Others?*

Discussion Questions

Structures for Holding and Applying Mitigation Funds

Dry Lake SEZ Pilot Project Workshop 4

February 27, 2013

NATIONAL FISH AND WILDLIFE FOUNDATION

NFWF

About NFWF Generally

Who We Are

- Private non-profit, chartered by Congress in 1984
- 30 member Board appointed by Secretary of the Interior
  - Includes USFWS Director & NOAA Administrator
- No membership, no advocacy, no lobbying

What We Do

- Sustain, restore & enhance the nation's fish, wildlife & habitat
- Support the work of USFWS, NOAA & other agencies with jurisdiction over natural resources

How We Do It

- Grantmaking to support on-the-ground conservation in all 50 states
  - Leverage public funding with private money – average 3:1
- Administering enforcement & mitigation-derived funds

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Impact-Directed Environmental Accounts ("IDEA")

IDEA administers funds designated for specified conservation, mitigation, or restoration purposes arising from *judicial* or *regulatory* proceedings.

- **Federal, State & Local Environmental Enforcement Funds**
  - **Community Service Payments, Restitution**
  - **Supplemental Environmental Projects**
- **Natural Resource Damage Settlement Funds**
- **Federal, State & Local Permit Mitigation Funds**
  - **Species (e.g., ESA, BGEPA)**
  - **Wetlands (e.g., CWA 404)**
  - **Mitigation "Endowments"**
    - **Also known as long-term mitigation land stewardship funds**

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IDEA by the Numbers

- **Since 1987, the IDEA department has established over 200 dedicated accounts nationwide**
- **Current program includes over 150 active accounts with over $125 million under management**
- **IDEA disburses $10-20 million per year to benefit impacted species and habitats**
  - **In accordance with the legal documents that give rise to the funds (e.g., plea agreements, court orders, governmental permits/approvals)**

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Types of Off-Site Mitigation Funding Structures

1. Permittee Responsible Mitigation
2. Mitigation and Conservation Banks
3. Permit-Based In-Lieu Fee
4. Regulatory ILF Programs
5. Variations and Hybrids

Mitigation Funding Structures & Considerations

Permittee Responsible Mitigation

- **Permittee performs, pays, & retains liability until mitigation is complete**

Considerations

- **High level of permittee involvement -- time, effort, overhead**
- **Ongoing permittee liability until complete**
- **Risk of regulatory & cost uncertainty during implementation**
- **High level of Agency involvement needed – staff time & costs**
- **Permittee experience & financial stability as well as adequacy of financial assurances can affect performance and costs**
- **Risk of postage stamp conservation, fragmented landscapes & habitats**
  - **HCPs & NCCPs address this problem & provide regulatory certainty**
  - **SEZs & other advanced mitigation planning promote intactness**

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Mitigation Funding Structures & Considerations

Mitigation and Conservation Banks

- Bank sponsor risks its own capital in developing mitigation/conservation Bank and offers credits for sale
- Permittee purchases credits from Bank to compensate for unavoidable impacts
- Permittee's performance complete & liability discharged upon credit purchase

Considerations

- Performance & liability shift to Bank Sponsor
- Low level of permittee time, effort, overhead to purchase credits
- Cost certainty & release of permittee liability
- Agency staff time & cost efficiencies achieved in approving Bank
- Typically economics & market demand drive site selection of Bank

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Mitigation Funding Structures & Considerations

Permit-Based In-Lieu Fee

- Permittee pays fee specified in permit to compensate for specified unavoidable impacts
- Permittee's performance & liability essentially discharged upon payment

Considerations

- Low level of permittee involvement – time, effort, overhead
- Cost certainty & practical limitations on liability
- Pooling of funds to enable more strategic, coordinated mitigation
- Best practice – establish fees based on realistic estimates of all-in costs
- Best practice – transparency in accounting & use of funds
- Funds holder can affect performance & costs
  - Overhead
  - Contracting
  - Investment
  - Control
  - Transparency

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Mitigation Funding Structures & Considerations

Regulatory ILF Programs

- ILF Program Sponsor develops program, sells mitigation credits to Permittee, and then with funds from credit sales develops mitigation projects in consultation with Agency
- Permittee's performance complete & liability discharged upon payment
- Performance & liability shift to ILF Program Sponsor

Considerations

- Low level of permittee time, effort, overhead to purchase credit
- Cost certainty & termination of permittee liability
- Agency staff time & cost efficiencies achieved in approving ILF program
- Agency input on site selection of mitigation
- Unlike Banks, time-lag between credit purchase & performance of mitigation

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REAT Mitigation Account

Established April 2010

REAT Agencies Stated Purposes & Objectives

- Each project must comply with applicable State and/or Federal environmental laws protecting biological resources
- Optional tool for renewable energy projects in the Mojave & Colorado desert region in CA
- To facilitate renewable energy project proponents' ability to meet their mitigation requirements
- To provide permittees with a more efficient & timely method of satisfying some or all mitigation requirements
- To more efficiently implement mitigation & maximize the overall conservation benefit derived from mitigation actions
- To enable the REAT to pool funds from individual projects to accomplish positive benefits for wildlife
- Not an in-lieu fee
  - REAT Agencies may require additional deposits to complete mitigation
  - Permittees remain liable until mitigation complete

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REAT Mitigation Account Options

Land Acquisition Sub-Account

- **Project-specific land acquisitions for specific off-site compensatory mitigation requirements (e.g., FTHL, BUOW, state waters)**

Initial Enhancement Sub-Account

- **Project-specific initial actions to enhance the habitat on the acquired compensatory mitigation lands**

Restoration & Habitat Management Sub-Account

- **Project-specific mitigation through restoration and/or management habitats on existing public or private lands, or on acquired compensatory mitigation lands**

Long-Term Management & Maintenance ("LTMM") Sub-Account

- **Project-specific LTMM of acquired compensatory mitigation lands**

Initial & Capital LTMM Sub-Account

- **Project-specific initial 3-years LTMM of acquired compensatory mitigation lands**

Raven Management Sub-Account

- **Single comingled account for raven management to mitigate indirect & cumulative impacts of projects on DT**

Bald & Golden Eagle Protection Sub-Account

- **Single comingled account for any project requiring actions to conserve and manage bald & golden eagles**

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Why IDEA?

Fund Holder Considerations

- Federally-chartered non-profit, accountable to Congress
- Trusted & neutral third party fiduciary
- IDEA holds funds in trust & applies them to benefit the impacted resource
- No risk of funds being diverted to government treasuries or other uses
- Efficient contracting & administration
- Well-established & transparent financial management services
- Low management fees & tax-free growth of funds result in more money on the ground for conservation
- Effective grantmaking & program management as well as in-house conservation expertise
- Ability to work nationally & across state & local political boundaries

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REAT Mitigation Account
Funding Structure Examples & Observations

REAT Land Acquisition Sub-Account

- **Variation of Permittee Responsible Mitigation**
  - Permittee deposits estimated cost to acquire off-site compensatory mitigation lands for the project's specific impacts (e.g., FTHL, state waters)
  - Permittee must make additional deposits if necessary to complete mitigation
  - Permittee remains liable until lands acquired & protected
  - IDEA establishes uniquely-identifiable project-specific account, invests & administers the funds for the required acquisitions
  - IDEA works in partnership with the Agencies to identify appropriate mitigation lands
  - IDEA pools funds & coordinates mitigation acquisitions among multiple projects where possible to avoid postage stamp mitigation

- **Observations**
  - No cost certainty for permittees
  - Ongoing permittee responsibility and liability may limit ability to pool funds & coordinate acquisitions among multiple projects
  - Lack of willing sellers may limit ability to implement strategic, coordinated acquisitions

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REAT Mitigation Account
Funding Structures & Observations

REAT Raven Management Sub-Account

- **Variation of Permit-Based In-Lieu Fee**
  - Permittees requiring raven management as off-site mitigation for indirect & cumulative impacts to DT deposit a per acre fee into single, comingled account
  - Funds used to implement Regional Raven Management Plan/EA
  - Per acre fee
    - calculation of annual cost estimates of removal, outreach, monitoring surveys at 3 levels of effort over 30 years
    - Net present value calculation
    - Divided by an assumed 35% of developable acreage (1,230,191 ac) within plan area
  - Permittee satisfies this mitigation obligation upon payment
  - IDEA administers the pooled fund to implement the regional raven management plan through specific actions identified by the DMG Raven Management Workgroup

- **Observations**
  - Single payment provides cost certainty for permittees
  - Regional raven management plan sets forth mitigation actions & priorities
  - Fee based on realistic estimate of costs; promotes mitigation certainty
  - Pooling funds enables coordinated implementation of regional raven management plan

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Possibilities for Dry Lake SEZ

Example of Mechanisms to Meet Dual Goals of Incentivizing Solar Development in SEZ & Mitigating Unavoidable Impacts

1. **To Incentivize SEZ -- Permit-Based In-Lieu Fee for SEZ**
   - Permittee satisfies its mitigation obligations by making a payment
   - Fee based on the methodology selected by BLM with stakeholder input
   - E.g., Identify the desired mitigation actions for the SEZ & cost them out
     - For specific restoration actions (e.g., roads, seeding), identify costs for services (BLM data, 3rd party RFP exercise?)
     - For real estate acquisitions, look at local fee title & CE market values through appraisals and/or other data gathering
     - Factor in overhead rates & costs of funds holder(s) to manage & administer funds (e.g., contracting)
     - Add some percentage for contingencies
   - Pool funds & apply then to implement mitigation
2. **To Incentivize SEZ -- Permittee Responsible Mitigation for Variance Areas**
3. **Additional Mechanism for Funding Acquisitions -- Mitigation Bank**
   - Secure partners to fund advanced acquisitions of identified mitigation lands
   - For SEZ, per/acre credit price included in calculation of fee
   - For variance areas, permittees purchase credits directly from Bank partner

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BLM Solar Regional Mitigation Planning

Dry Lake Solar Energy Zone Pilot Project

Workshop 4: Miscellaneous, Next Steps, Wrap-up

Joe Vieira, BLM Renewable Energy Program
February 27, 2013

Topics

- Regional Mitigation Planning Framework & Pilot Goals
- Dry Lake SEZ Pilot Lessons Learned
- Dry Lake SEZ Regional Mitigation Plan
- BLM Off-site Mitigation Manual (2013)
- BLM SEZ Regional Mitigation Planning Framework & Guidance
- Future SEZ Regional Mitigation Plans
- Next Steps - Pilot Completion Timeline – Wrap up

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Regional Mitigation Planning Framework Goals & Pilot Objectives

- **Framework Goals**
  - Consistent science-based approach
  - Reduce uncertainty

- **Solar Regional Mitigation Planning Elements**
  - Stakeholder engagement
  - Baseline for comparison
  - Methodology for unavoidable impact assessment
  - Methodology for obligation costs (fees)
  - Structure to hold mitigation investments
  - Regional Mitigation Objectives & Priority Projects
  - Adaptive Management & Monitoring

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Dry Lake SEZ Pilot Lessons Learned

- **Pilot lessons learned**
  - Legion
  - Cover Solar PEIS Regional Mitigation Planning Elements
  - Stakeholders effectiveness increased with 1-2 weeks document review time

- **Sources**
  - Workshop Presentations, Panels, Webinar Discussions
  - Workshop 1-4 Evaluation Forms
  - Stakeholder Phone Calls
  - Stakeholder Written Letters
  - Additional Emails
  - Independent Research – Nikki Springer, Ph.D Doctoral Candidate

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Dry Lake SEZ Regional Mitigation Plan

- BLM WO approves Pilot extension to end-of-April 2013
- Stakeholder comments on topics discussed in Workshop 4 by next week
- Dry Lake SEZ Candidate Mitigation Site and Approach – Screening & Recommendation Webinar
  - 4 BLM Restoration - Candidates Sites
  - 4 TNC Acquisition - Candidates Sites
  - Additional Stakeholder Candidate Sites – Approaches – DD March 8, 2013
- Draft Dry Lake SEZ Regional Mitigation Plan Outline – Webinar

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BLM Off-site Mitigation Manual (2013)

- DRAFT BLM *Manual* - Off-Site Mitigation (2013)
- Founded on and updates BLM IM 2008 – 204 Offsite Mitigation
- Under DOI - Solicitor review
- DRAFT Offsite Mitigation Manual Regional Mitigation Planning directly referenced
- SEZ Regional Mitigation Planning Guidance – *Technical Note* or *Handbook* Tiered to Manual
- Relation to BLM SEZ Regional Mitigation Planning Framework & Guidance

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Future SEZ Regional Mitigation Plans

- Finalize BLM Regional Mitigation Guidance – Early Summer 2013
  - Looking at 3 Implementation Options
  - Pre-planning – Dry Lake SEZ model
  - Concurrent RoW/NEPA
  - Land Use Planning/NEPA
- Solar PEIS ROD - Regional Mitigation Plans, All SEZ's
- BLM Nevada
  - Lincoln County Request - Dry Lake North SEZ
  - Workload Planning now
- BLM Colorado
  - Conejos County, Los Mogotes SE SEZ – New Application/Concurrent RoW/NEPA
  - Saguache County, De Tilla Gulch SEZ – New Application/Concurrent RoW/NEPA

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Wrap-up & Next Steps
Pilot Completion Timeline

Milestone	Date
Additional Stakeholder Dry Lake SEZ Candidate Sites/Actions Due	March 7, 2013
Stakeholder Comments Due: Proposed Methods - Mitigation Fee – Regional Objectives –Site Screening	March 11, 2013
Dry Lake SEZ Candidate Site Screening Webinar	March 14, 2013
Dry Lake SEZ Outline Webinar and Web Posting – BLM WO - DOI SOL Review	March 21, 2013
Stakeholder Comments Due: Dry Lake SEZ Regional Mitigation Plan Outline	March 28, 2013
BLM Regional Mitigation Framework - Technical Note Outline Webinar and Web Posting BLM WO - DOI SOL Review	March 28, 2013
Stakeholder Comments Due: BLM Regional Mitigation Framework - Technical Note Outline	April 4, 2013
DRAFT Dry Lake SEZ Regional Mitigation Plan Web Posted	April 11, 2013
DRAFT BLM Regional Mitigation Framework - Technical Note Web Posted	April 18, 2013
Stakeholder Comments Due: DRAFT Dry Lake SEZ Regional Mitigation Plan	April 25, 2013
Dry Lake SEZ Regional Mitigation Plan complete - WO-DOI-SOL Review	May 9, 2013
Stakeholder Comments Due: DRAFT BLM Regional Mitigation Framework - Technical Note Due	May 9, 2013
BLM Regional Mitigation Framework - Technical Note WO-DOI Review	May 16, 2013

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Dry Lake Pilot

- Workshop 4 Goals - Did we meet them?
- Pilot Completion Timeline

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Key Comments on Mitigation Fee Formula

- BLM needs to be sure the mitigation fees are adequate to effectively mitigate impacts.
- Multipliers proposed for SEZ versus variance lands may need to be adjusted – they may not provide the appropriate incentives and disincentives.
- Caution: matrix may disincentivize development on a highly disturbed site on variance lands if it is located in an area with critical ecological value. Is this appropriate/desireable?
- Mitigation fees should not be reduced by other mitigation fees (e.g., desert tortoise fees) or by other fees unrelated to mitigation.
- Solar development shouldn't be penalized with fees greater than those assessed for other land uses.
- Conversely, solar development should not be given a "pass."

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Key Comments on Setting Regional Mitigation Objectives and Priorities

- Considerable discussion on whether there should be a combination of discrete mitigation actions (e.g., highway underpasses for connectivity) and place-based conservation (either through new protections on federal lands or private land acquisitions)
- Integrated approach does provide flexibility and allows BLM to address multiple issues together
- It's appropriate to undertake mitigation actions in existing ACECs (i.e., lands already protected). Could be a mix of underfunded mandates and new activities. Don't spread mitigation actions too thin
- Additionality: conversely, regional mitigation dollars should only be spent on new mitigation actions, not on things BLM is already mandated to do.

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Key Comments on Setting Regional Mitigation Objectives and Priorities (Cont.)

- Selection of mitigation actions should be driven by 1) urgency of threat; and 2) opportunity
- Use existing data to proceed now; adaptive management will provide opportunities to adjust
- Focusing efforts to preserve resources in specific highly intact, high ecological value areas can be very effective.
- Acquisition of private lands may not be feasible in this region.

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