Implementation Plan for the Dry Lake Solar Energy Zone Regional Mitigation Strategy

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December 22, 2015

TABLE OF CONTENTS

List of Figures

List of Tables

1. INTRODUCTION AND PURPOSE

1.1 Purpose of the Mitigation Implementation Plan

In 2012, the BLM and the U.S. Department of Energy published the "Final Programmatic Environmental Impact Statement (PEIS) for Solar Energy Development in Six Southwestern States" (Final Solar PEIS). The Regional Mitigation Strategy for the Dry Lake Solar Energy Zone Technical Note 444 (BLM Technical Note 444) is the product of a Bureau of Land Management (BLM) pilot project based on the Mitigation Framework created by the Solar PEIS. The final strategy and project report recommended the Bureau develop a plan of action to compensate for unavoidable impacts associated with development of the Dry Lake Solar Energy Zone (Dry Lake SEZ). The Dry Lake SEZ Implementation Plan (Implementation Plan) is a step down of the Regional Mitigation Strategy for the Dry Lake Solar Energy Zone Technical Note 444 and describes how the BLM Las Vegas Field Office (LVFO) will allocate and apply the funding it receives from the three solar projects authorized to construct within the Dry Lake SEZ.

The Implementation Plan is the last step in the mitigation hierarchy. This Implementation Plan supplements the on-site mitigation efforts within the Dry Lake SEZ. The BLM places a priority on mitigating impacts to an acceptable level on-site; however, there are times when on-site mitigation alone is not sufficient. The objectives described in this Implementation Plan are intended to help BLM fulfill its mission under the Federal Land Policy and Management Act (FLPMA) by managing public lands in a manner that protects ecological quality, environmental values, and provides wildlife habitat in a way that does not permanently impair productivity.

1.2 Background

The Solar PEIS assessed the impact of utility-scale solar energy development on public lands in the six southwestern states of Arizona, California, Colorado, Nevada, New Mexico, and Utah. The "Approved Resource Management Plan Amendments/Record of Decision for the Solar PEIS" implemented a comprehensive solar energy program for public lands in those states and incorporated land use allocations and programmatic and SEZ-specific design features into land use plans in the six-state study area (BLM 2012). The Solar PEIS ROD identified 17 priority areas for utility-scale solar energy development, or SEZs. The Final Solar PEIS presents a detailed analysis of the expected impacts of solar development on each SEZ.

During this process the public encouraged the BLM to incorporate a robust mitigation framework into the proposed solar energy program to address unavoidable impacts expected in SEZs. In the Supplement to the Draft Solar PEIS, the BLM presented, as part of its incentives for SEZs, the concept of regional mitigation planning. A draft framework for regional mitigation planning was posted on the project web page between the publication of the Supplement to the Draft Solar PEIS and the Final Solar PEIS to foster stakeholder engagement. A framework for regional mitigation planning was included in the Final Solar PEIS and the Solar PEIS ROD. Concurrent with the development of this strategy, the BLM has developed a technical reference, titled "Procedural Guidance for Developing Solar Regional Mitigation Strategies," to provide guidance on the process and a refined framework to aid in the preparation of solar regional mitigation strategies (SRMSs) for other SEZs.

The BLM's policy is to mitigate impacts to an acceptable level onsite whenever possible through avoidance, minimization, remediation, or reduction of impacts over time. The use of regional mitigation is evaluated by the BLM on a case-by-case basis and is based on the need to address resource issues that cannot be acceptably mitigated on-site. Furthermore, not all adverse impacts can or must be fully mitigated either on-site or in the immediate region. A certain level of adverse or unavoidable impact may be acceptable: (1) when an appropriate level of mitigation will be conducted and remaining impacts do not result in unnecessary or undue degradation;

or (2) when impacts to BLM sensitive species or Endangered Species Act listed species do not exceed established resource and value objectives.

In order to minimize the impacts of solar development, the BLM applies a mitigation hierarchy, consisting of avoid, minimize, and compensate. Implementation of this hierarchy begins with the location and configuration of the SEZs, so as to avoid as many conflicts as possible. Avoidance is also used within the boundaries of SEZs by designating non-developable areas. Minimization involves the implementation of design features (which are required mitigation measures) and management practices meant to reduce the impacts on-site. As a part of the analysis, the Solar PEIS included a robust suite of design features in the BLM's solar energy program that will be employed to minimize some of the expected impacts of development on-site. The Solar PEIS analyzed, and the Solar PEIS ROD adopted, both programmatic and SEZ specific design features. These design features were included as stipulations in right-of-way leases for SEZs.

BLM Technical Note 444 addresses the final tier of the mitigation hierarchy, specifically compensatory mitigation. The regional mitigation strategy consisted of recommendations to mitigate some of the unavoidable impacts that remain after avoidance and minimization measures are taken. This strategy differs from project level compensatory mitigation planning that has been conducted in the past. In this strategy, compensatory mitigation is considered in a landscape context and includes identification of mitigation goals and objectives, as well as the selection of mitigation actions based on the degree of impact and regional conditions and trends. This procedure for conducting mitigation is also reflected in the BLM's interim policy, Draft Manual Section 1794, "Regional Mitigation," issued on June 13, 2013.

BLM Technical Note 444 summarizes and discusses many important aspects and considerations not discussed in this Implementation Plan. For more detail and additional information the reader is referred to the BLM Technical Note 444. These topics include:

1) The unavoidable impacts expected as a result of development of the Dry Lake SEZ.
2) A conceptual model that depicts the relationships between resources, ecosystem functions, ecosystem services, and change agents.
3) The unavoidable impacts that, in consideration of regional trends and roles the impacted resources play, may warrant regional mitigation.
4) The regional mitigation goals and objectives recommended for the Dry Lake SEZ.
5) The regional mitigation locations and action(s) recommended for achieving the mitigation goals and objectives for the Dry Lake SEZ.
6) A recommended method for calculating a mitigation fee that could be assessed to developers and an explanation of how it was calculated for the Dry Lake SEZ.
7) A recommendation for how the outcomes of the mitigation actions could be monitored and what will happen if the actions are not achieving the desired results.

1.3 Summary of Stakeholder Involvement

The process for including stakeholder input in developing BLM Technical Note 444 included four workshops in Las Vegas and several web-based meetings. Representatives from federal, state, and local government agencies; nongovernmental organizations concerned with issues such as environmental or recreational impacts; representatives from the solar development industry, mining industry, and utilities; tribal representatives; and individual members of the public who had been involved in the Solar PEIS process were invited to attend these activities.

The first workshop was held August 29-30, 2012. Background on regional mitigation planning and the Solar PEIS impact assessment for the Dry Lake SEZ were provided to the attendees.

The second workshop was held October 24-25, 2012. This workshop included a field visit to the Dry Lake SEZ in order to give the participants a firsthand look at the SEZ. BLM staff resource specialist were present and spoke about the range of resources present in the SEZ and possible opportunities to avoid, minimize, and mitigate potential impacts related to solar energy development.

The third workshop was held January 30-31, 2013. This workshop focused on regional trends and conditions, unavoidable impacts that may warrant regional mitigation, the establishment of regional mitigation objectives, the use of mapping tools and data in choosing locations for mitigation, prioritization of mitigation projects, mitigation costing, and long-term monitoring.

The fourth workshop was held on February 27, 2013. This workshop focused on methods for establishing mitigation fees in SEZs, establishing solar mitigation objectives and priority setting, and structures for holding and applying mitigation funds.

Additionally, several webinars were held. The first provided information on mitigation valuation methods and mitigation structure options (December 6, 2012). The second provided methods to identify impacts that may warrant mitigation (January 1, 2013). The third proposed mitigation fee setting methods to evaluate candidate mitigation sites (March 21, 2013). Throughout the project, stakeholders were invited to comment on interim draft materials, including the summary of unavoidable impacts at the Dry Lake SEZ that may warrant mitigation, the proposed method for deriving the mitigation fees, the method of evaluating candidate sites for mitigation, and the specific mitigation sites and activities proposed for the Dry Lake SEZ. Many of these comments were discussed during workshops and used to guide the development of the regional mitigation strategy.

Stakeholder involvement in the development of the Dry Lake SEZ Mitigation Implementation Plan
On June 16, 2015, the LVFO held a one-day stakeholder workshop to receive feedback on how to implement BLM Technical Note 444. This workshop was structured such that stakeholders were provided background on current BLM LVFO issues, conservation actions, and programs. Participants worked in four small groups with each group developing their own plan for implementing the mitigation funds. The plans were compared and contrasted with the BLM proposal on the Implementation Plan. The following concepts, tools, and actions were vetted and discussed at the workshop for consideration during development of each group's implementation plan:

1) Mitigate in an area that is intact and has relatively low recreation use.
2) Use mitigation funds to develop ACEC Management Plans.
3) Use mitigation funds to develop a Fire Management Plan for the mitigation area.
4) Apply concept of a "portable" mitigation strategy to a number of different locations.
5) Use mitigation funds to develop a Weed Management Plan for the mitigation area.
6) Use mitigation funds to monitor and prevent new weed species infestations.
7) Use mitigation funds to partner with NDOT and other agencies to accomplish weed treatments.
8) Use mitigation funds to develop a Restoration Plan for the mitigation area.
10) Use mitigation funds for seed acquisition and nursery production.
11) Use mitigation funds for protective fencing to protect resource values.
12) Develop partnerships with nonprofit organizations, state and county agencies.
13) Use mitigation funds for travel management.

The BLM received the following input from the four workshop groups after they developed their Implementation Plans. The input was not universal and differed between each group:
1) Some of the work groups wanted BLM to protect lands that are intact with fewer conflicts.

2) Some of the work groups wanted BLM to protect lands that are not already conserved (e.g. Area of Critical Environmental Concern (ACEC) designation).
3) Some of the groups did not generally support law enforcement.
4) Some of the work groups believed Gold Butte is still a viable alternative.
5) Some of the work groups believe the acquisition of private lands is the best alternative.
5) Some of the work groups advocated for focusing mitigation funds on a single project rather than spreading it out over many smaller projects.
6) Some of the work groups supported planning, including ACEC Management plans and travel management.
7) Some of the work groups wanted BLM to show how the mitigation funds are not adding to base funds.
7) Some of the work groups wanted BLM to show how the mitigation would be accountable, durable, and additive.
8) Some of the work groups expressed that education and social media were valuable.

Highlights of each of the four work group's Implementation Plans are summarized below with BLM's input on both the strength and weakness of each plan based on BLM's current Resource Management Plan (RMP) designations and issues.

Group 1
Establishment of a Federal, State and County partnership to guide the development of a mitigation reserve at Stump Springs. Approximately $3.0 million dollars would be used to set up an endowment to maintain the reserve. The endowment and maintenance of the reserve would be managed by a third party. All remaining funds would be used to prepare planning documents and to set up any infrastructure for the reserve. Strength: the proposed reserve area is intact with very little disturbance. Weakness: Stump Springs, the proposed reserve area, is not currently designated an ACEC and therefore lacks durability.

Group 2
Mitigation would be conducted at Stump Springs, Mt Stirling, or Coyote Springs in areas that were previously identified by The Nature Conservancy as potential reserves earlier in the Dry Lake SEZ off site mitigation stakeholder workshops. An ACEC would be established at the recipient site, 90% of the financial resources would be on-the-ground activities and 10% for planning and administration activities. Strength: the lands are intact with very little disturbance. Weakness: Stump Springs and Mt Sterling, proposed reserve areas, are not currently designated ACEC's and therefore lack durability.

Group 3
Use all mitigation funds to purchase private lands or secure a conservation easement in Coyote Springs Valley creating a reserve on private lands. The reserve would be maintained under private ownership to improve durability, management, and accountability. The acquisition would preserve U.S. Fish and Wildlife Service (FWS) designated critical habitat for the desert tortoise. Strength: the land in intact and proposal provides durability. Weaknesses: the area needs a willing seller to implement and the purchase of the land would be expensive.

Group 4
Use Gold Butte as the recipient site for Dry Lake SEZ offsite mitigation implementation as recommended in BLM Technical Note 444. If the cattle trespass cannot be resolved in a timely manner, the nearby Upper Mormon Mesa was identified as a backup site. Strength: the lands contain intact habitat and ACEC provides durability. Weakness: unauthorized cattle are present in Gold Butte and Mormon Mesa ACEC and could cause a delay in implementing the plan.

BLM has carried forward inputs from the workgroups Implementation Plans into developing the final decision on how BLM will be implementing the mitigation funding. These are discussed and incorporated in sections 3, 4 and 5.

2. SOLAR ENERGY ZONE

2.1 General Description of the Solar Energy Zone

The Dry Lake SEZ is located in Clark County in southern Nevada. The total area of the Dry Lake SEZ, as shown in Figure 2-1, is 6,187 acres (BLM and DOE 2012). In the Solar PEIS, 469 acres of floodplain and wetland within the SEZ boundaries were identified as no development areas. The developable area of the SEZ given in the Solar PEIS was 5,717 acres.

The SEZ already contains rights-of-way and developed areas, including energy, water, and transportation infrastructure facilities. Three designated transmission corridors pass through the area, including a Section 368 energy corridor, which contains numerous electric transmission lines, natural gas and refined petroleum product lines, and water lines. A power generating station is also located within the area of the SEZ, and two existing natural gas power plants are located just southwest of the SEZ on private land. A minerals processing plant is located in the southeastern corner of the SEZ. These rights-of-ways and developed areas reduced the developable area in the SEZ to 3,491 acres.

To maintain desert tortoise genetic connectivity, an area north of the SEZ between the northern boundary and the southern Arrow Canyon range, 408 acres were determined to be a non-development area, leaving 3,083 acres in the SEZ for development. Applicant's final design for each solar facility further reduced the total disturbance to 2,866 acres in the SEZ.

2.2 Landscape Conditions of the Solar Energy Zone and the Region

In 2012, the BLM completed the "Mojave Basin and Range Rapid Ecoregional Assessment (REA)" for the Mojave Basin and Range ecoregion in which the Dry Lake SEZ is located (NatureServe 2013). The Mojave Basin and Range REA examines broad scale ecological values, conditions, and trends within the ecoregion by synthesizing existing spatial datasets in a meaningful timeframe. The REAs serve multiple purposes in an ecoregional context, including identifying and answering important management questions; understanding key resource values; understanding the influence of various change agents; understanding projected ecological trends; identifying and mapping key opportunities for resource conservation, restoration, and development; and providing a baseline to evaluate and guide future actions. Landscape condition of the Dry Lake SEZ is included in BLM Technical Note 444 and was used as a factor in identifying and assessing off-site mitigation sites for the Implementation Plan.

2.3 Regional Setting

2.3.1 General Area

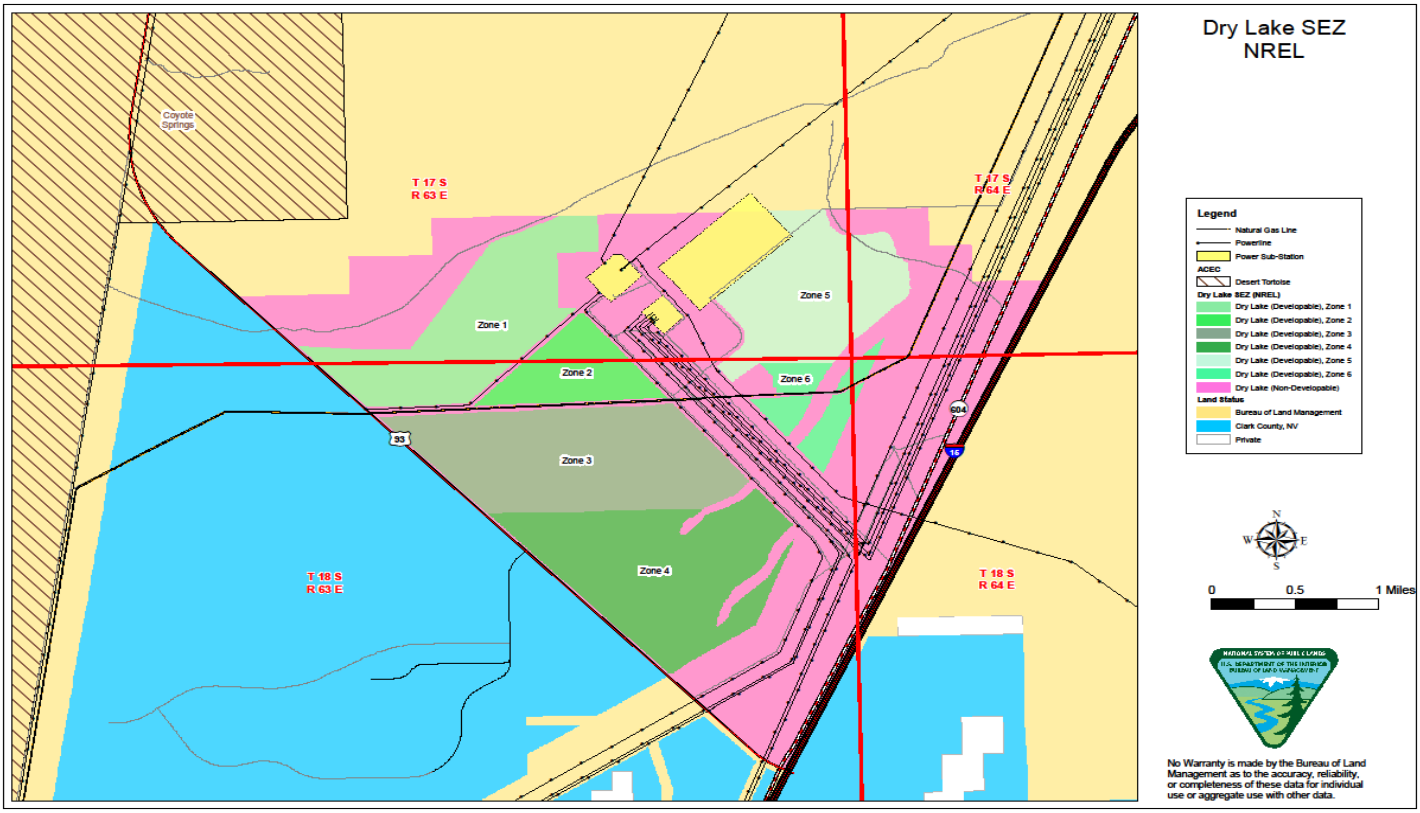
The Dry Lake SEZ is located in a relatively undeveloped rural area, bounded on the west by the Arrow Canyon Range and on the southeast by the Dry Lake Range. The topography of the land within the SEZ is arid basin dominated by creosote and white bursage vegetation communities. In total, there are 10 natural land cover types and 2 disturbance land cover types predicted to occur in the vicinity (within 5 mi), of the Dry Lake SEZ. There are three land cover types that occur in the developable portion of the SEZ. Listed in order of dominance, these land cover types are: Sonora-Mojave Creosote-White Bursage Desert Scrub (98.8% of the developable area), Sonora-Mojave Mixed Salt Desert Scrub (0.8% of the developable area), and North American Warm Desert

Wash (0.4% of the developable area). Another land cover type expected to occur in the no developable area of the SEZ include North American Warm Desert Pavement.

2.3.2 Problematic Regional Trends

In the Mojave ecoregion, the impacts of human activities on native plant communities are magnitudes higher than any natural disturbance (Webb et. al. 2009). Cumulatively five trends are having a profound effect on the quality, quantity, and management of vegetation and the ecosystem services they provide. These trends deserve consideration in development and implementation of the Dry Lake SEZ off site mitigation effort. These include: (1) the extremely slow rate of recovery from disturbance; (2) the introduction and increasing area occupied by non-native annual grasses; (3) the introduction of fire and increasing fire return intervals; (4) increasing fragmentation; and (5) climate change and the selective pressure it is having on the recovery of native plant communities. Each is discussed below in relation to current conditions and trends from 1998 to present

Figure 1



Slow Rate of Natural Recovery

The rate at which native plant communities recover from disturbance is a result of the nature, magnitude, and frequency of the impacts. Using a survey of 47 studies examining natural re-establishment after a variety of disturbances, such as fire, abandoned roads, power line corridors, and a linear regression, Scott Abella (2010) estimates that without active restoration, it takes the Mojave Desert 76 years for re-establishment of perennial plant cover and 215 years for re-establishment of perennial and annual species cover. Given this rate of recovery, the impacts from many BLM authorized activities are still with us today decades after they were first authorized. In most cases, we cannot expect natural recovery to occur from disturbances within the lifetime of an average BLM resource management plan. Given this slow rate of recovery, conservation and protection of the intact areas within the Mojave Desert is the single best tool, but the BLM can also facilitate and reduce the

time needed to recover the ecosystem services that native plant communities and properly functioning upland and riparian-wetland components provide through restoration of disturbed areas.

Introduction of Fire and Increased Fire Frequencies

Fire can be an ecosystem stressor or critical ecosystem process. In the low elevation native plant communities of southern Nevada fire is a stressor (Brooks et.al. 2013). Historically, fire was rare in creosote bursage and blackbrush scrub (Brooks, et.al. 2013). In these communities, non-native annual grasses are now responsible for an annual grass/fire cycle that did not exist previously (Brooks 1999). This is largely because the spaces between individual shrubs were bare, and acted as a fuel break. Now, non-native annual grasses create a nearly continuous fuel load that carries fire between shrubs (Brooks 1999). Following fire, non-native annual grasses are some of the first species to return. If fire returns too quickly, the surviving native plants do not have enough time to grow and produce the seed needed for recovery. Fire frequency and the amount of burned area in the Southern Nevada District have been increasing. Given the slow natural rate of recovery, it can take decades for burned sites to recover to a point where they provide the same ecosystem services unburned sites offer. Conducting local seed collections for immediate post fire recovery is an effective and proactive way BLM can manage desert tortoise ACECs.

Introduction of Non-Native Species

Non-native Mediterranean grass (*Schismus* spp), filaree (*Erodium cicutarium*), and red brome (*Bromus madritensis* ssp *rubens*) are now the most abundant winter annual plants in the Mojave Desert, far outnumbering all native species combined (Brooks 2009). In the Mojave, red brome, and cheat grass (*Bromus tectorum*) are considered one of the largest threats to lower elevation native plant communities. Non-native plants have been implicated in the decline of native plant communities in the Mojave through direct competition. Competition with non-native grasses slowly reduces the stability and resiliency of native plant communities because it gradually reduces the amount of seed produced by native species and, subsequently, the amount available for recovery. Monitoring and controlling incipient weed infestations and restoring degraded sites is one of the best ways we can maintain the biotic integrity of ACECs.

Fragmentation of Native Plant Communities

Fragmentation is the interruption of ecological processes (such as pollination, dispersal of seeds, migration, and recovery) needed to sustain healthy native plant communities and ecosystems. Fragmentation of native plant communities is a result of disturbances such as roads and utility corridors or through the loss of areas connecting metapopulation segments. The extremely slow recovery rate of native plant communities in the Mojave Desert is why fragmentation of native plant communities is of concern for the BLM. Managing mitigation areas to encourage responsible use, coupled with travel management and active restoration, are ways to prevent route proliferation and additional fragmentation on a landscape scale.

Climate Change

Temperature and precipitation are the primary factors that determine the composition and structure of native plant communities because they affect plant establishment, growth, reproduction, and mortality. The distribution of some plant species may shift as a result and the composition of some native plant communities is likely to change. Two long-term data sets provide direct evidence this is already happening in the Mojave (Kelly and Goulden 2008). As part of a bureau-wide strategy to adapt to future climate change, BLM completed a Rapid Ecoregional Assessment (REA) for the Mojave Desert in 2013. The Mojave REA, which is one of many modeling efforts, predicts that most of the Mojave landscape will be affected by changes in temperature; however, some areas will resist climate change because of unique topographic features. The REA modeling effort suggests that desert tortoise habitat on BLM lands in the Piute-Eldorado Valley may become less favorable to desert tortoise. One potential strategy for restoring degraded areas as well as enhancing desert tortoise habitat is to introduce native plant species that are adapted to warmer portions of the Mojave. This strategy, in addition to managing recreation, is potentially one way to maintain high quality desert tortoise

habitat over the next 100 years despite the potential effects of climate change. During development of the Piute-Eldorado Valley ACEC Management Plan, the best available science will be used in any strategy used to restore and enhance degraded areas.

3. PIUTE-ELDORADO ACEC

3.1 Rationale

The LVFO selected the Piute-Eldorado Valley ACEC as the recipient site for off-site mitigation funding received from the development of Dry Lake SEZ. The Piute-Eldorado Valley ACEC best fits the timeline for implementation, provides an opportunity for additionality and has long term durability. Although not considered during the workshop by the stakeholders, this ACEC was considered during the development of BLM Technical Note 444. Additionally, during informal discussions, most stakeholders agreed, that due to current conditions the Piute-Eldorado Valley ACEC was an acceptable choice for the mitigation site. The Piute-Eldorado Valley ACEC meets the same off-site mitigation criteria developed in the BLM Technical Note 444 that was initially identified to be implemented in the Gold Butte ACEC. The resources affected in the SEZ were soils, general vegetation, general wildlife, special status wildlife species and visual resource management view shed. All of these resources that were identified and located in the Gold Butte ACEC are also located in the Piute-Eldorado Valley ACEC. The criteria for off-site mitigation described in BLM Technical Note 444 and the NEPA analysis included the following:

1) The recipient site is within the LVFO and within the same subregion and landscape context as the Dry Lake SEZ.
2) The site contains similar vegetation communities, in particular, the same creosote-bursage vegetation community.
3) The recipient site is within desert tortoise critical habitat. It was intended the Dry Lake SEZ regional mitigation would indirectly benefit conservation recovery efforts for the desert tortoise.
4) The recipient site provides habitat for a similar suite of general wildlife, special status wildlife, and rare plants.
5) The recipient site contains a higher visual resource management class than the Dry Lake SEZ so that improvements provided by regional mitigation would result in improvements to a higher visual resource management class at the recipient site.
6) The proposed mitigation site and conservation actions must be in conformance with the Las Vegas RMP.

3.2 Implementation Timeline

Implementation of the plan should begin as soon as possible after off-site mitigation fees are collected. It is anticipated that First Solar will start construction of Playa Solar in the spring of 2016, with the mitigation fee due prior to the removal of any vegetation on-site. First Solar construction start date allows for immediate mitigation implementation in the Piute-Eldorado Valley ACEC, which is not the case for Gold Butte. This construction timeline also does not allow LVFO enough time to complete the analysis of currently proposed ACECs in the RMP revision. Selection of the Piute-Eldorado Valley ACEC as the off-site mitigation site allows LVFO to start processing the actions described in sections 4 and 5 of this Implementation Plan as soon as the spring of 2016.

3.3 Additionality

Compensatory mitigation received from the development of the Dry Lake SEZ will be used to implement conservation measures that augment, protect, enhance, and restore similar resource values in the Piute-Eldorado Valley ACEC as those that cannot be avoided and minimized during development of the Dry Lake SEZ. For

additionality to be achieved in the Piute-Eldorado Valley ACEC, the offsetting measures would not have otherwise been possible through the normal process of appropriated federal funds. The LVFO receives some appropriated dollars for habitat restoration. However, the habitat restoration goals and resource protection activities presented in this Implementation Plan (Section 5) are additional to current LVFO planned activities in the Piute-Eldorado Valley ACEC and will add to the current appropriation as opposed to replacing them.

During current or future planning efforts, the BLM will analyze the potential of expanding the current Piute-Eldorado Valley ACEC by the same or greater amount of acres disturbed within the Dry Lake SEZ. This potential expansion of the Piute-Eldorado Valley ACEC would provide additional resource protection above the actions that are already planned. Any future proposal for an expansion of the Piute-Eldorado Valley ACEC must meet all planning guidelines including the relevance and importance criteria for the possible expansion area.

Another opportunity for additionality above existing appropriated dollars and planned activities is the acquisition of private land within or adjacent to the Piute-Eldorado Valley ACEC. Private land occasionally becomes available for purchase and will be evaluated on a case-by-case basis. Acquisition may be accomplished with mitigation funds or through programs such as the Land and Water Conservation Fund.

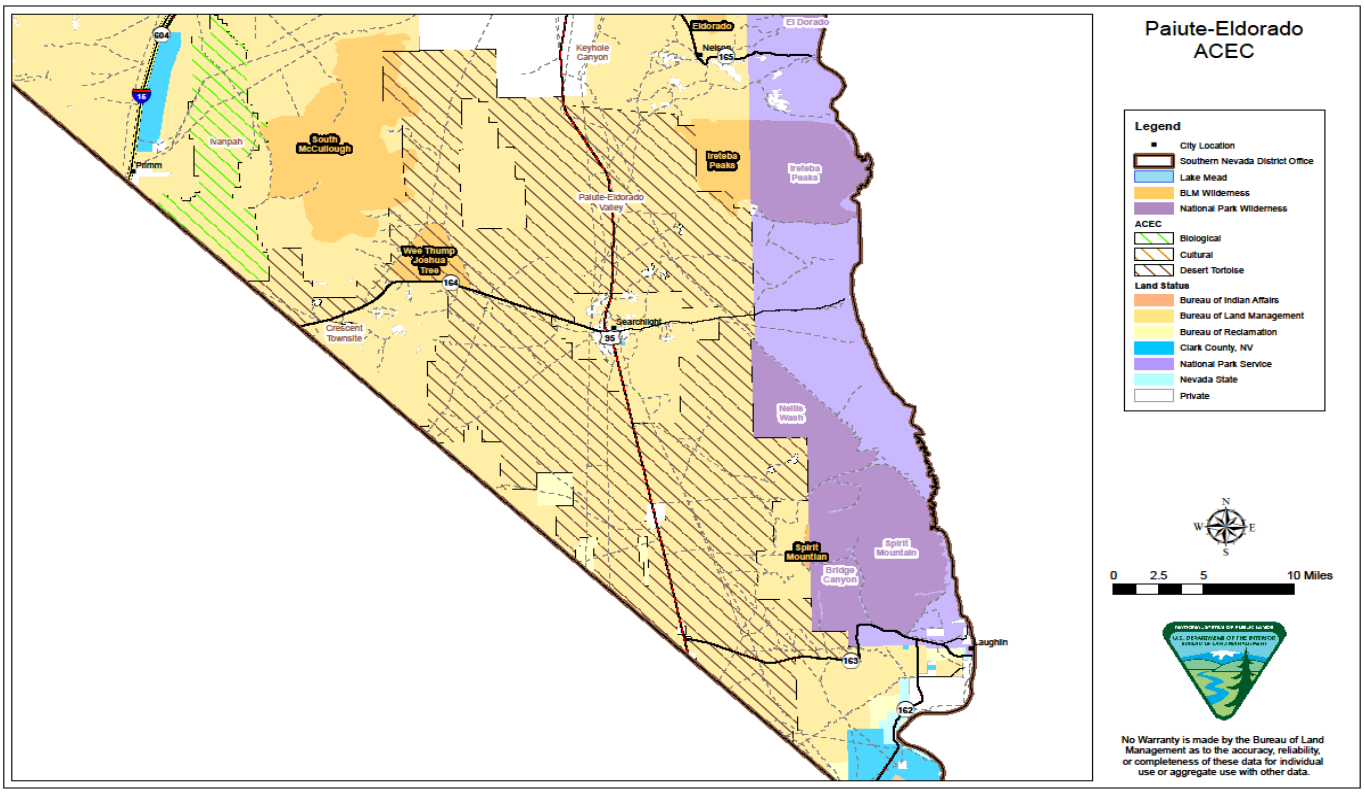
3.4 Durability

BLM expects the off-site mitigation to last for the life of the impacts of the 30-year right-of-way lease for the Dry Lake SEZ. The Implementation Plan strives to provide durability through site selection, staffing, and budgeting. The Piute-Eldorado Valley ACEC has the following site selection criteria that provide durability:

1) Designated desert tortoise critical habitat.
2) Closed to minerals.
3) No active grazing allotments.
4) Avoidance area for linear rights-of-way outside of designated corridors.
5) Travel in the ACEC is restricted to designated roads and trails.
6) Closed to high speed special recreation permits.
7) Site type right-of-way exclusion area except within 1/2 mile of a federal aid highway.

These designations, land use allocations, and special recreation permit restrictions ensure that the habitat integrity, connectivity, and conservation will be maintained for the life of the impact of the 30 year right-of-way lease. It is BLM's intent, that any future planning efforts will be required to consider the mitigation investment in the Piute-Eldorado ACEC and make it a priority to maintain those investments for the life of the impact of the 30 year right-of-way lease. Additional durability will be provided by a park ranger, strategic and sustained law enforcement patrols, and Lands with Wilderness Characteristics in the Piute-Eldorado Valley ACEC, if selected to be managed for protection when the RMP revision becomes final. These strategies are discussed in section 5.

Figure 2



4.0 Budget

4.1 Mitigation Fee

The off-site mitigation fee was calculated using the formula described in the final report for the Dry Lake SEZ Regional Mitigation Strategy Technical Note 444. Mitigation fees (1,816 per acre) will be collected as each project is constructed within the SEZ. Each applicants projected mitigation fee, First Solar $2,793,008 (1538 acres), NV Energy $1,363,816 (751 acres), and Invenergy $1,078,704 (594 acres) combined for a projected total of $5,235,528. Tables 1 through 5 provide a breakdown by project component, cost and percentage of the overall budget.

4.2 Durability and Monitoring Fee

The Durability and Monitoring fee was calculated using the formula described in the final report for the Dry Lake SEZ Regional Mitigation Strategy Technical Note 444. Durability and monitoring fees ($20 per acre x 30 years) will be collected as each project is constructed within the SEZ. Each applicant's projected durability and monitoring fee, First Solar $912,600 (1538 acres), NV Energy $450,600(751 acres), and Invenergy $356,400(594 acres), was combined for a projected total of $1,719,600. Applicants have the option of paying this mitigation fee on an annual basis, or in a lump sum at the start of construction. Tables 1 through 5 provide a breakdown by project component, cost and percentage of the overall budget.

Table 1 Mitigation Fees

Task	Cost	Percentage of Budget
Project Manager	$400,000	7%
Route Inventory (fire crews)	$100,000	2%
Approved Off-Site Projects	$250,000	5%
Effectiveness Monitoring	$400,000	7%
Community Outreach	$300,000	6%
Restoration	$3,785,528	73%
Total	**$5,235,528**	**100%**

Table 2 Durability and Monitoring Fee

Task	Cost	Percentage of Budget
Park Ranger (30 years)	$842,604	49%
Law Enforcement (30 years)	$876,996	51%
Total	**$1,719,600**	**100%**

Table 3 Overall Budget Cost and Percentage

Task	Cost	Percentage
Park Ranger	$842,604	12%
Law Enforcement	$876,996	13%
Project Manager	$400,000	6%
Route Inventory (fire crews)	$100,000	1%
Approved Off-Site Projects	$250,000	4%
Community Outreach	$300,000	4%
Effectiveness Monitoring	$400,000	6%
Restoration	$3,785,528	54%
Total	**$6,955,128**	**100%**

Table 4 Total Labor Cost and Percentage

Task	Cost	Percentage
Park Ranger (30 years)	$842,604	12%
Law Enforcement (30 years)	$876,996	13%
Project Manager (4 years)	$400,000	6%
Route Inventory (2 years)	$100,000	1%
Total	**$2,219,600**	**32%**

Table 5 Total Restoration Actions Cost and Percentage

Task	Cost	Percentage
Approved Off-Site Projects	$250,000	4%
Community Outreach	$300,000	4%
Effectiveness Monitoring	$400,000	6%
Restoration	$3,785,528	54%
Total	**$4,735,528**	**68%**

A concern was raised by stakeholders about portions of the budget being used for administrative or indirect costs, especially for third party contractors. The desire is to have the maximum amount of funds available for on-the-ground actions. Nevertheless, the indirect rate is considered a standard cost associated with contracting. BLM will consider the indirect rate as one of the selection criteria when selecting a third party. BLM will explore with the selected third party any and all possible ways to ensure that the greatest amount of the available funding is used in restoration actions that off-set the unavoidable impacts from the development of the Dry Lake SEZ. Selected third party will include all costs associated with administration as part of the annual report.

Any future solar facility constructed adjacent to, or in the same proximity as the Dry Lake SEZ, BLM could add the mitigation funding from that solar development to the funding collected from the development of the Dry Lake SEZ to further off-set the unavoidable impacts to that area. BLM would complete a thorough impact assessment during development of the NEPA document and incorporate any lessons learned through the development of BLM Technical Note 444 and the associated Implementation Plan. BLM would also consider any new policies, methodologies, or landscape mitigation directives during the development of any off-site mitigation calculation.

5.0 IMPLEMENTATION

5.1 Introduction

Development of the Dry lake SEZ is not expected to occur at once, but is expected to occur over the next several years. The initial Dry lake SEZ development included all three applicants starting construction in May of 2015. Currently, only First Solar in moving forward with constructing Playa Solar in spring 2016. NV Energy is expected to start construction in 2017 and Invenergy has not provided a scheduled construction start date at this time. Because of the staggered construction start dates, payment of off-site mitigation funds will also be staggered, with the full amount available only after construction on the last solar project begins. Rather than delay important mitigation actions, BLM will adopt a 3-phased approach, with the initial phase focused on data collection and planning.

5.2 BLM Staffing

The BLM will hire a Project Manager and a Park Ranger to manage the Implementation Plan, oversee and manage the collection of monitoring data, and perform other implementation activities. The BLM will use off-season fire crew labor to assist with weed and route inventories.

5.2.1 Project Manager Responsibilities.

The Project Manager position will be a four year temporary ‘term’ position hired at a GS-12 level. Responsibilities include the following and will be described in further detail in section 5.3 Project Phases:

1) Develop and prepare planning documents.
2) Manage, collect, and process baseline data.
3) Coordinate with the BLM recreation staff as necessary to amend existing travel management.
4) Prepare contracting documents/agreements as a contracting officer’s representative/program officer.
5) Coordinate development of effectiveness monitoring and reporting criteria with third party and the Nevada state monitoring lead and the assessment and monitoring staff at the BLM national Operations Center.
6) Coordinate with all interested Stakeholders in the development of mitigation objectives for the ACEC Management Plan.
7) Review all available climate change models and assumptions for the Piute-Eldorado ACEC to ensure best available science is being incorporated.

5.2.2 Park Ranger Responsibilities

The Park Ranger position will be a permanent position hired at a GS-7 level. This position will spend 6 work months working in the Piute-Eldorado Valley ACEC and the other 6 work months working as a recreation planner. Funding for the duties as a recreation planner will not be provided from the Dry Lake SEZ mitigation funding. Responsibilities include the following and will be described in further detail in section 5.3 Project Phases:

1) Oversee and manage the collection of land health and route inventory baseline data.
2) Engage in visitor contact. The park ranger will be BLM's primary public contact for the ACEC.
3) Patrol and monitor the ACEC.
4) Provide information to law enforcement and coordinate on any illegal activities.

5.2.3 Seasonal Fire Crew

Two seasonal fire crew employees will be hired for 20 weeks each year for two years to complete route inventory and weed assessment data collection. They will compare new route inventory to existing route inventory providing the project manager with maps showing all new routes created since the initial travel management inventory. Additionally, they will log invasive weed occurrences on major roads and washes.

5.3 Project Phases

The Implementation Plan will be implemented in three phases. Each phase will be unique and will accumulate and disseminate information that will be needed for the implementation of the restoration actions. Table 6 provides a timeline of major undertakings that will take place under this Implementation Plan. Phase 1 will be implemented using funding from the First Solar project scheduled to start construction in 2016. Funding from phase 1 will mitigate the impacts from the construction of that project, even if the other two projects are not constructed in the Dry Lake SEZ. Funding from First Solar will implement phase 1, phase 2, and the start of phase 3. BLM is in the process of writing a Southern Nevada District Mitigation Plan. Future mitigation funding collected for habitat disturbance throughout the district from approved projects could be used to supplement this Implementation Plan if the additional funding was never realized. Phase1 and phase 2 would need to be completed before any additional funding could be used to supplement this Implementation Plan. Each phase is described in detail in the following sections.

Table 6 Phased Timeline

Phase	Actions	Year
1	Hire Project Manager	2016
1	Collect Baseline data	2016/2017
1	Hire Park Ranger	2016
1	Approved Off-Site Projects	2016/2017
2	Community Outreach	2018
2	Select Third Party	2018
3	Restoration Actions	2019
3	Law Enforcement Patrols	2019

5.3.1 Phase 1

The project manager in years 1 and 2 of their term will develop the ACEC Management Plan for Piute-Eldorado Valley ACEC. An ACEC Management Plan is necessary to analyze specificity on types of resource uses, evaluate travel management and to add efficiency in processing mitigation actions due to the area being

Designated Critical Habitat for the desert tortoise. Presently, any action that disturbs any habitat in the Piute-Eldorado ACEC requires section 7 consultation with the FWS. BLM will append the Piute-Eldorado ACEC Management Plan to its District Programmatic Biological Opinion, thus consulting on the ACEC Management Plan and all identified and approved actions only once. This reduces the time and labor that would be needed if the BLM was to consult on each individual action identified in the Piute-Eldorado Valley ACEC Management Plan. The completed Piute-Eldorado Valley ACEC Management Plan will identify a variety of specific mitigation actions that could be completed within the Piute-Eldorado Valley ACEC. The Piute-Eldorado Valley ACEC Management Plan will contain sections describing the management of the primary resources and the primary uses in the planning area. The overall goal will be to emphasize the preservation and protection of unique wildlife, ecological processes, cultural and geological values identified within the Piute-Eldorado Valley ACEC. The project manager will hold public meetings in order to receive public and stakeholder input as the Piute-Eldorado Valley ACEC Management Plan is being developed.

The project manager will also coordinate with all interested stakeholders in developing mitigation objectives and time sensitive mitigation that will off-set the unavoidable impacts from the development of the Dry Lake SEZ. Mitigation objectives should analyze key species and other natural resources that were found to warrant off-site mitigation in BLM Technical Note 444. These objectives, at a minimum, will address reducing fragmentation through route decommissioning, presence and condition of native vegetation, number of native seed collections, installation of visitor kiosks, installation of post and cable fencing, and other restoration and resource protection activities. Additionally, implementation of invasive species management, culvert installation, fence monitoring and repair, restoration of large disturbed areas, cleanups and signing routes after travel management has been updated, will be based on priority, feasibility, and overall expense.

The project manager in years 1 and 2 of their term will author the environmental assessment and decision record for the Piute-Eldorado Valley ACEC Management Plan. The project manager will also complete the section 7 consultation with the FWS for both beneficial and habitat disturbing activities that may adversely impact the threatened desert tortoise. After completion of the Piute-Eldorado Valley ACEC Management Plan, the environmental assessment and the decision record, completion of specific mitigation actions, such as, road decommissioning, seeding, native seed collection, install visitor kiosks, post and cable fencing and other restoration and resource protection activities, would be authorized.

The project manager in years 1 and 2 of their term will update the current travel management plan for the Piute-Eldorado Valley ACEC. Travel management for the Piute-Eldorado Valley ACEC currently covers motorized vehicle use only. The Piute-Eldorado Valley travel management designated route inventory will be amended based on updated route inventories and expanded to include non-motorized vehicle activities (hiking and equestrian trails). This amendment will integrate with the Piute-Eldorado Valley ACEC Management Plan/Environmental Assessment.

The park ranger duties in years 1 and 2 will assist in the data collection and work with the project manager in developing the Piute-Eldorado Valley ACEC Management Plan. The park ranger will establish visitor use patterns by using both site visits and installing vehicle counters to quantify both the number and intensity of visitor use in the Piute-Eldorado Valley ACEC. The park ranger will also be trained in invasive weed identification and document all invasive weed occurrences and collect and GPS all existing habitat disturbances.

The seasonal fire crews will collect all routes (vehicle, all-terrain vehicle, motorcycle, and hiking) during each of their 20- week seasonal employments. Crews will complete training and use motorcycles to GPS all routes in the Piute-Eldorado Valley ACEC. Satellite imagery will be used to compare and validate ground work along with previous route inventory.

Approved off-site projects will also be completed during this phase. These are further described in section 5.4.

5.3.2. Phase 2

BLM will select a third party to start developing community outreach, restoration and protection actions. Third party responsibilities under this Implementation Plan are detailed in section 5.5.

The project manager in years 3 and 4 of their term will work with the selected third party to implement the Community Outreach Plan, restoration, and protection actions. The project manager will act as the liaison for the BLM to start transitioning the implementation of the community outreach and restoration actions to the selected third party.

The park ranger will begin conducting scheduled monitoring patrols of the Piute-Eldorado Valley ACEC. Patrols will consist of monitoring for new habitat disturbances, continuing to analyze visitor use and notify law enforcement of any illegal activities. These activities could include documenting route proliferation, illegal dump sites, shooting sites, illegal harvesting of seeds and plant materials, and other unauthorized uses. During this phase, the park ranger is expected to start making public contacts discussing the BLM increased efforts in the Piute-Eldorado Valley ACEC. The park ranger will participate with the third party during community outreach activities as the BLM representative.

5.3.3 Phase 3

Full implementation of the plan is expected at the start of phase 3. BLM's project manger's term position is terminated and all planning and NEPA authorizations will be complete. The third party will begin implementing community outreach, restoration, and protection actions.

LVFO's Assistant Field Manager for Resources and Natural Resource Supervisor will now assume the responsibility of coordinating with the third party on issues since the project manager's position is terminated during this phase.

The park ranger will continue duties described in phase 2. In addition, the park ranger will be responsible for assisting the third party to ensure annual monitoring and reporting documents are completed.

Law enforcement will start making strategic patrols based on input from the park ranger and the third party in addition to their normal patrol responsibilities. These patrols are intended to make public contact when activities being conducted in the Piute-Eldorado Valley ACEC are not authorized. Saturation patrols may be utilized, whereby multiple law enforcement officers coordinate patrols to address illegal activity. These saturation patrols will be attempting to educate the public first on prohibited activities, and reinforced with citations if necessary. Front loaded law enforcement patrols might be necessary at first if monitoring confirms that conservation actions are being compromised by unauthorized activities in the Piute-Eldorado Valley ACEC. The number of additional patrols, officers, public contacts, and citations will be reported to the third party for inclusion in the annual report.

5.4 Approved Off-Site Projects

Unavoidable impacts to Creosotebush-White Bursage Desert Scrub community, desert tortoise habitat, habitat for BLM special status species, habitat for the rosy two-toned Penstemon which is a special status plant, and other ecosystem services were described in BLM Technical Note 444. During analysis of project specific environmental assessments two additional impacts were identified, including the cultural view shed associated with four historic transportation corridors and migratory birds. These unavoidable impacts will be off-set by the mitigation projects summarized below:

5.4.1 Mine Marker Pull

The BLM will use $125,000 to remove hollow mine markers throughout the Southern Nevada District. The Southern Nevada District has nearly 26,000 active mining claims and over 169,000 closed or abandoned mining claims. An unknown number of these mining claims are identified with PVC mining claim markers. Nevada scientists in the early 1990s discovered that hollow PVC mining claim markers were sources of wildlife mortality including birds, lizards and small mammals. In 1993, it became illegal to use hollow PVC mine markers. Beginning November 1, 2011, it is legal for anyone to pull the markers. Between 2011 and 2013, over 3,000 markers have been pulled in the Southern Nevada District containing over 3,500 dead birds and hundreds of reptiles and insects. Due to this effort, the majority of the mine markers have been pulled from the Piute-Eldorado ACEC. To effectively mitigate off-site for the loss of general wildlife from the development of the Dry Lake SEZ, BLM will expand this effort to removing the remaining mine markers from the entire district. The BLM will use seasonal fire crew members for this effort. BLM has and will continue to engage the public, interested parties, and environmental organizations to assist with the removal of mine markers across the district.

5.4.2 Cultural

The BLM will use $75,000 to implement an appropriate historic properties treatment plan (HPTP) as defined in the Secretary on Interior's Standards for Historic Documentation. The plan provides the layout for an interpretive wayside that will interpret three sites visually affected by the Dry Lake SEZ. The three sites include the Old Spanish Trail/Mormon Wagon Road, Arrowhead Trail/Arrowhead Highway/US Highway 91, and the Union Pacific Railroad. Prehistoric use of the area will also be included. The wayside will tie together the history of transportation in Southern Nevada. BLM has and will continue to engage the public, interested parties, and the Tribes to assist with the implementation of the HPTP.

5.4.3 Rare Plants

The BLM will use $20,000 for off-site mitigation for rosy two-toned penstemon and will include (1) collection of seed prior to development within the Dry lake SEZ and adjacent areas to preserve genetic diversity and (2) sponsorship of the species into the Center for Plant Conservation (CPC) National Collection of Rare Plants. The CPC is dedicated solely to preventing the extinction of U.S. native plants. The CPC is a network of 38 leading botanic institutions. Founded in 1984, the CPC operates the only coordinated national program of off-site (ex situ) conservation of rare plant material. This conservation collection ensures genetic material is available for restoration and recovery efforts for the species. Through the CPC program, off-site mitigation efforts for the Dry Lake SEZ will be combined with other off-site mitigation for other projects as well as BLM conservation efforts for the rosy two-toned penstemon.

5.4.4 Biological Soils

The BLM will use $30,000, in addition to funding received from other large scale projects, to develop and implement techniques to restore biological soil crusts. The Dry Lake SEZ has exceptional examples of desert pavement and biological soil crusts. Biological soil crusts are the community of organisms living at the surface of desert soils. Major components are cyanobacteria, green algae, microfungi, mosses, liverworts and lichens. Biological soil crusts stabilize desert soils and provide protection against wind and water erosion. Dr. Jane Belnap with U.S. Department of Agriculture and others have identified and developed small-scale techniques for restoring biological soils crusts to disturbed sites such as roads and trails. These resources are fragile, finite, and are experiencing declines in quality and quantity throughout the Mojave Ecoregion. Natural recovery of these resources is extremely slow, taking centuries-to-millennia to return to their current state.

5.5 Third Party Implementation Actions

Approximately 4.5 million dollars (68%) of the available funding from the development of the Dry Lake SEZ will be contracted to a third party. This funding will support resource protection and restoration activities to off-set the unavoidable impacts during the development, operation, and restoration of the Dry Lake SEZ and to

engage in community outreach actions within the Piute-Eldorado Valley ACEC to help educate the public on the importance of protecting these investments. Due to the scale and length of the proposed Implementation Plan, a third party partner is a logical solution to ensure transparency and accountability throughout the implementation of the off-site mitigation activities in the Piute-Eldorado ACEC. The overall goal of this off-site Implementation Plan is to off-set the unavoidable impacts through improving the quality and quantity of ecosystem services provided in the Piute-Eldorado Valley ACEC.

Additional off-site mitigation funds will likely be available and can be used to extend efforts in Piute-Eldorado Valley ACEC in the future. The LVFO is developing a Southern Nevada District Mitigation Plan, to off-set potential unavoidable impacts from future approved projects.

5.5.1 Community Outreach

The selected third party will use evidence-based planning to develop community outreach strategies. Development of outreach material will include such strategies as education, social media, presentations, visitor contacts and printed material for use in kiosks and the BLM office. Community outreach materials will carry messages to shape visitor use and perspective on natural resource protection in the Piute-Eldorado Valley ACEC. Third party will create a Community Outreach Plan for the BLM and other interested stakeholders to review prior to implementing this phase of the Implementation Plan.

5.5.2 Establish Measurable Criteria

The selected third party will work with the BLM assessment and monitoring staff and the remote sensing group at the National Operations Center to develop a statistically valid metric to track the amount of habitat loss off-set by all restoration, enhancement and protection actions completed in the Piute-Eldorado Valley ACEC. Generally, this should contain at a minimum a metric that would track the number of miles of routes closed, miles of routes restored, habitat patches reconnected, acres of habitat restored, number of acres protected, number of cleanups completed, number of acres protected and acres of invasive species treated. When totaled, the final metric should be equal to the amount of habitat off-set for that year. The third party will include these values as part of its annual report.

The selected third party will analyze the data from the SNDO Land Health Assessment Program that has established long term vegetation monitoring plots since 2011, following Assessment, Inventory, and Monitoring (AIM) methodology. This includes the AIM core methods, Line-Point Intercept and Canopy Gap protocols (using three 50m transects per plot), Soil Stability, and Ecosite Verification, which is done by digging soil pits to identify soil series. In addition, the team also collects data on plant density using a supplemental AIM protocol used in SNDO to characterize recruitment. This method uses belt transects to count, by species, all woody plants in two height categories, 0-3 and 4-10 cm. Additional data collected by team includes the qualitative method "Measuring and Interpreting Indicators of Rangeland Health" (IIRH) to assess three major attributes of land health, Soil and Site Stability, Hydrologic Function, and Biotic Integrity. There are currently 35 AIM plots established within the Piute-Eldorado ACEC. This data will be used in conjunction with other data sets to assist in establishing mitigation objectives, measurable criteria and effectiveness monitoring protocols.

5.5.3 Complete Restoration Actions

The selected third party will be responsible for implementation of all restoration, enhancement, and protection actions described in the Piute-Eldorado Valley ACEC Management Plan. Actions will be authorized for implementation after the completion of the Piute-Eldorado Valley ACEC Management Plan, section 7 consultation is completed with the FWS, and the signing of the Finding of No Significant Impact (FONSI) and decision record for the environmental assessment for the Piute-Eldorado Valley ACEC Management Plan. Any third party proposed restoration action not described in the Piute-Eldorado Valley ACEC Management Plan or

approved in the environmental assessment, will be proposed to the BLM. BLM will either approve the proposed action, or require additional NEPA prior to implementing that restoration action. Third party will be responsible for all contracts and agreements necessary to accomplish restoration actions. Third party will also track all expenditures related to implementing these actions and will be included in the annual report.

5.5.4 Effectiveness Monitoring

The selected third party will work with the BLM Nevada state monitoring lead and the assessment and monitoring staff at the BLM National Operation Center to develop and implement an Effectiveness Monitoring Plan for the life of the impact of the 30 year ROW lease for the Dry Lake SEZ. This Effectiveness Monitoring Plan will be based on the monitoring strategy developed in the BLM Technical Note 444, section 2.9. The Effectiveness Monitoring Plan will be approved by the BLM National Monitoring Lead prior to implementation.

In the Final Solar PEIS, the BLM committed to developing and incorporating a monitoring and adaptive management plan into its solar energy program. The BLM "Assessment, Inventory, and Monitoring Strategy for Integrated Renewable Resources Management" (AIM Strategy) (Toevs et al. 2011) will guide the development of a effectiveness Monitoring Plan that will inform management questions at multiple scales of inquiry (e.g., the land use plan area, mitigation area, project area, and treatment).

The following steps as outlined in the Technical Note 444 will be conducted to develop the effectiveness monitoring plan:

1) Develop management questions and monitoring goals.
2) Identify measureable monitoring objectives and indicators.
3) Develop sampling schema.
4) Develop analysis and reporting system.
5) Define adaptive management approach.

5.5.5 Annual Meeting and Reporting

BLM and third party will hold an annual meeting, starting in January 2017, to discuss progress on the implementation of mitigation actions. Meeting invite will include interested public, stakeholders, federal and state agencies, and state and local governments.

During annual meeting, if effectiveness monitoring has discovered, or if a deficiency or unexpected outcome has been determined, BLM will consider all stakeholder, public, federal and state agency, and state and local government's recommendations on whether and how the Implementation Plan should be revised. The public will be given an opportunity to introduce and discuss related information at the annual meeting. Given the phased implementation of this plan, as a consequence of delayed construction timing and corresponding collection of the off-site mitigation funds, BLM will notify all invitees during the annual meeting of any changed financial or policy circumstances that have served as a basis for the strategies outlined in the Implementation Plan, including solar project development in the Dry Lake SEZ.

Through the annual meeting, BLM will provide an opportunity for stakeholders to provide additional comments and recommendations on revising the Implementation Plan during the life of the impact of the 30 year right-of-way lease. All aspects of the Implementation Plan will be reviewed for effectiveness and adjusted as necessary for adaptive management after each annual meeting.

BLM will prepare an annual report during implementation years 1-4. Report will include all fund expenditures including BLM labor, approved projects, contracts, third party expenses and law enforcement. Completed report will be made available to the public, stakeholders, federal and state agencies, and state and local governments.

In subsequent years, third party will prepare an annual report. Report will include all fund expenditures including BLM labor, third party expenses including community outreach, restoration actions and law enforcement. Completed report will be made available to the public, stakeholders, federal and state agencies, and state and local governments.

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