

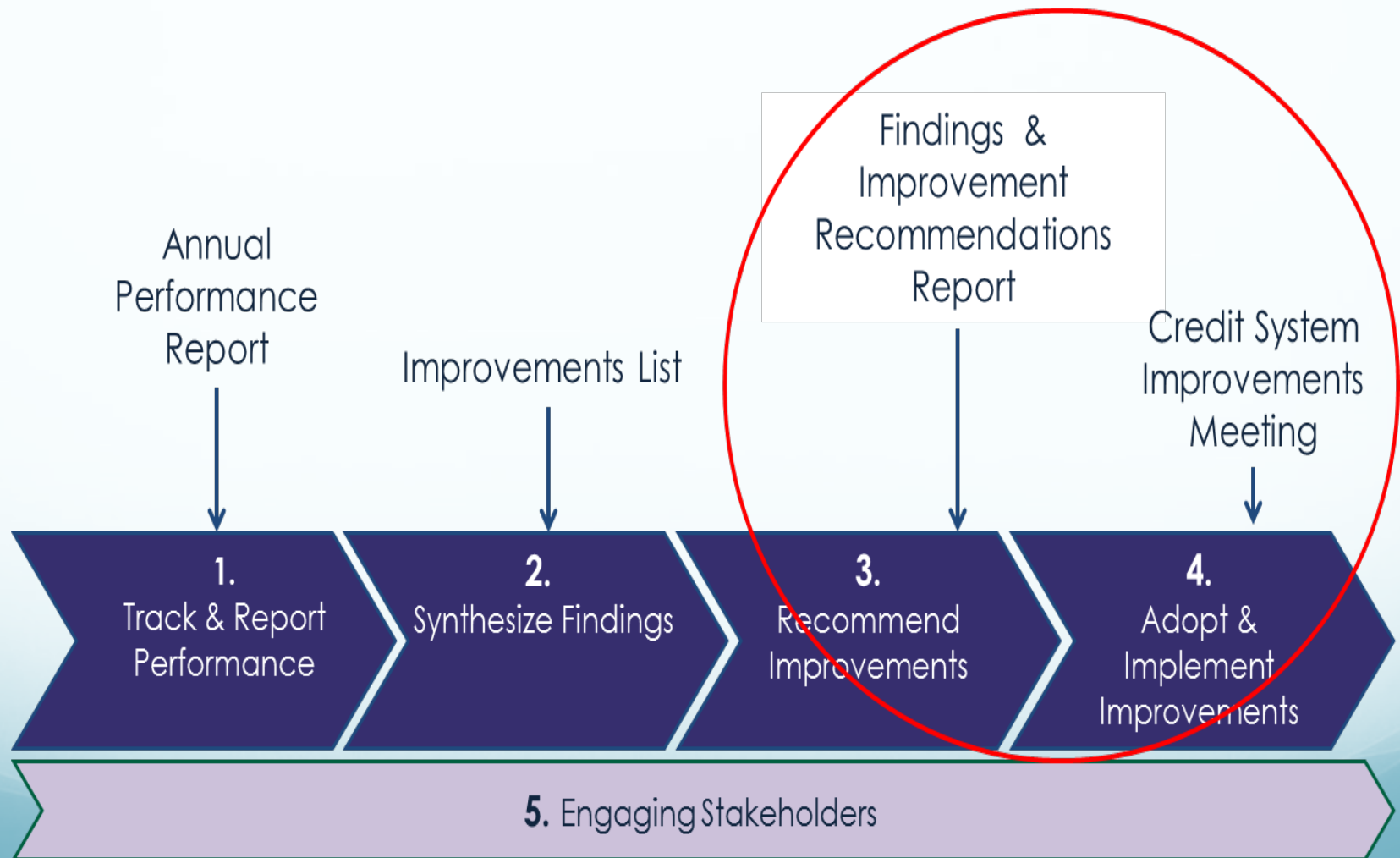
Agenda

- Provide an overview of the pilot and example projects (credit and debit) including
 - Outcomes using CCS version 1.0 and
 - Key findings from the projects
- Present and discuss proposed improvements
- Provide pilot project results incorporating proposed improvements (a.k.a. CCS version 1.1)

Goals

- Provide the SEC an understanding of the work that was done by SETT since the Dec 3 and 4, 2014 approval of the CCS.
- Get clear direction from SEC on the recommended changes and so Versions 1.1 of the HQT and Manual can be posted and used.

Annual Continual Improvement Process





State of Nevada

Conservation Credit System Manual

December 12, 2014

Version 1.0



Habitat Quantification Tool (HQT)

SCIENTIFIC METHODS DOCUMENT

December 12, 2014

Version 1.0

Nevada Conservation Credit System

- Goal: Achieve net benefit to sage-grouse habitat
- Measure habitat value in units of functional acres (quality and quantity)
- Credits are based on functional acres and policies in the Manual
- Credits are used to offset debts

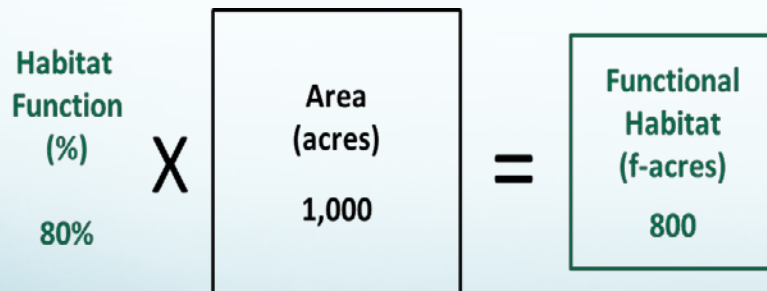
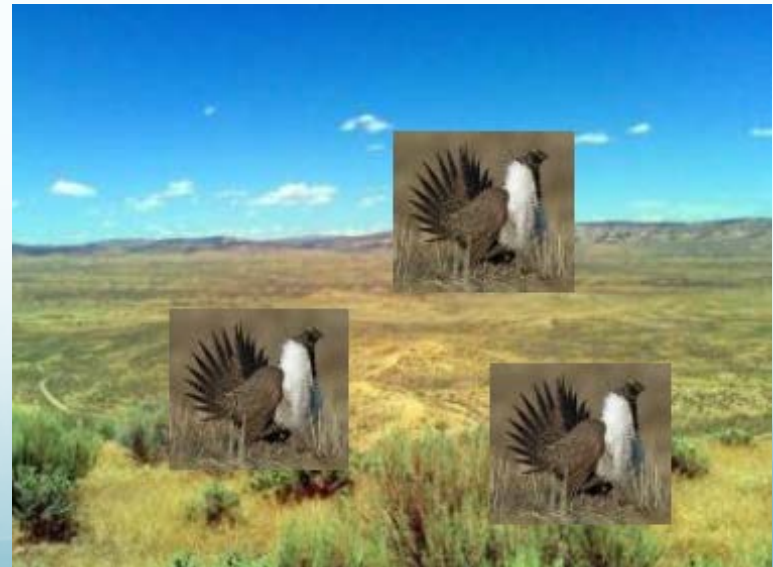


Illustration of functional acre concept



Habitat Quantification Tool

- Quantitative method for calculating sage-grouse habitat function based on scientific literature
- Same method for calculating debits and credits
- Quantifies habitat value at multiple spatial scales

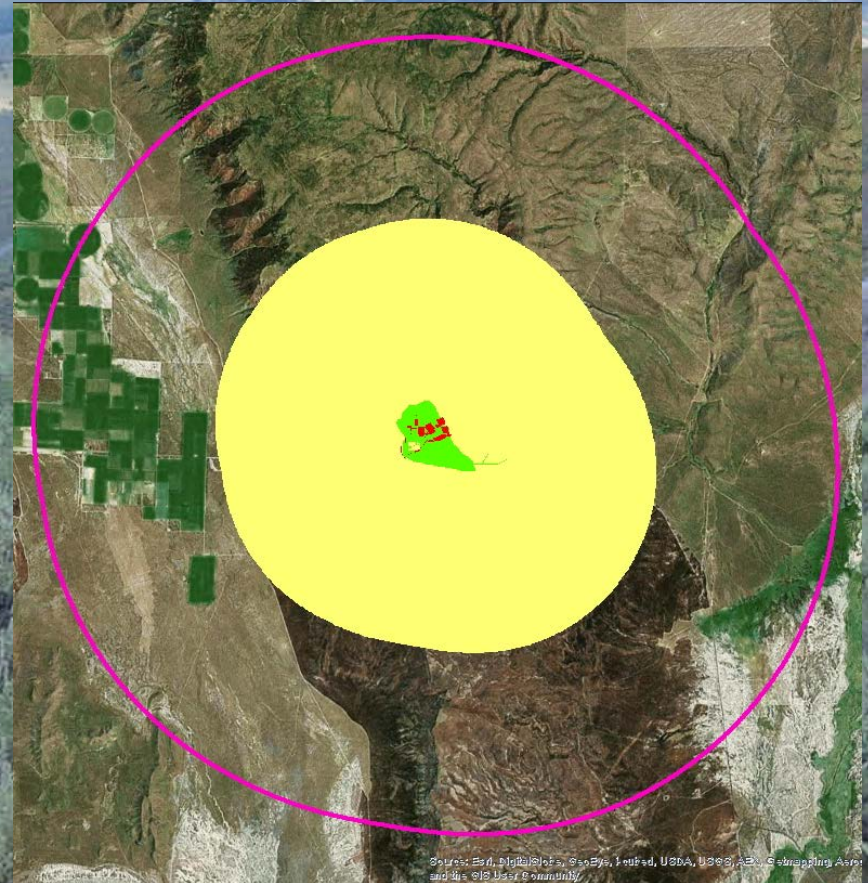
Site Scale

- Vegetative characteristics at location of proposed activity (ex sagebrush cover)
- Canopy cover: Sagebrush, perennial grasses, perennial forbs, invasive annual grasses
- Height: Sagebrush
- Count: total forb species



Local Scale

- Habitat surrounding a proposed project site
- Purpose to quantify the extent to which the surrounding landscape affects the site's ability to perform up to its full potential – “putting the site in context”
- Local scale quantifies:
 - Anthropogenic Disturbances
 - Habitat Suitability Index
 - Distance to Lek (Breeding)
 - Distance to Late Brood-Rearing (Breeding)



Landscape Scale

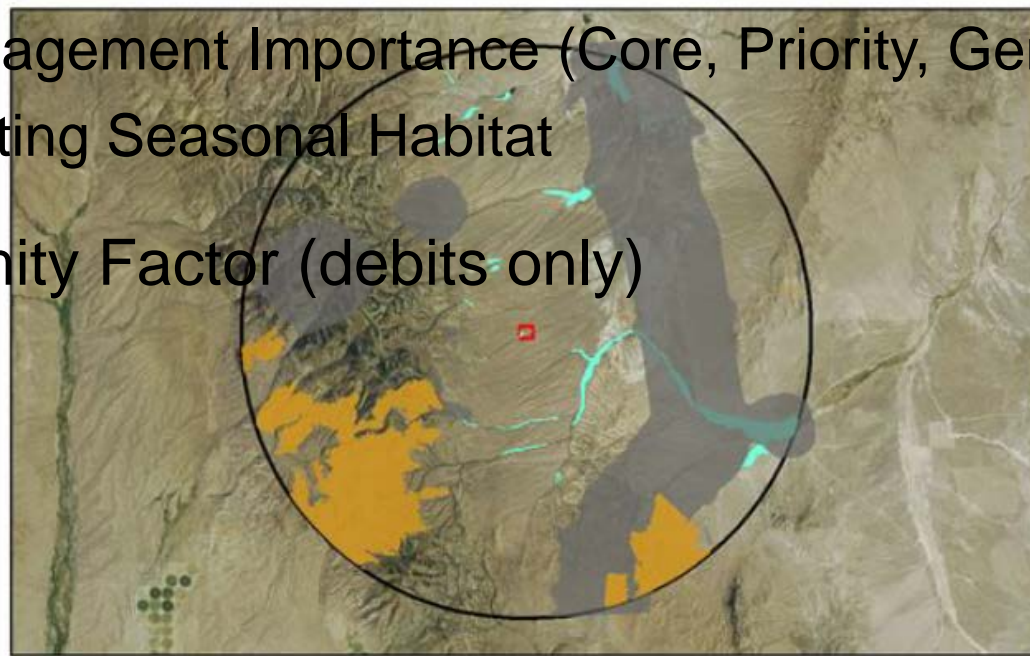
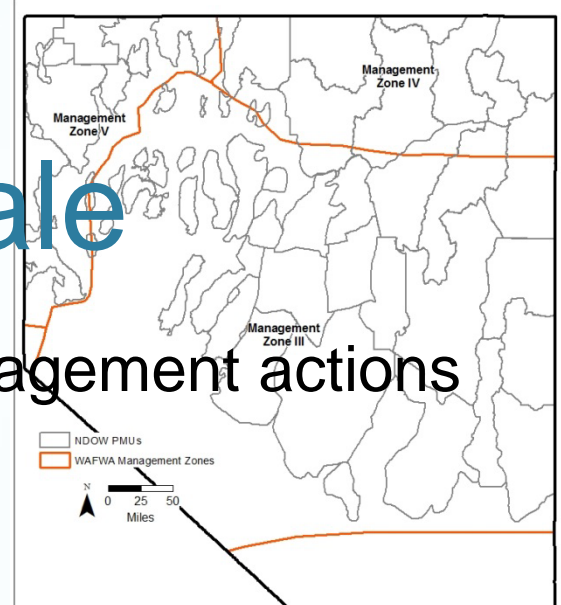
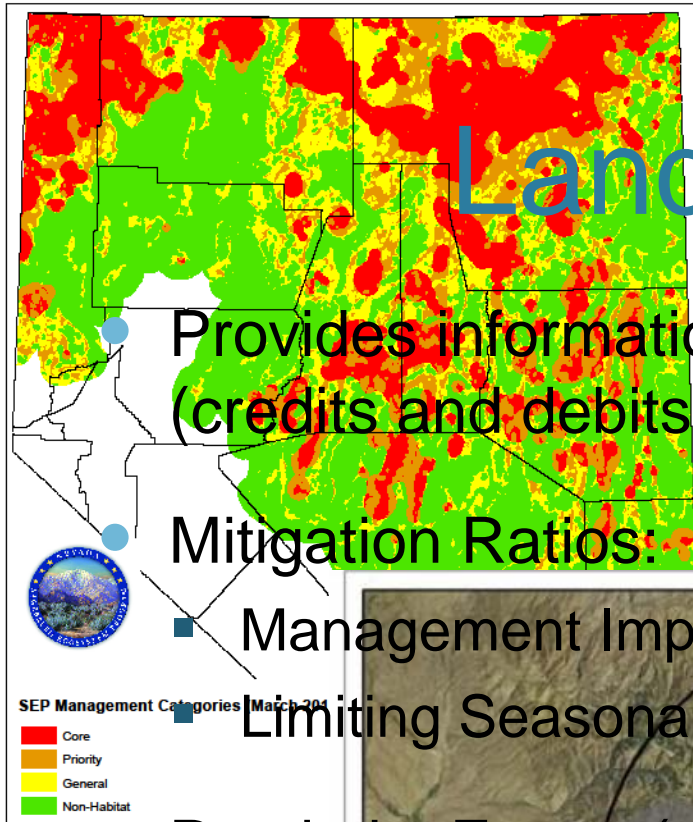
Provides information for targeting management actions (credits and debits)

Mitigation Ratios:

Management Importance (Core, Priority, General)

Limiting Seasonal Habitat

Proximity Factor (debits only)



Legend

- LBR Habitat
- Disturbed Habitat
- Recent Wildfire
- Credit Analysis Area
- Credit Project Area

1:475,000

0 5 10 20 Kilometers

Pilot Project & Other Example Credit/Debit Project Products

Boise Ranch Pilot Project

- Credit estimates, including
 - Resistance & Resilience Scorecard
 - Properly Functioning Condition
 - Ability to Control Wildfire Scorecard
- Validation Checklist
- Management Plan
- Pro Forma
- Participant Contract
- Financial Assurances
- Findings

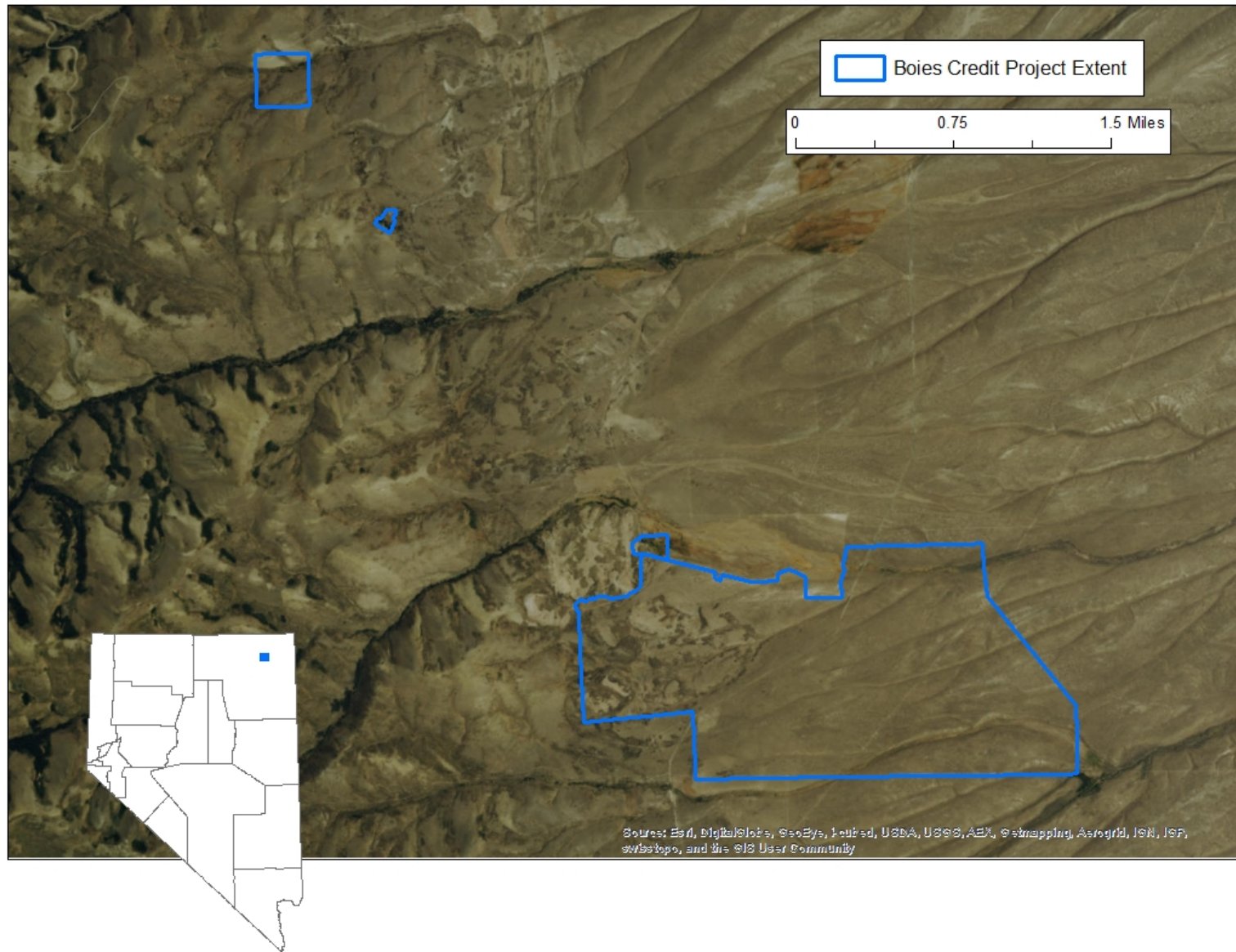
Other Example Credit & Debit Projects

- Credit/Debit Estimates
- Findings

Boies Ranch Pilot Project



Boies Ranch Pilot Project





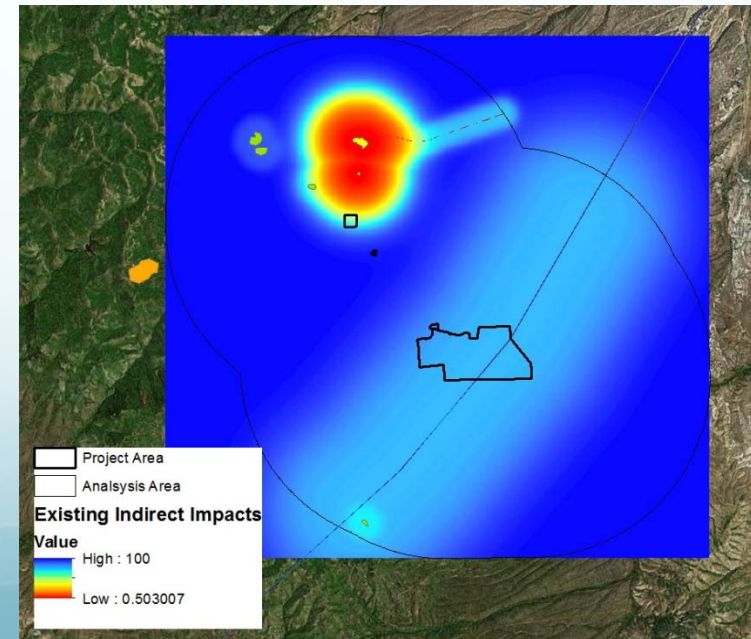


Calculating Functional Acres (f-acres)

$$\text{f-acres} = \text{Acres} \times \text{Site Scale Function} \times \text{Local Scale Function}$$

Acres	Baseline Site Scale Function	Baseline Local Scale Function	Project Site Scale Function	Project Local Scale Function	Functional Acres Above Baseline
1,339	30%	68%	80%	68%	456

- **f-acres above baseline** = $\text{f-acres}_{\text{Project}} - \text{f-acres}_{\text{Baseline}}$
- Field data – assumptions for LBR data
- Local scale impacted by power line



Calculating Mitigation Ratio

- Mitigation Ratio =

$$\frac{\text{Management Importance Factor}}{\text{Limiting Seasonal Habitat Factor}} +$$

- Project site entirely within Core
- No limiting seasonal habitat
- Area-Weighted Average Mitigation Ratio = **1.1**

Calculating Sellable Credits

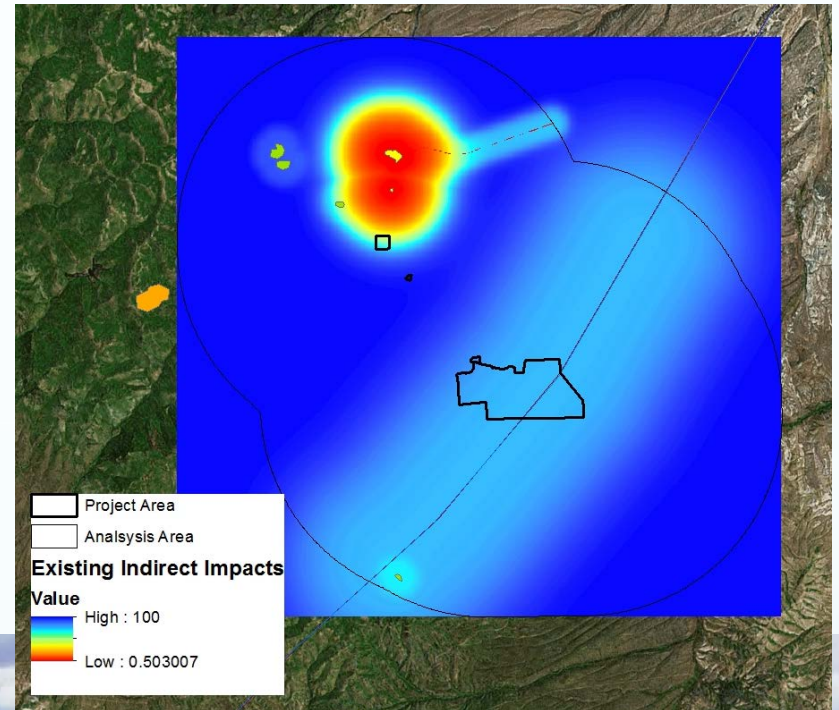
- Credits Generated = F-acres above baseline x Mitigation Ratio
- **Reserve Account**
 - = **Standard Base Contribution (4%)**
 - + **Probability of Competing Land Use (1-4%)**
 - + **Resistance and Resilience Scoresheets (1-4%)**
 - Boies Reserve Contribution = 7%
- Sellable Credits = Credit Generated - Reserve Account

Boies Ranch Pilot Project Summary

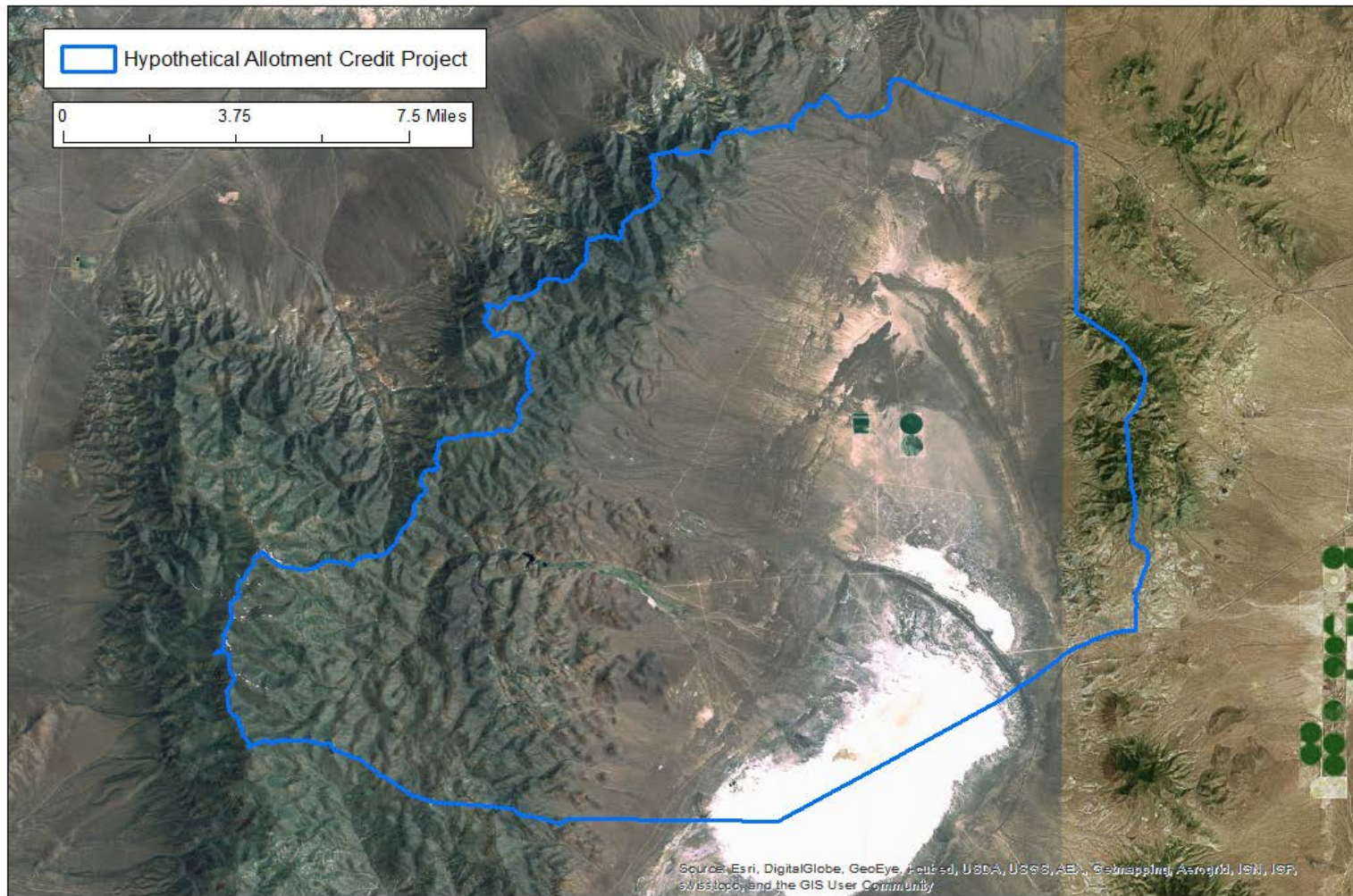
Acres enrolled	1,339
Area –weighted average habitat function above baseline	34%
Functional acres	456
Area –weighted mitigation ratio	1.1
Credits generated	502
Reserve account contribution	35
Credits for sale	467

Major Drivers

- Big drivers
 - high quality site scale
 - overhead powerline



Allotment Credit Project Example



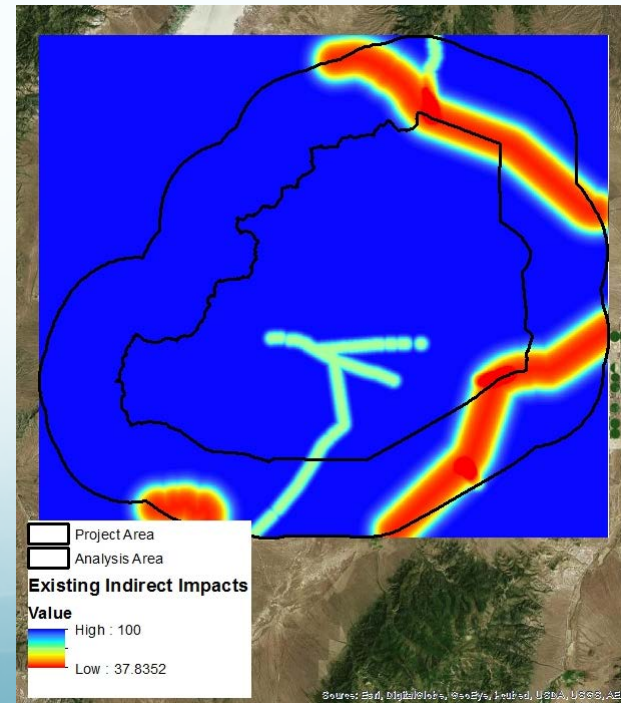
Calculating Functional Acres (f-acres)

$$\text{f-acres} = \text{Acres} \times \text{Site Scale Function} \times \text{Local Scale Function}$$

Acres	Baseline Site Scale Function	Baseline Local Scale Function	Project Site Scale Function	Project Local Scale Function	Functional Acres Above Baseline
139,058	44%	36%	62%	36%	8,644

- $$\text{f-acres above baseline} = \text{f-acres}_{\text{Project}} - \text{f-acres}_{\text{Baseline}}$$

- Assumptions— AIM data, other details
- Local scale – low HSI values

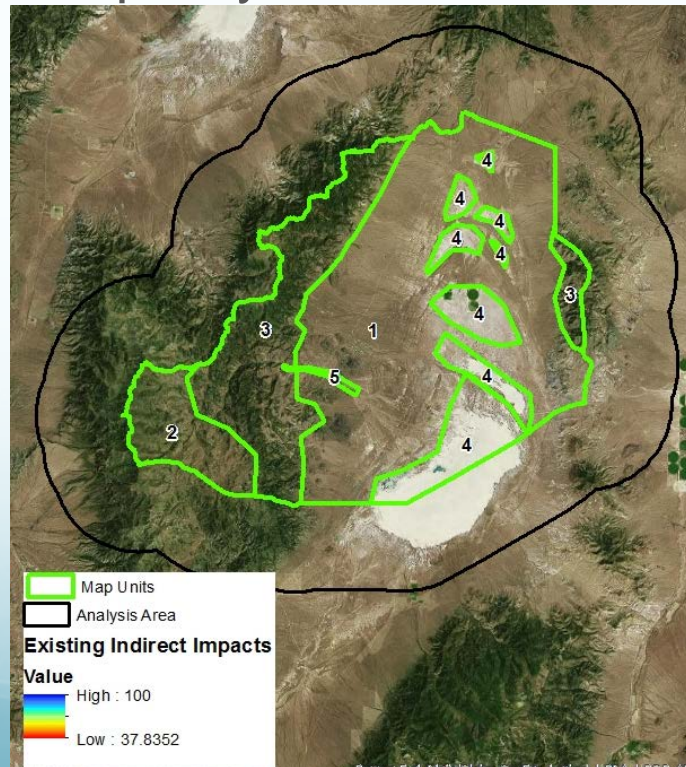


Allotment Example Summary

Acres enrolled	139,058
Area –weighted average habitat function above baseline	7%
Functional acres	8,644
Area –weighted mitigation ratio	0.945
Credits generated	8,498
Reserve account contribution	545 (7%)
Credits for sale	7,903

Major Drivers

- Big drivers
 - Portion of allotment was not habitat (PJ and salt desert scrub communities), affected sites scale and local scale
 - Good site scale quality for those areas that had habitat

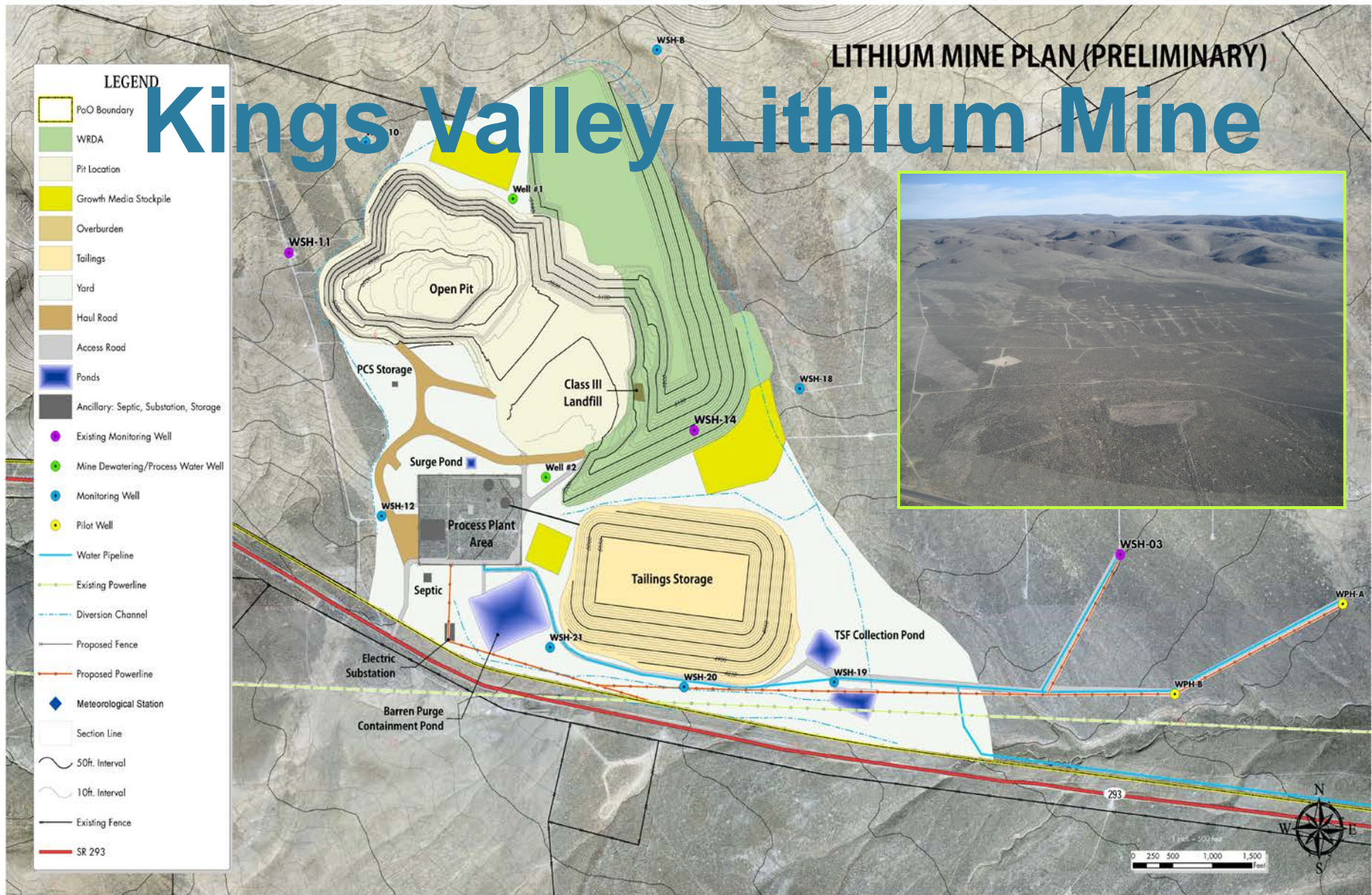


Credit Project Lessons Learned

- Modification to field methods
- Project size matters
 - Increases credit development
 - Minimum size is financially driven
- Project cost influences credit cost
- Editorial and operational improvements to User Guide

Kings Valley Lithium Mine

LITHIUM MINE PLAN (PRELIMINARY)



KINGS VALLEY LITHIUM PROJECT

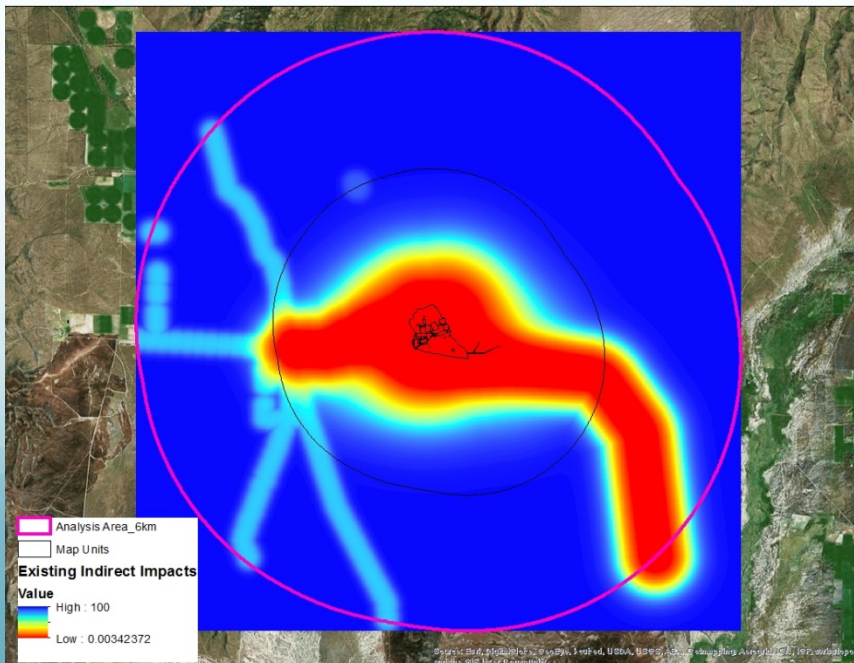
WESTERN LITHIUM WLC

Calculating Functional Acres (f-acres)

$$\text{f-acres} = \text{Acres} \times \text{Site Scale Function} \times \text{Local Scale Function}$$

Acres	Pre-Project Site Scale Function	Pre-Project Local Scale Function	Post-Project Site Scale Function	Post-Project Local Scale Function	f-acres Lost
40,462.9	61%	22%	60%	20%	457.7

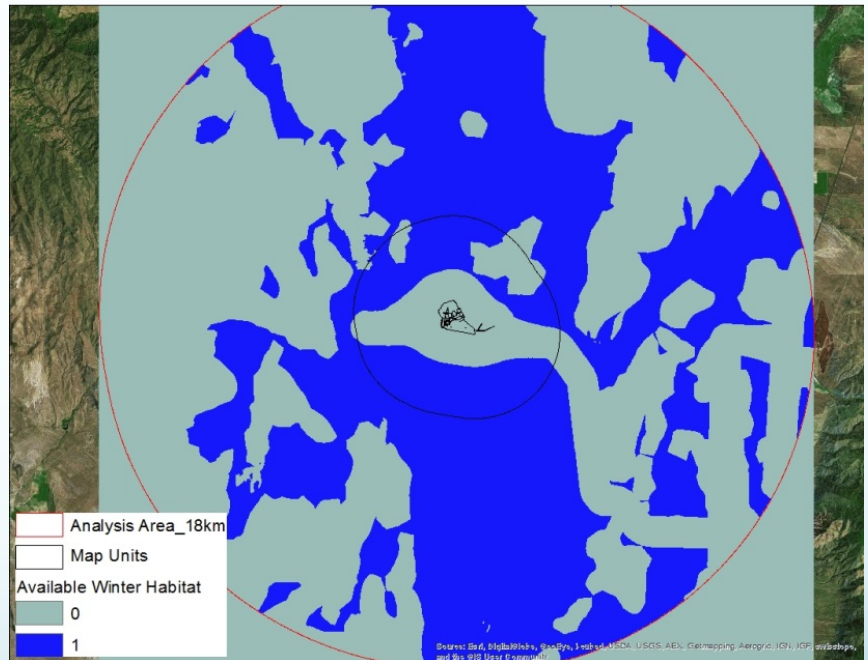
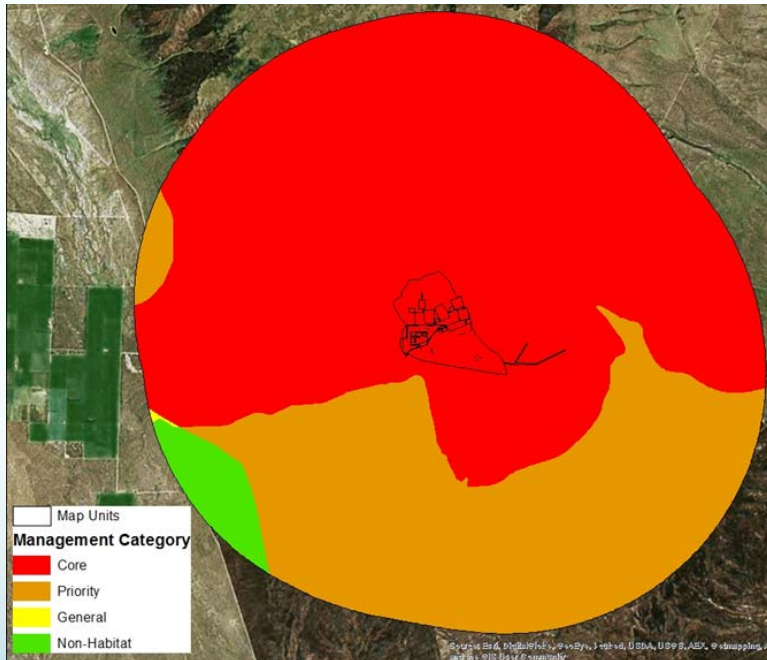
$$\text{f-acres Lost} = \text{f-acres}_{\text{Pre-Project}} - \text{f-acres}_{\text{Post-Project}}$$



- BLM AIM data used for site scale data
- Local scale function impacted by existing anthropogenic disturbances

Calculating Mitigation Ratio

Mitigation Ratio = Habitat Importance Factor + Limiting Seasonal Habitat Factor



Area-Weighted Average Mitigation Ratio = 1.789

Calculating Debits

$$\text{Debits} = \text{f-acres Lost} \times \text{Mitigation Ratio}$$

Calculating Credit Obligation

$$\text{Credit Obligation} = \text{Debits} \times \text{Proximity Ratio}$$

Category	Factor Value
No population connection between credit and debit sites (different WAFWA Management Zone)	1.50
Credit and debit sites connected through population dispersal (same WAFWA Management Zone)	1.25
Credit and debit sites located within a single population (same PMU, even if in different WAFWA Management Zones)	1.00

Kings Valley Lithium Mine Summary

Acres Directly Disturbed	828.5
Total Acres	40,462.9
f-acres Lost	457.7
Mitigation Ratio	1.789
Debits	817
Credit Obligation Range	817 to 1,226

Major Drivers in Results

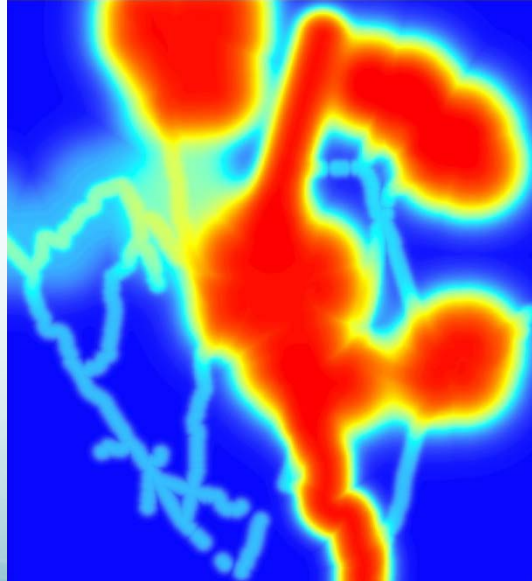
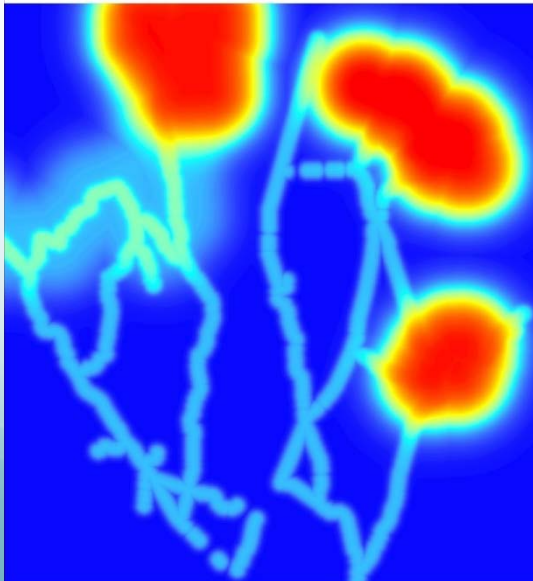
- Large amount of pre-existing disturbances (clay mine, powerline, roads)
- Project Area primarily in Core Management Area

Large Gold Mine Example

- Based on real proposed project
- 3,901 acre proposed mine
- 3.5 miles new powerline (connects to existing powerline)
- Local county road upgraded for commercial use
- 88,877 acres directly and indirectly disturbed
- Approximately 370 acres reclaimed within project area
- 3,802 acres of mining activity located over 6km from site

Calculating Site & Local Scale Function

Acres	Pre-Project Site Scale Function	Pre-Project Local Scale Function	Post-Project Site Scale Function	Post-Project Local Scale Function	f-acres Lost
85,031.0	50%	35%	48%	15%	8,275.40



- No AIM data – assume 50% site scale function in areas not currently disturbed and 10% site scale function in reclaimed areas

Large Gold Mine Summary

Acres Directly Disturbed	3,901.4
Total Acres	85,031.0
f-acres Lost	8,275.4
Mitigation Ratio	1.312
Debits	11,182
Credit Obligation Range	11,182 to 16,773

Major Drivers in Results

- Relatively small amount of pre-existing disturbances
- Large proposed project size

Debit Scenarios Lessons Learned

- Pre-existing disturbance greatly impacts score (i.e. co-location is rewarded)
- Limiting Seasonal Habitat Method did not achieve expected results
- Mitigation and Proximity Ratios greatly increase Debits and Credit Obligation
- Need for different roads GIS layer

Operational Findings

- SETT and participants gained increased understanding of how the CCS assesses credit and debit projects.
- Conservative assumptions throughout the HQT and Manual led to conservative calculations of credits and debits.
- The protocol for verification of habitat condition should be streamlined.

Research and Monitoring Findings

- Change permissible window for field data collection to one collection window
- Improve several desktop analysis and field data collection methods
- Revise weights and distances used to measure indirect effects of anthropogenic disturbances

I1. Revise the Management Importance Factor Values

- Debit Site Management Category Importance Factor Values

Category	Current Factor Value	Recommended Factor Value
Core	2.0	1.25
Priority	1.5	1.15
General	1.0	1.05

- Credit Site Management Category Importance Factor Values

Category	Current Factor Value	Recommended Factor Value
Core	1.1	1.2
Priority	1.0	1.1
General	0.85	1.0

I2. Replace Limiting Seasonal Habitat Mitigation Ratio Factor with a Meadow Habitat Power Factor

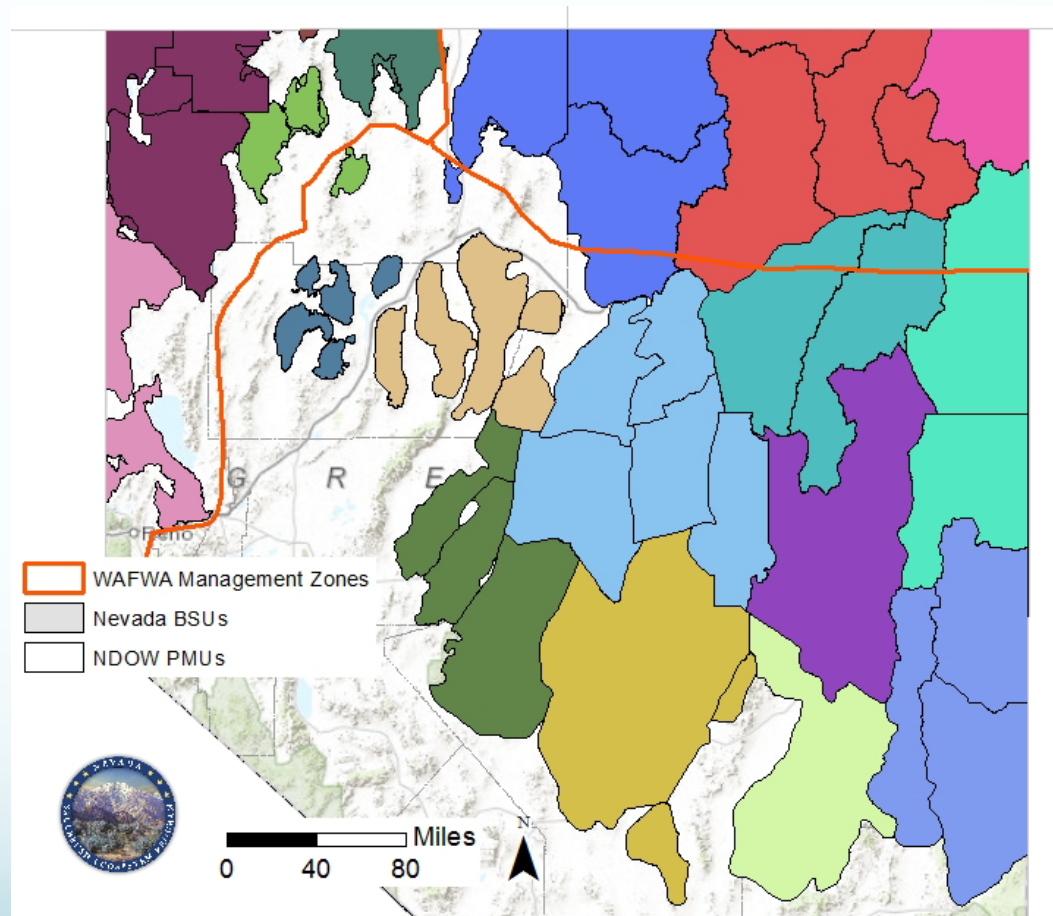


Breeding & Winter	Late Brood-Rearing
Proportion of Analysis Window	Proportion of Analysis Window
<40%	<4%

Breeding & Winter	Late Brood-Rearing
Ratio Equation	Ratio Equation
$(4 - \text{proportion}) * 100$	$\frac{1}{\text{proportion}}$

Category	Recommended Factor Value
Meadow	8.0

I3. Include the BSU as a Proximity Ratio Category

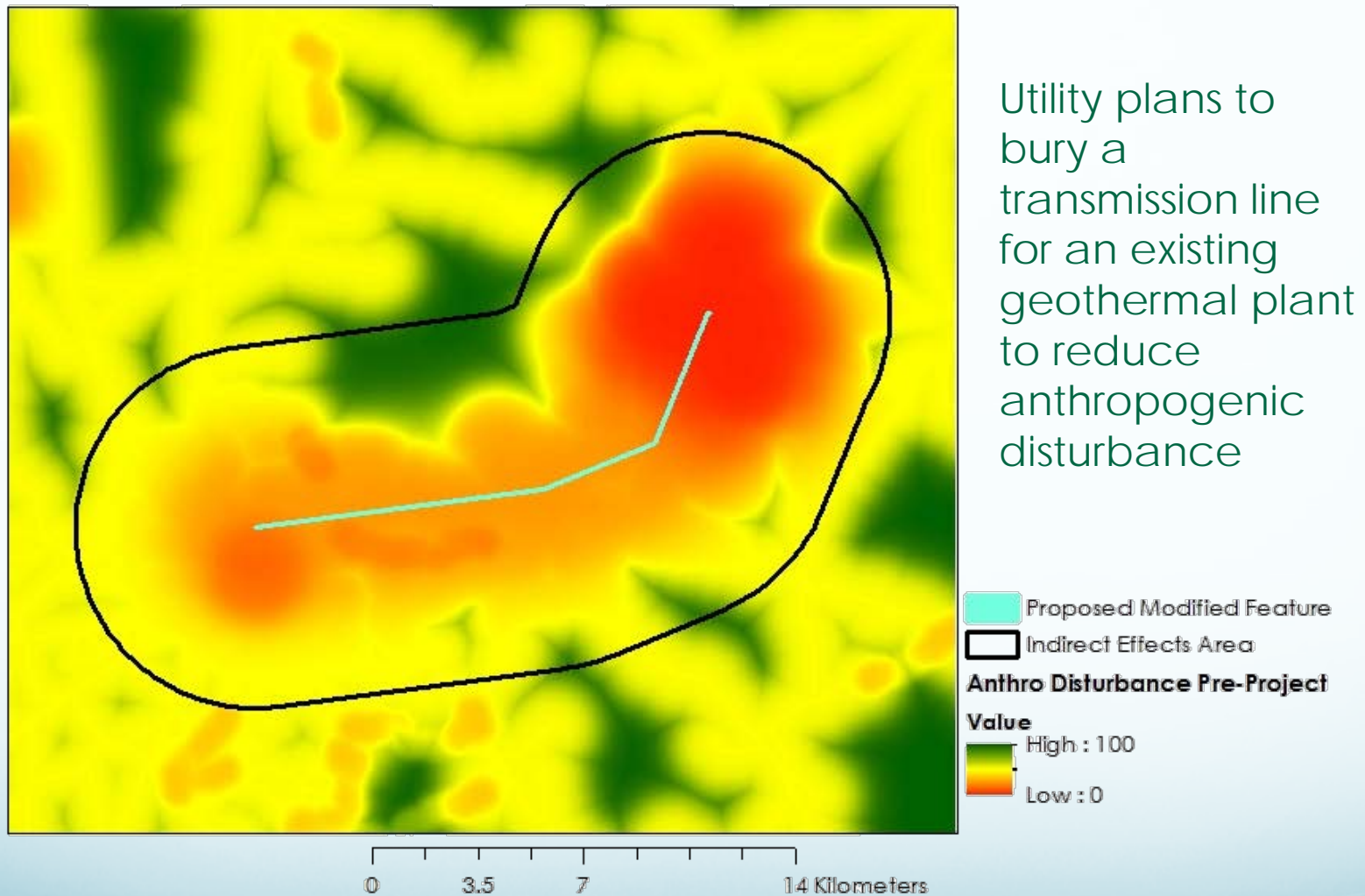


14. Revise Proximity Ratio Values

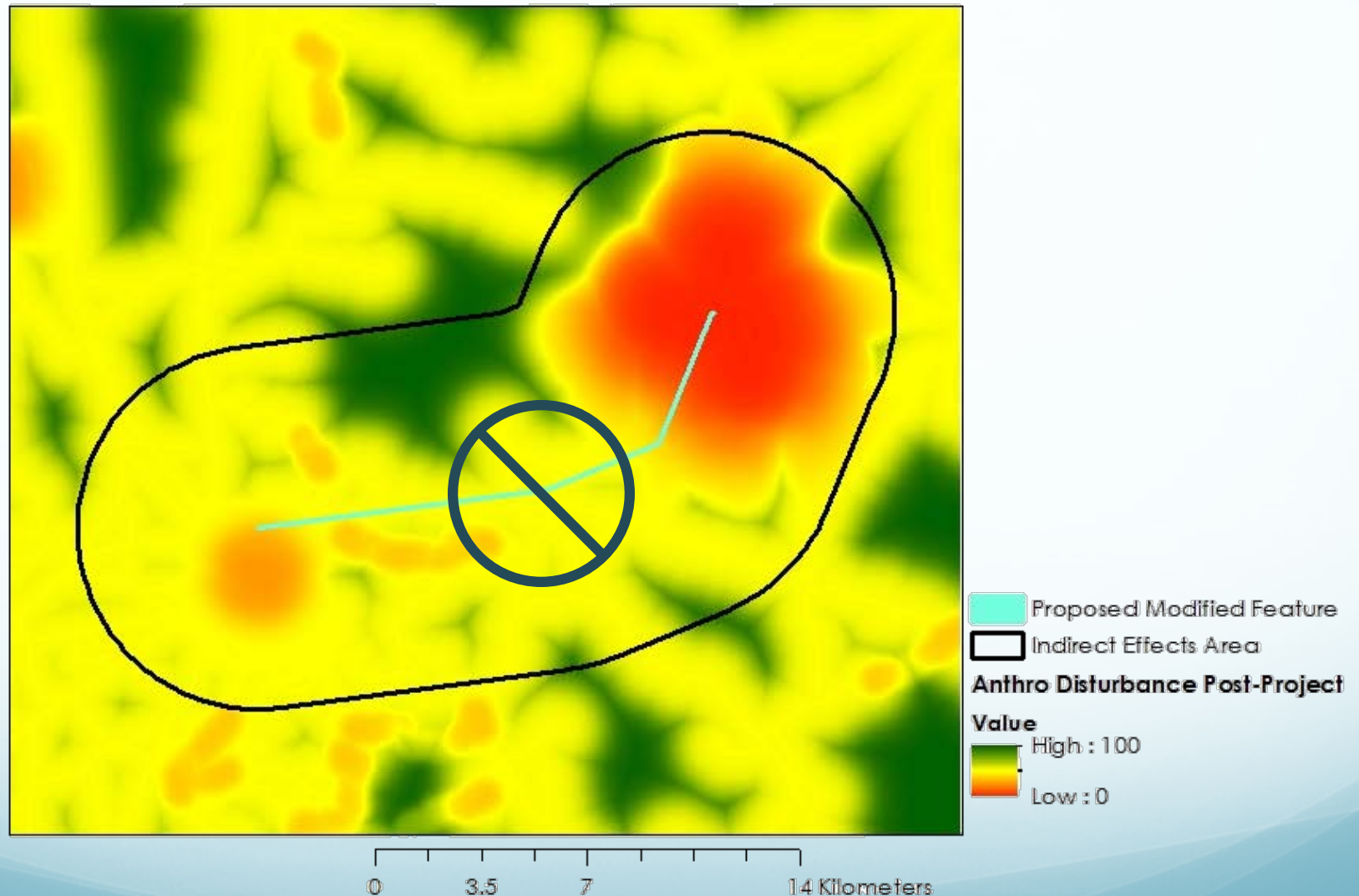
Category	Current Factor Value	Recommended Factor Value
No population connection between credit and debit sites (different WAFWA Management Zone)	1.50	1.15
Credit and debit sites connected through population dispersal (same WAFWA Management Zone)	1.35	1.10
Credit and debit sites located within a regional population (same BSU, even if in different WAFWA Management Zones)	None assigned	1.05
Credit and debit sites located within a single population (same PMU, even if in different WAFWA Management Zones)	1.00	1.0

15. Award Credits for the Indirect Benefits Generated on Land Outside the Credit Developer's Control from Removal of Anthropogenic Features

Existing Disturbance on Landscape



Post-Project Disturbance on Landscape



Credit Generated from Removal

Reserve Account Summary			
Standard Contribution Percent (%)			4%
Resistance & Resilience Reserve Account Contribution Percent (%)			3%
Competing Land Use Reserve Account Contribution Percent (%)			4%
Total Contribution Percent (%)			11%
Credit Estimate Summary			
Total Area (acres)	75,288.0	Total Area (acres)	75,288.0
Baseline Area-Weighted Average Habitat Function (%)	5%	Baseline Area-Weighted Average Habitat Function (%)	5%
Current Area-Weighted Average Habitat Function (%)	16%	Projected Post-Project Area-Weighted Average Habitat Function (%)	18%
Current Functional Acres Above Baseline (f-acres)	8,157.4	Projected Post-Project Functional Acres Above Baseline (f-acres)	10,246.5
Current Area-Weighted Average Mitigation Ratio (multiplier)	1.137	Projected Post-Project Area-Weighted Average Mitigation Ratio (multiplier)	1.137
Current Credits Generated (credits)	9,364.4	Projected Post-Project Credits Generated (credits)	11,744.9
Credits will be authorized for the amount of uplift post project (11,744.9 – 9,364.4).			2,380.5
		Projected Post-Project Reserve Account Contribution (credits)	261.9
		Projected Post-Project Credits for Sale (credits)	2,118.6

I6. Revise the Resistance and Resilience Scorecard

Revisions to the scorecard include:

- Including a box for map unit numbers so the score is calculated for each map unit and then averaged over the site, and
- Remove the assessment of treatment severity parameters as it is not relevant to how the CCS uses the scorecard

17. Use Ability to Control Wildfire Scorecard

ABILITY TO CONTROL WILDFIRE SCORE CARD

Site Name:		Date:
SITE CHARACTERISTICS	SITE CONDITION (select one)	SITE SCORE
Vegetation/Fuel Type/Ignition Risk		
Dominant fuel type in project area (Fire Behavior Fuel Models based on USDA Forest Service Gen. Tech. Rep. RMRS-GTR-153, 2005)	Irrigated pasture (NB3) = 0 Riparian wet meadow (GR3) = 1 Perennial Grass (GR1, GR2) = 3 Shrub (SH1, SH2) = 5 Grass/Shrub (GS1, GS2) = 7 Heavy Shrub/Grass (SH5, SH7) = 8 Pinyon/Juniper (TU4) = 10	
Dominant fuel type adjacent to the project area (w/in 1 mile)	Irrigated (NB3)/Riparian (GR3) = 0 Perennial Grass (GR1, GR2) = 1 Shrub (SH1, SH2) = 5 Shrub/Grass (GS1, GS2) = 7 Heavy Shrub/Grass (SH5, SH7) = 8 Pinyon/Juniper (TU4) = 10	
Invasive Annual Grass Cover (Based on HQT data)	0% = 0 1-5% = 5 >5 = 10	
Vegetation Condition Class VCC (departure from historic conditions) LANDFIRE Map	Low = 1 Moderate = 2 High = 3	
Topography/ Access/ Response Time		
Average percent slope in project area (GIS)	0-10% = 1 11-25% = 3 greater than 25% = 5	
Access to project area for suppression resources	paved road = 1 improved dirt road = 2 unimproved two-track = 4 hike or aircraft = 5	
Response Time of Fire Suppression Resources for Initial Attack	Less than 1 hour = 1 1-2 hours = 3 greater than 2 hours = 5	
Average aspect of project site (GIS)	N, NE = 1 NW, E = 2 W, SE = 3 S, SW, Flat = 4	
Road Distance to Available Water Sources	<1 mile = 0 1 to 3 miles = 3 >3 miles = 5	
TOTAL:		

18. Wildfire Risk and R&R

Reserve Account Contribution and Rebate

Combined Reserve Account Contribution Matrix				
		Ability to Control Wildfire Score		
		High	Moderate	Low
Resistance and Resilience Score	High	1%	2%	3%
	Moderate	2%	3%	4%
	Low	3%	4%	5%
	Very Low	4%	5%	6%

- Rebate: Up to 2% of the total credits available for sale to the Developer with proof that wildfire risk reduction was part of a formal plan and has been implemented.

19. Revised Weights and Distances used to Measure the Indirect Effects from Anthropogenic Features

DISTURBANCE TYPE	SUBTYPE*	WEIGHT (%)	DISTANCE (Kilometers)	
Towers (cell, etc.)	n/a	25%	3 km	Distance currently 6 km
Power Lines	n/a	50%	6 km	Weight currently 25%
Mines	Active - Med or small (< 60 acres)	50%	3 km	Weight currently 100%
	Inactive – Large (≥ 60 acres)	25%	1 km	Weight currently 50%
Urban, Suburban & Ex-urban Development	Low	50%	3 km	Weight currently 75%
Roads	2-lane Paved & High-use	50%	3 km	Weight currently 100%
	Improved Gravel			

I10. Revise Permissible Windows for Collecting Field Data

- **Version 1.0: Two collection times**
 - **April 1 – June 15 for Breeding**
 - **July 1 – September 15 for Late brood-rearing**
- **Recommendation: One collection window: peak of the growing season (April 15th - June 30th)**

CREDIT SITE VALIDATION CHECKLIST

This Credit Site Validation Checklist is used to express interest in generating credits within the Nevada Conservation Credit System, and provide basic information about a potential credit project in order to confirm the project is eligible to generate credits. The Credit Site Validation Checklist is filled out by the Credit Developer or a knowledgeable Technical Support Provider or Aggregator (Authorized Agent) to the best of their ability, and submitted to the Sagebrush Ecosystem Technical Team (SETT).

The SETT will evaluate the proposed project and may follow-up with the Credit Developer to collect additional information. If the credit site validation criteria are met, the SETT will issue a Notice of Validation letter to indicate the proposed project will likely be eligible to sell credits, and may move forward with project design. The Notice of Validation letter is not a confirmation of the quantity of credits to be issued.

I am submitting this Credit Site Validation Checklist to indicate interest in generating credits within the Nevada Conservation Credit System. I recognize that not all projects may be eligible for participation. To be awarded credits under the Nevada Conservation Credit System, my project must fulfill all requirements described in the Nevada Conservation Credit System Manual. Credit estimates must be verified by the SETT. I attest that the information provided in this form is accurate to the best of my ability.

Date: _____

CREDIT SITE VALIDATION SUMMARY (SEE USE ONLY)				
Project ID	Date Received	WAFIA Zone	PMU	Validation Status
CREDIT DEVELOPER CONTACT INFORMATION			AUTHORIZED AGENT'S CONTACT INFORMATION (IF APPLICABLE)	
Credit Developer Name	Provide first and last name of Credit Developer.		Contact Person Name & Title	Provide first and last name of authorized agent and agent's title.
Mailing Address	Provide mailing address for Credit Developer.		Mailing Address	Provide mailing address for authorized agent.
Telephone	Provide telephone number where Credit Developer can be reached (home, work or cellular).		Telephone	Provide telephone number where authorized agent can be reached (home, work or cellular).
Email	Provide email address for Credit Developer person.		Email	Provide email address for authorized agent.

PROJECT INFORMATION	
Property Location	<p>Specify the county in which the proposed project site is located and general road access and/or place names. Provide the Township, Range and Section if possible. Attach a map showing the proposed project boundaries or provide a shapefile, if available.</p> <p><input type="checkbox"/> Map or shapefile of proposed credit project area is included</p>

CREDIT SITE VALIDATION CHECKLIST
DRAFT

Participant Contract for the Generation and Sale of Credits

This Agreement for the Creation and Sale of credits ("Contract") is effective this [redacted] day of [redacted], 20 [redacted] (the "Effective Date"), is by and between the Nevada Division of State Lands ("Administrator"), and [redacted] (the "Participant(s)"). The Administrator and Participant(s) are sometimes collectively referred to as the "Parties."

DEFINED TERMS

1. "Participating Property" is the legal boundary of one or more parcels of which at least a portion (the "Project Area") is enrolled in the Conservation Credit System.
2. "Project Area" is the defined area or areas within the Participating Property where credits are quantified.

RECITALS

WHEREAS, the Nevada Conservation Credit System ("Conservation Credit System") was created to establish the process for securing credits to facilitate the conservation of greater sage-grouse habitat, using consistent and standardized means for determining credit values and centralized management and monitoring capabilities so as to maximize efficiencies and economies of scale;

WHEREAS, Participant(s) intends to produce or sell credits by enrolling land (the "Project Area") in the Conservation Credit System to restore, enhance or preserve habitat for the greater sage-grouse as described in the Management Plan (the "Management Plan") attached hereto and incorporated by reference herein; and

WHEREAS, the goal of the Credit System is for impacts from anthropogenic disturbances to be offset by enhancement and protection that results in a net benefit for greater sage-grouse habitat in the State of Nevada;

NOW, THEREFORE, in consideration of the foregoing Recitals and other mutual covenants and conditions contained herein, the Parties hereby agree as follows:

AGREEMENT

2. The Contract Period. Unless sooner terminated as provided herein, this Contract shall be effective from the Effective Date until [REDACTED]

Credit Generation & Debit Acquisition Forms

Credit Forms

- Validation Checklist
- Notice of Validation Letter
- Management Plan
- Self-Monitoring Report
- Non-Disclosure Agreement
- Participant Contract

Debit Forms

- Anthropogenic Disturbance Review Form
- Credit Purchase Agreement
- Credit Transfer Form
- Notice of Credit Transfer Letter

Boies Ranch Pilot Project Summary – Recommended Changes

	Current	Recommended
Acres enrolled	1,339	1,339
Area –weighted average habitat function above baseline	34%	24%
Functional acres	456	318
Area –weighted mitigation ratio	1.1	1.6
Credits generated	502	491
Reserve account contribution	35 (7%)	49 (10%)
Credits for sale	467	442

- Ratios increased credits
- Local scale decreased credits
- Reserve account decreased credits

Allotment Example Summary – Recommended Changes

	Current	Recommended
Acres enrolled	139,058	139,058
Area –weighted average habitat function above baseline	7.20%	7.19%
Functional acres	8,644	8623
Area –weighted mitigation ratio	0.945	1.073
Credits generated	8,498	9,837
Reserve account contribution	545 (7%)	885 (9%)
Credits for sale	7,903	8,952

- Ratios increased credits
- Reduced weight on paved roads increased credits
- Low use roads added reduced credits
- Reserve account reduced credits

Kings Valley Lithium Mine – Recommended Changes

	Current	Recommended
Acres Directly Disturbed	828.5	828.5
Total Acres	40,462.9	40,462.9
f-acres Lost	457.7	477.0
Mitigation Ratio	1.789	1.187
Debits	817	566
Credit Obligation Range	817 to 1,226	566 to 650.9

Large Gold Mine – Recommended Changes

	Current	Recommended
Acres Directly Disturbed	3,901.4	3,901.4
Total Acres	85,031.0	85,031.0
f-acres Lost	8,275.4	7,740.1
Mitigation Ratio	1.312	1.001
Debits	11,182	7,885
Credit Obligation Range	11,182 to 16,773	7,885 to 9,068