# Nevada Sagebrush Ecosystem Council Meeting

February 24, 2014

# Objectives

- Collect feedback to improve Manual and HQT

- Approve Manual and HQT with amendments for incorporation into EIS

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# Agenda

| Time | Subject |
|---|---|
| 9:30 | Introduction & Overview |
| 10:00 | Most Influential Considerations |
| 12:30 | *Lunch & Vote on Other Considerations* |
| 1:30 | Other Considerations |
| 2:30 | Habitat Quantification Tool |
| 3:00 | Other Considerations |
| 4:30 | *Wrap-up* |

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# Next Steps
# with Est. Completion Date

- Revise and submit Manual and HQT to BLM EIS (2/28)

- Develop summary for BLM EIS (mid-April)

- Develop case study based on field tests and financial analysis to inform next round of Manual and HQT revisions (end-of-April)

- Gain additional scientific input on HQT (end-of-June)

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# Most Influential Considerations

- Credit Site Eligibility (#10)
- Reserve Account (#16)
- Performance Assurances (#17)
- Verification (#14)
- Credit Release (#11)
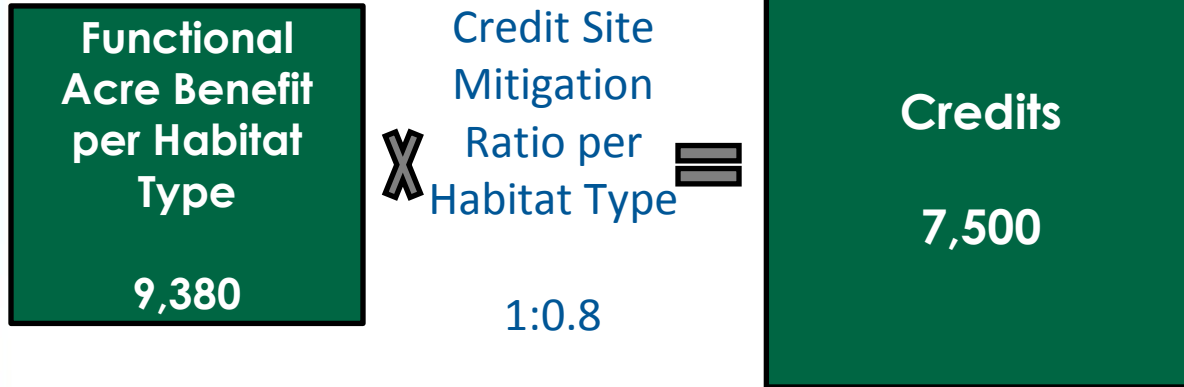- Mitigation Ratios (#8)
- HQT – Credits & Debits (#7

Environmental
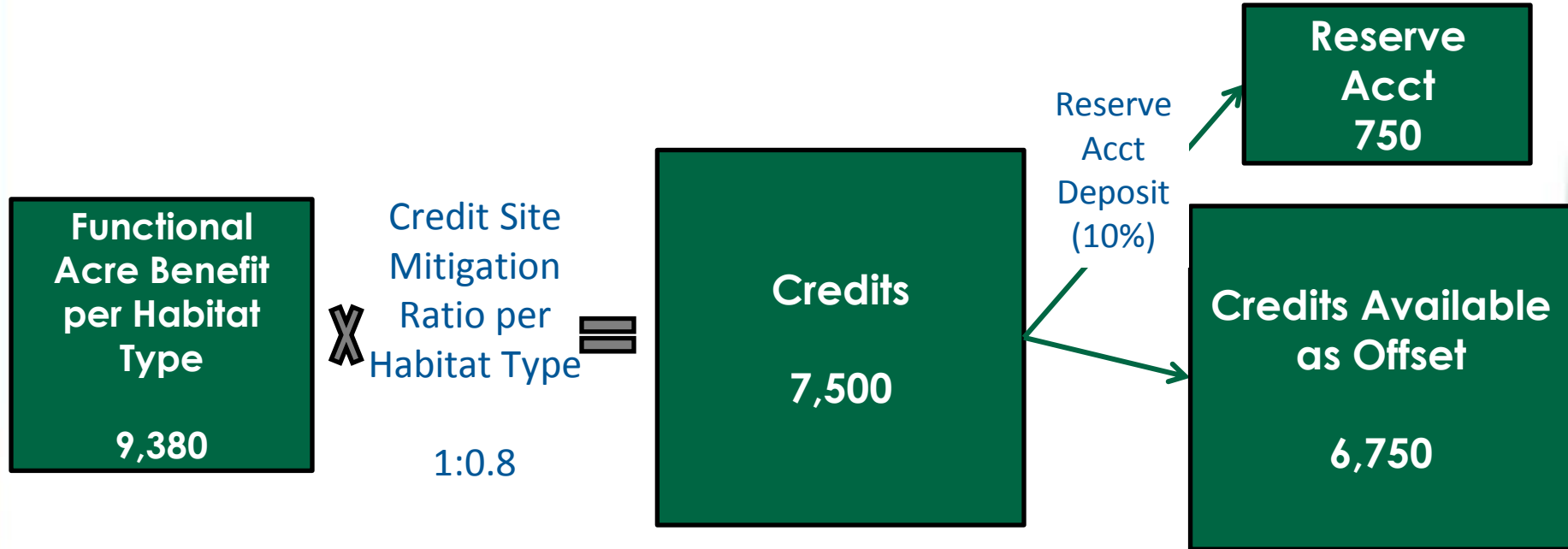Incentives

# CREDIT/DEBIT CALCULATION & FLOW

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# CREDIT CALCULATION

| Functional Acre Benefit per Habitat Type |
|:---:|
| **938** |

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# CREDIT CALCULATION

**Functional Acre Benefit per Habitat Type**

**9,380**

X

Credit Site Mitigation Ratio per Habitat Type

1:0.8

=

**Credits**

**7,500**

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# CREDIT CALCULATION

| Functional Acre Benefit per Habitat Type | | Credit Site Mitigation Ratio per Habitat Type | | Credits |
|---|---|---|---|---|
| **9,380** | **X** | **1:0.8** | **=** | **7,500** |

Reserve Acct Deposit (10%)

**Reserve Acct 750**

**Credits Available as Offset**

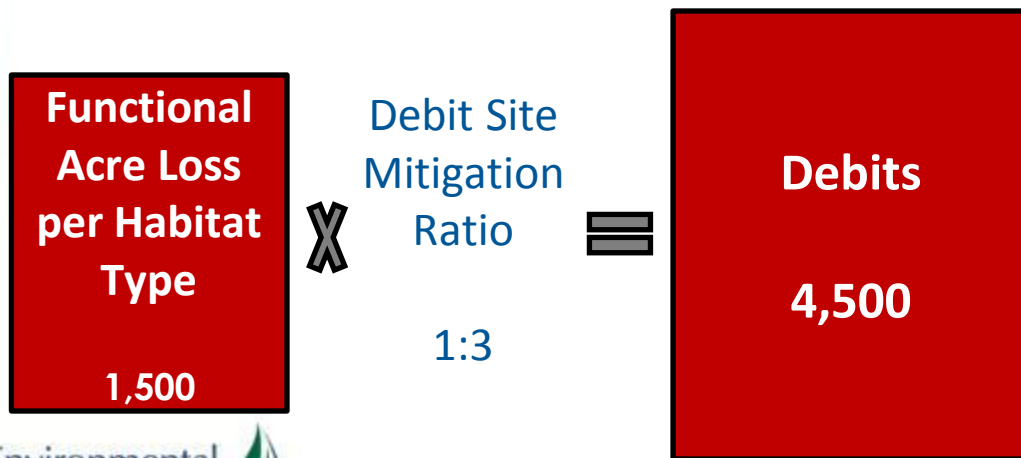**6,750**

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# DEBIT CALCULATION

**Functional Acre Loss per Habitat Type**

**150/**

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# DEBIT CALCULATION

**Functional Acre Loss per Habitat Type**

1,500

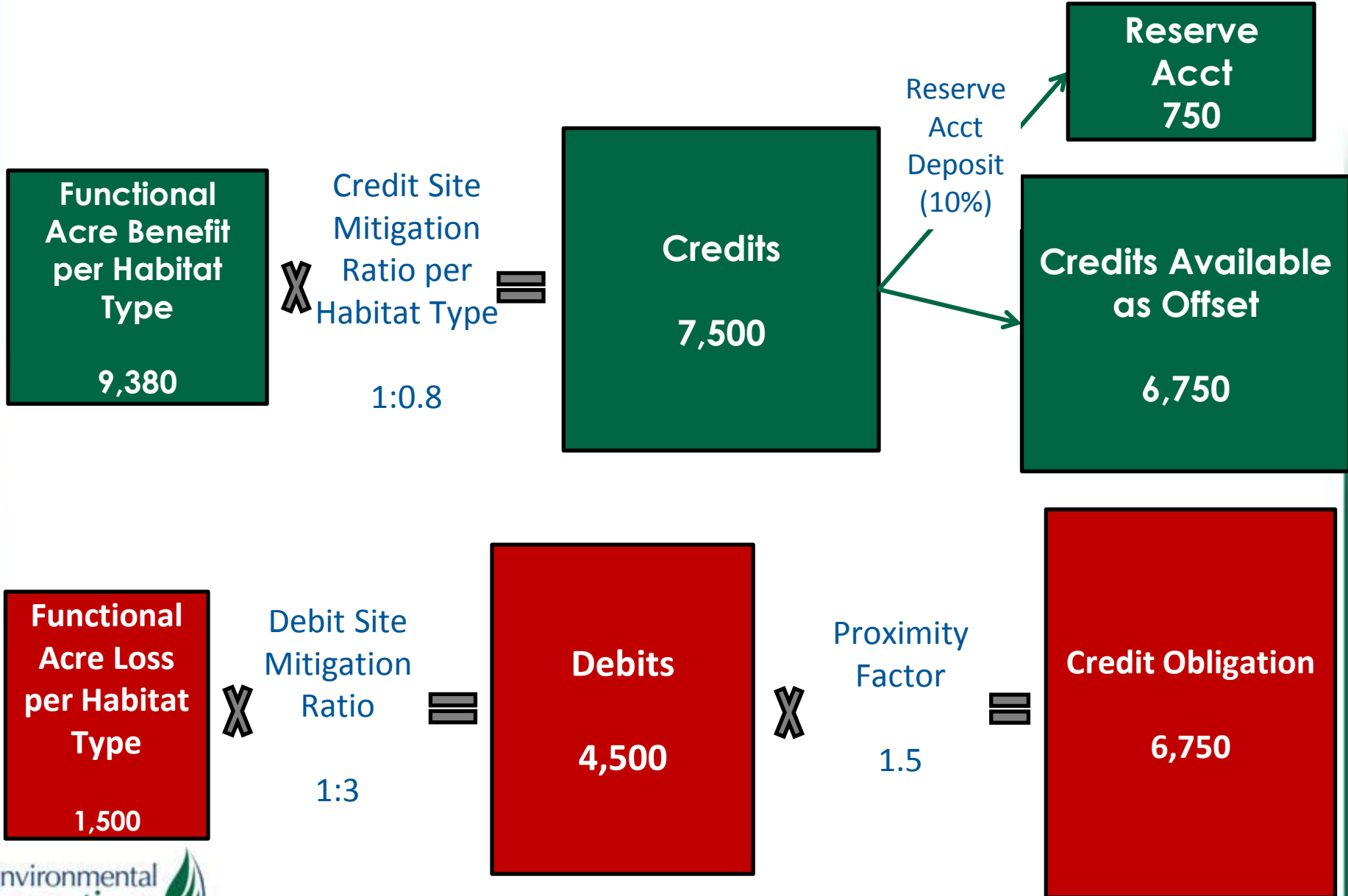X

Debit Site Mitigation Ratio

1:3

=

**Debits**

4,500

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# DEBIT CALCULATION

**Functional Acre Loss per Habitat Type**

**1,500**

X

Debit Site Mitigation Ratio

1:3

=

**Debits**

**4,500**

X

Proximity Factor

1.5

=

**Credit Obligation**

**6,750**

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# CREDIT & DEBIT CALCULATION

**Functional Acre Benefit per Habitat Type**

9,380

X

**Credit Site Mitigation Ratio per Habitat Type**

1:0.8

=

**Credits**

7,500

Reserve Acct Deposit (10%)

**Reserve Acct**

750

**Credits Available as Offset**

6,750

**Functional Acre Loss per Habitat Type**

1,500

X

**Debit Site Mitigation Ratio**

1:3

=

**Debits**

4,500

X

**Proximity Factor**

1.5

=

**Credit Obligation**

6,750

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# CREDIT SITE ELIGIBILITY (pg 20), RESERVE ACCOUNT (pg 26) & PERFORMANCE ASSURANCES (pg 29)

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# Desired Outcome

## Create durable credits to protect large areas of high quality habitat, practically

- Project eligibility requirements
- Reserve account contributions
  - Covers the remaining risk both force majeure and performance failure
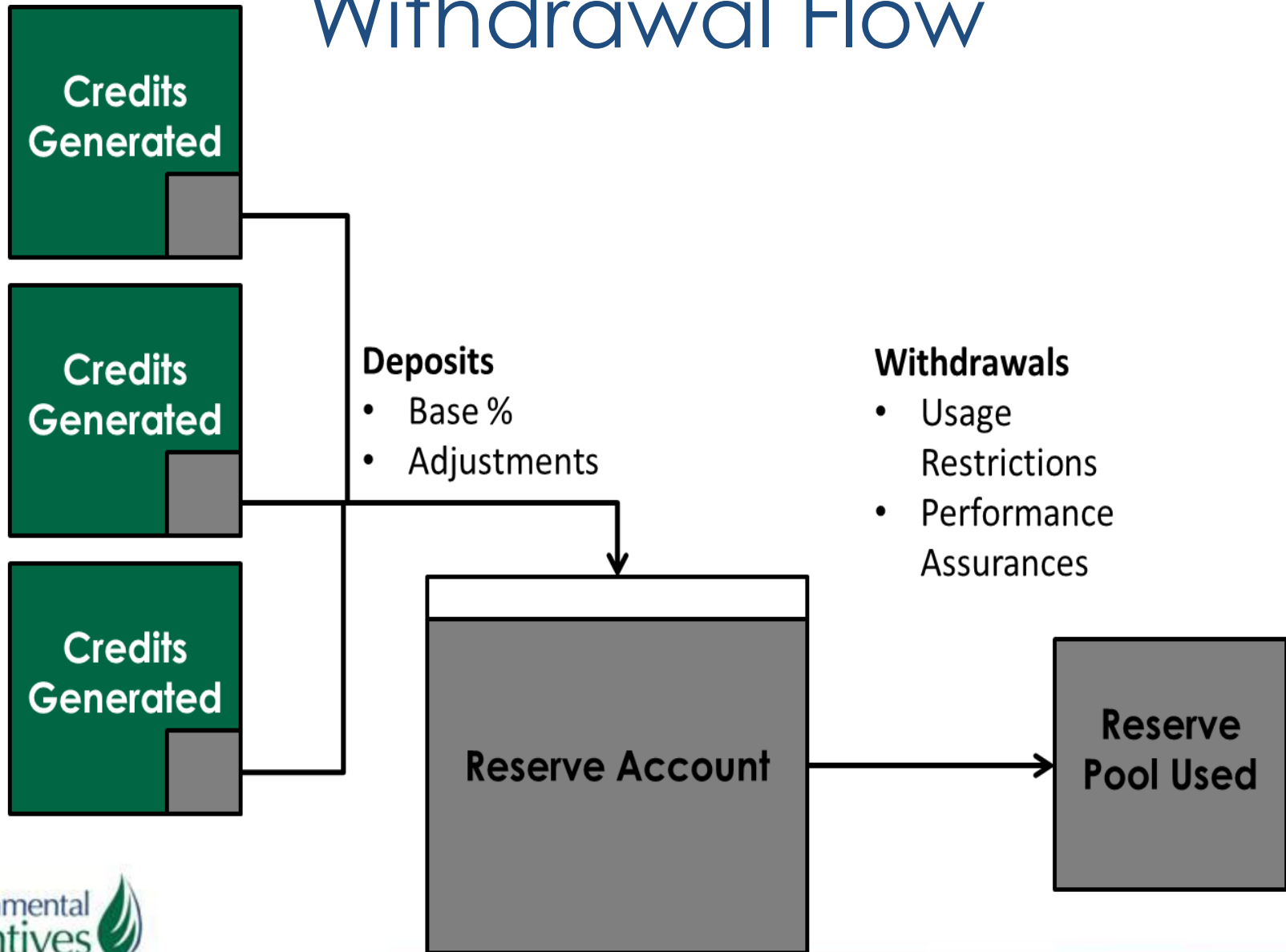- Performance assurances

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# Minimum Credit Site Eligibility

- Within
  - Core or Priority Management Category areas
  - Non-Habitat or General Management Category area <u>and</u> improves connectivity based on field verification

- Post-project quality of at least 50% function*

- No imminent threat of direct or indirect disturbance by surface or subsurface development
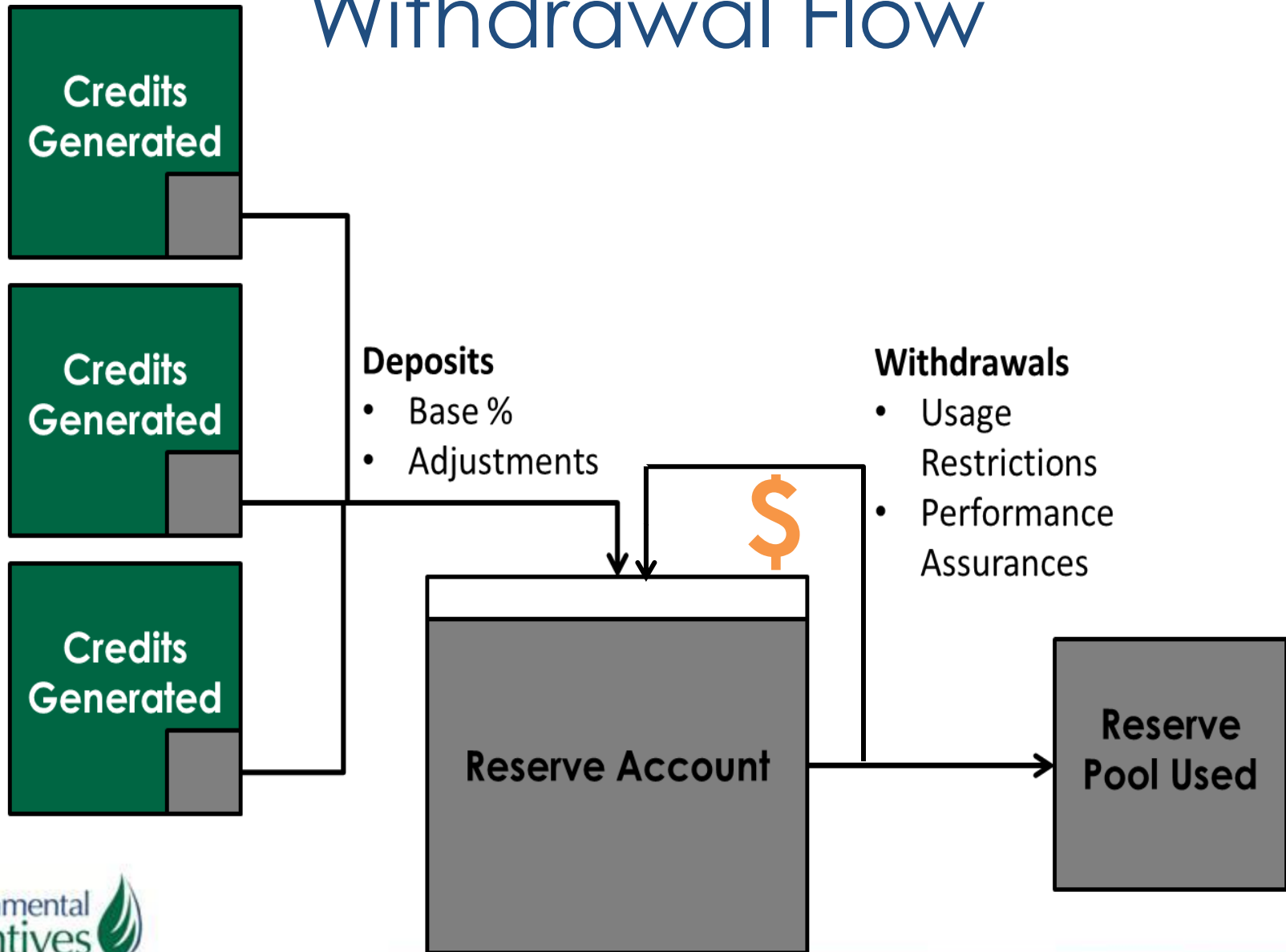
- Commit to performance assurances

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*50% is for illustrative purposes only and will be revised

# Reserve Account Deposit

**Total Credits**
**333 credits**

Reserve
Contribution
(Example 10%)

**Reserve**
**33 credits**

**Used as**
**offset**
**300 credits**

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# Reserve Account Deposit & Withdrawal Flow



**Credits Generated**

**Credits Generated**

**Credits Generated**

**Deposits**
- Base %
- Adjustments

**Withdrawals**
- Usage Restrictions
- Performance Assurances

**Reserve Account**

**Reserve Pool Used**

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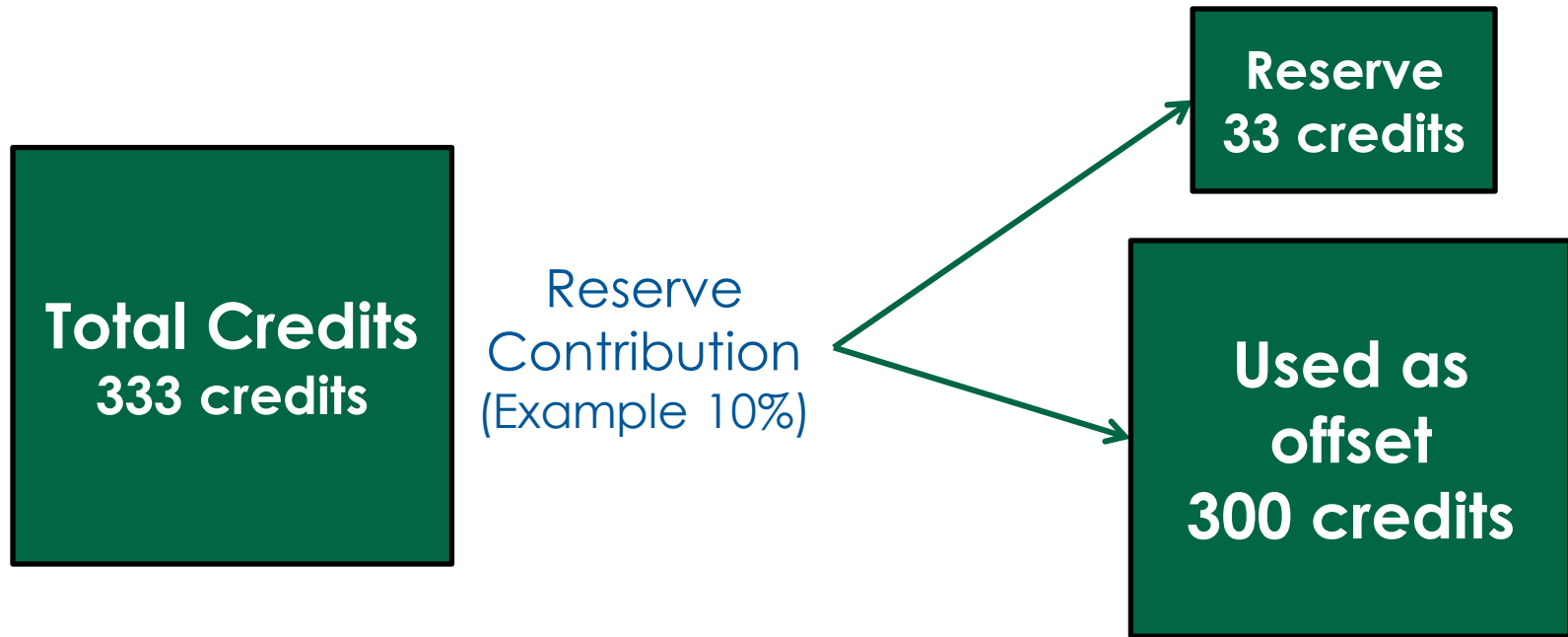
# Reserve Account Deposit & Withdrawal Flow

# Deposit Factors & Withdrawal Policy

| Reversal Type | Deposit Factor | Withdrawal Policy |
|---|---|---|
| **Force Majeure** | Probability of Wildfire **+** Suppression Action Adjustment | Withdraw at no cost to Credit Developer until<br>a) credits remediated **_or_**<br>b) Administrator uses outstanding payments to replace max. credits |

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# Deposit Factors & Withdrawal Policy

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| **Competing Land Uses** | Probability of Competing Land Uses **+** Future Impact Mitigation Ratio Adjustment Requirement | |

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# Deposit Factors & Withdrawal Policy

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|---|---|---|
| **Force Majeure** | Probability of Wildfire **+** Suppression Action Adjustment | Withdraw at no cost to Credit Developer until<br>a) credits remediated **_or_**<br>b) Administrator uses outstanding payments to replace max. credits |
| **Competing Land Uses** | Probability of Competing Land Uses **+** Future Impact Mitigation Ratio Adjustment Requirement | |
| **Intentional** | Base Contribution | Withdraw until Administrator uses remaining payments **_and_** other financial instruments to replace all credits invalidated |

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# Probability of Wildfire
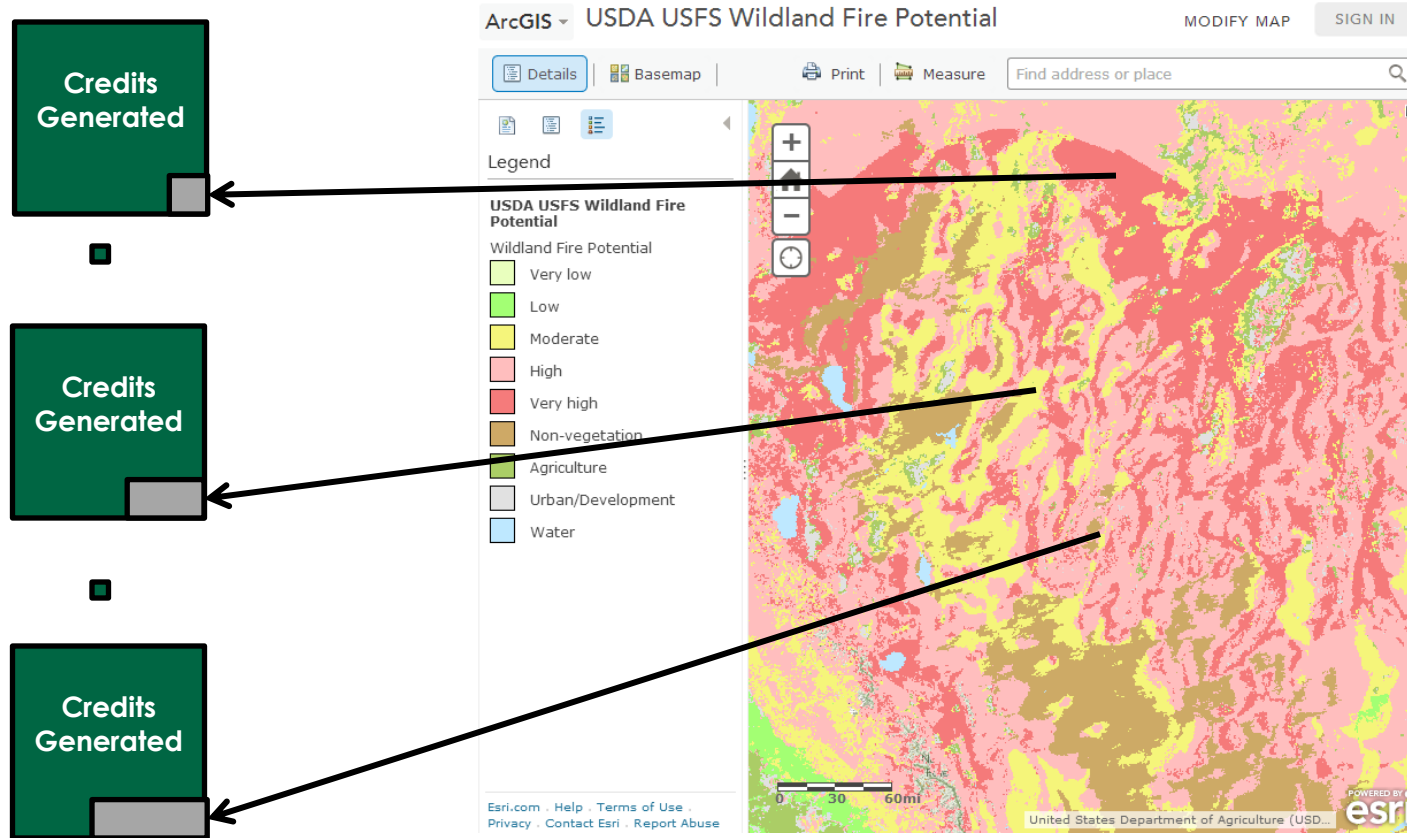


- **Wildland Fire Potential** based on three primary sub-products: fuel potential, fire weather potential, and fire occurrence potential

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# Probability of Competing Land Uses

**Credits Generated**
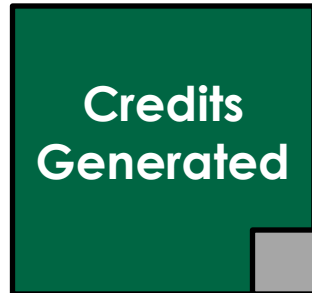
**Credits Generated**

**Credits Generated**

*EXAMPLES:*

Private land with subsurface rights owned by a different owner (split estate)
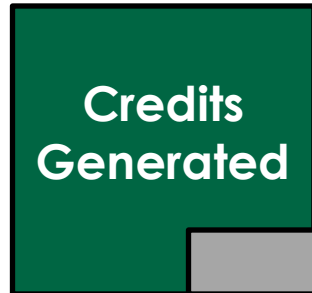
Public land with designation that permits Off-Highway Vehicle use; however, no signs of OHV use within several miles of project area

Privately owned surface and subsurface rights, and easement

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# Reserve Account Deposit Checklist

| Factor | Characteristic Option Title | Scores | Site Characteristic | Site Score |
|---|---|---|---|---|
| **Base** | N/A | Base | | |
| **Probability of Wildfire** | Very High | High | | |
| | High or Very High + | | | |
| | Moderate or High + | | | |
| | Low or Moderate + | | | |
| | Very low or Low + | Low | | |
| **Probability of Competing Land Uses** | Medium risk of competing land uses invaliding the credit project | High | | |
| | Low risk of competing land uses invaliding the credit project | | | |
| | No risk of competing land uses invalidating the credit project or impacts from competing land uses are required to mitigate impacts using the Credit System with +1 to mitigation ratio | None | | |

$$\Sigma =$$

+ Adjusted for suppression activities that achieve quantifiable minimum risk reduction threshold for the period of the credit project
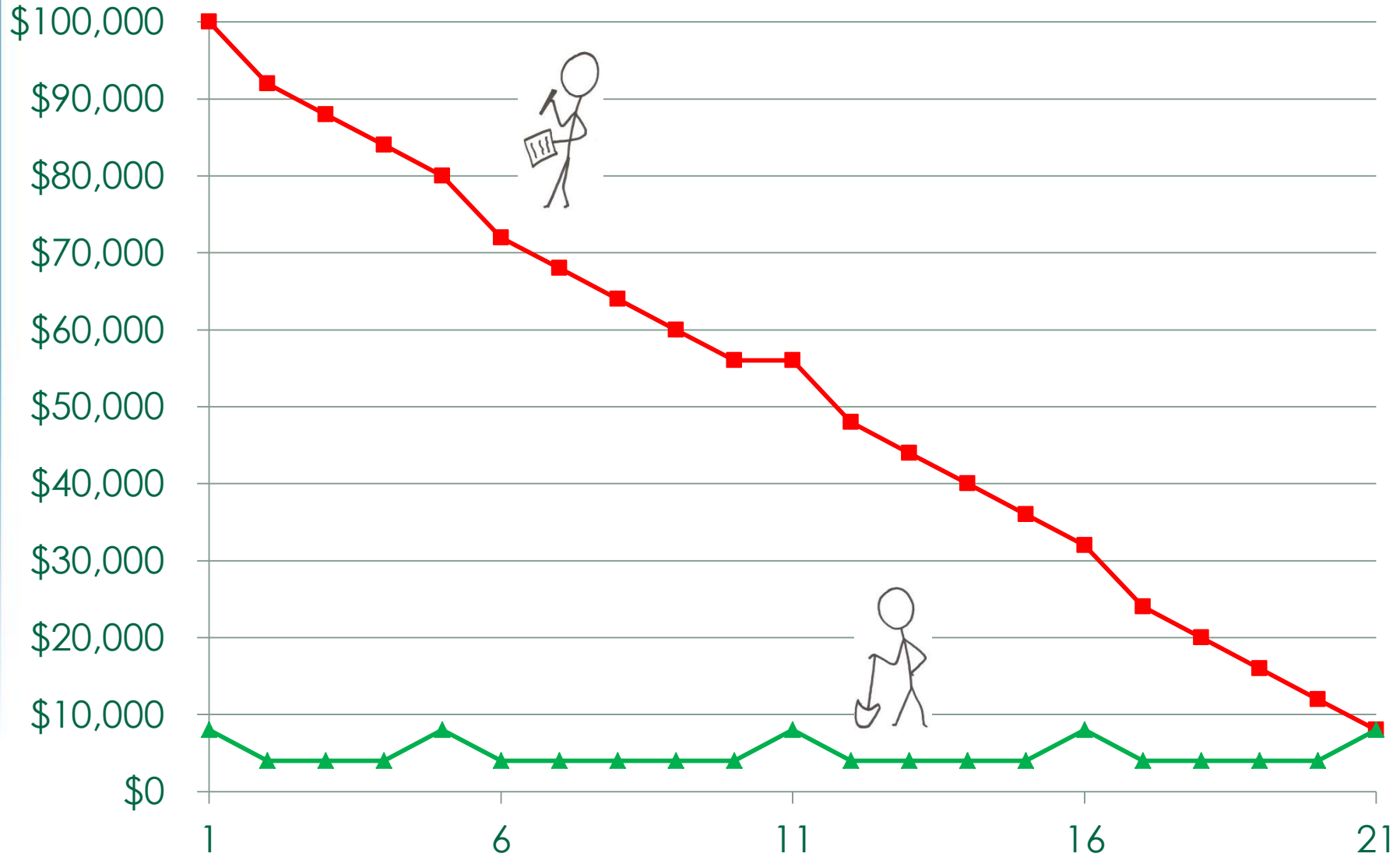
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# Reserve Account Deposit Checklist

| Factor | Characteristic Option Title | Scores | Site Characteristic | Site Score |
|---|---|---|---|---|
| **Base** | N/A | 2% | | |
| **Probability of Wildfire** | Very High | 10% | | |
| | High or Very High + | 8% | | |
| | Moderate or High + | 6% | | |
| | Low or Moderate + | 4% | | |
| | Very low or Low + | 2% | | |
| **Probability of Competing Land Uses** | Medium risk of competing land uses invaliding the credit project | 20% | | |
| | Low risk of competing land uses invaliding the credit project | 10% | | |
| | No risk of competing land uses invalidating the credit project or impacts from competing land uses are required to mitigate impacts using the Credit System with +1 to mitigation ratio | 0% | | |

$\Sigma =$ **4% - 32%**

+ Adjusted for suppression activities that achieve quantifiable minimum risk reduction threshold for the period of the credit project

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# PERFORMANCE ASSURANCES

- Used to ensure durability of credits generated throughout the life of a credit project

- Performance assurances include contract terms and financial instruments

- Financial instruments include endowment funds and contract surety bonds

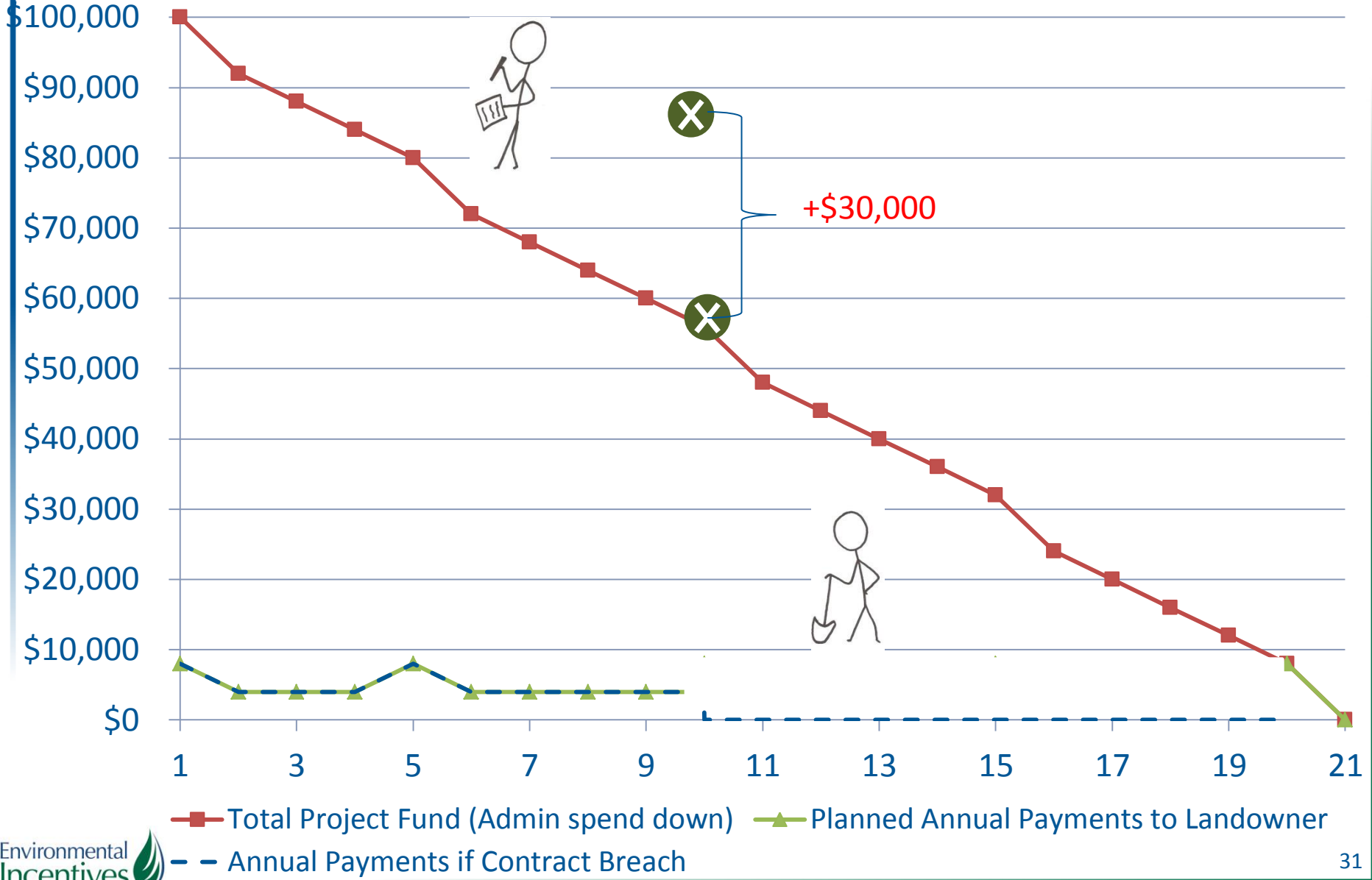Environmental
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# DESIRED OUTCOMES FOR PERFORMANCE ASSURANCES

- Minimizes financial transaction costs and maximizes payments to Credit Developers
- Appropriately allocate risk and preferably uses mechanisms that do not require costs litigation
- Holds to the principle of no payments for projects not producing credits
- Financial instruments cover long-term management and replacement of reversals

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# Credit Payment with Verification Bonus



$100,000
$90,000
$80,000
$70,000
$60,000
$50,000
$40,000
$30,000
$20,000
$10,000
$0

1    6    11    16    21

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■ Total Project Fund (Admin spend down)

30

# Credit Payment for Restoration with Contract Breach



Contract Performance Assurances

Remaining Project Funds

Legend: Total Project Fund (Admin spend down) — Planned Annual Payments to Landowner

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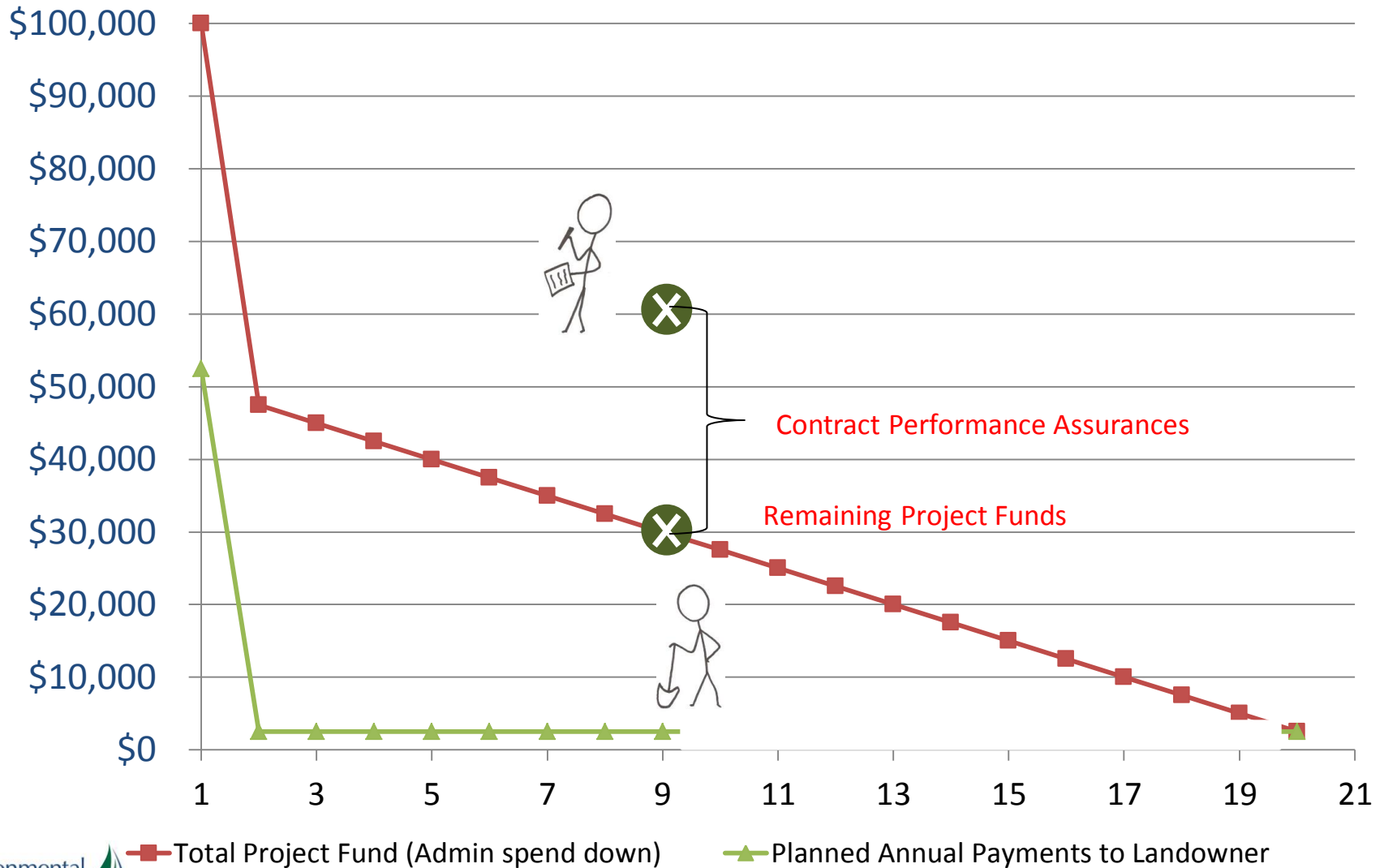
# CREDIT RELEASE (pg 21) & VERIFICATION (pg 23)

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# VERIFICATION

How does the Credit System confirm that credits and debits are accurately quantified on-site?

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# PERFORMANCE VERIFICATION

| Actions | Actor | Timing | |
|---|---|---|---|
| | | Credit | Debit |
| **Verification** | Third- party* | • Before first Credit Release <br> • Before increase in credit amount <br> • Every 5th year | • Before debit project begins <br> • When term debits end or reduce |

* Administrator or certified private entity

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# PERFORMANCE VERIFICATION

| Actions | Actor | Timing | |
|---------|-------|--------|---|
| | | Credit | Debit |
| **Verification** | Third- party* | • Before first Credit Release<br>• Before increase in credit amount<br>• Every 5th year | • Before debit project begins<br>• When term debits end or reduce |
| **Spot Checks & Audits** | Third- party* | ~10% random audits across all projects in program | |

* Administrator or certified private entity

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# PERFORMANCE VERIFICATION

| Actions | Actor | Timing | |
|---|---|---|---|
| | | Credit | Debit |
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| **Spot Checks & Audits** | Third- party* | ~10% random audits across all projects in program | |
| **Self-monitoring (*Credit Sites Only*)** | Credit Developers | Annually, in years when verification is not required | |

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* Administrator or certified private entity

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# VERIFIER SELECTION

- Contracting and payment is handled through the Credit System Administrator
- Notification and escort provided, as necessary

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# CREDIT RELEASE

How does the Credit System award Credits to habitat conservation projects over time?

# CREDIT RELEASE OVERVIEW

- Customized Management Plan implemented
  - Mandatory activities
  - Excluded activities
- Meet defined habitat performance standards
- Within tolerance for variability

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CREDIT RELEASE & VERIFICATION **ENHANCEMENT** PROJECT EXAMPLE
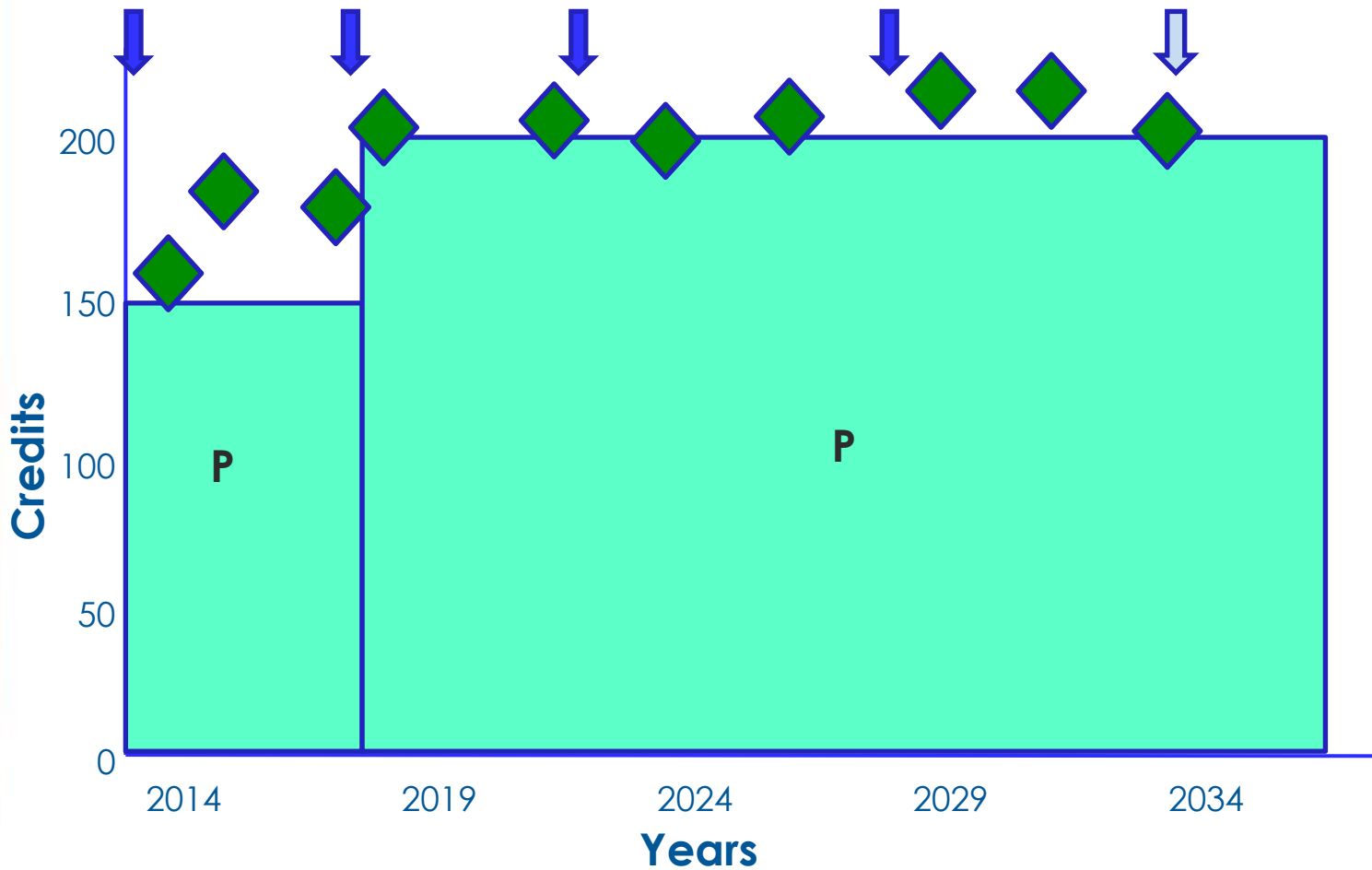
Credits Released for Performance 🄿

On-the-Ground Benefit Generated ◆

Verification

Spot Checks & Audits

# CREDIT RELEASE
# RESTORATION PROJECT EXAMPLE

| PERFORMANCE CRITERIA ACHIEVED | CREDITS RELEASED |
|---|---|
| **Milestone 1**<br><br>- Action checked: pinyon-juniper trees, fences, and other vertical structures removed<br><br>- 1/3 of performance assurances secured | **33%** of Total Anticipated Credits |
| **Milestone 2**<br><br>- 66% of expected HQT score at end of project<br><br>- 2/3 of performance assurances secured | **66%** of Total Anticipated Credits |
| **Milestone 3**<br><br>- 100% of expected HQT score for the project<br><br>- All performance assurances secured | **100%** of Total Anticipated Credits |

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# CREDIT RELEASE
# RESTORATION PROJECT EXAMPLE
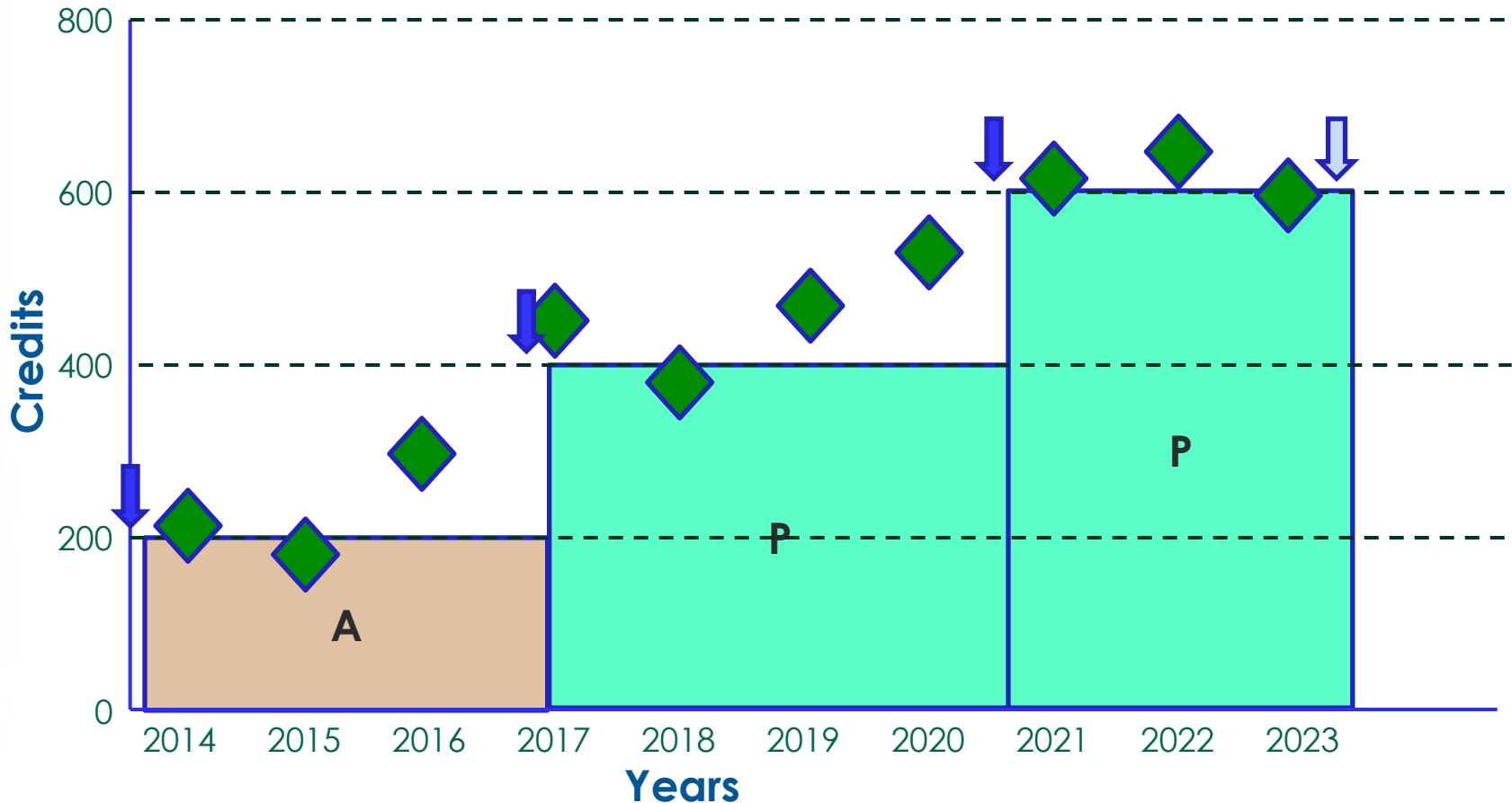
Verification ⬇

Spot Checks & Audits ⬇

Credits Awarded for Actions Ⓐ

Credits Awarded for Performance Ⓟ

On-the-Ground Benefit Generated ◆

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# MITIGATION RATIO (pg 15)

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# HQT Relationship to Credits & Debits

# Debit Calculation

**Functional Acre Loss** **(HQT Output)** $\times$ Debit Site Mitigation Ratio $=$ **Debits**

Functional Acre Loss *(Calculated per seasonal habitat)* $=$ % Function Change (*from Baseline*) $\times$ Acres *(Direct & indirect impact)*

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# Debit Calculation

**Functional Acre Loss** (HQT Output)  **X**  Debit Site Mitigation Ratio  **=**  **Debits**

Debit Site Mitigation Ratio *(Calculated per seasonal habitat)*  **=**  Seasonal Habitat Factor  **+**  Habitat Importance Factor

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# Debit Site Calculation Example

| Seasonal Habitat Type | HQT Output (3rd & 4th Order) | Mitigation Ratio Factors (2nd Order) | | Debit Site Calculation |
| --- | --- | --- | --- | --- |
| | Functional Acre Loss *(per seasonal habitat type)* | Seasonal Habitat Factor *(per seasonal habitat type)* | + Habitat Importance Factor *(Core, priority or general )* | |
| **Nesting** | **100** | **0.0** | **1.0** | 100*(0+1)=100 |
| **Late Brood Rearing** | **150** | **2.0** | **1.0** | 150*(2+1)= 450 |
| **Winter** | **50** | **4.0** | **1.0** | 50*(4+1)= 250 |

Largest value is selected

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# DEBIT SITE - HABITAT IMPORTANCE FACTOR

Factor based on management categories

Core

Priority or General +

General
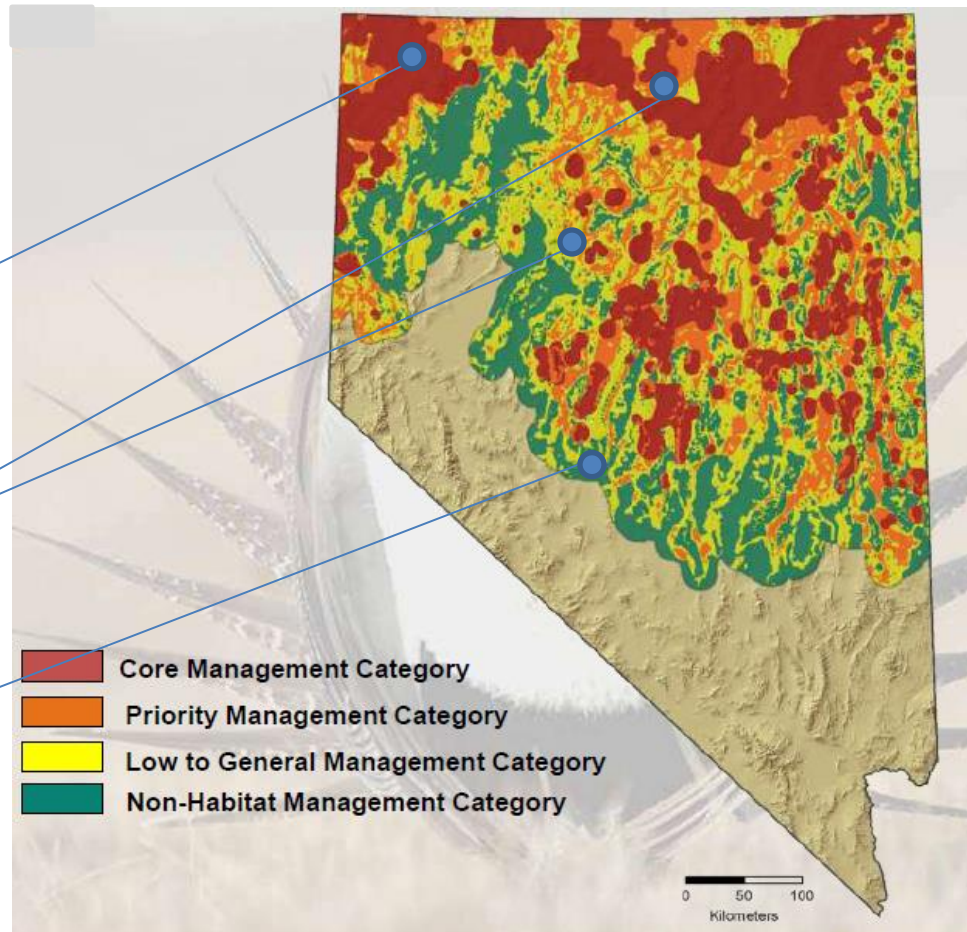


Core Management Category
Priority Management Category
Low to General Management Category
Non-Habitat Management Category

0    50    100
Kilometers

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# DEBIT SITE- SEASONAL HABITAT FACTOR

# DEBIT SITE - SEASONAL HABITAT FACTOR



Population Area

Severe impacts

Nesting

Nesting

Winter

Winter

Winter

Brood Rearing

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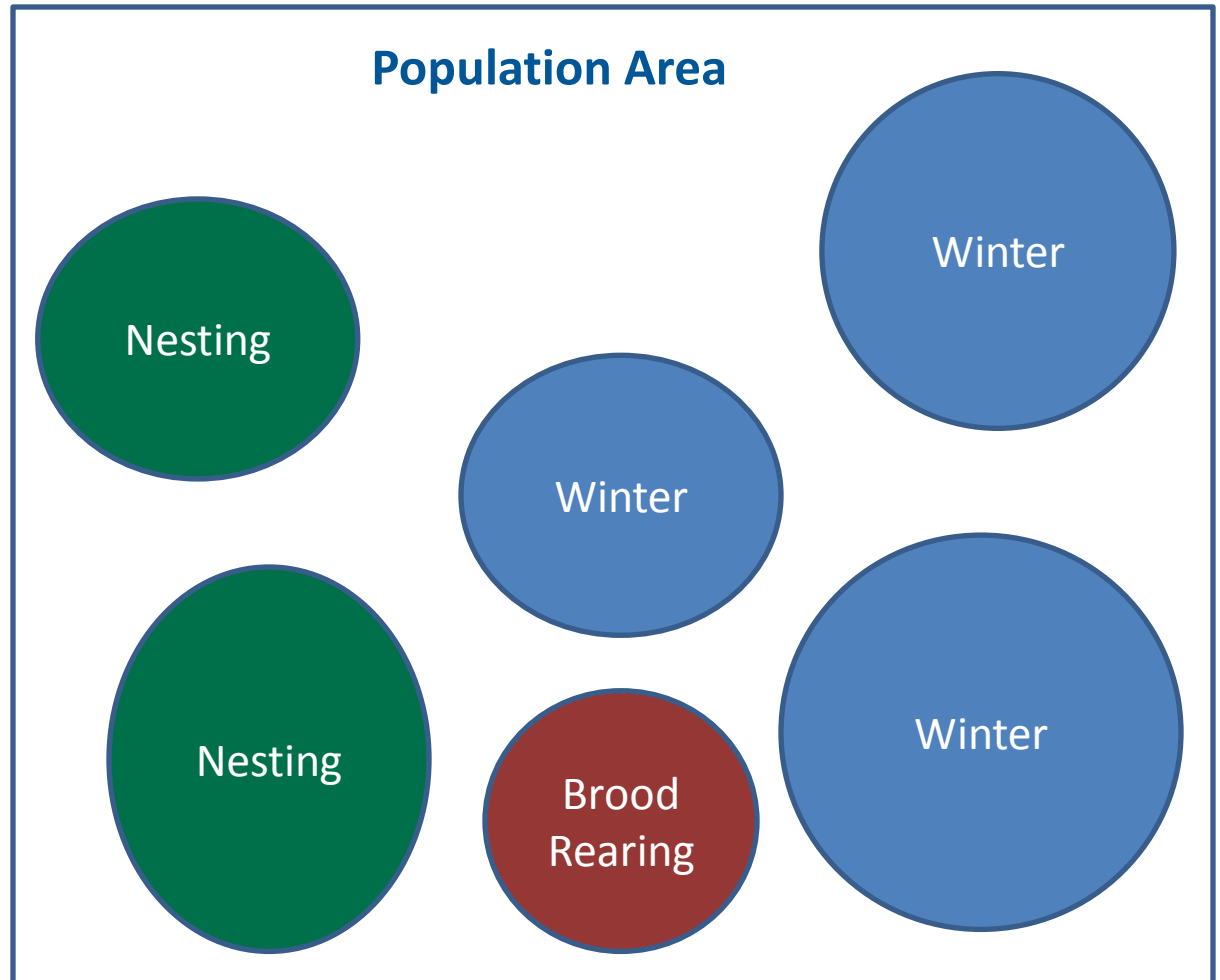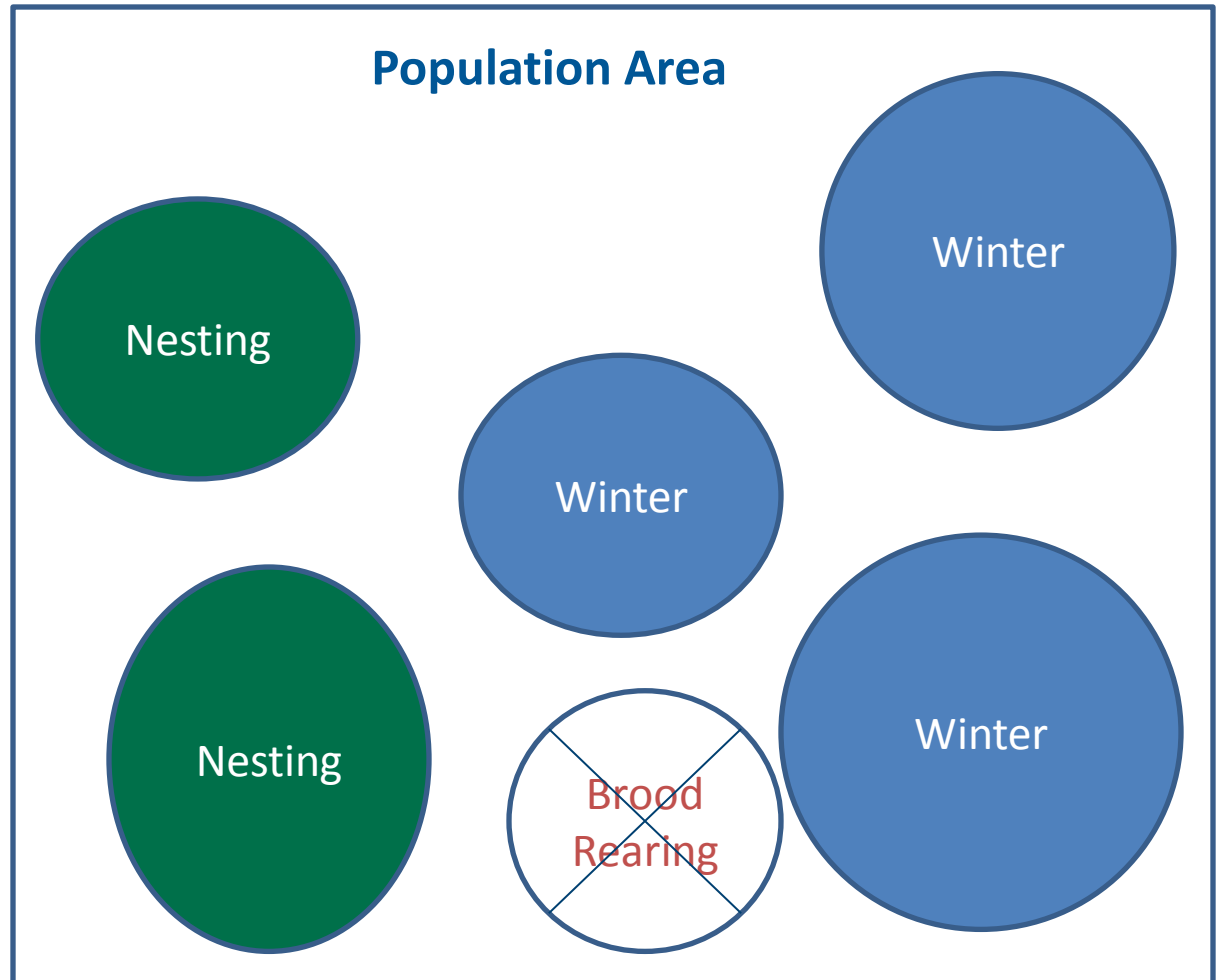
# DEBIT SITE - SEASONAL HABITAT FACTOR
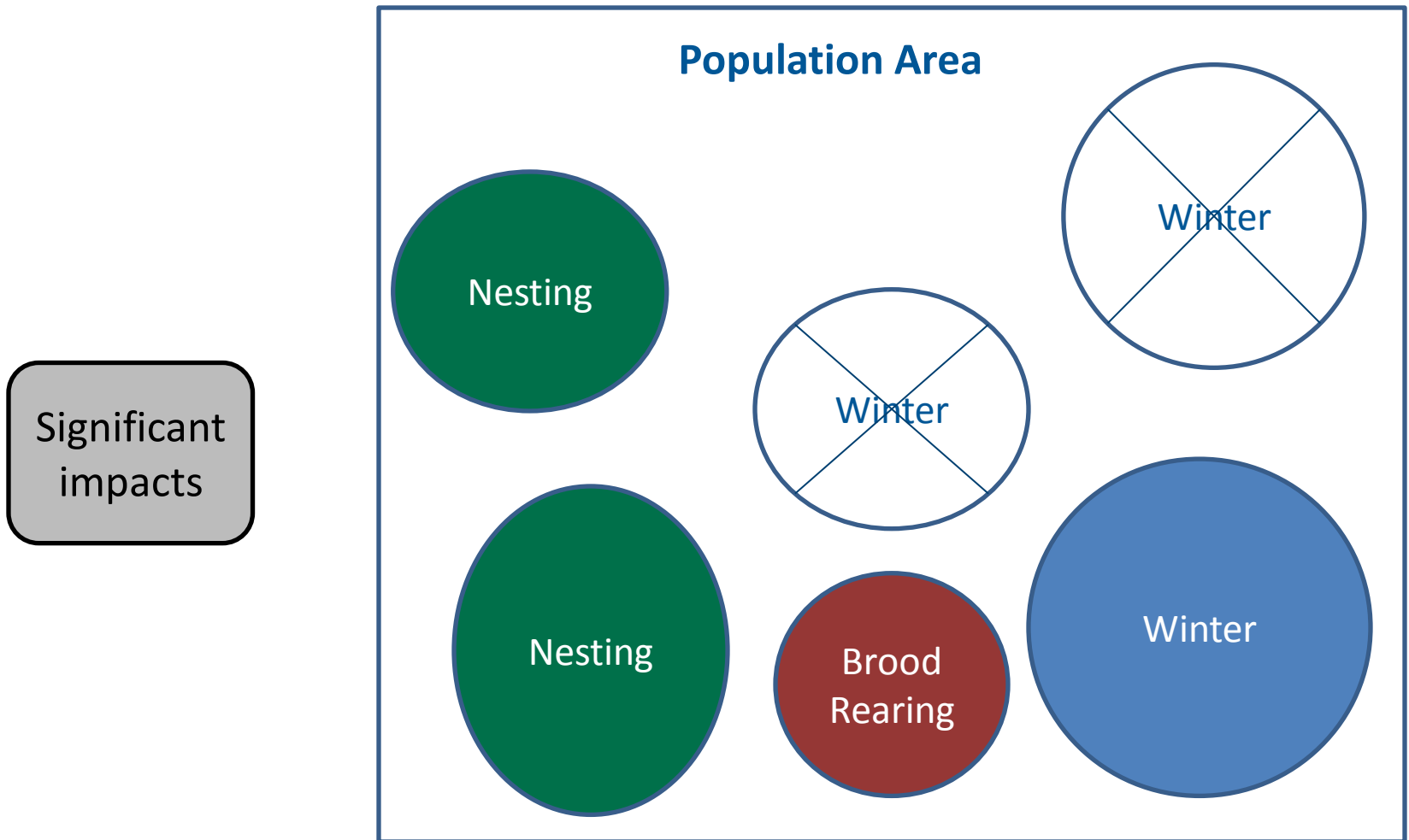
# DEBIT SITE - SEASONAL HABITAT FACTOR
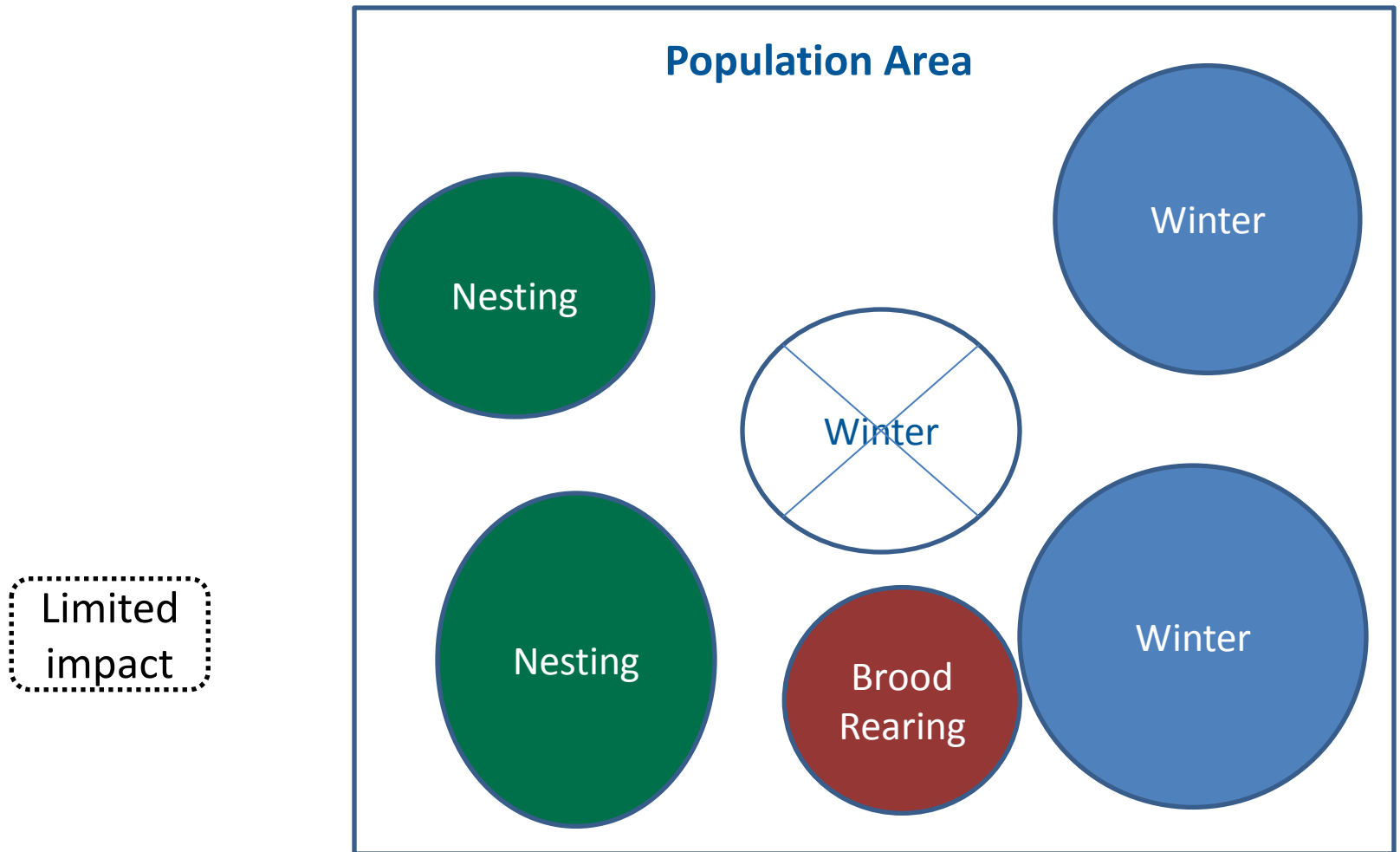
# CREDIT OBLIGATION CALCULATION

**Functional Acre Loss (HQT Output)** ✗ Debit Site Mitigation Ratio = **Debits** ✗ Proximity Factor = **Credit Obligation *(Total debits required)***

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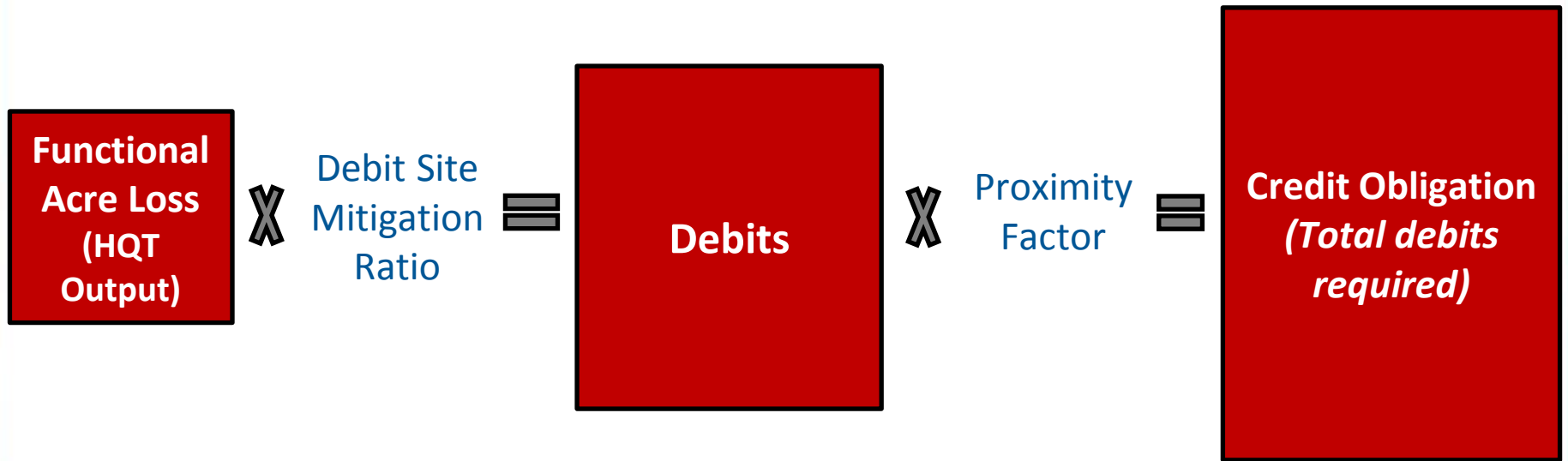
# PROXIMITY FACTOR



Sage Grouse Population Management Units (PMUs)
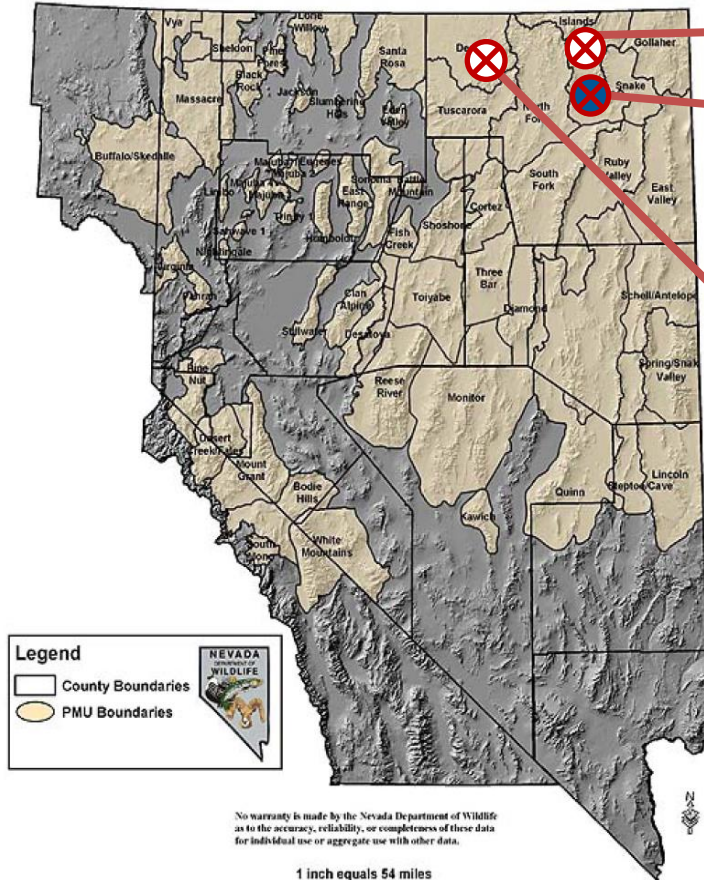
**#3 Credit**

**Debit Site**

**#2 Credit Site**

**#1 Credit Site**

Credit Site #1 – **No population connection**

Credit Site #2 – **Connectivity through dispersal**

Credit Site #3 – **Population connectivity**

WAFWA Management Zones

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# CREDIT CALCULATION

**Functional Acre Benefit** *(HQT Output)* ✖ Credit Site Mitigation Ratio ═ **Credits**

Credit Site Mitigation Ratio ═ Seasonal Habitat Factor ➕ Habitat Importance Factor
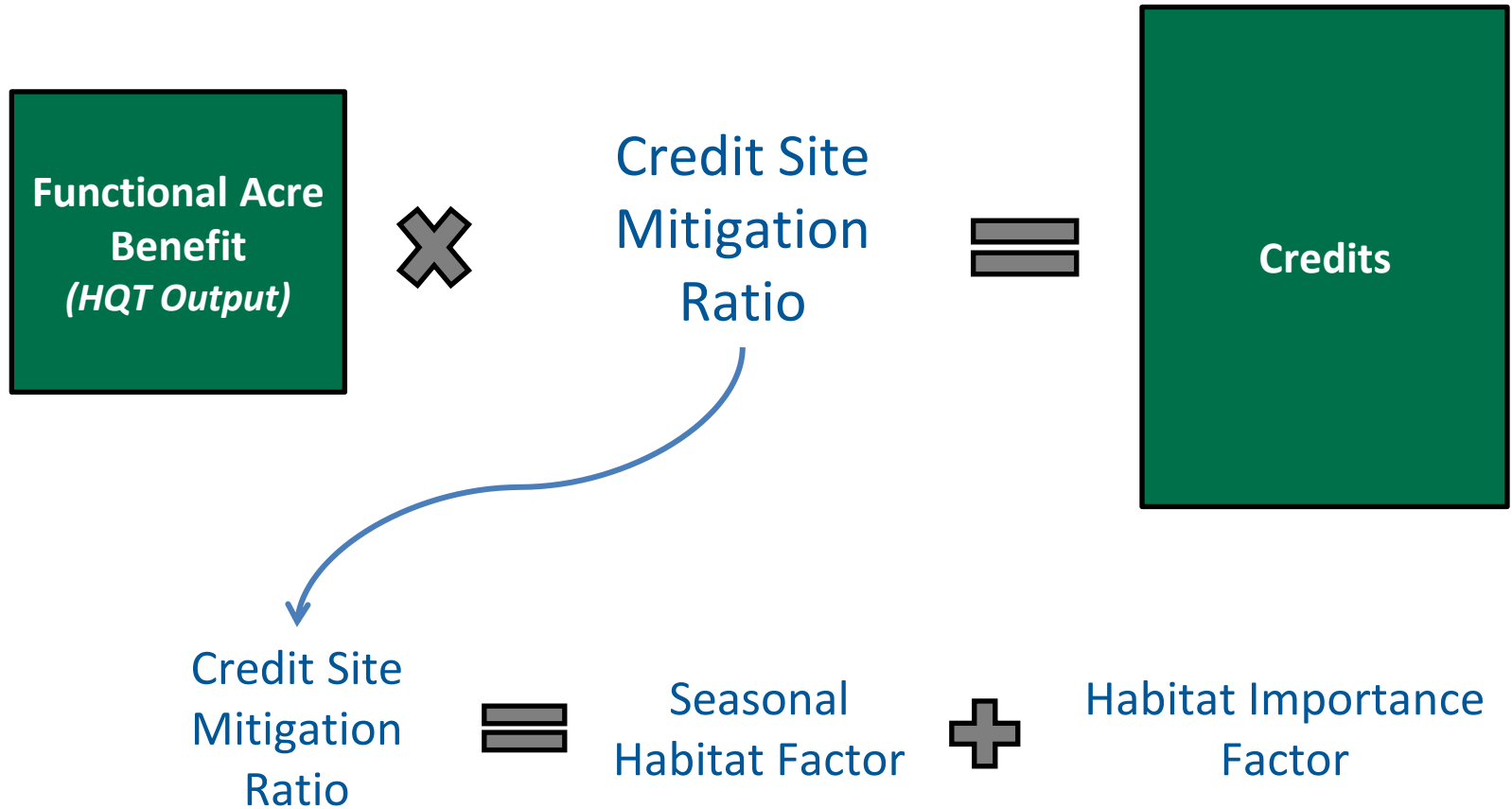
# CREDIT SITE - HABITAT IMPORTANCE FACTOR

Factor based on management categories

**Core or Priority+**

**Priority or General +**



Core Management Category

Priority Management Category

Low to General Management Category

Non-Habitat Management Category

0    50    100
Kilometers

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# CREDIT SITE- SEASONAL HABITAT FACTOR
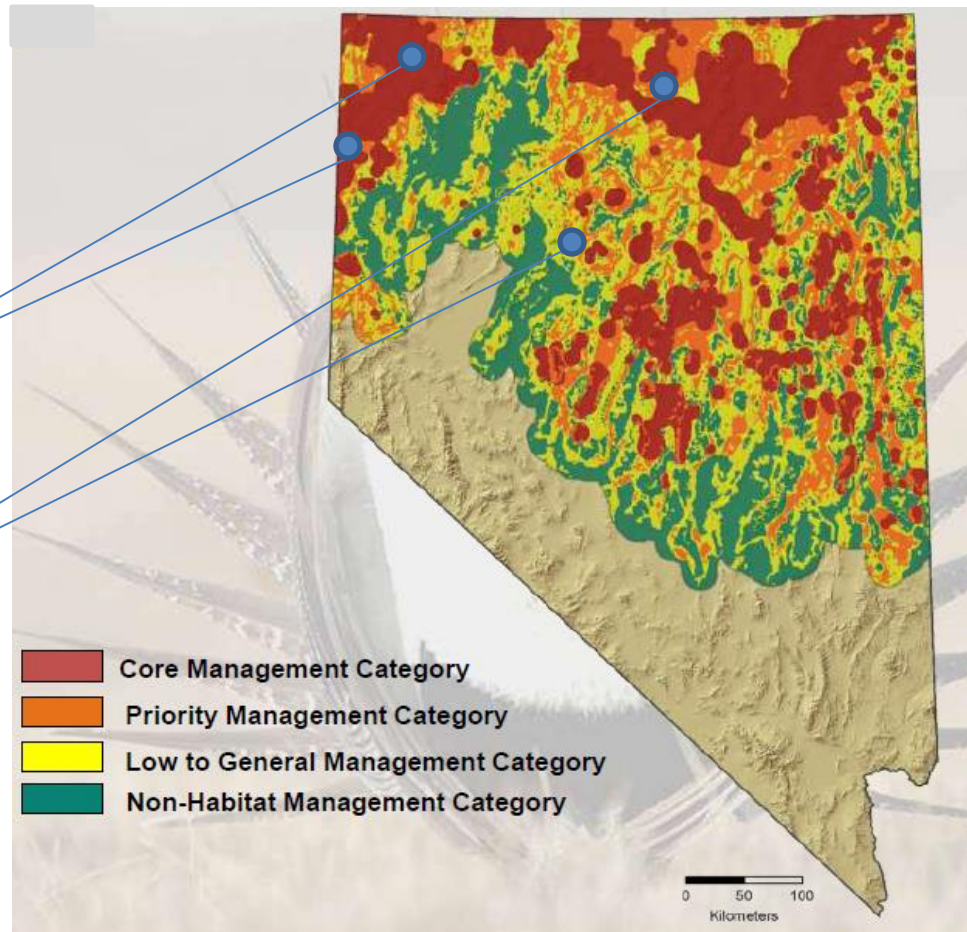
# CREDIT SITE- SEASONAL HABITAT FACTOR

**Very significant benefit**

Protect final habitat or Expand highly limiting habitat
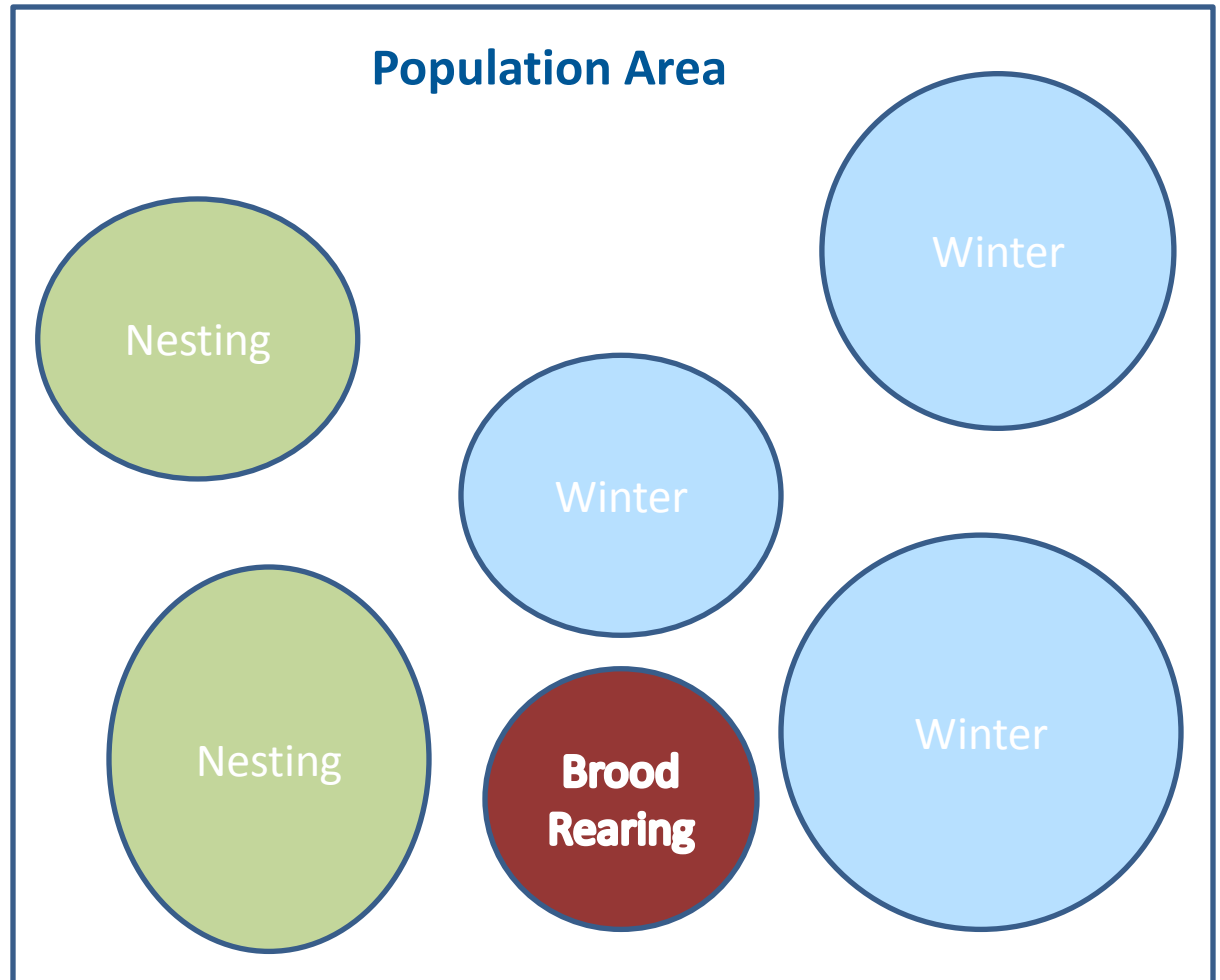
**Population Area**

Nesting

Winter

Nesting

Winter

**Brood Rearing**

Winter

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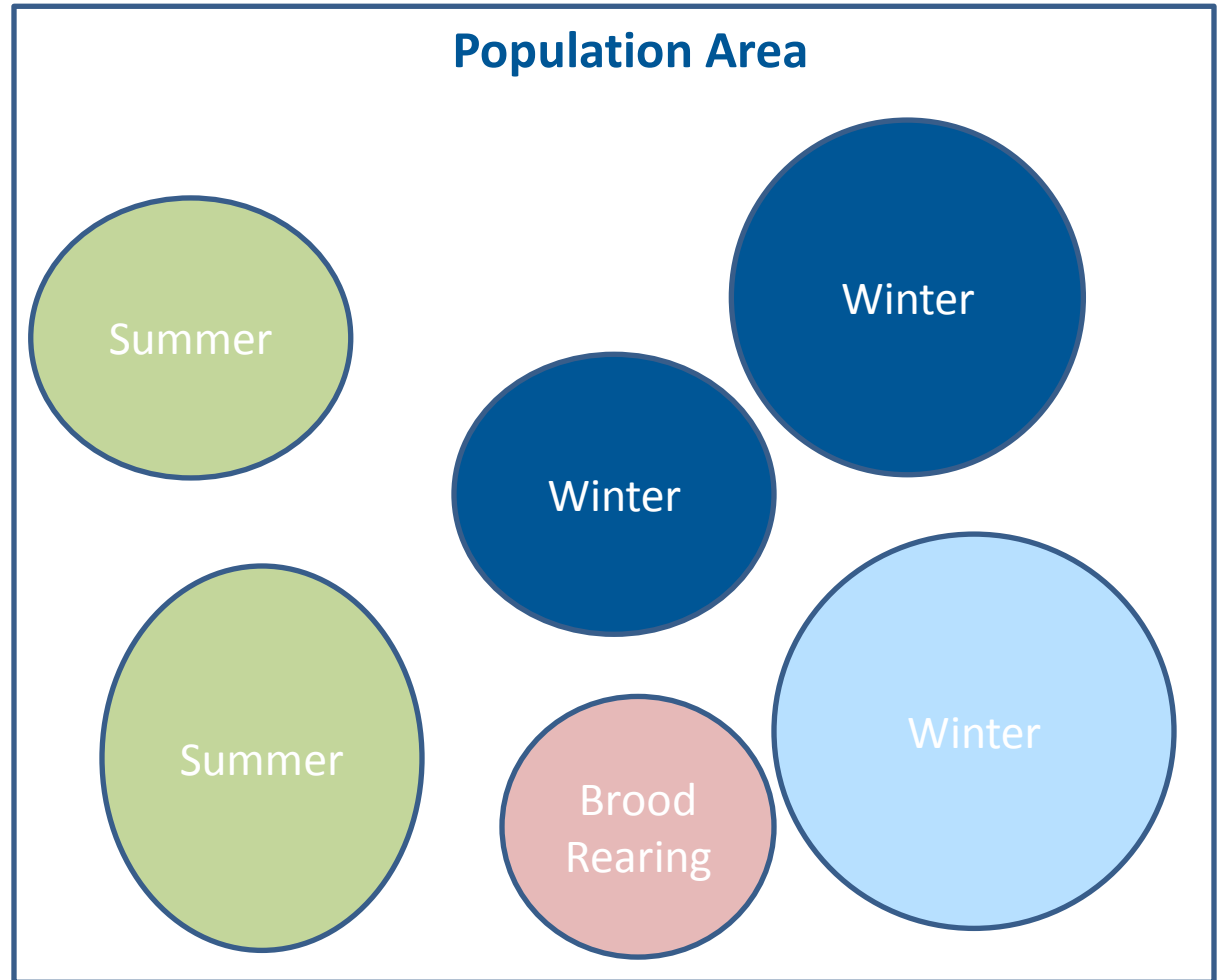
# CREDIT SITE- SEASONAL HABITAT FACTOR

# CREDIT SITE- SEASONAL HABITAT FACTOR
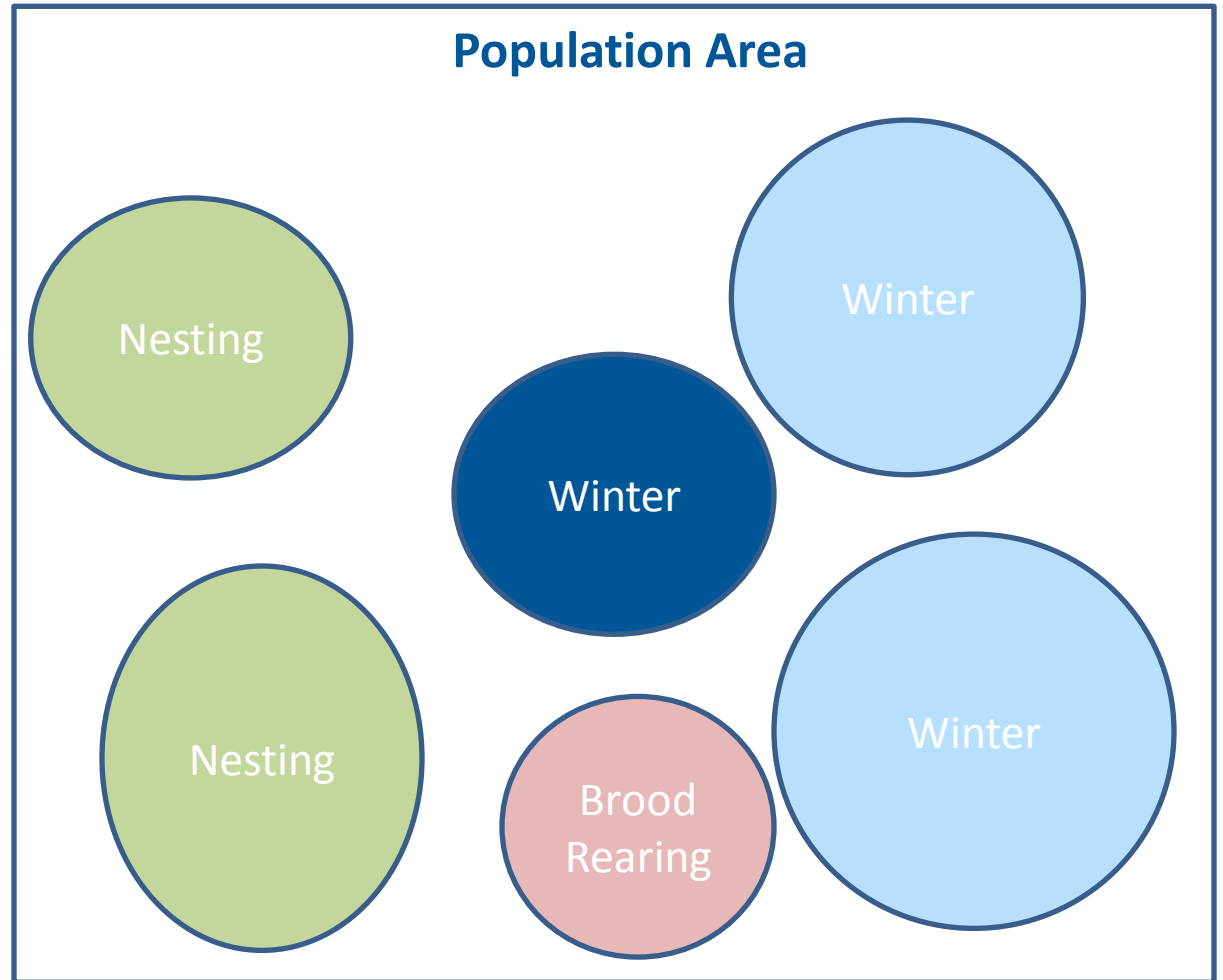
# *DRAFT* Mitigation Ratio Factors

| | Factor | Characteristic Options | Multiplier |
|---|---|---|---|
| **Debit** | **Habitat Importance** | Core | 4.0 |
| | | Priority or General + | 2.0 |
| | | General | 1.0 |
| | **Seasonal Habitat Scarcity** | Impacts all of the remaining portion of a seasonal habitat type for the effected populations | 4.0 |
| | | Impacts but does not approach eliminating a limiting seasonal habitat for the effected populations | 2.0 |
| | | Impacts an abundantly available seasonal habitat type for the effected populations | 0.0 |
| **Credit** | **Habitat Importance** | Priority or General + | 0.6 |
| | | Core or Priority + | 0.8 |
| | **Seasonal Habitat Scarcity** | Significantly increases the availability of a limiting habitat type for the effected population | 0.4 |
| | | Increases the availability of a limiting habitat type for the effected population | 0.2 |
| | | Benefits a habitat type that is abundantly available for the effected population | 0.0 |
| **Debit** | **Proximity** | No population connection between credit and debit sites | 2.0 |
| | | Credit and debit connected through population dispersal | 1.0 |
| | | Credit and debit within single population | 0 |

"+" indicates an action that improves connectivity

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# HABITAT QUANTIFICATION APPROACH

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# Spatial Scales Framework
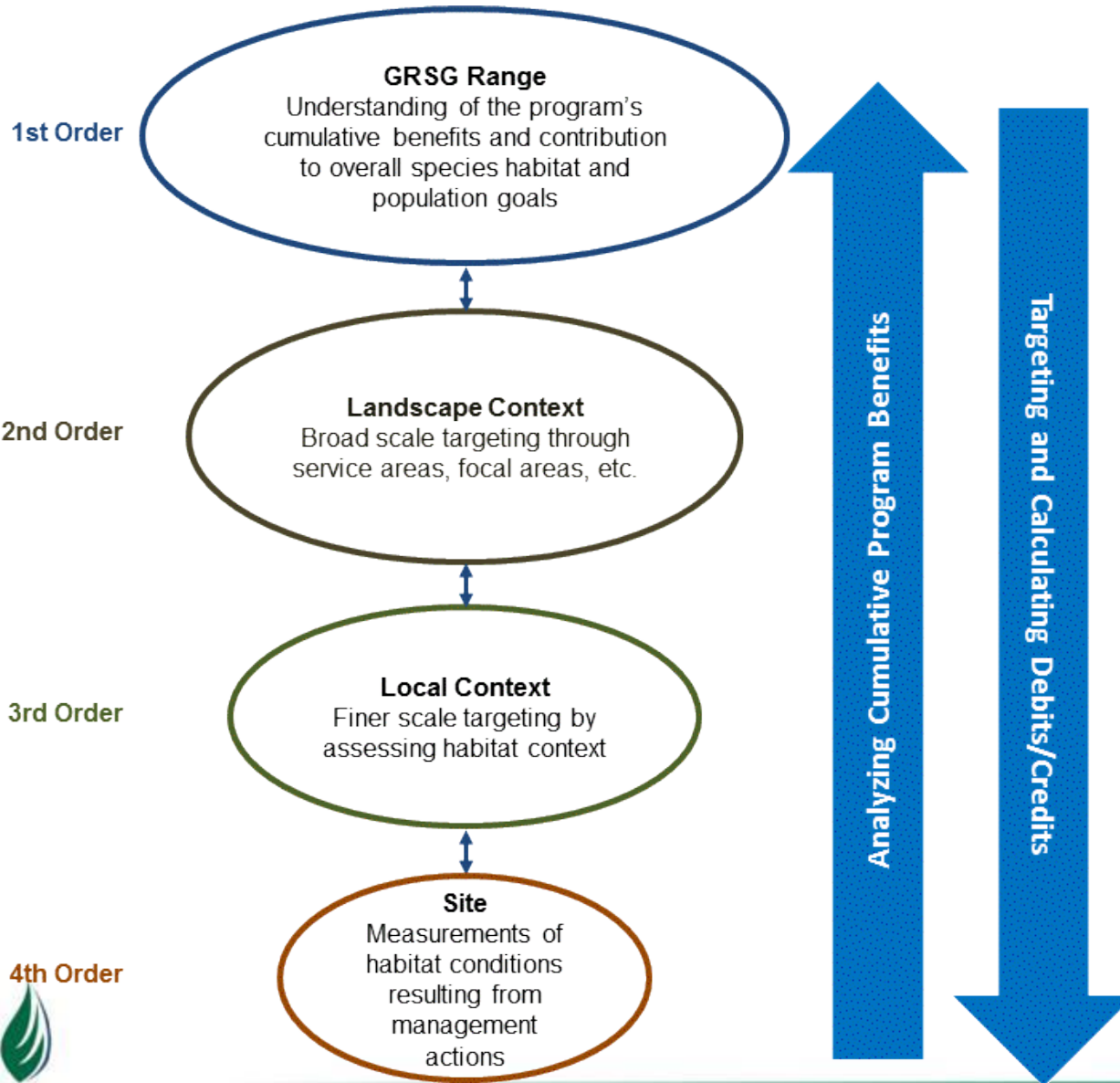
# Spatial Scale Framework

# HQT Scales - Area & Attributes

| Scale | Area Assessed | Attributes Measured or Delineated |
|---|---|---|
| **1st Order** | The range for the species in Nevada | Statewide population recovery goals |
| **2nd Order** | Key habitat for maintaining the species at statewide scales | • Habitat importance<br>• Seasonal Habitat Scarcity<br>• Proximity between Credit and Debit<br>• Resistance & Resilience |
| **3rd Order** | Habitat surrounding a proposed project site (local scale) | • Density of anthropogenic features<br>• Contiguous sagebrush cover<br>• Extent of conifer cover |
| **4th Order** | Delineated acreage of credit or debit project | • **Nesting habitat attributes**<br>• **Late Brood-Rearing habitat attributes**<br>• **Winter habitat attributes**<br>• Modifiers |
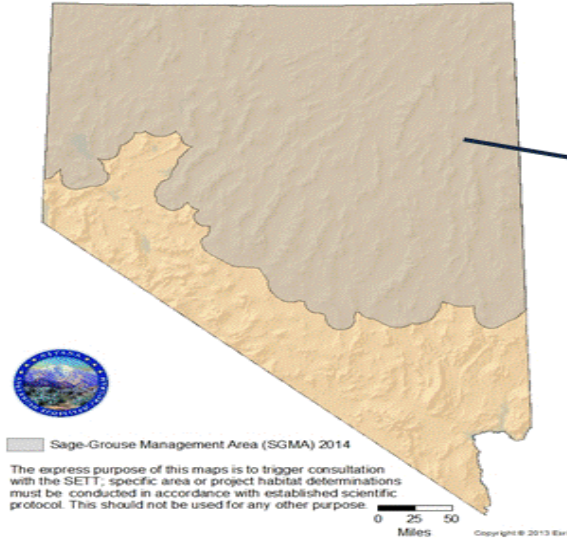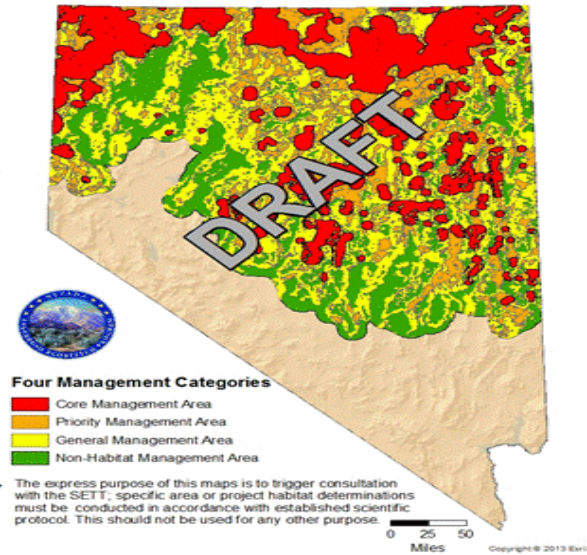
Mitigation Ratio

Functional-Acre

Habitat Objectives table 2-6 in EIS
+
Best available science
+
TRG input

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# HQT 4ᵗʰ Order Concept Model