



# Nevada SEC Committee Meeting

DRAFT Proposals –  
For Discussion Purposes Only

February 4, 2014

# Objectives

- Understand basics of habitat quantification approach to inform policy direction
- Improve the mitigation ratio
- Improve reserve account deposit amounts and withdrawal opportunities

# Agenda

## Time

## Subject

8:30

Habitat Quantification  
Approach

8:45

Credit Account Overview

9:00

Mitigation Ratio

10:45

Reserve Account

12:20

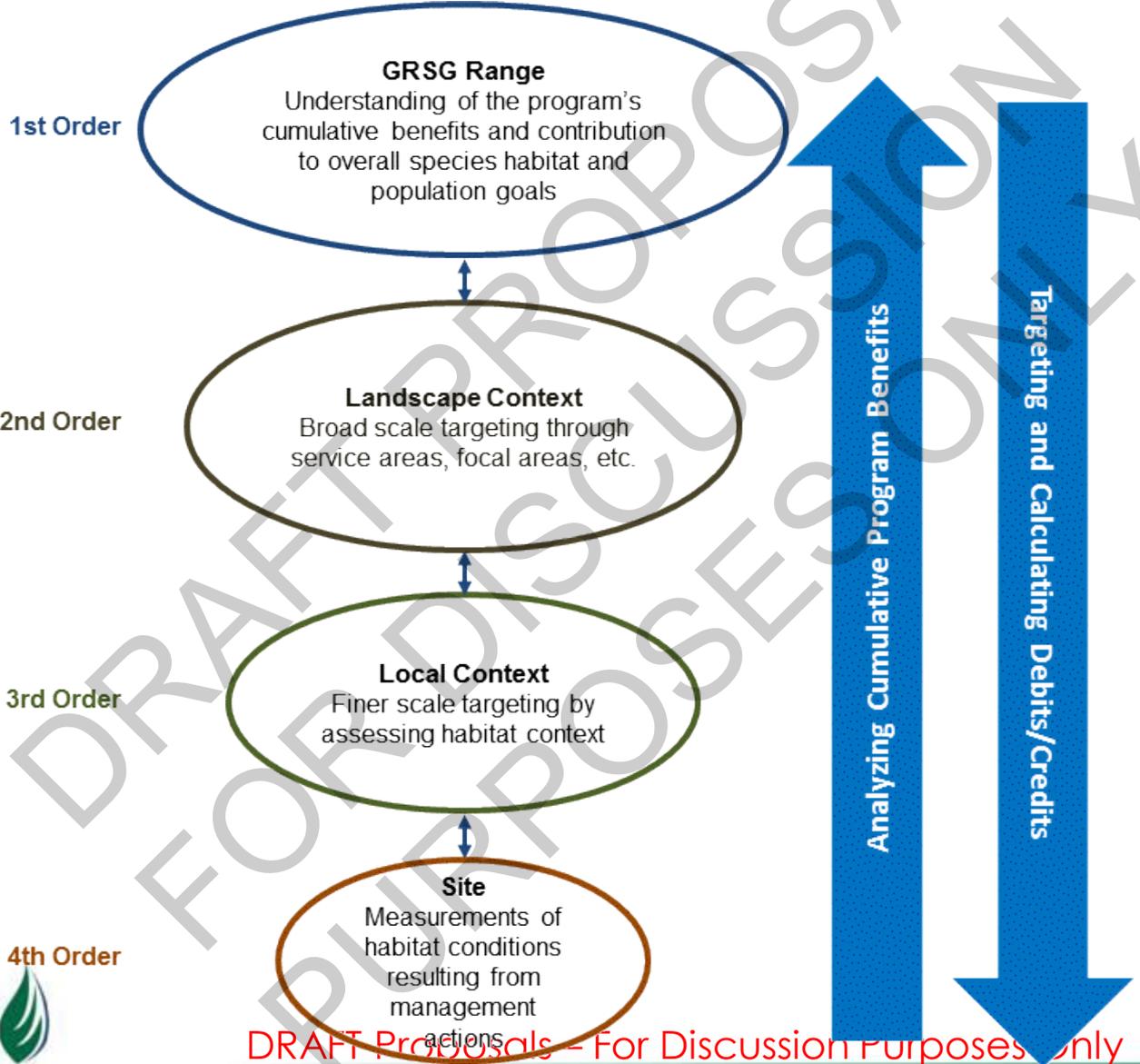
Determination of Need for 2/10  
Committee Meeting

12:30

Adjourn

# HABITAT QUANTIFICATION APPROACH

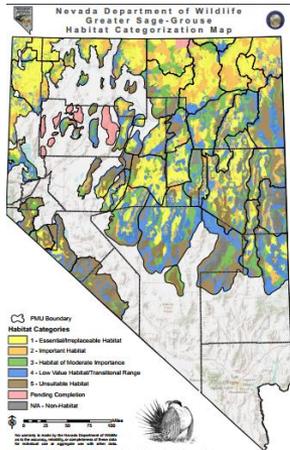
# Spatial Scales Framework



# Spatial Scale Framework

## 1<sup>st</sup> Order Scale

Range for the species in NV



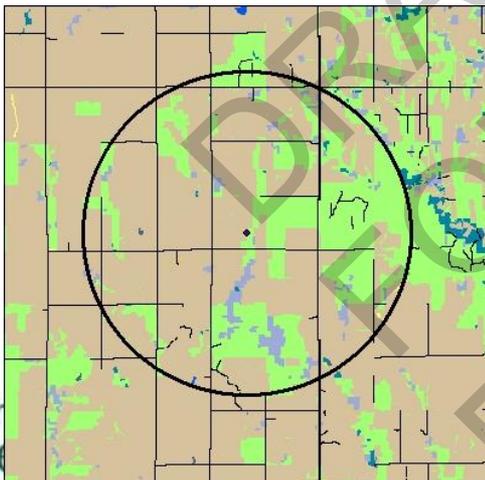
## 2<sup>nd</sup> Order Scale

Landscape, scale habitat priority



## 3<sup>rd</sup> Order Scale

Habitat immediately surrounding a proposed project site



## 4<sup>th</sup> Order Scale

Habitat conditions at the site of proposed activities



# 2<sup>nd</sup> Order Scale

## **Objective of this scale**

*Provide appropriate incentives and disincentives for development and improvement through broad scale **targeting strategies**.*

**Informs the mitigation ratio.**

Area assessed

- Priority areas
- Population-scale considerations

# 2<sup>nd</sup> Order Scale

Information incorporated at this scale

- Areas designated as high value for various reasons
  - Suitable breeding, summer, or winter habitat
  - Support greater probability of occupancy, density, or reproductive success; better ability to disperse
  - Increased local persistence
  - Improved population status and trends

Potential measurement approach

- USGS Habitat Suitability Model results
- Seasonal habitat analysis for influenced populations

# 3<sup>rd</sup> Order Scale

## **Objective of this scale**

*Understand how the project site's habitat value for GRSG is affected by its local surroundings.*

Area assessed:

- Approximately 20 km (12 mi) radius around the center of the project site

# 3<sup>rd</sup> Order Scale

Surrounding conditions that may be related to GRSG performance include:

- Extent of suitable seasonal habitat
- Extent of developed land cover
- Conifer cover
- Resistance and resilience

Potential measurement approach

- Collected field attributes
- Remote imagery
- WAFWA Resistance & Resilience Matrix

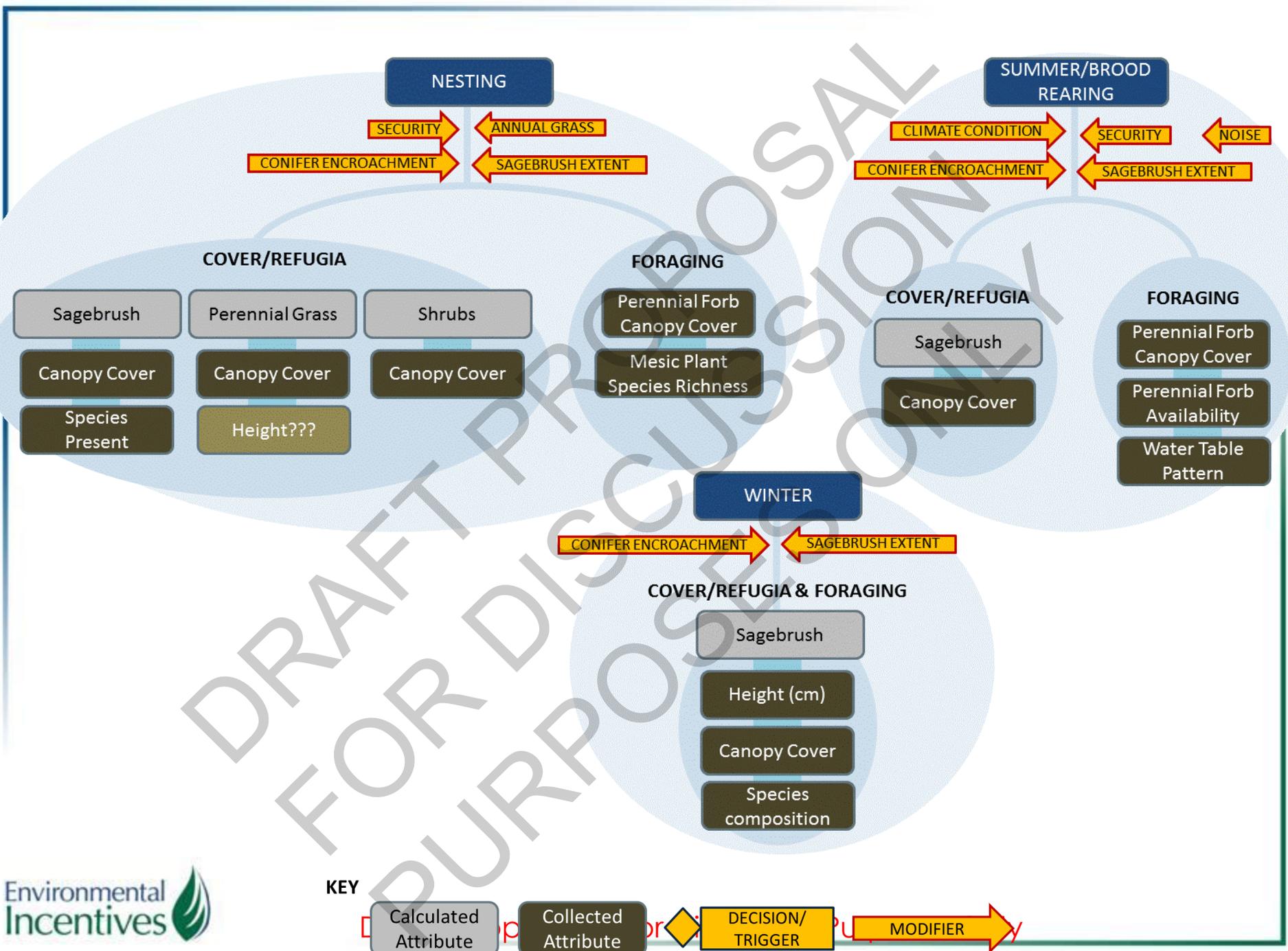
# 4<sup>th</sup> Order Scale

## **Objective of this scale:**

*Understand vegetation conditions indicative of habitat quality for the GRSG, including conditions that support nesting, summer/ brood-rearing and winter habitats.*

## **Area assessed:**

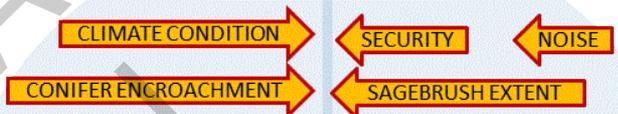
- Area of impact development or conservation improvement project



**NESTING**



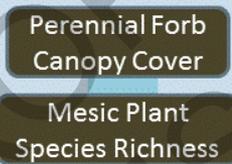
**SUMMER/BROOD REARING**



**COVER/REFUGIA**



**FORAGING**



**COVER/REFUGIA**



**FORAGING**



**WINTER**



**COVER/REFUGIA & FORAGING**



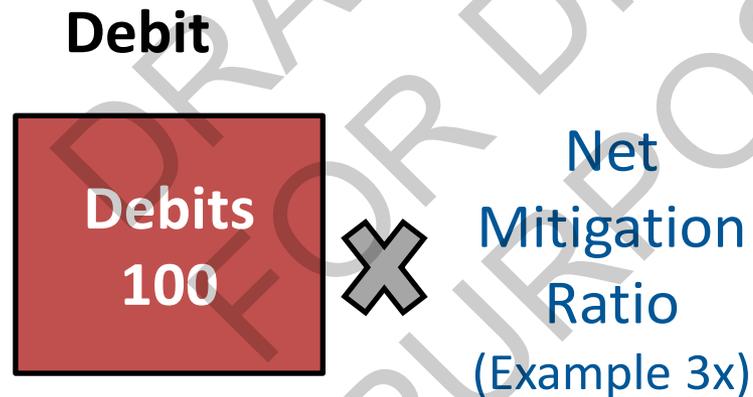
**KEY**



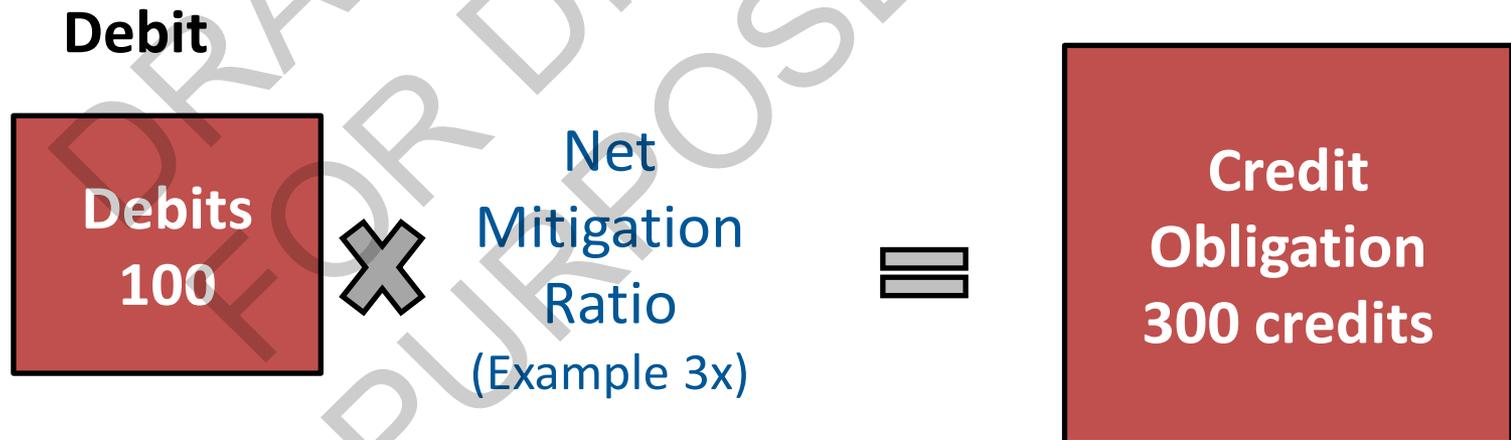
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PURPOSES ONLY

# CREDIT/DEBIT FLOW

# TRANSACTION OVERVIEW



# TRANSACTION OVERVIEW



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# TRANSACTION OVERVIEW

## Credit

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

Reserve  
Contribution  
(Example 10%)

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# TRANSACTION OVERVIEW

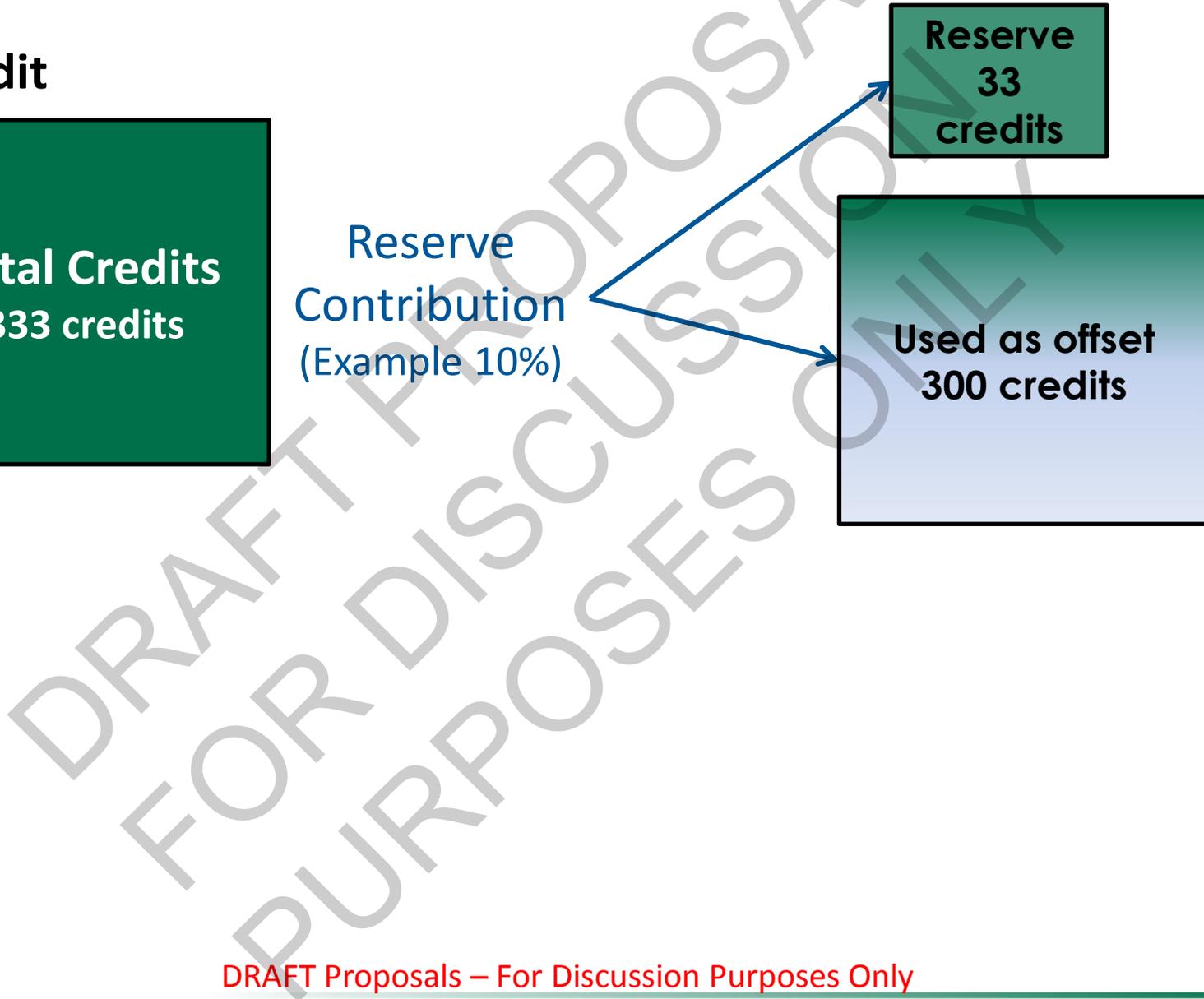
## Credit

**Total Credits  
333 credits**

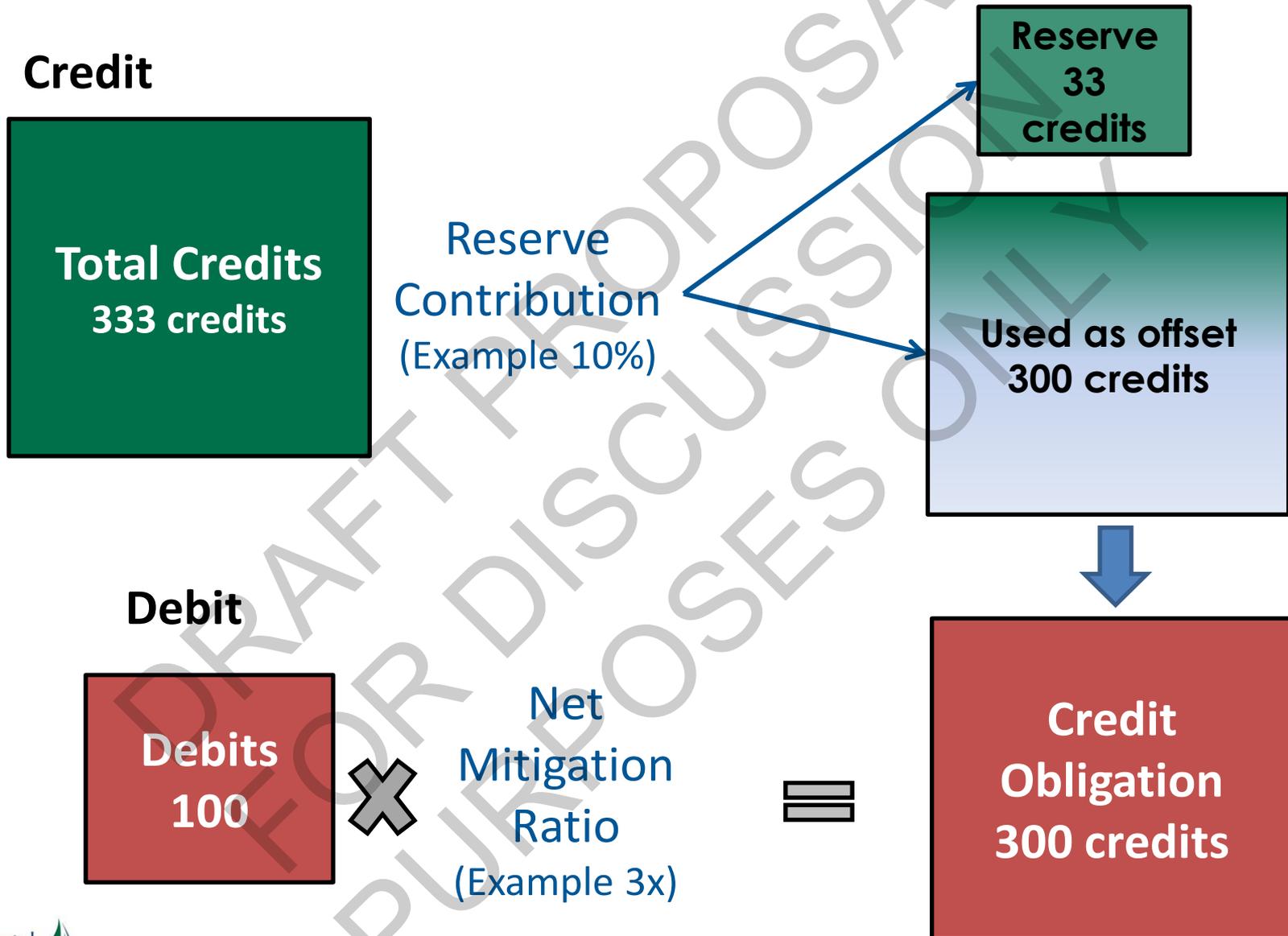
Reserve  
Contribution  
(Example 10%)

**Reserve  
33  
credits**

**Used as offset  
300 credits**



# TRANSACTION OVERVIEW



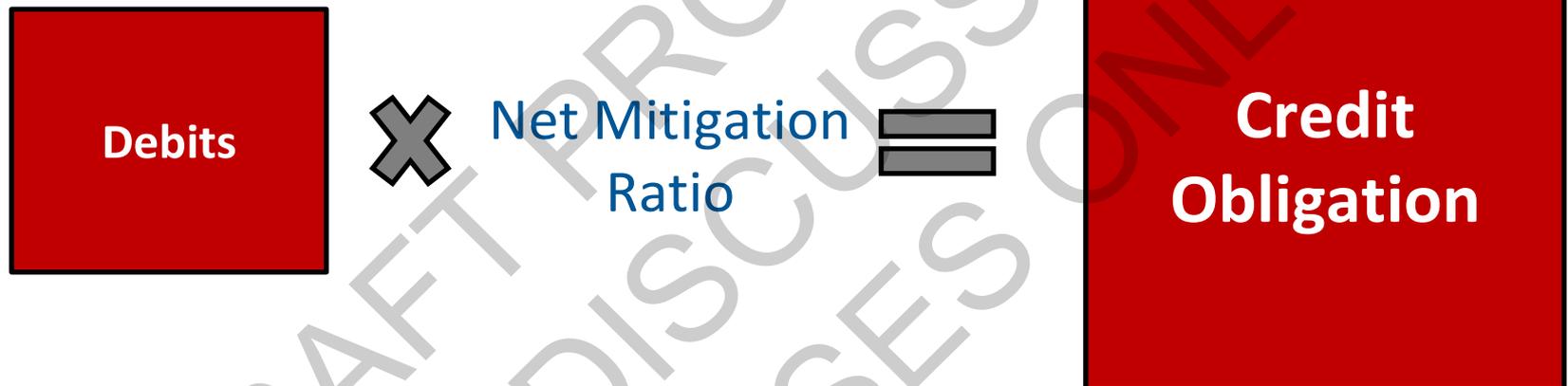
# MITIGATION RATIO

# Mitigation Ratio

How does the Credit System ensure that greater sage-grouse habitat mitigation offsets result in net environmental?

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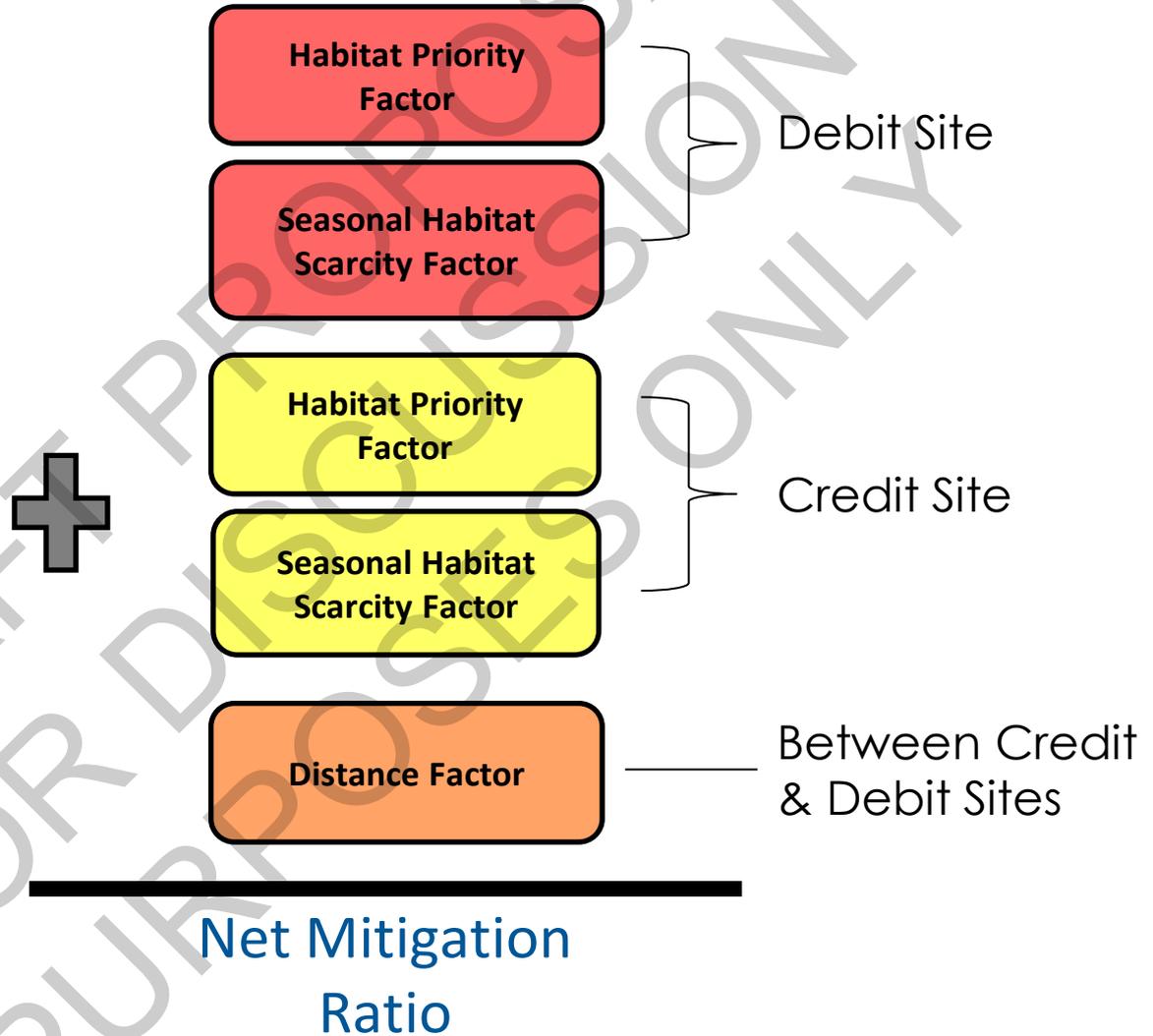
# Mitigation Ratios



# Order of Mitigation Ratio Discussion

1. Confirm and adjust most critical factors
2. Confirm and adjust specific criteria and options
3. Gain feedback on general range of multipliers

# Mitigation Ratio Factors



## **DRAFT Mitigation Ratio Checklist - EXAMPLE**

Factor	Characteristic Options	Multipliers	
<b>Debit</b>	<b>Habitat Priority</b>	Core Management Category	High
		Priority Management Category OR Low + Low to General Management Category	Low
	<b>Seasonal Habitat Scarcity</b>	Impacts all of the remaining portion of a single habitat type for a population OR impacts >50% of multiple habitat types	High
		Impacts >50% of a single habitat type for a population Impacts <50% of a single habitat type for a population	Low
<b>Credit</b>	<b>Habitat Priority</b>	Low to General Management Category + Priority Management Category	High
		Core Management Category OR Priority +	Low
	<b>Seasonal Habitat Scarcity</b>	Benefits <50% for a population	High
		Benefits >50% of a single habitat type for a population Benefits all of the remaining portion of a single habitat type for a population OR benefits >50% of multiple habitat types	Low (<0 ?)
<b>Credit &amp; Debit</b>	<b>Distance/Population Connectivity</b>	No population connection between credit and debit sites	High
		Credit and debit connected through population dispersal	
		Credit and debit within single population	Low

“+” indicates an action that improves connectivity

# DEBIT SITE- HABITAT PRIORITY FACTOR

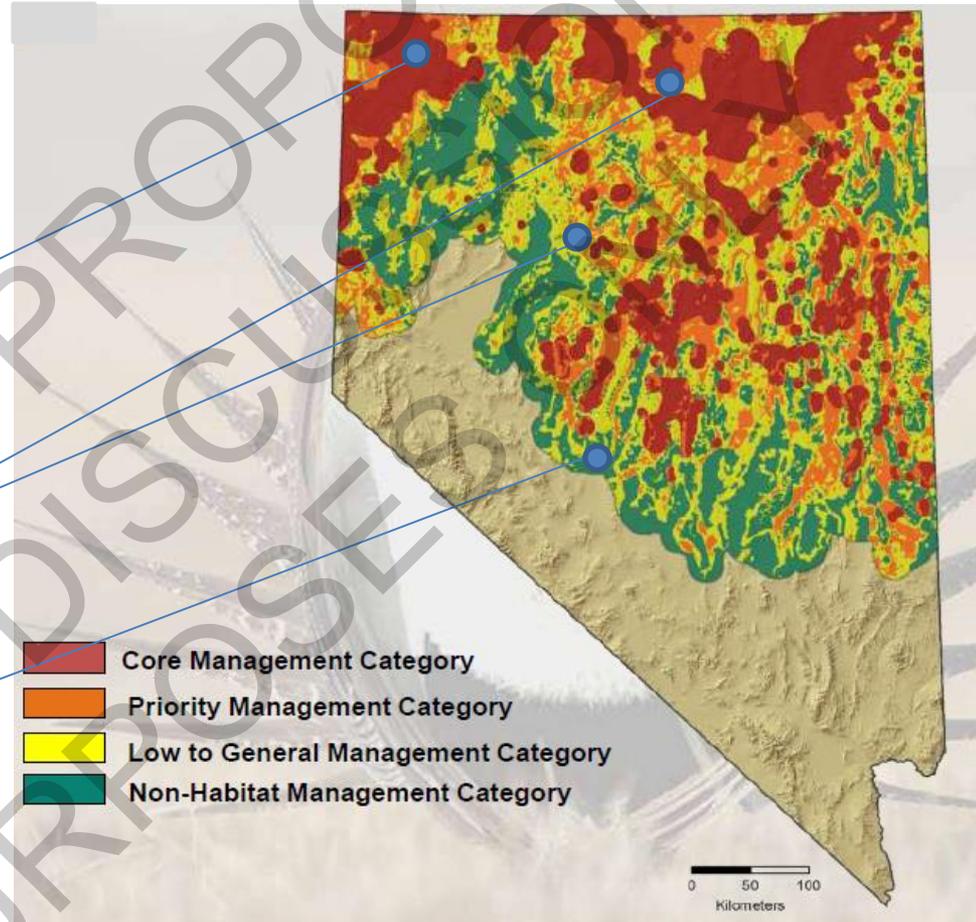
Factor based on management categories

Core

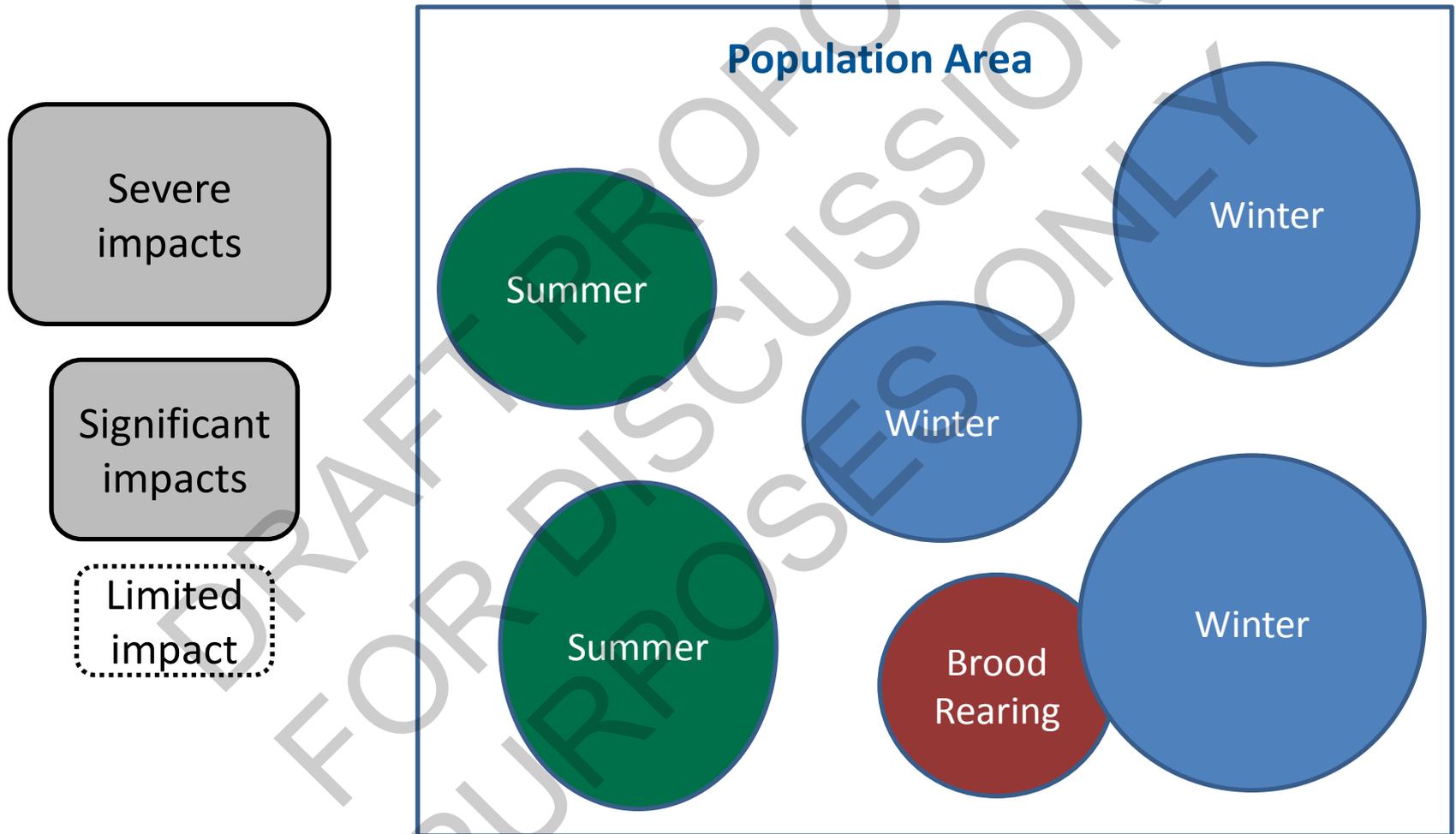
Priority or Low +

Low to General

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

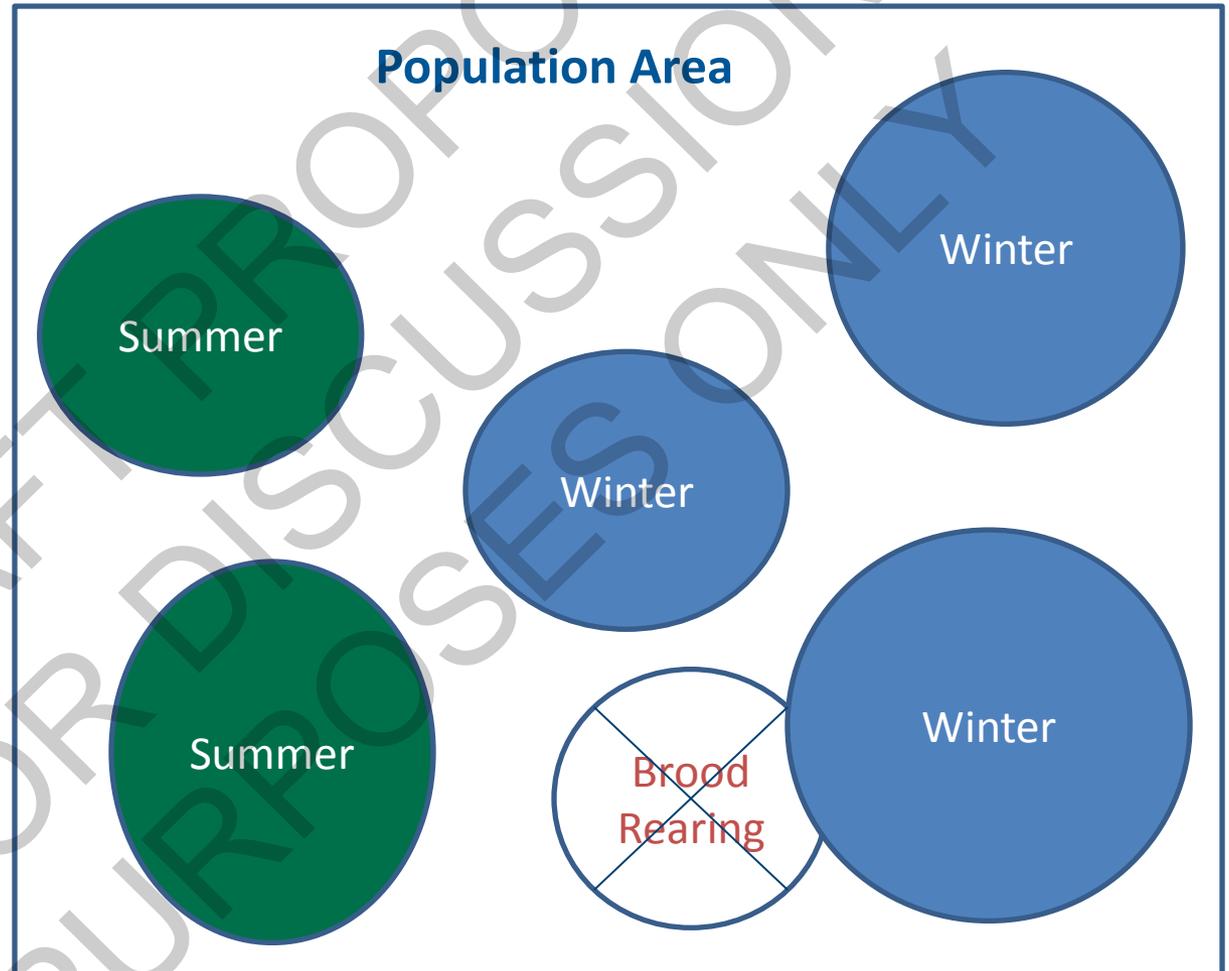


# DEBIT SITE- SEASONAL HABITAT FACTOR

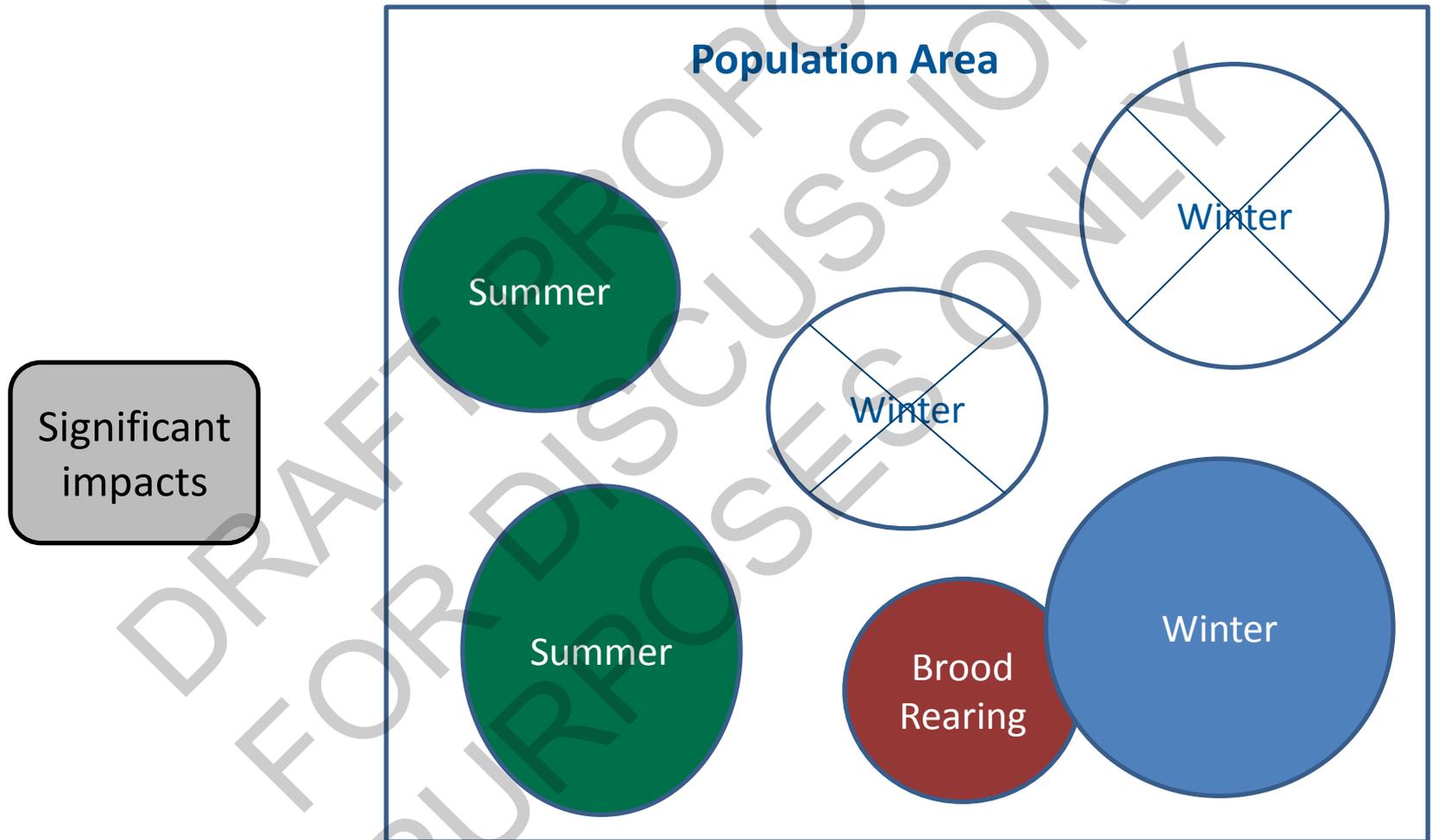


# DEBIT SITE - SEASONAL HABITAT FACTOR

Severe impacts



# DEBIT SITE - SEASONAL HABITAT FACTOR



Significant impacts

Population Area

Summer

Winter

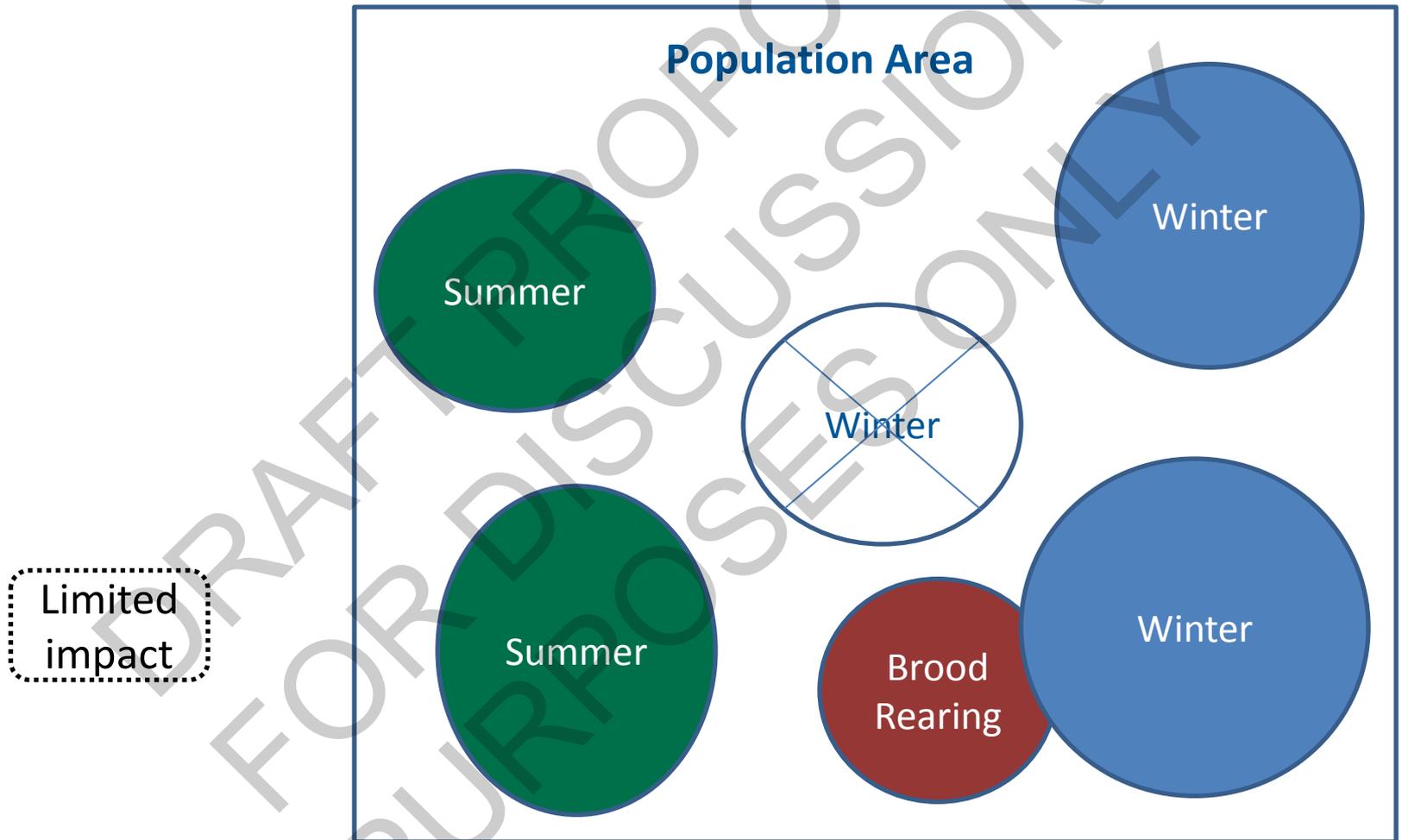
Winter

Summer

Brood Rearing

Winter

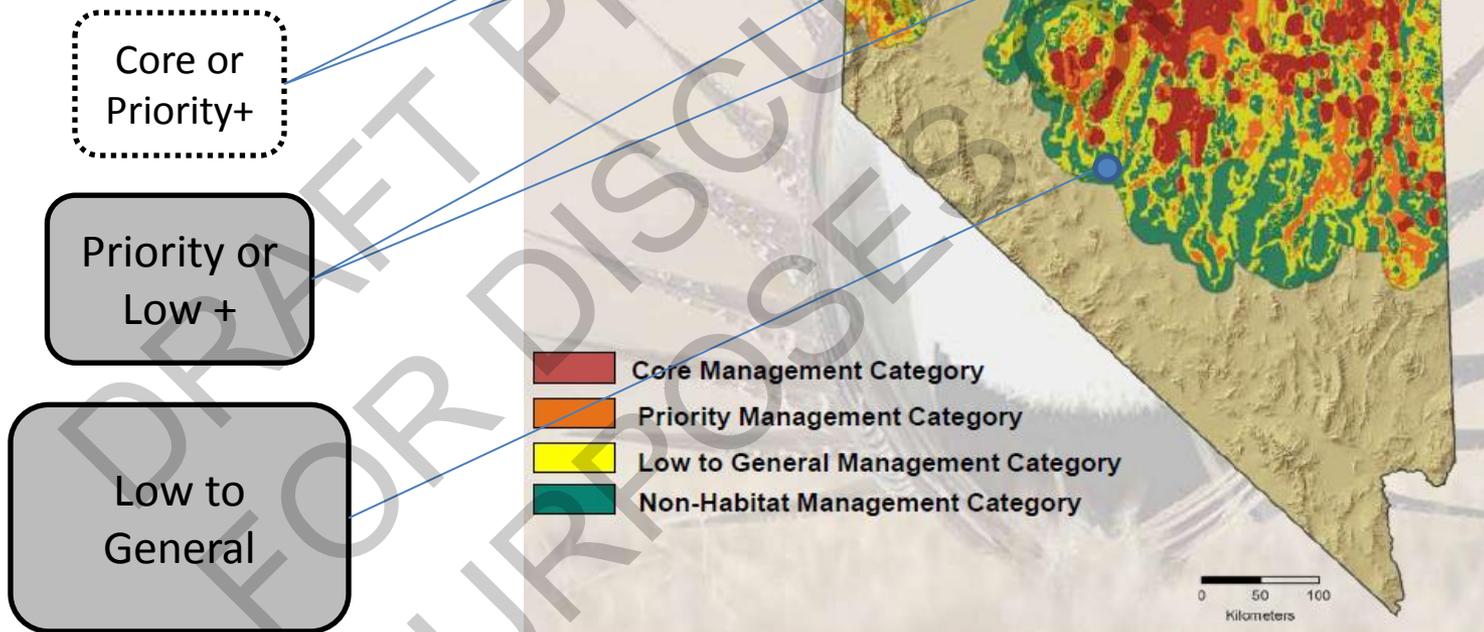
# DEBIT SITE - SEASONAL HABITAT FACTOR



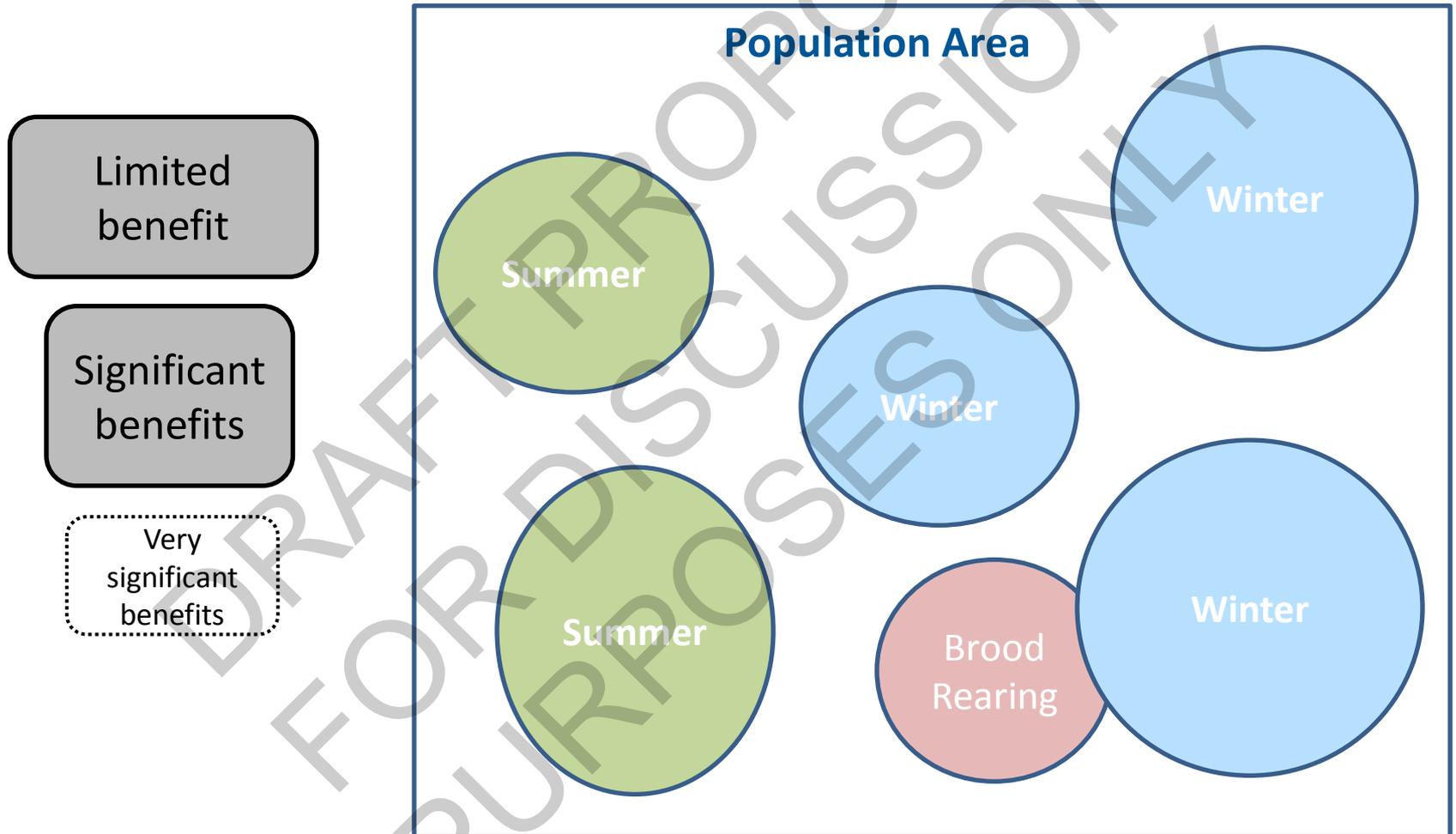
Limited impact

# CREDIT SITE- HABITAT PRIORITY FACTOR

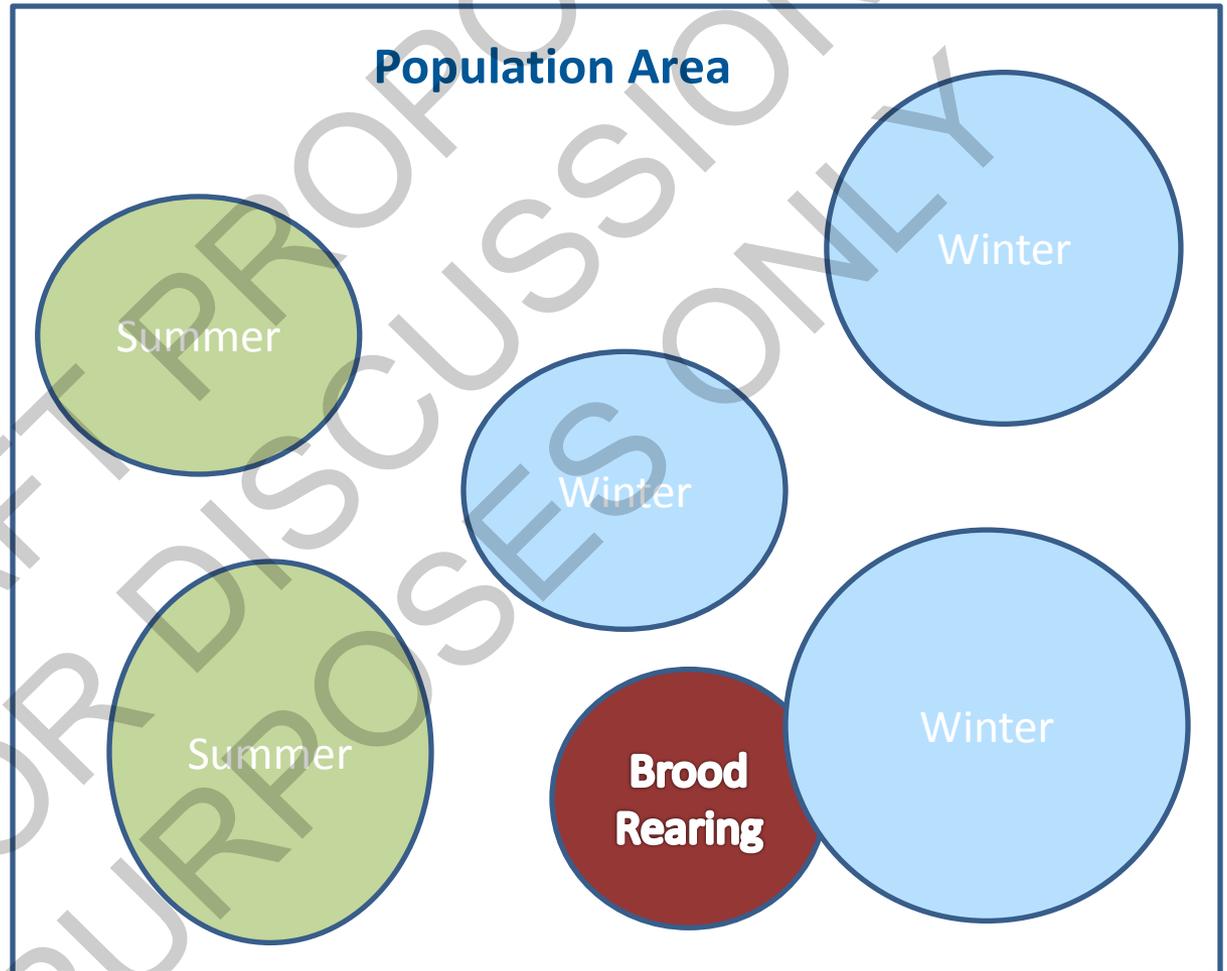
Factor based on management categories



# CREDIT SITE- SEASONAL HABITAT FACTOR



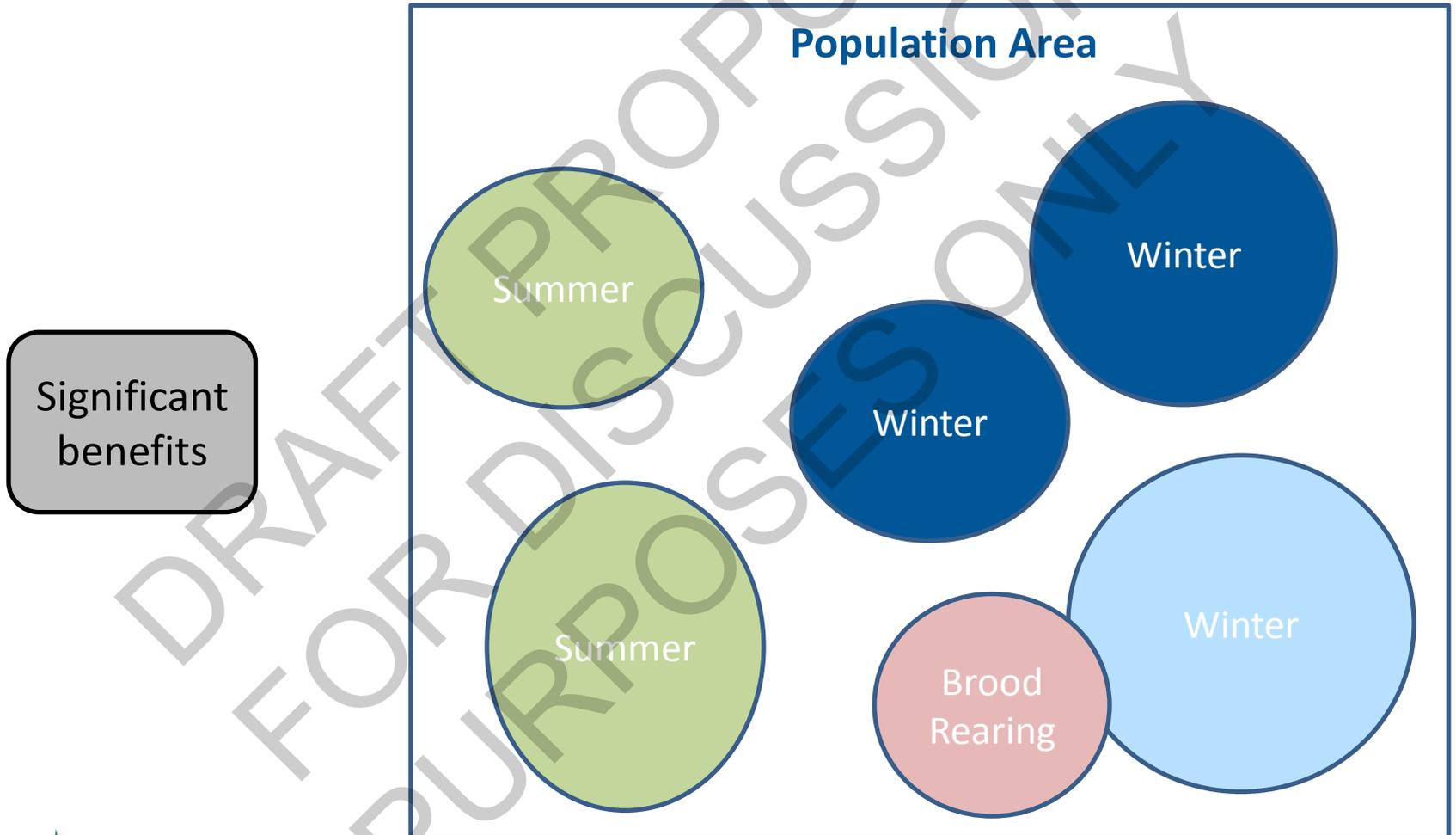
# CREDIT SITE- SEASONAL HABITAT FACTOR



Protect final habitat or  
Expand highly limiting  
habitat

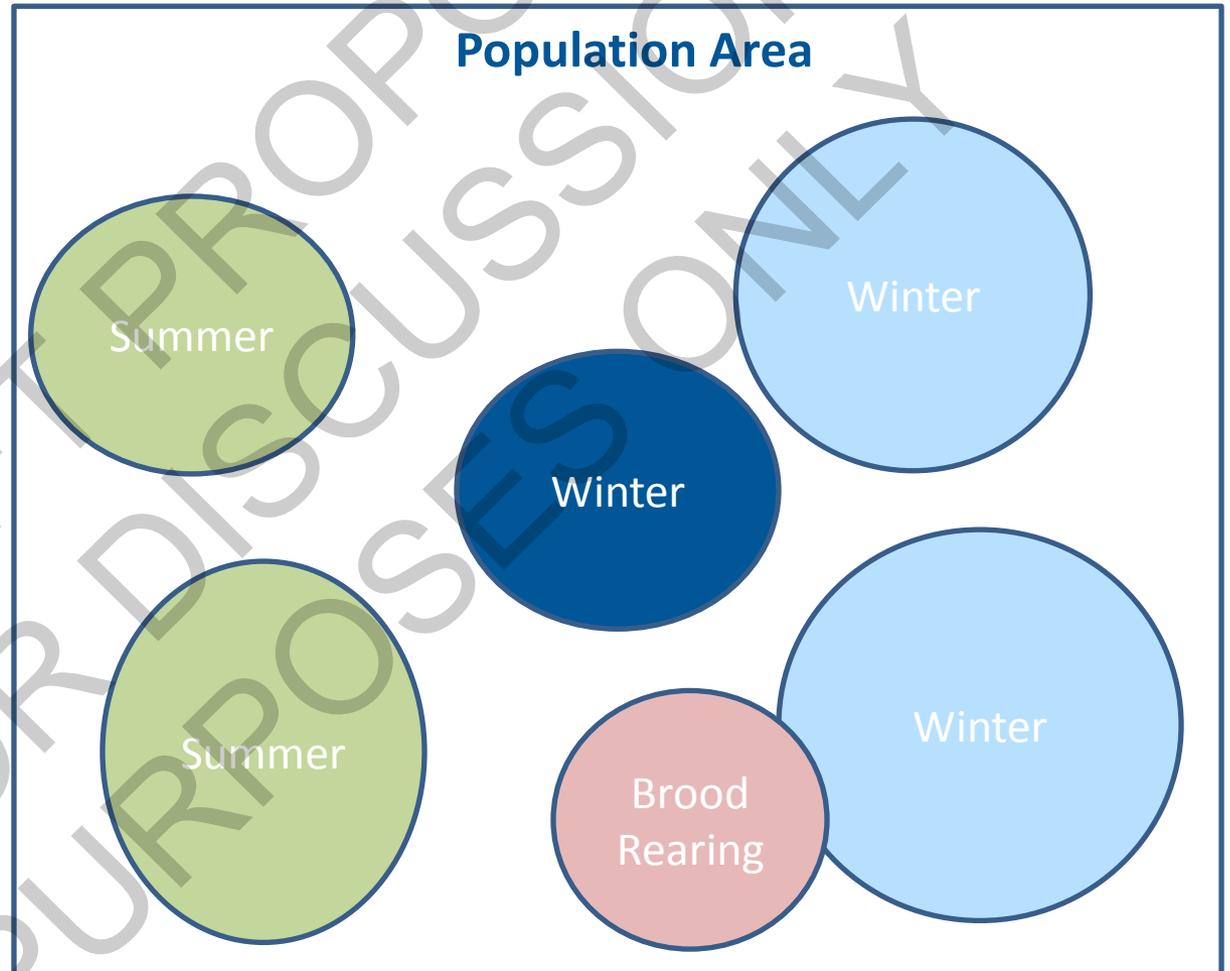
Very  
significant  
benefits

# CREDIT SITE- SEASONAL HABITAT FACTOR



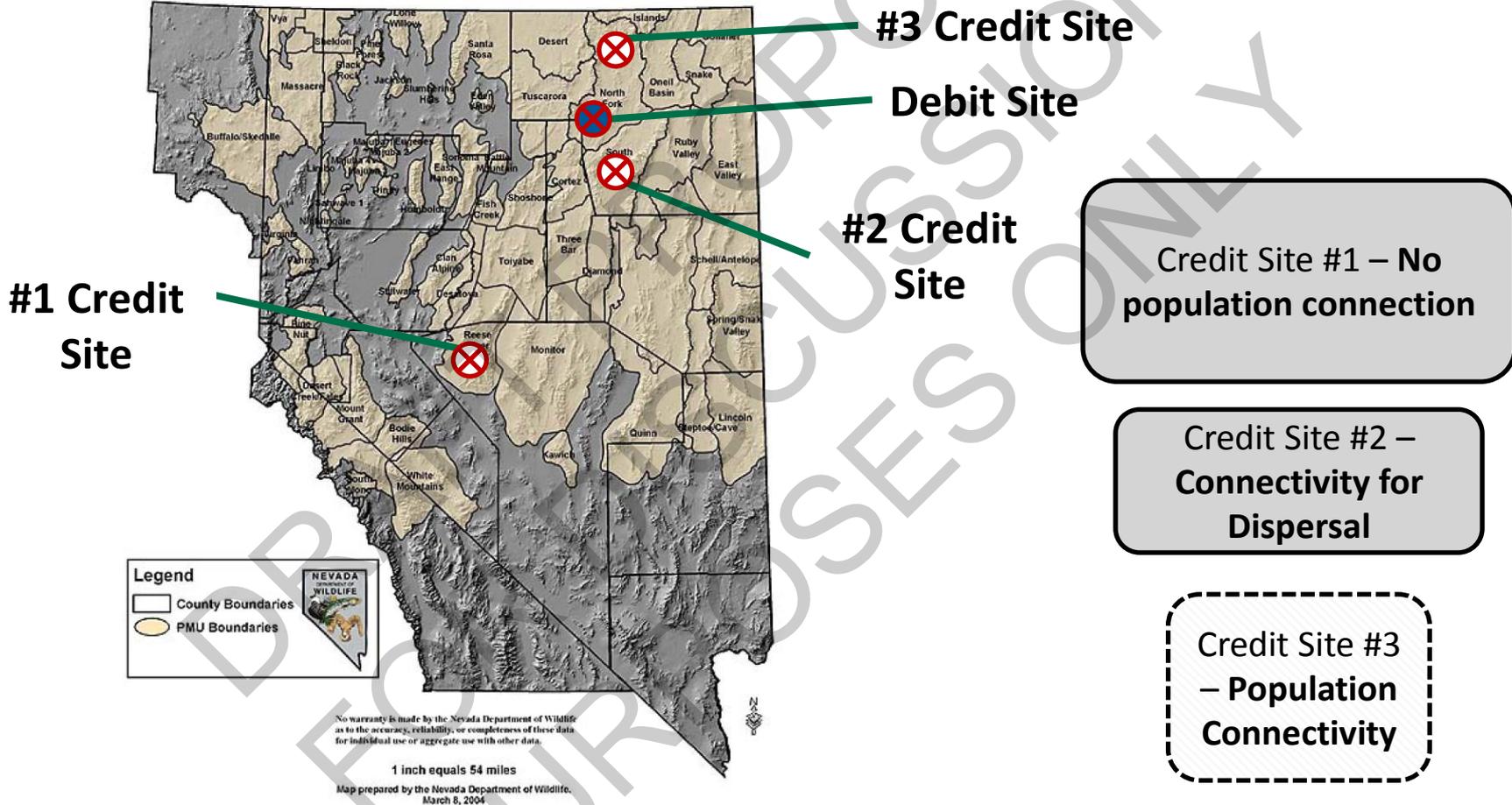
# CREDIT SITE- SEASONAL HABITAT FACTOR

Limited benefit



# DISTANCE FACTOR

Sage Grouse Population Management Units (PMUs)



# DRAFT Mitigation Ratio Checklist - EXAMPLE

	Factor	Characteristic Options	Multipliers	Site Characteristic	Mitigation Multiplier
<b>Debit</b>	<b>Habitat Priority</b>	Core Management Category	4.0		
		Priority Management Category OR Low +	2.0		
		Low to General Management Category	1.0		
	<b>Seasonal Habitat Scarcity</b>	Impacts all of the remaining portion of a single habitat type for a population OR impacts >50% of multiple habitat types	4.0		
		Impacts >50% of a single habitat type for a population	2.0		
		Impacts <50% of a single habitat type for a population	0.0		
<b>Credit</b>	<b>Habitat Priority</b>	Low to General Management Category +	2.0		
		Priority Management Category	1.0		
		Core Management Category OR Priority +	0.0		
	<b>Seasonal Habitat Scarcity</b>	Benefits <50% for a population	0.5		
		Benefits >50% of a single habitat type for a population	0.0		
		Benefits all of the remaining portion of a single habitat type for a population OR benefits >50% of multiple habitat types	-0.5		
<b>Credit &amp; Debit</b>	<b>Population</b>	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		

$\Sigma =$



“+” indicates an action that improves connectivity  
Is a restoration factor desired?

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## DRAFT Mitigation Ratio Checklist - EXAMPLE

	Factor	Characteristic Options	Multipliers	Site Characteristic	Mitigation Multiplier
<b>Debit</b>	<b>Habitat Priority</b>	Core Management Category	4.0	x	4.0
		Priority Management Category OR Low +	2.0		
		Low to General Management Category	1.0		
	<b>Seasonal Habitat Scarcity</b>	Impacts all of the remaining portion of a single habitat type for a population OR impacts >50% of multiple habitat types	4.0	x	4.0
		Impacts >50% of a single habitat type for a population	2.0		
		Impacts <50% of a single habitat type for a population	0.0		
<b>Credit</b>	<b>Habitat Priority</b>	Low to General Management Category +	2.0	x	2.0
		Priority Management Category	1.0		
		Core Management Category OR Priority +	0.0		
	<b>Seasonal Habitat Scarcity</b>	Benefits <50% for a population	0.5	x	0.5
		Benefits >50% of a single habitat type for a population	0.0		
		Benefits all of the remaining portion of a single habitat type for a population OR benefits >50% of multiple habitat types	-0.5		
<b>Credit &amp; Debit</b>	<b>Population</b>	No population connection between credit and debit sites	2.0	x	2.0
		Credit and debit connected through population dispersal	1.0		
		Credit and debit within single population	0		

**Σ = 12.5**



“+” indicates an action that improves connectivity  
Is a restoration factor desired?

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# DRAFT Mitigation Ratio Checklist - EXAMPLE

	Factor	Characteristic Options	Multipliers	Site Characteristic	Mitigation Multiplier
<b>Debit</b>	<b>Habitat Priority</b>	Core Management Category	4.0	x	4.0
		Priority Management Category OR Low +	2.0		
		Low to General Management Category	1.0	x	1.0
	<b>Seasonal Habitat Scarcity</b>	Impacts all of the remaining portion of a single habitat type for a population OR impacts >50% of multiple habitat types	4.0	x	4.0
		Impacts >50% of a single habitat type for a population	2.0		
	Impacts <50% of a single habitat type for a population	0.0	x	0	
<b>Credit</b>	<b>Habitat Priority</b>	Low to General Management Category +	2.0	x	2.0
		Priority Management Category	1.0		
		Core Management Category OR Priority +	0.0	x	0
	<b>Seasonal Habitat Scarcity</b>	Benefits <50% for a population	0.5	x	0.5
		Benefits >50% of a single habitat type for a population	0.0		
	Benefits all of the remaining portion of a single habitat type for a population OR benefits >50% of multiple habitat types	-0.5	x	-0.5	
<b>Credit &amp; Debit</b>	<b>Population</b>	No population connection between credit and debit sites	2.0	x	2.0
		Credit and debit connected through population dispersal	1.0		
		Credit and debit within single population	0	x	0

**Σ = 0.5 to 12.5**

“+” indicates an action that improves connectivity  
Is a restoration factor desired?

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# RESERVE ACCOUNT

# Reserve Account

How does the Administrator ensure that there are always more credits than debits in the program?

**Deposits:** Base Percentage & Adjustments

**Withdrawals:** Allowed Uses & Limitations

# TRANSACTION OVERVIEW

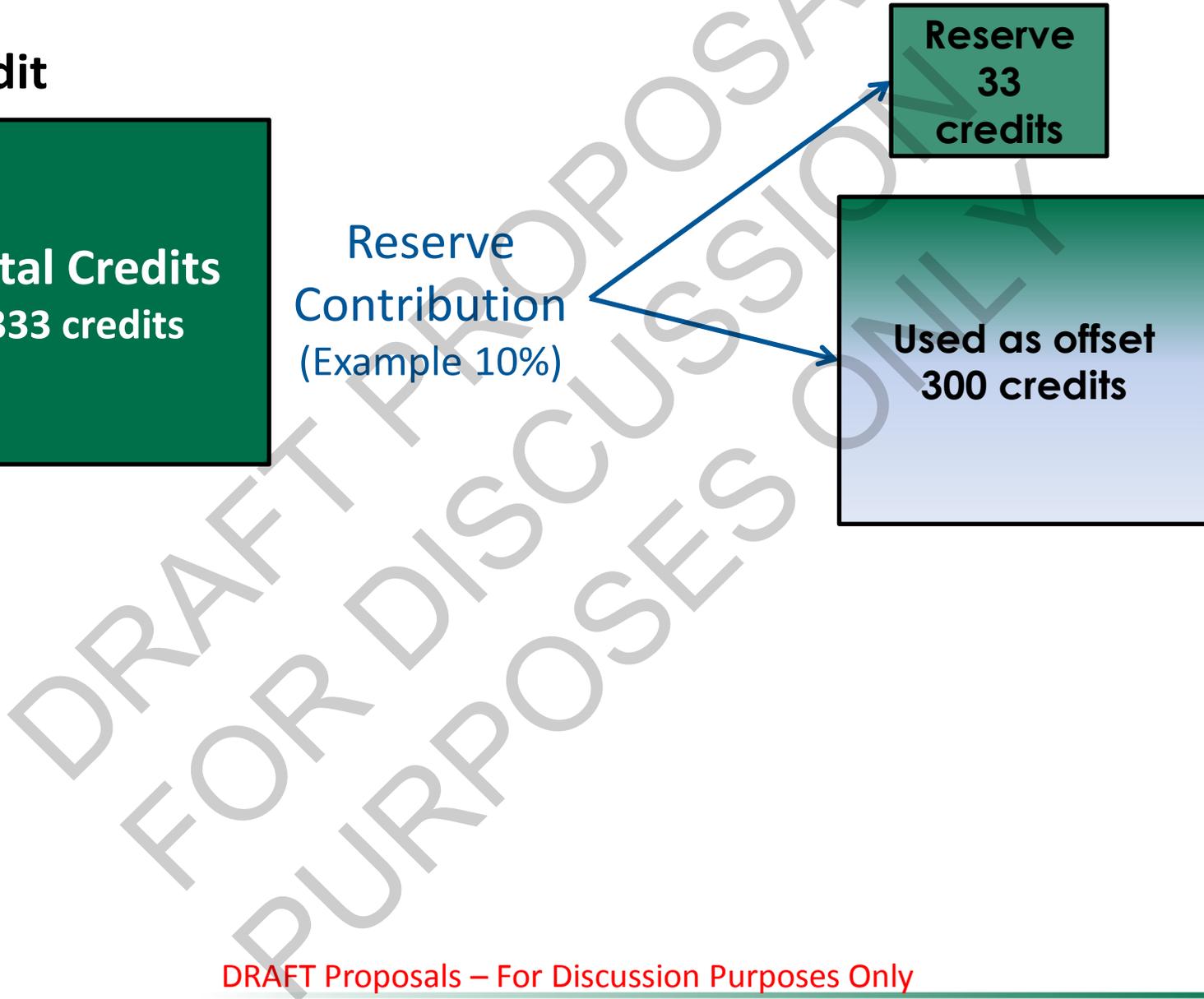
## Credit

**Total Credits  
333 credits**

Reserve  
Contribution  
(Example 10%)

**Reserve  
33  
credits**

**Used as offset  
300 credits**



# Order of Reserve Account Discussion

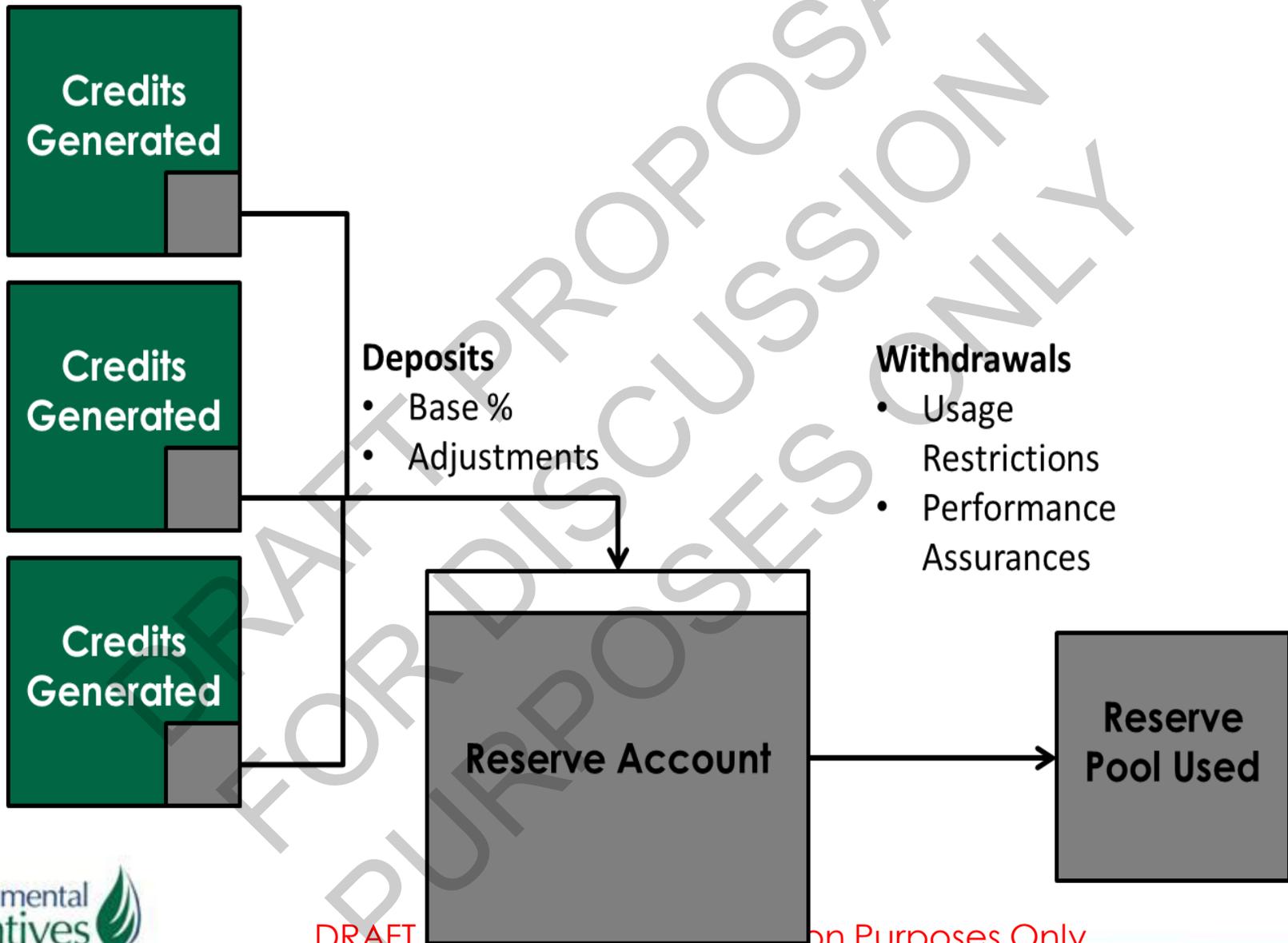
1. Confirm and adjust minimum credit site eligibility requirements
2. Confirm and adjust uses and limitations of use of reserve credits
3. Confirm and adjust credit project risk factors
4. Confirm and adjust specific criteria and options
5. Gain feedback on general range of multipliers

# Minimum Credit Site Eligibility

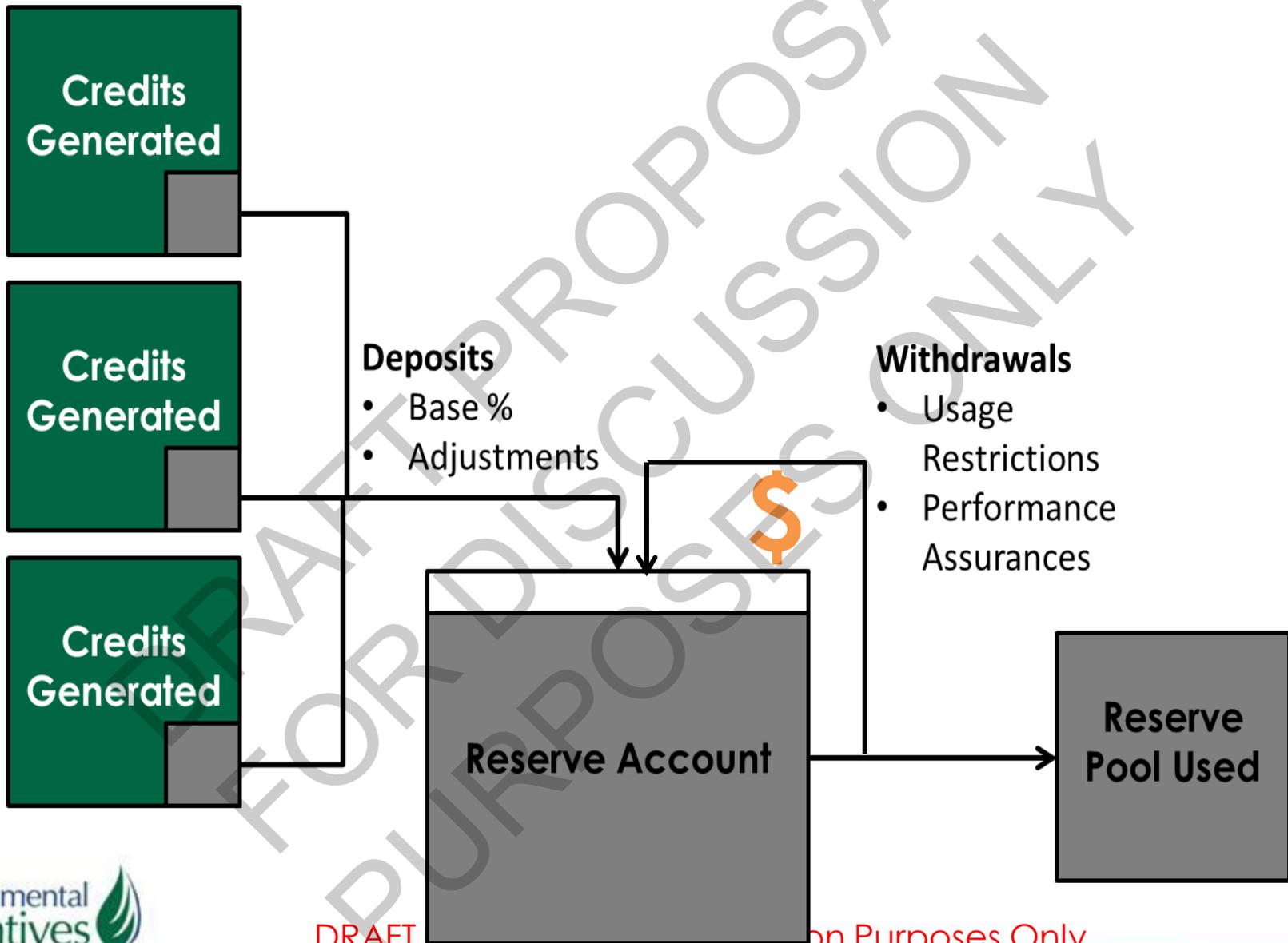
- Within mapped habitat area
- No imminent threat of disturbance
- Post-project quality of at least 50% function

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# Reserve Account



# Reserve Account



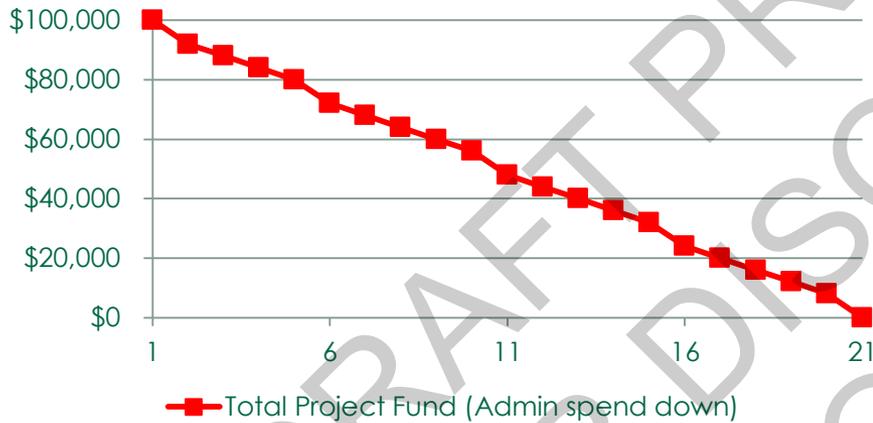
# Valid Withdrawals

Valid Withdrawals	Reserve Usage	Limitations & Credit Producer Liability
<b>Force Majeure</b> (fire, invasive species infestation, drought)	Cover credits not produced until Remedial Action Plan is implemented	None if Remedial Action Plan is implemented
<b>Mineral Development</b>	Covers credits sold and not delivered until Administrator replaces credits from a new credit site using financial assurance	No liability, however payments stop pro-rata to the fraction of credits not delivered
<b>Contract Breach</b>	Covers credits sold and not delivered until Credit Producer replaces credits or pays financial penalties	Credit Producer replaces credits sold but will not be delivered OR Financial Penalties

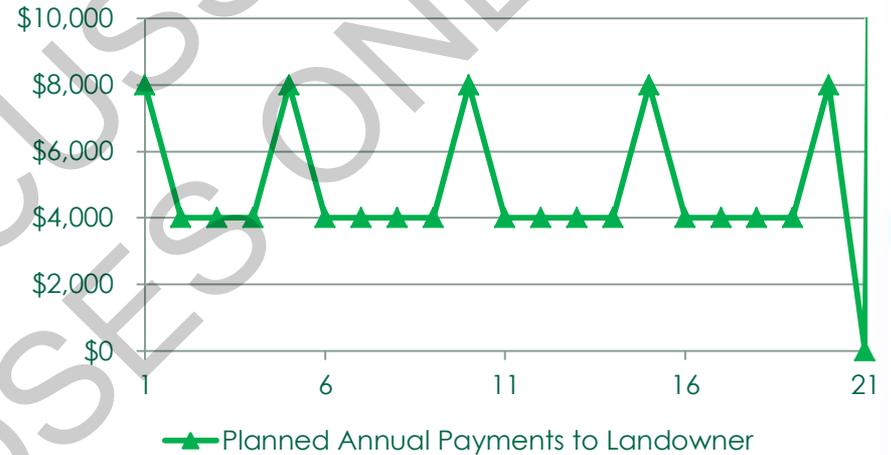
# Financial Assurances



### Administrator Managed Endowment Account Funded by Debit Payment



### Annual Payments to Credit Developer for Verified Credits



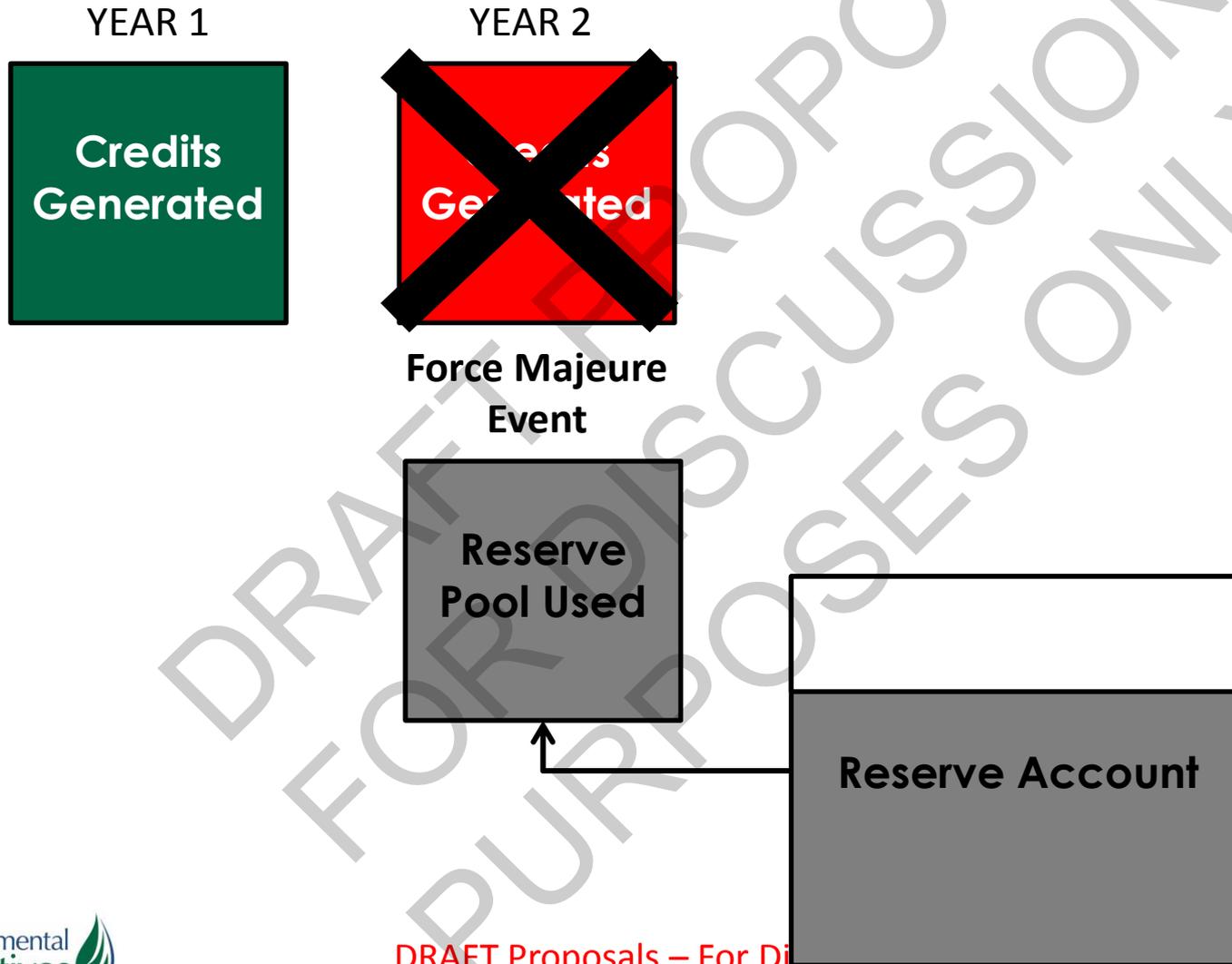
# RESERVE USAGE FOR FORCE MAJEURE

YEAR 1

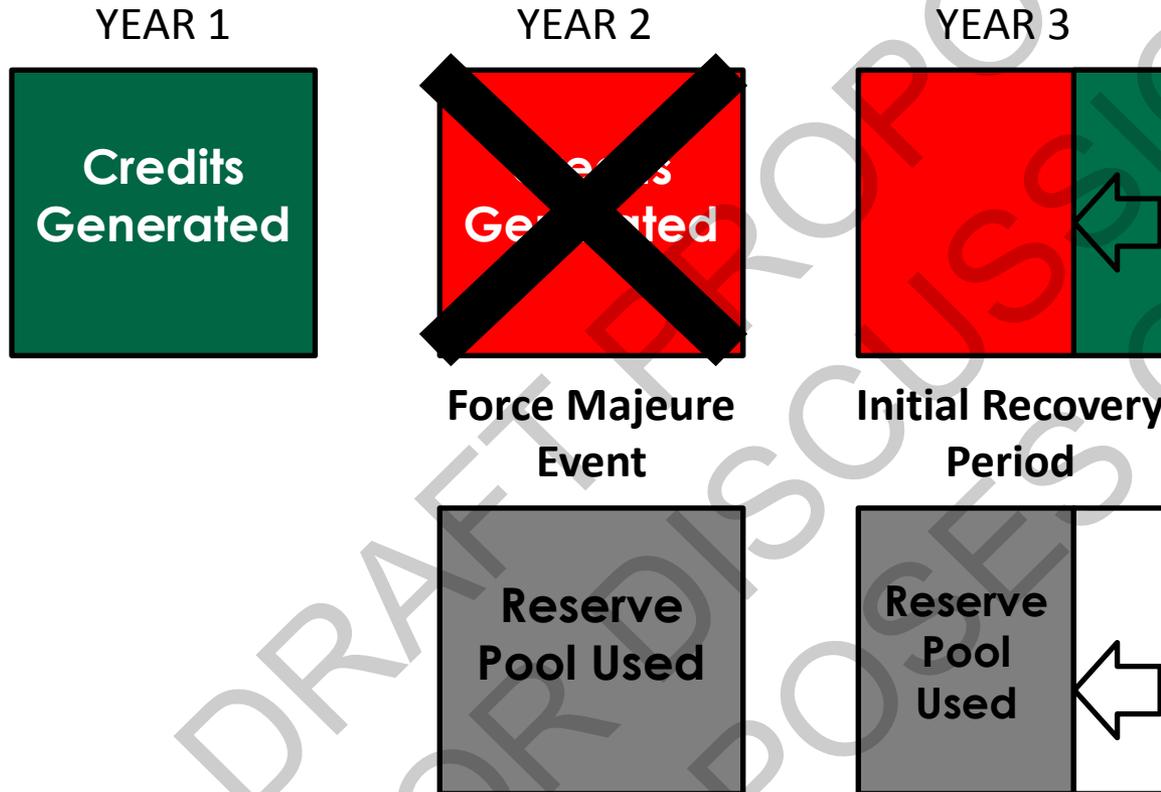
**Credits  
Generated**

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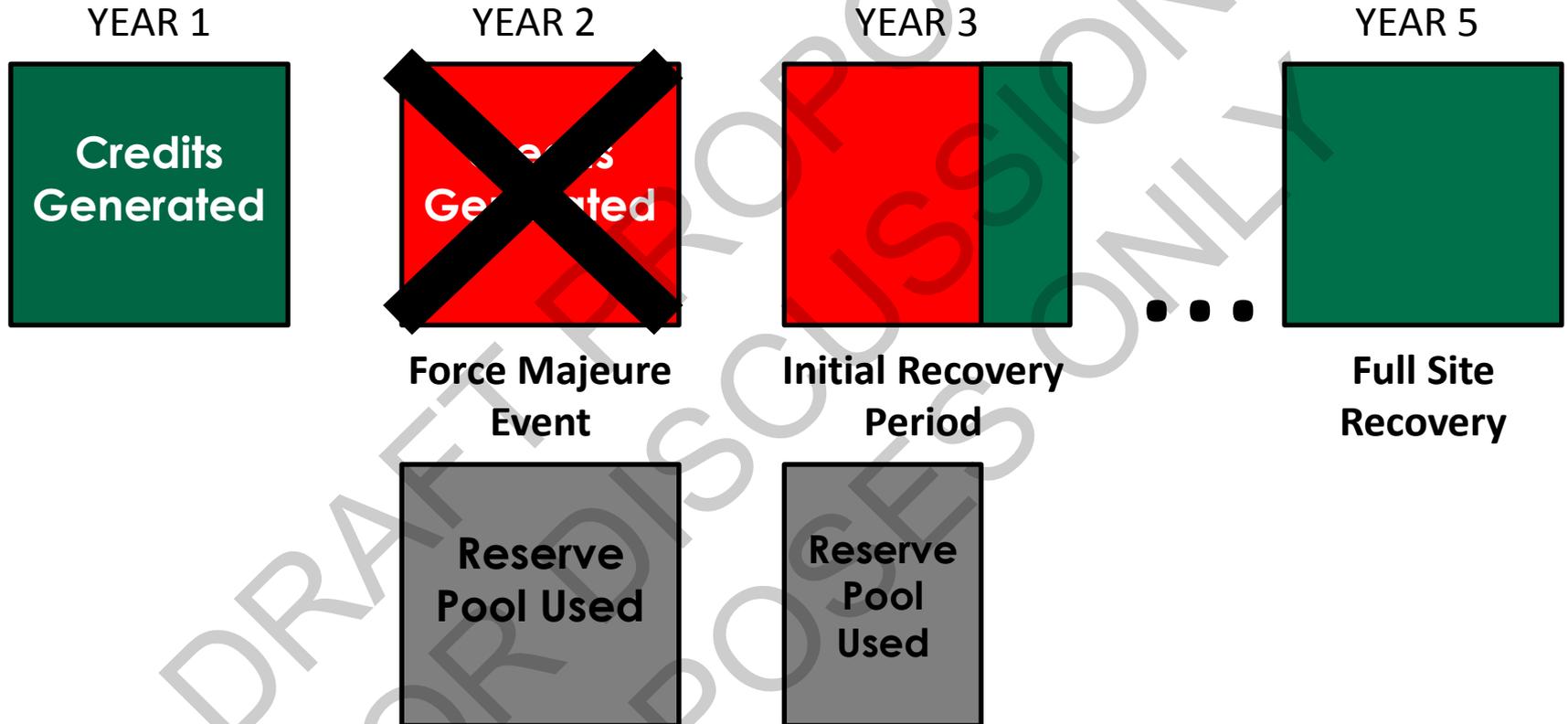
# RESERVE USAGE FOR FORCE MAJEURE



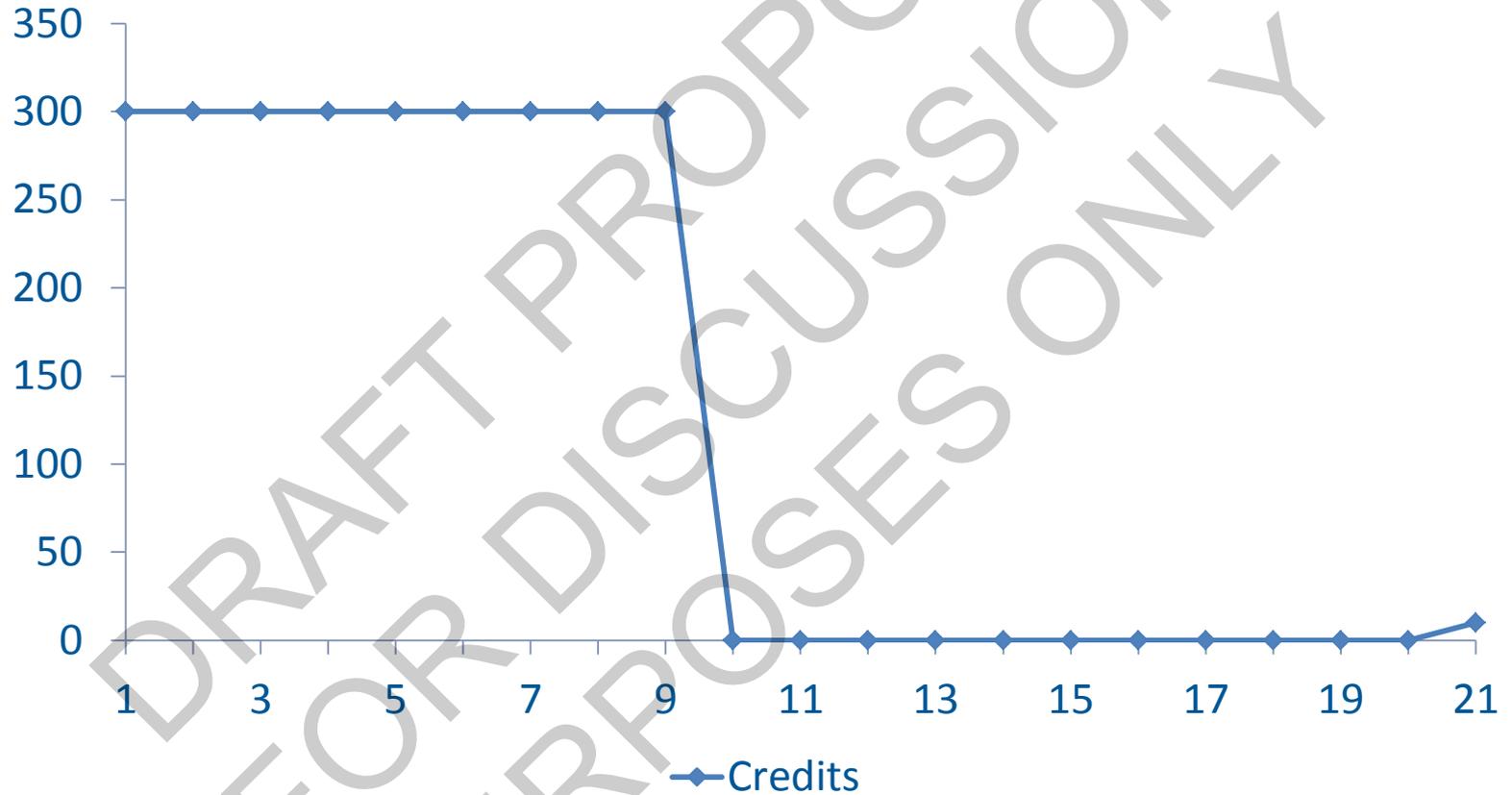
# RESERVE USAGE FOR FORCE MAJEURE



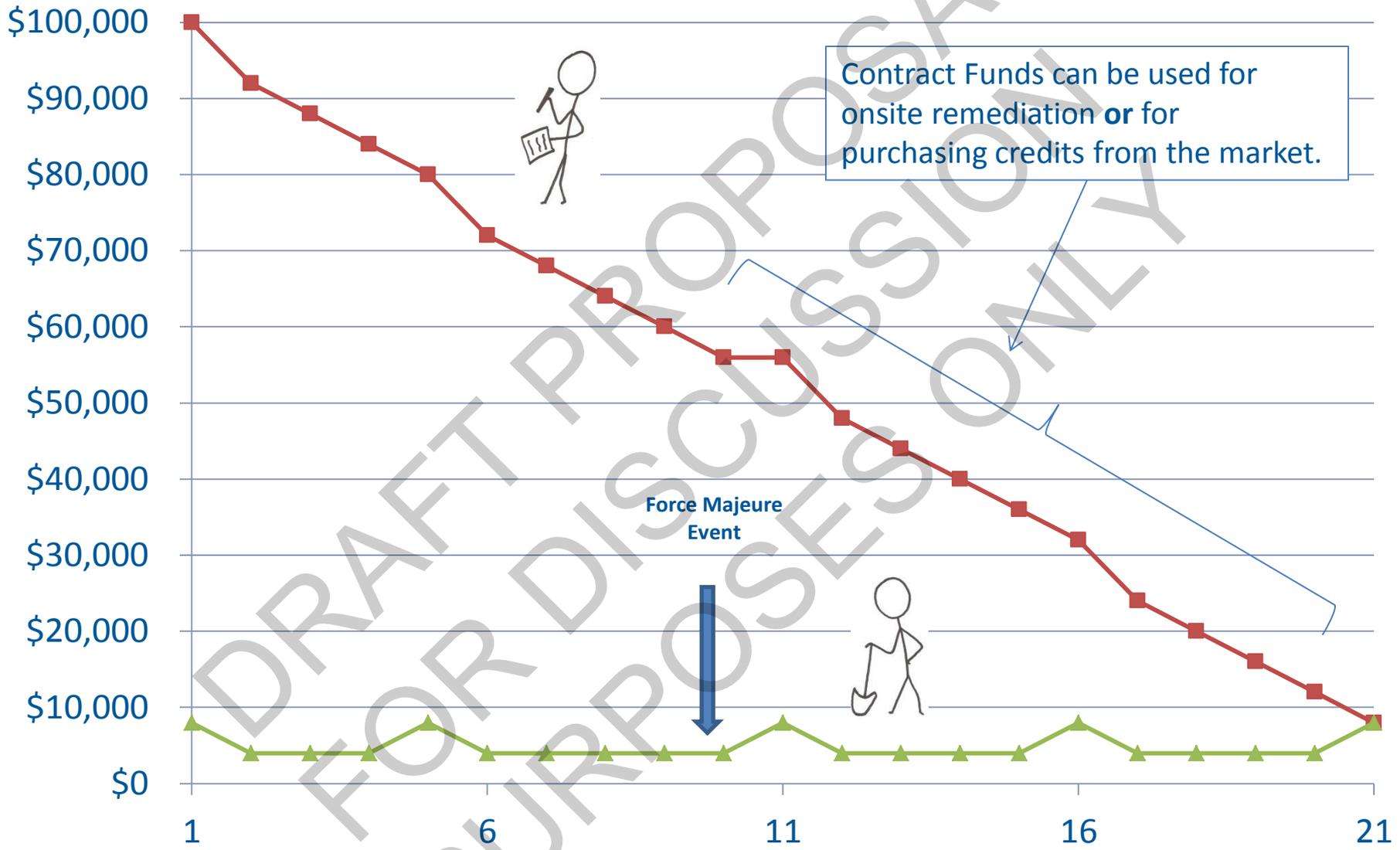
# RESERVE USAGE FOR FORCE MAJEURE



## Credits Generated – Force Majeure (i.e. catastrophic fire)



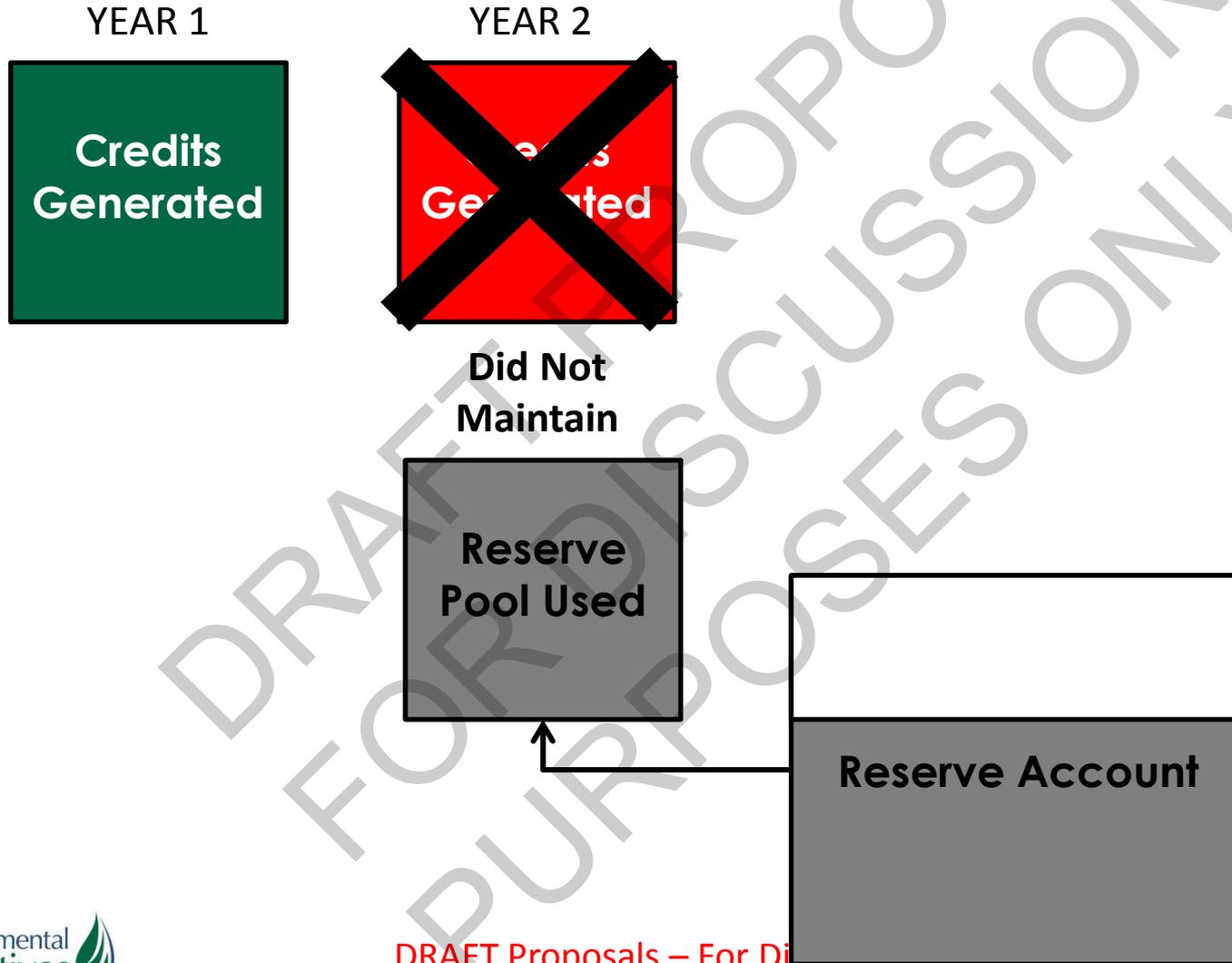
# Payments Under Force Majeure with Redial Action



■ Total Project Fund (Admin spend down)
 ▲ Planned Annual Payments to Landowner

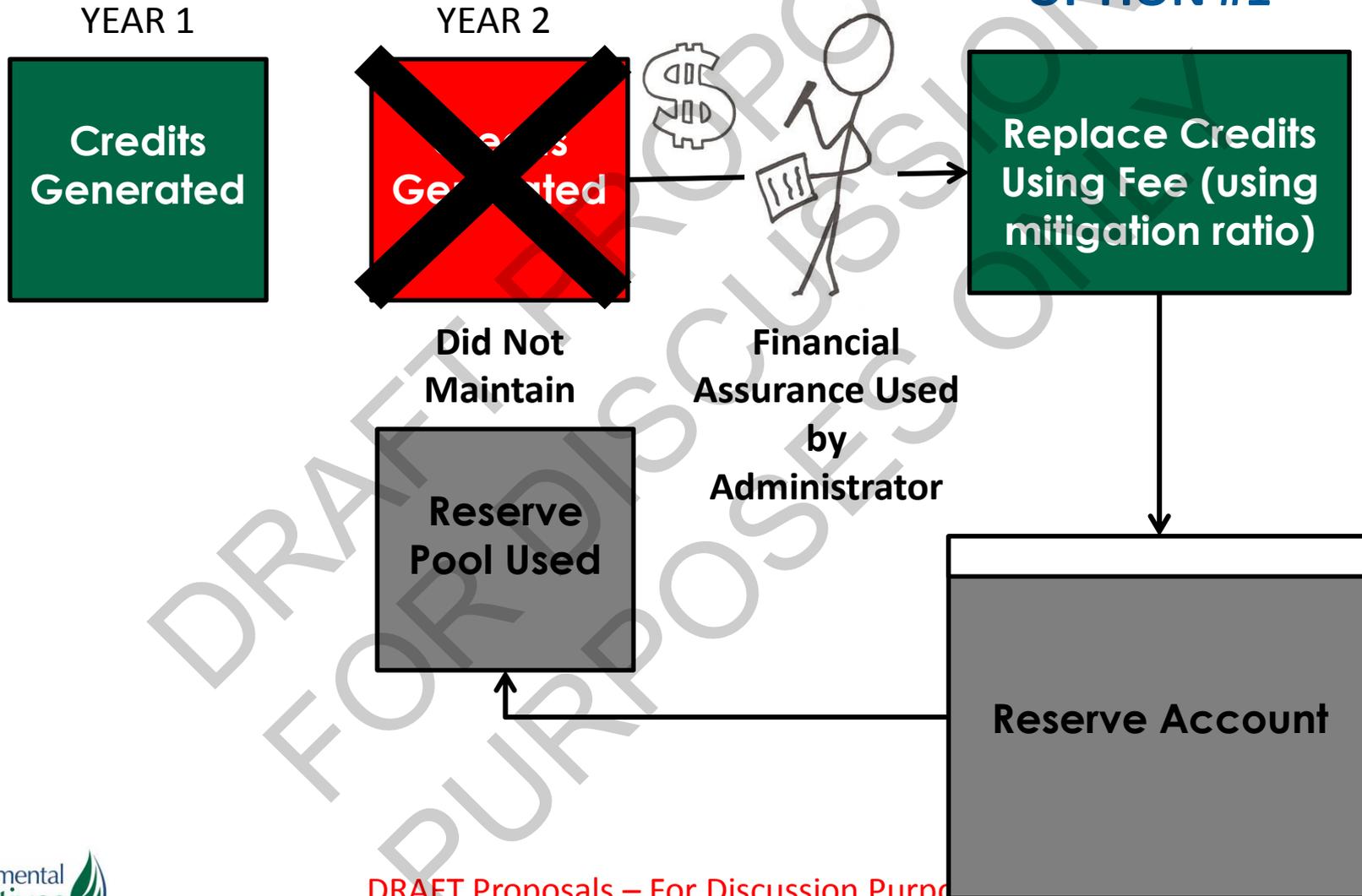
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# RESERVE USAGE FOR NON-FORCE MAJEURE

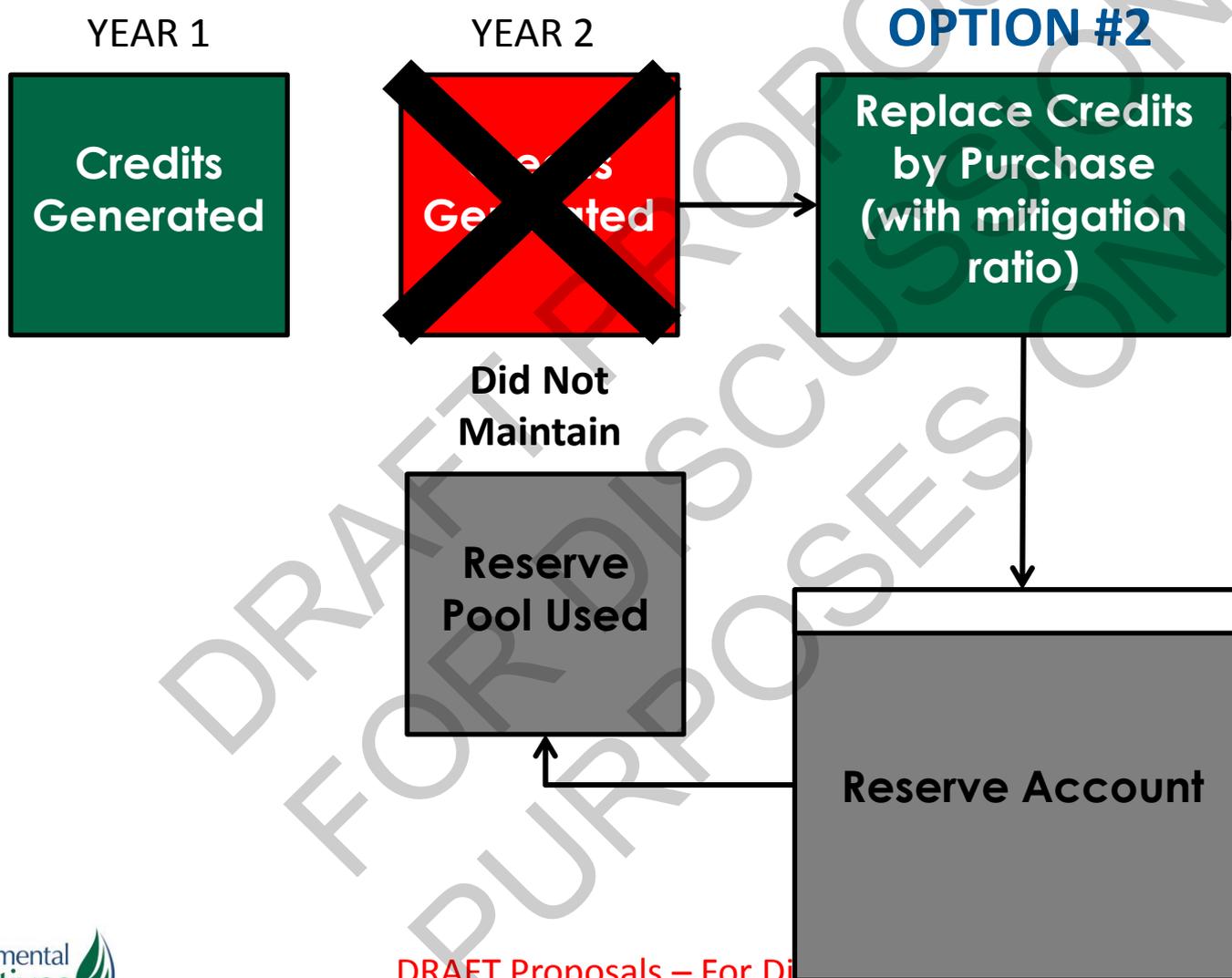


# RESERVE USAGE FOR NON-FORCE MAJEURE

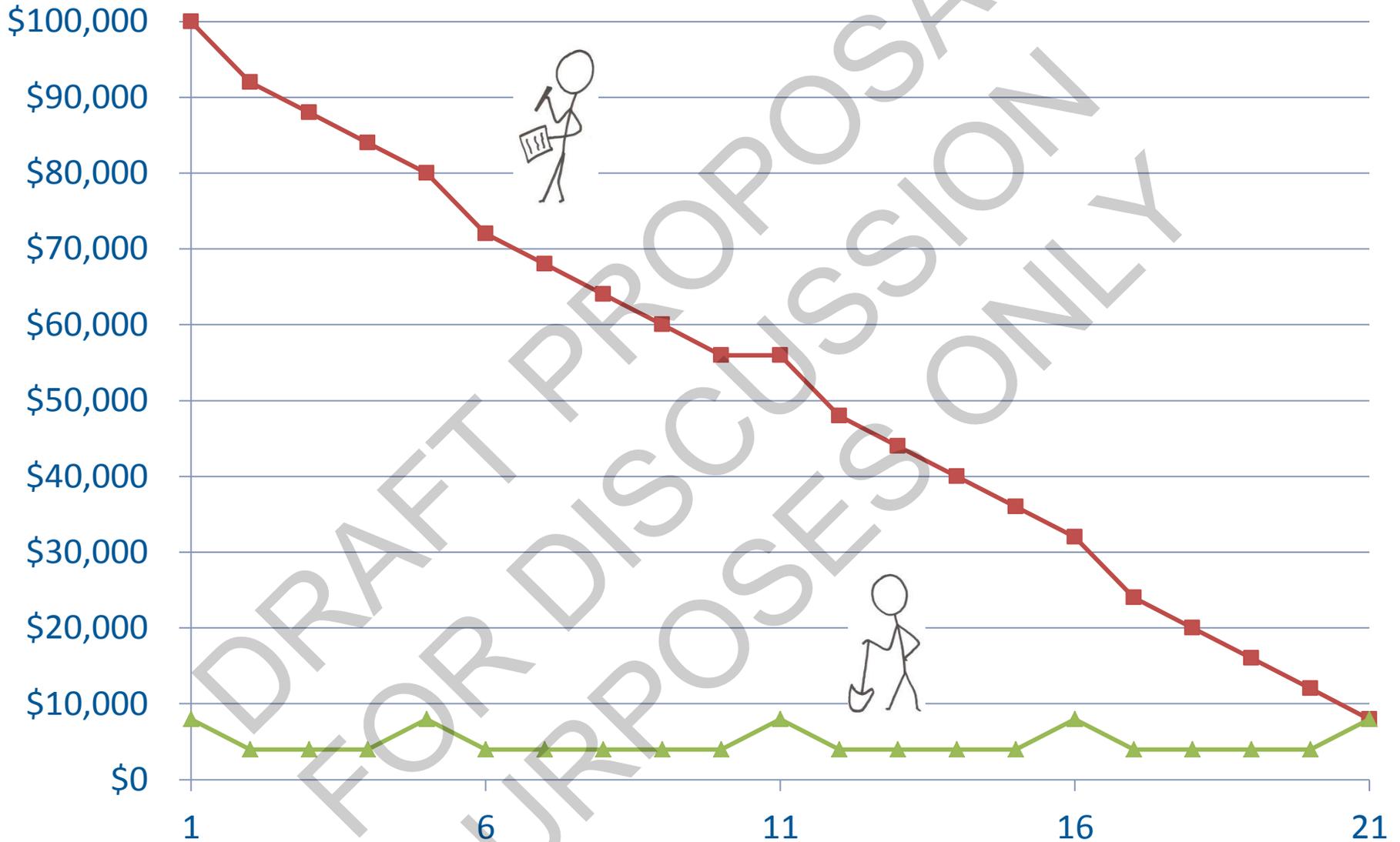
## OPTION #1



# RESERVE USAGE FOR NON-FORCE MAJEURE



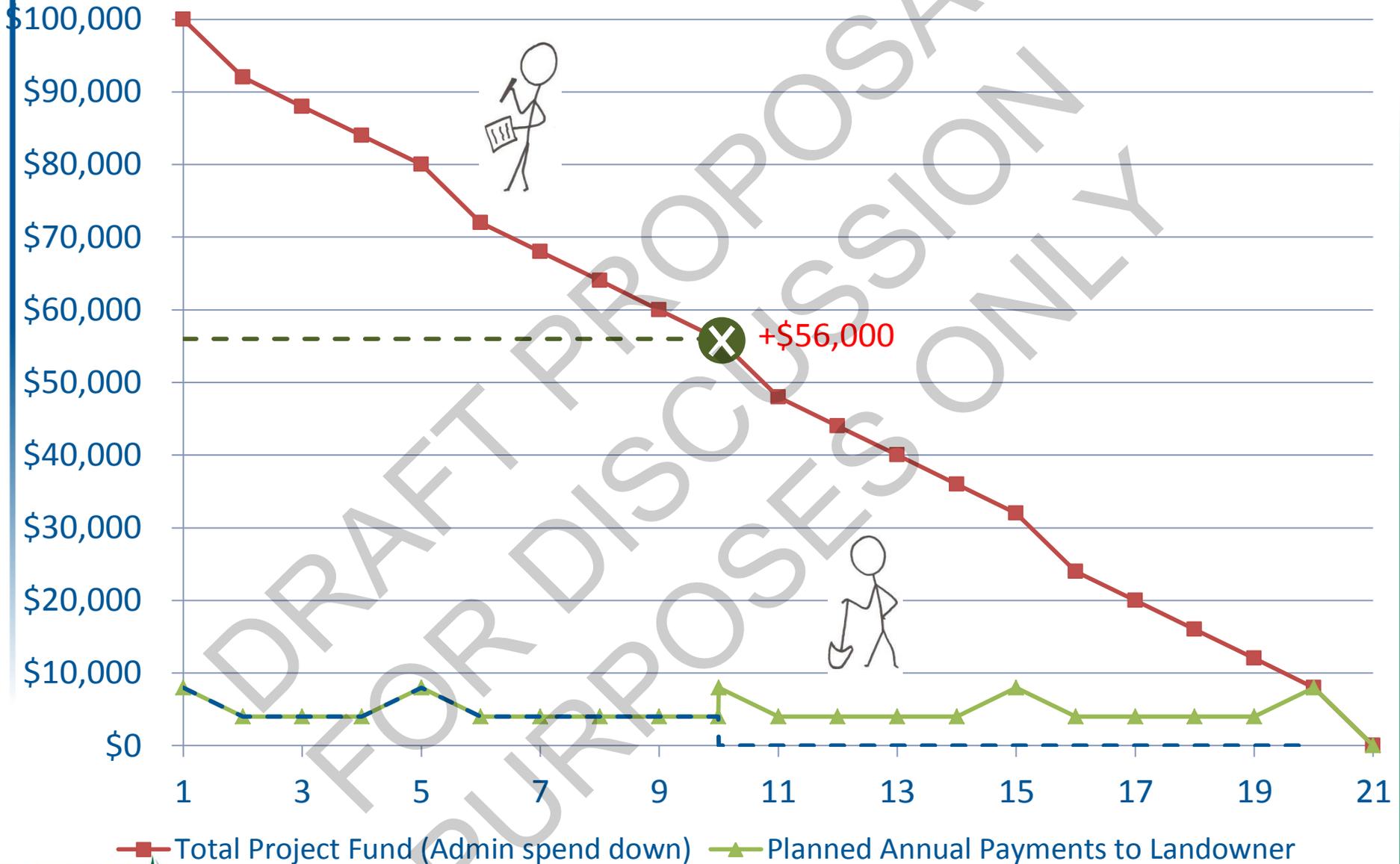
# Bonus Payments at Verification



■ Total Project Fund (Admin spend down) ▲ Planned Annual Payments to Landowner

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# Bonus Payments at Verification



■ Total Project Fund (Admin spend down)
 ▲ Planned Annual Payments to Landowner

## **DRAFT Credit Producer Reserve Account Deposit Checklist**

Factor	Characteristic Option Title	Scores	Site Characteristic	Site Score
<b>Base Contribution</b>	No Options	Base		
	Warm & Dry Summer Ecosystem Type	High		
<b>Risk of Wildfire &amp; Invasive Species</b>	Warm & Dry Winter Ecosystem Type			
	Cool & Dry Ecosystem Type			
	Warm & Moist Ecosystem Type			
	Cool & Moist Ecosystem Type			
	Cold & Moist Ecosystem Type	Low		
<b>Probability of Mineral Development</b>	Low probability of surface mining	High		
	Unknown probability of surface mining			
	Negligible probability of surface mining	None		
<b>Risk of Land Use Conversion*</b>	No legal mechanism will protect project area	High		
	Stewardship agreement will protect project area			
	Conservation easement will protect project area	None		

$\Sigma =$

\* Will enhancement and restoration projects developed on an unprotected project area be eligible for developing credits?



# Risk of Wildfire and Invasive Species



DRAFT SOIL TEMP/MOISTURE & ECOSYSTEM TYPES

Ecosystem Type	Characteristics	Resilience and resistance
Cold & Moist <i>Cryic (all)</i>	Typical shrubs: Mountain big sagebrush, Snowfield sagebrush, snowberry, serviceberry, silver sagebrush, and/or low sagebrushes	Resilience – Moderately high Resistance – High
Cool & Moist <i>Frigid/Ustic</i> <i>Frigid/Xeric</i>	Ppt: 16-22" Typical shrubs: Mountain big sagebrush, antelope bitterbrush, snowberry, and/or low sagebrushes Piñon pine and juniper potential in some areas	Resilience – Moderately high Resistance – Moderate
Warm & Moist <i>Mesic/Aridic-Xeric</i> <i>Mesic/Aridic-Ustic</i>	Ppt: 12-16" Typical shrubs: Wyoming big sagebrush, mountain big sagebrush, Bonneville big sagebrush, and/or low sagebrushes Piñon pine and juniper potential in some areas	Resilience – Moderate Resistance – Moderately low
Cool & Dry <i>Frigid/Aridic</i>	Ppt: 6-12" Typical shrubs: Wyoming big sagebrush, black sagebrush, and/or low sagebrushes	Resilience – Low Resistance – Moderate
Warm & Dry Winter <i>Mesic/Ustic-Aridic</i>	Ppt: 8-12", summer monsoons Typical shrubs: Wyoming big sagebrush, Basin big sagebrush, Bigelow sagebrush, and or black sagebrush and/or low sagebrushes (large portion of the Colorado Plateau)	Resilience – Moderately Low Resistance – Moderately Low
Warm & Dry Summer <i>Mesic/Xeric-Aridic</i>	Ppt: 8-12", wet winters Typical shrubs: Wyoming big sagebrush, and or black sagebrush and/or low sagebrushes (large portion of the Great Basin)	Resilience – Low Resistance – Low

Relative Resilience & Resistance  
High  
Low

- Rating based on predominate Ecosystem Type surrounding project area

# Probability of Mineral Development



Mineral Assessment Report or other public documents determine the probability of surface mining occurring on site is low



Mineral Assessment Report or other public documents to determine the probability of surface mining do not exist



Mineral Assessment Report or other public documents determine the probability of surface mining occurring on site is so remote as to be negligible

# Risk of Land Use Conversion

Credits  
Generated

No legal mechanism protects the project area from other uses

Will enhancement and restoration projects developed on an unprotected project area be eligible for developing credits?

Credits  
Generated

Stewardship Agreement or another legal mechanism protects the project area from other uses on public lands for a defined period of time

Credits  
Generated



## **DRAFT Credit Producer Reserve Account Deposit Checklist**

Factor	Characteristic Option Title	Scores	Site Characteristic	Site Score
<b>Base Contribution</b>	No Options	2%	X	2%
	Warm & Dry Summer Ecosystem Type	10%		
<b>Risk of Wildfire &amp; Invasive Species</b>	Warm & Dry Winter Ecosystem Type			
	Cool & Dry Ecosystem Type			
	Warm & Moist Ecosystem Type			
	Cool & Moist Ecosystem Type			
	Cold & Moist Ecosystem Type	2%	X	2%
<b>Probability of Mineral Development</b>	Low probability of surface mining	5%		
	Unknown probability of surface mining			
	Negligible probability of surface mining	0%	X	0%
<b>Risk of Land Use Conversion*</b>	No legal mechanism to protect project area	40%	X	40%
	Stewardship agreement to protect project area			
	Conservation easement to protect project area	0%		

**Σ = 15%**

\* Will enhancement and restoration projects developed on an unprotected project area be eligible for developing credits?



## DRAFT Credit Producer Reserve Account Deposit Checklist

Factor	Characteristic Option Title	Scores	Site Characteristic	Site Score
<b>Base Contribution</b>	No Options	2%	X	2%
	Warm & Dry Summer Ecosystem Type	10%		
<b>Risk of Wildfire &amp; Invasive Species</b>	Warm & Dry Winter Ecosystem Type			
	Cool & Dry Ecosystem Type			
	Warm & Moist Ecosystem Type			
	Cool & Moist Ecosystem Type			
	Cold & Moist Ecosystem Type	2%	X	2%
<b>Probability of Mineral Development</b>	Low probability of surface mining	5%		
	Unknown probability of surface mining			
	Negligible probability of surface mining	0%	X	0%
<b>Risk of Land Use Conversion*</b>	No legal mechanism to protect project area	40%	X	40%
	Stewardship agreement to protect project area			
	Conservation easement to protect project area	0%		

$\Sigma =$  4% - 57%

\* Will enhancement and restoration projects developed on an unprotected project area be eligible for developing credits?

# For Discussion on 2/10 If Desired

- Durable Credits on Public Lands
- Stacking of Credits with Public Payments & Conservation Easements
- Credit Release and Verification

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FOR DISCUSSION ONLY  
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