

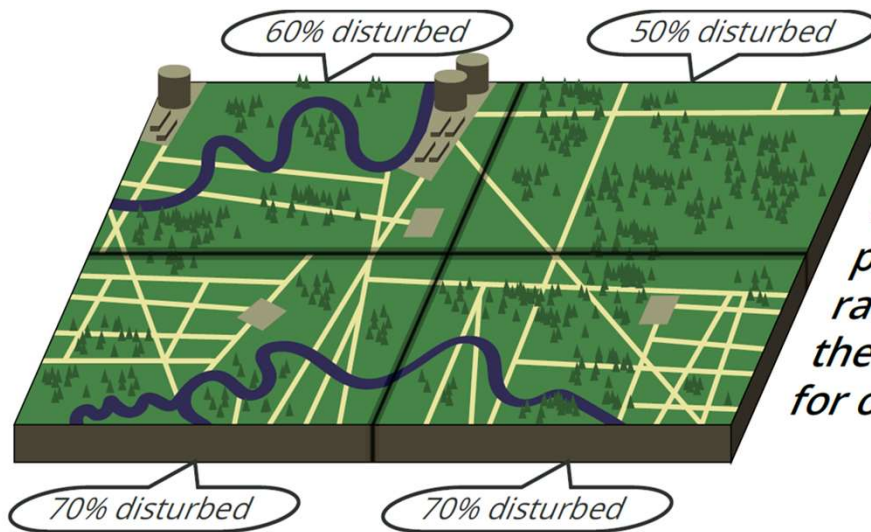


Prioritizing areas for Habitat Restoration

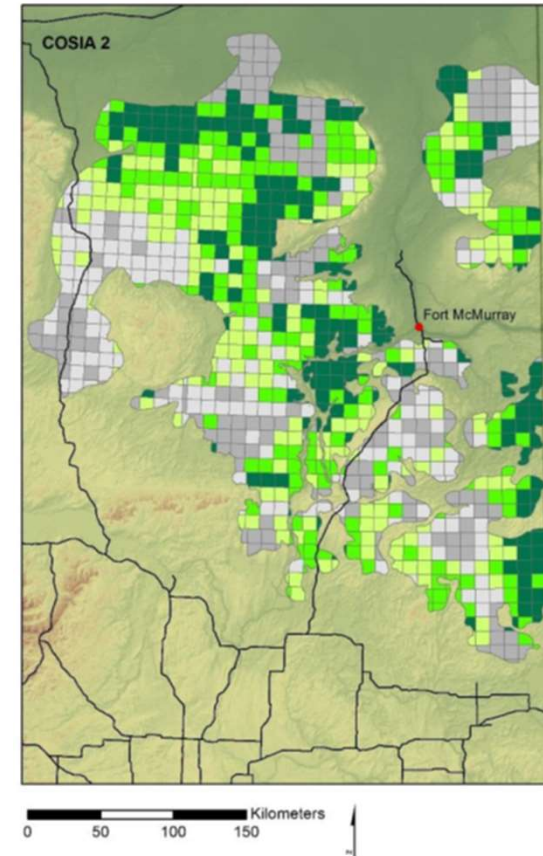


Prioritizing Habitat Restoration

- Recognizing the need to prioritize restoration
 - Expensive
 - Time consuming
 - Urgent



In a working landscape, how do we prioritize restoration to get the best “bang” for our “buck?”

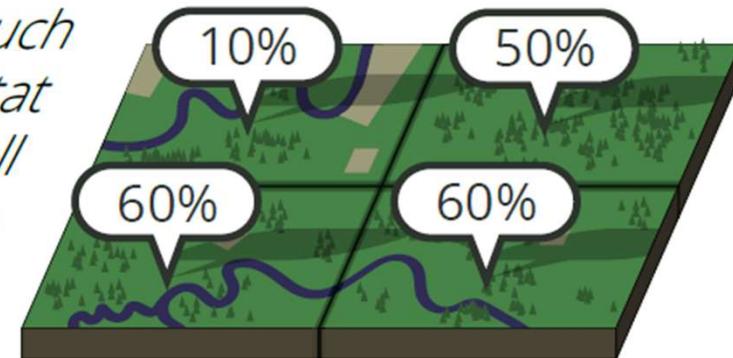


The Approach:

the BANG:

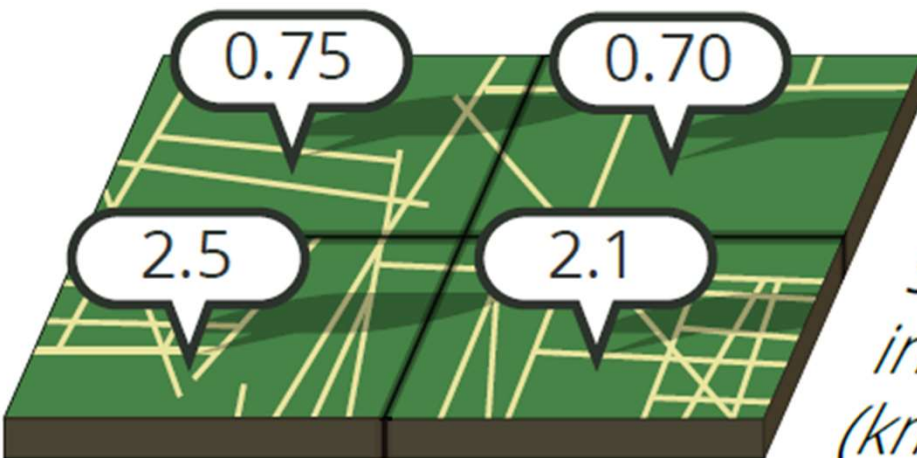
*How much
undisturbed habitat
is gained if all
seismic lines are
restored?*

*(% disturbed - %
disturbed if restored)*



the BUCK:

*The density of
seismic lines that are
in each township.
(km/km²)*



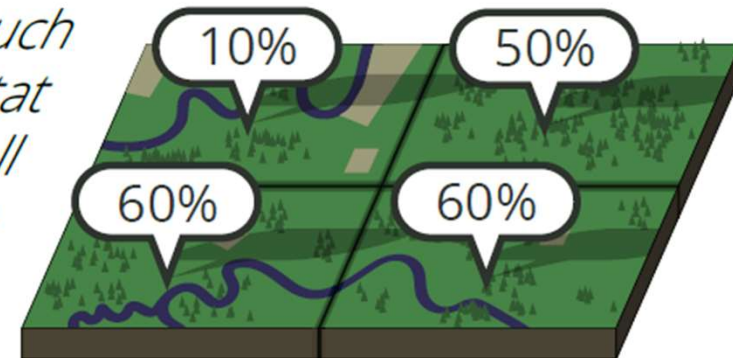
The Approach:

→ “no-go” zones

the BANG:

*How much
undisturbed habitat
is gained if all
seismic lines are
restored?*

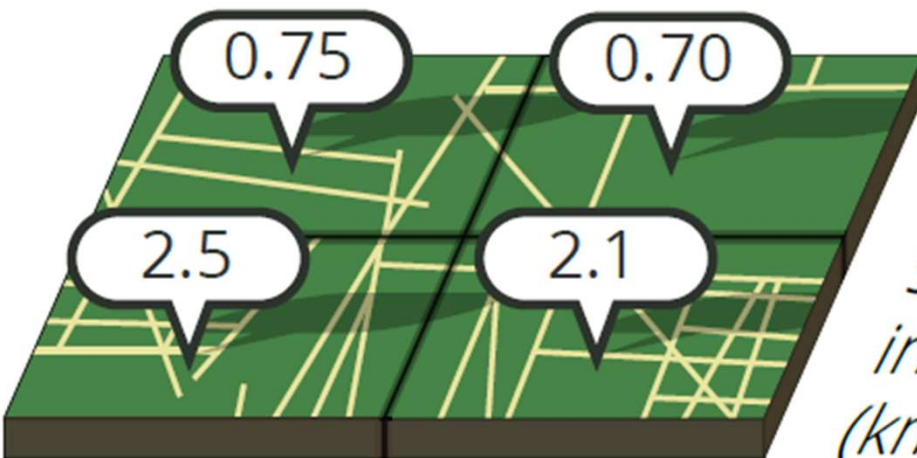
*(% disturbed - %
disturbed if restored)*



the BUCK:

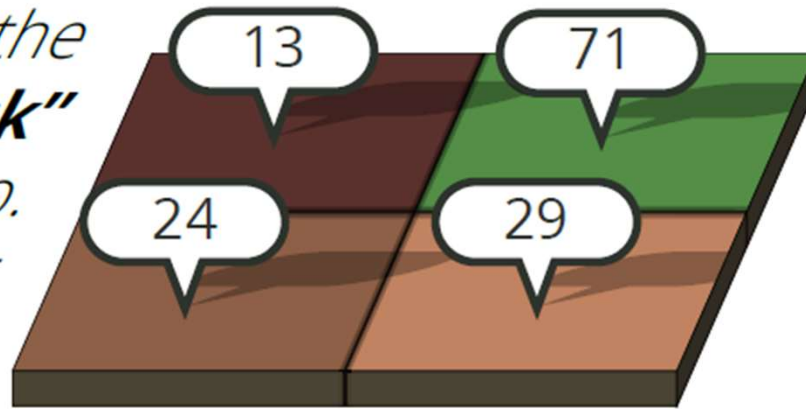
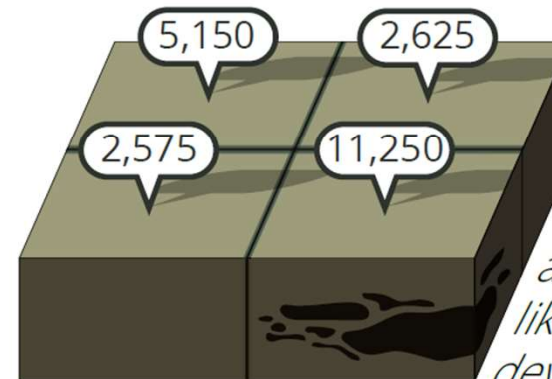
*The density of
seismic lines that are
in each township.*

(km/km²)



The Approach:

*We divide to get the
"bang-for-buck"
of each township.
Higher
"bang-for-buck"
= higher priority.*

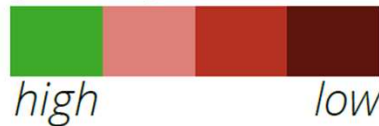
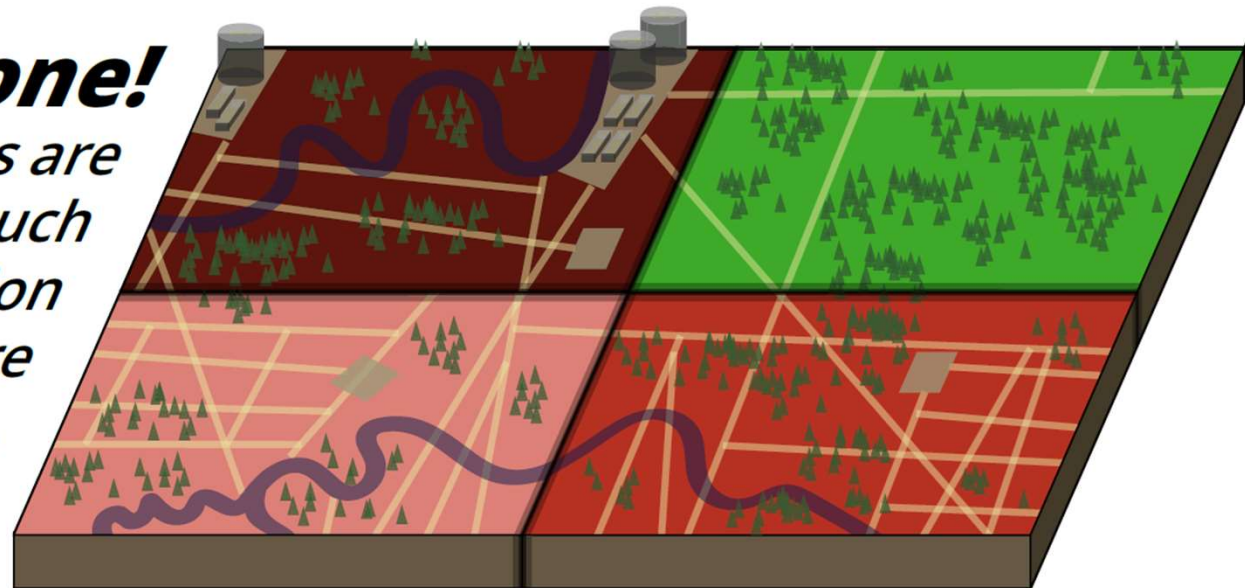


*Lastly, adjust
to **resource
value** (\$MM CDN).
to pull restoration
away from areas
likely to be
developed in the
near future.*

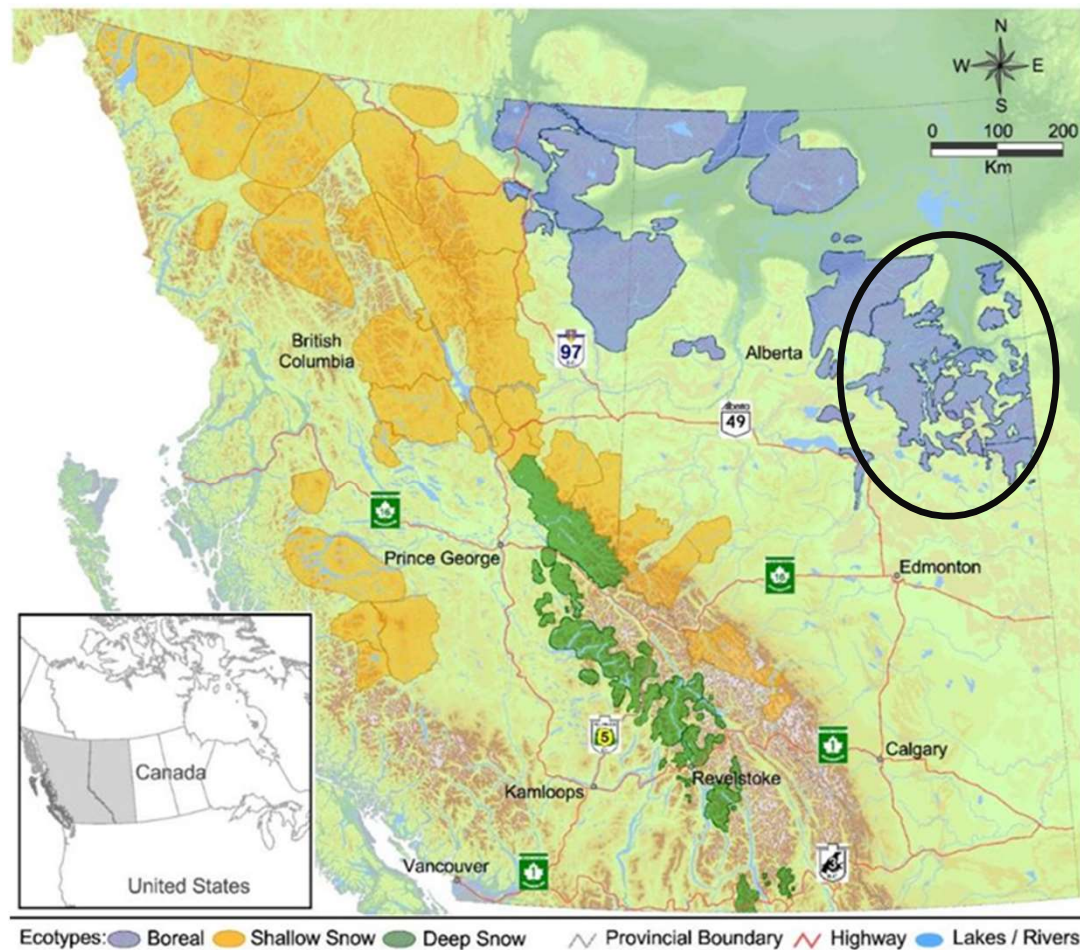
The Approach:

All done!
*Areas are
prioritized such
that restoration
efforts are
most effective.*

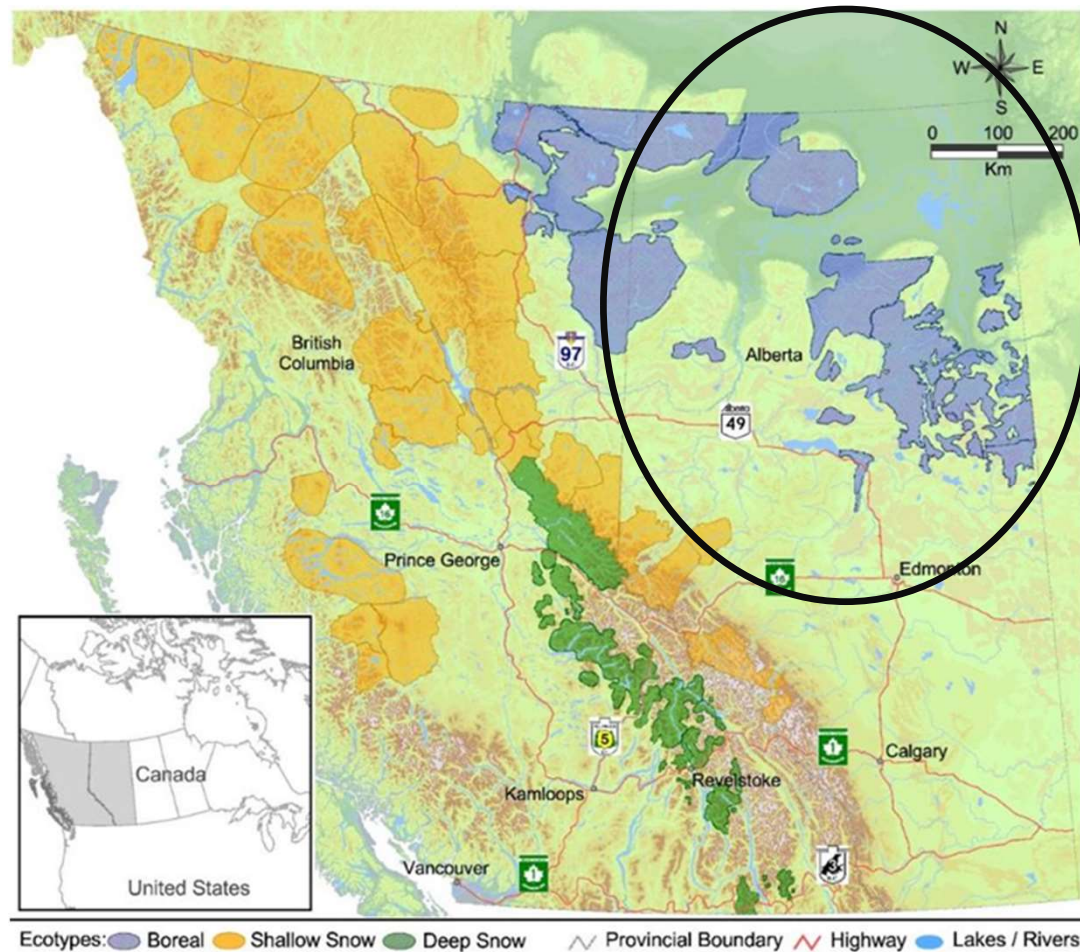
priority level:



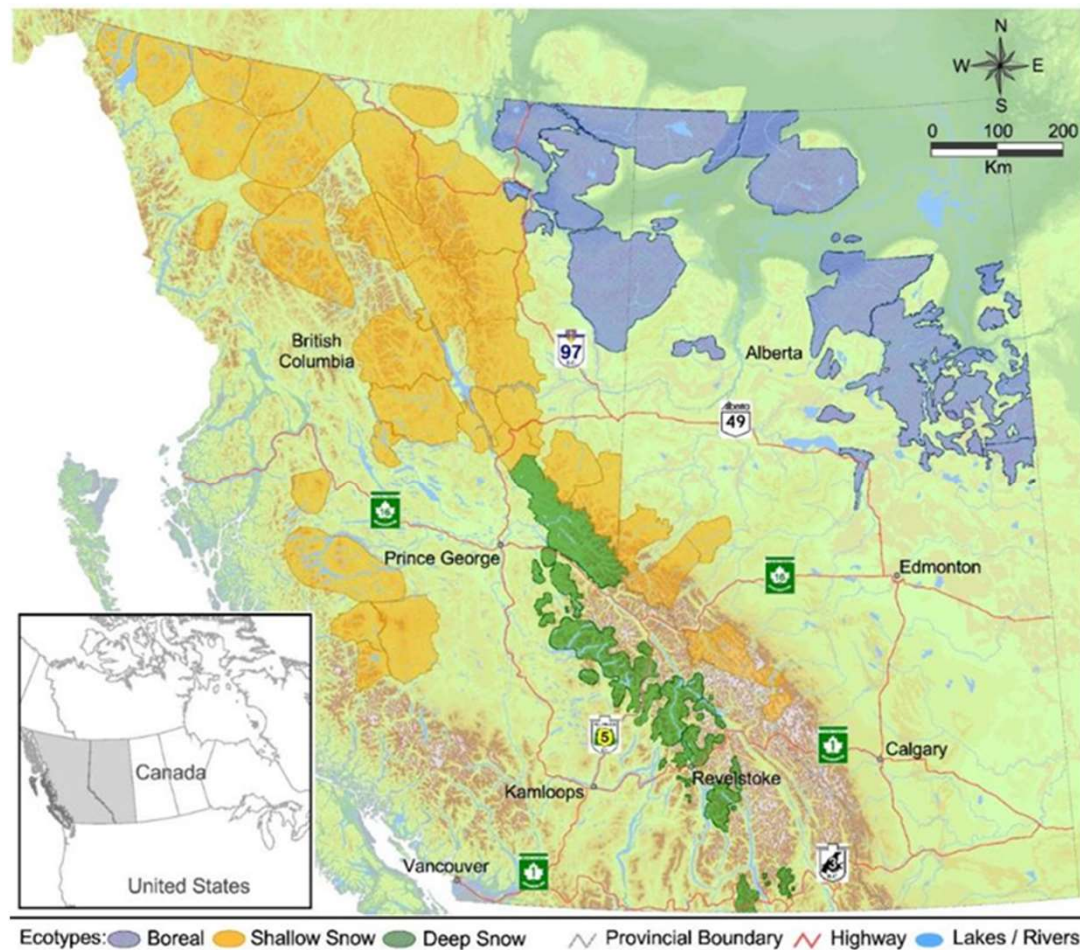
Modifying the approach



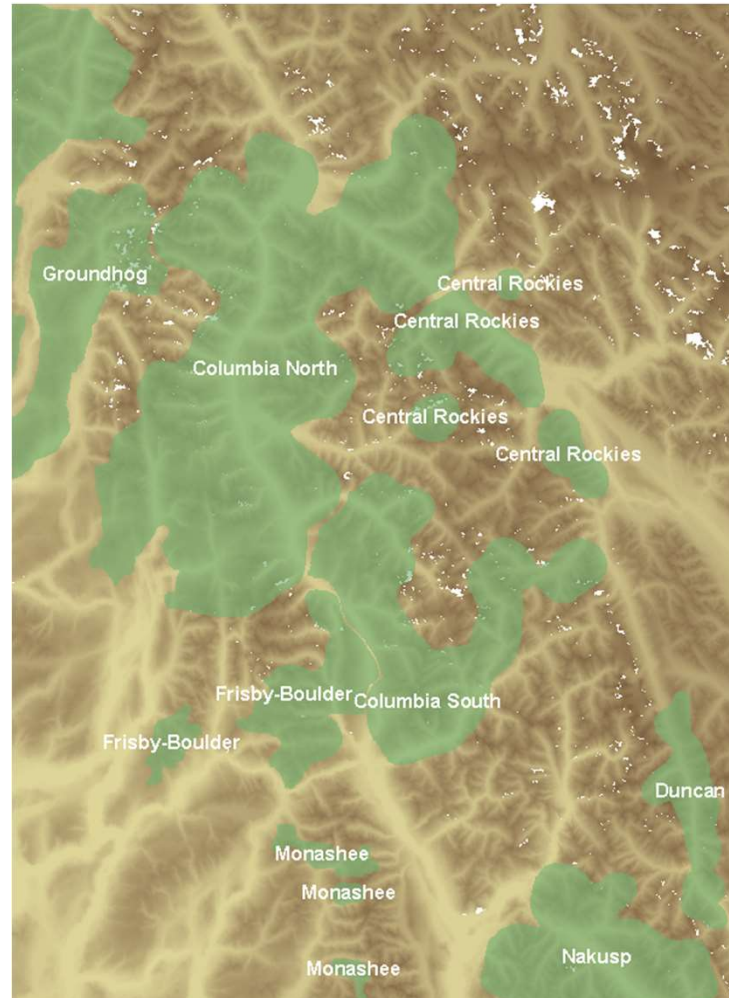
Modifying the approach



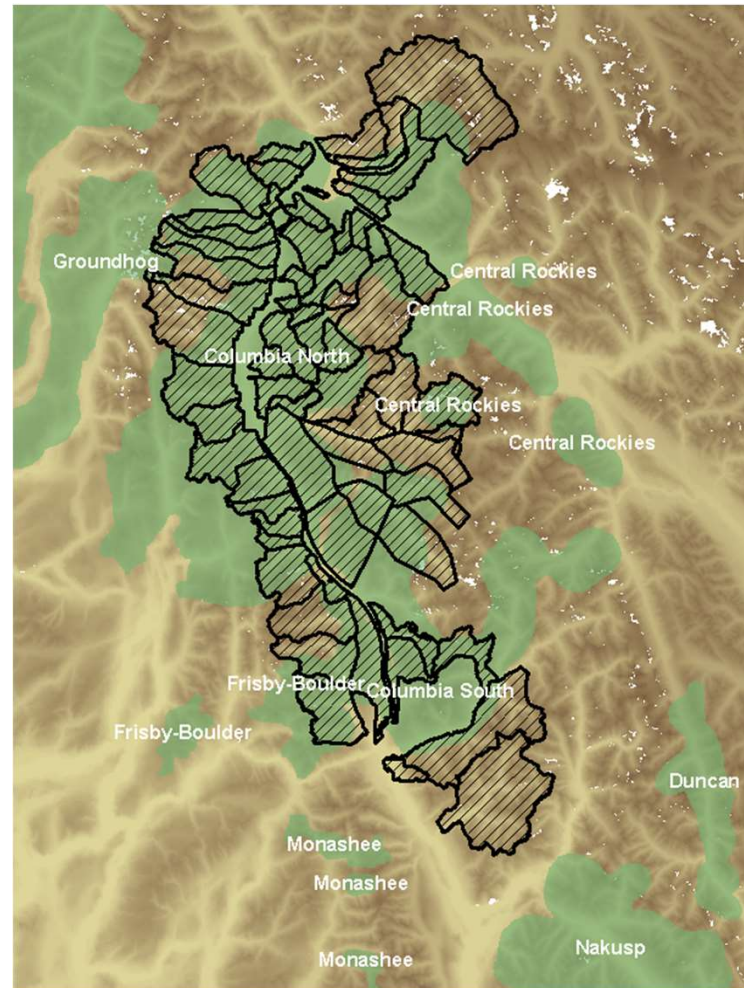
Modifying the approach



Modifying the approach



Modifying the approach



Modifying the approach

$$\frac{\text{Habitat Gain}}{\text{Cost}} = \frac{\% \text{Disturbed} - \% \text{Disturbed Post Restoration}}{\text{Restorable Road Density}}$$



Modifying the approach

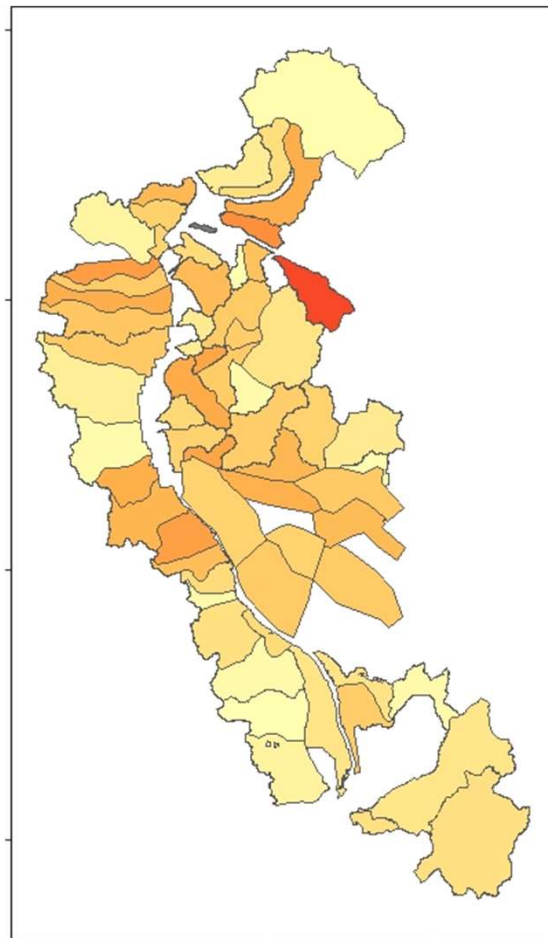
$$\frac{\text{Habitat Gain}}{\text{Cost}} = \frac{\% \text{Disturbed} - \% \text{Disturbed Post Restoration}}{\text{Restorable Road Density}}$$

Average Caribou Use
Proportion Core Caribou Habitat
Proportion GAR
(1 - Proportion Moose Disturbance)

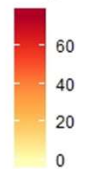
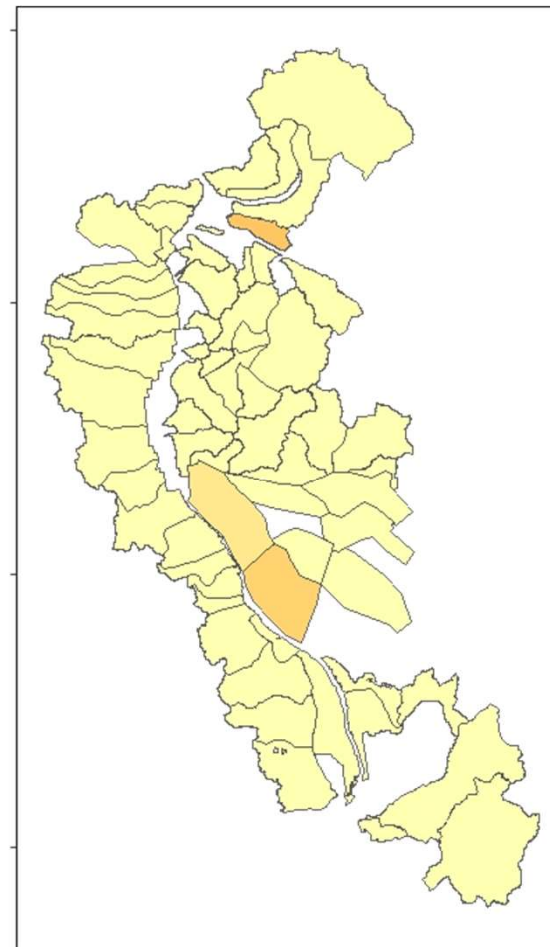


*Preliminary

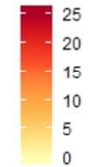
Calculate Disturbance



% Forest Disturbed
(0-40 years)



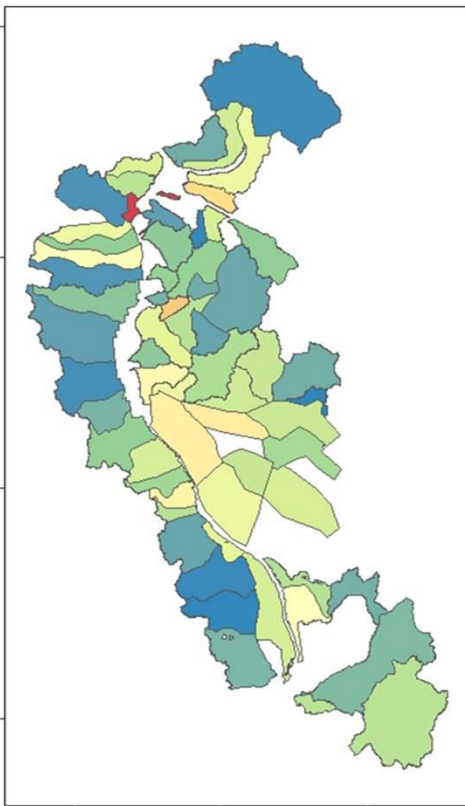
% Future Harvest Disturbance



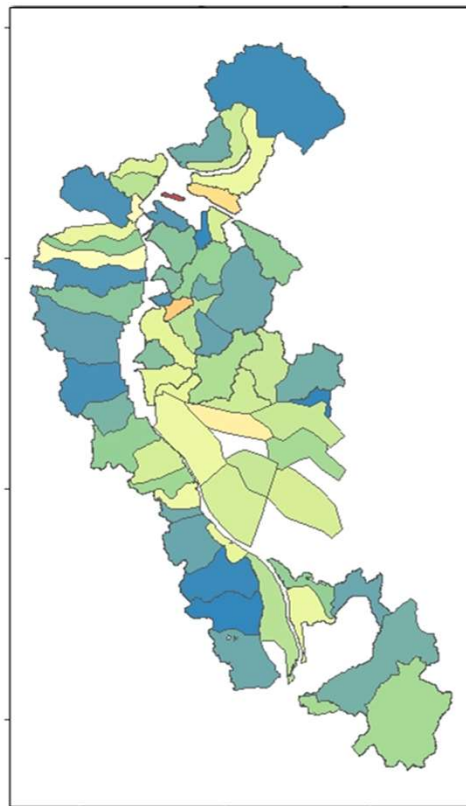
*Preliminary

Calculate “Cost”

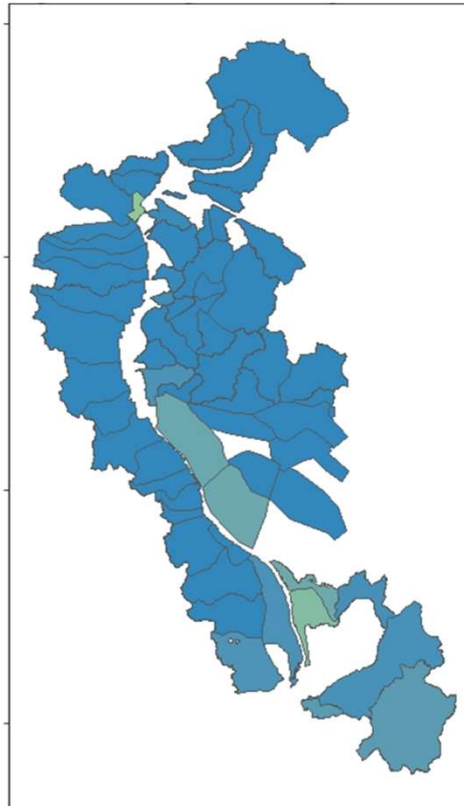
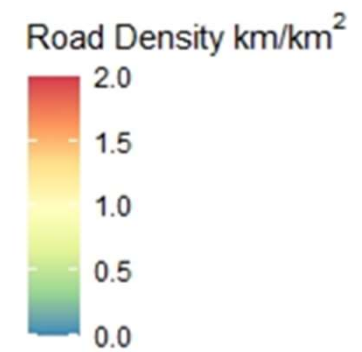
Total



Restorable

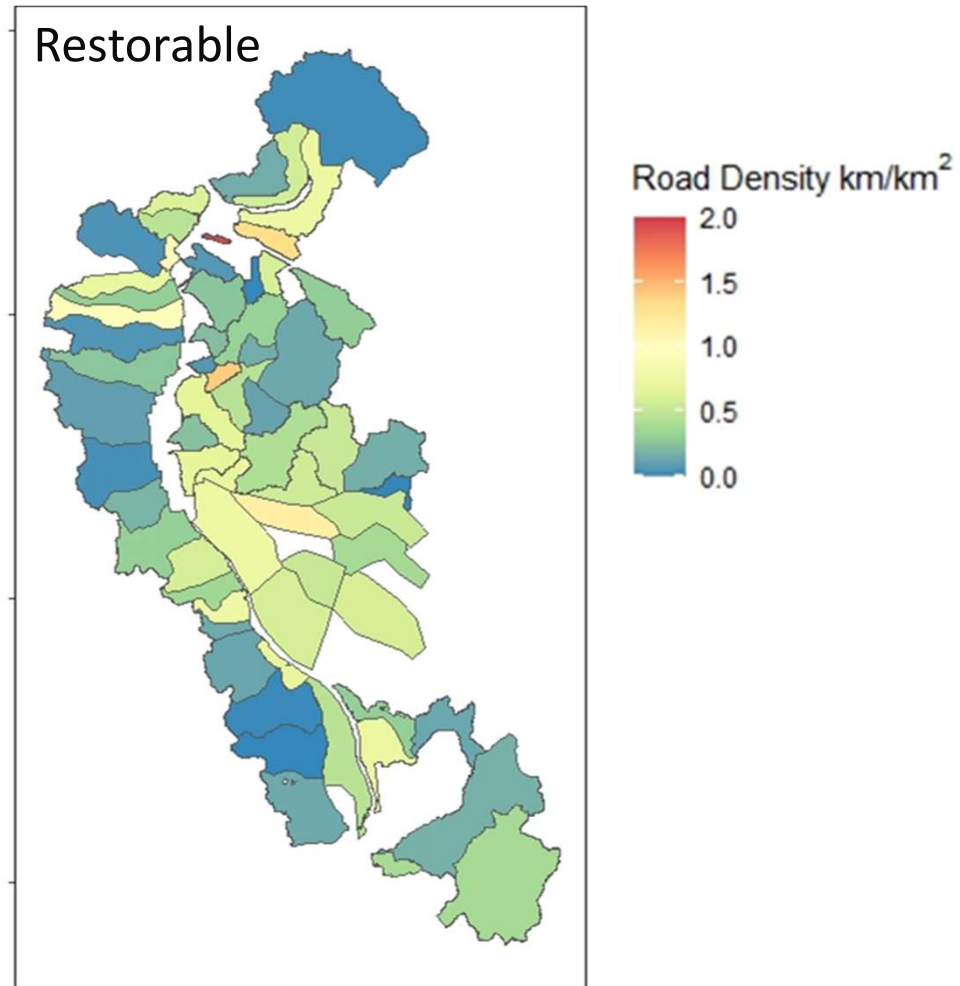


Permanent



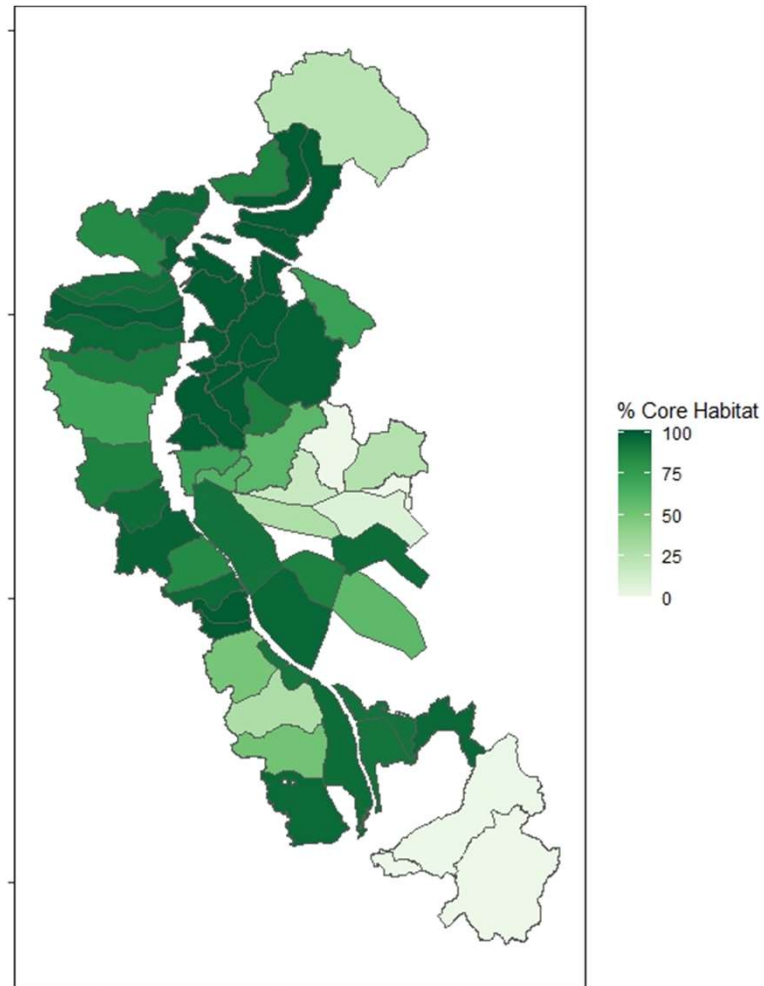
*Preliminary

Calculate “Cost”



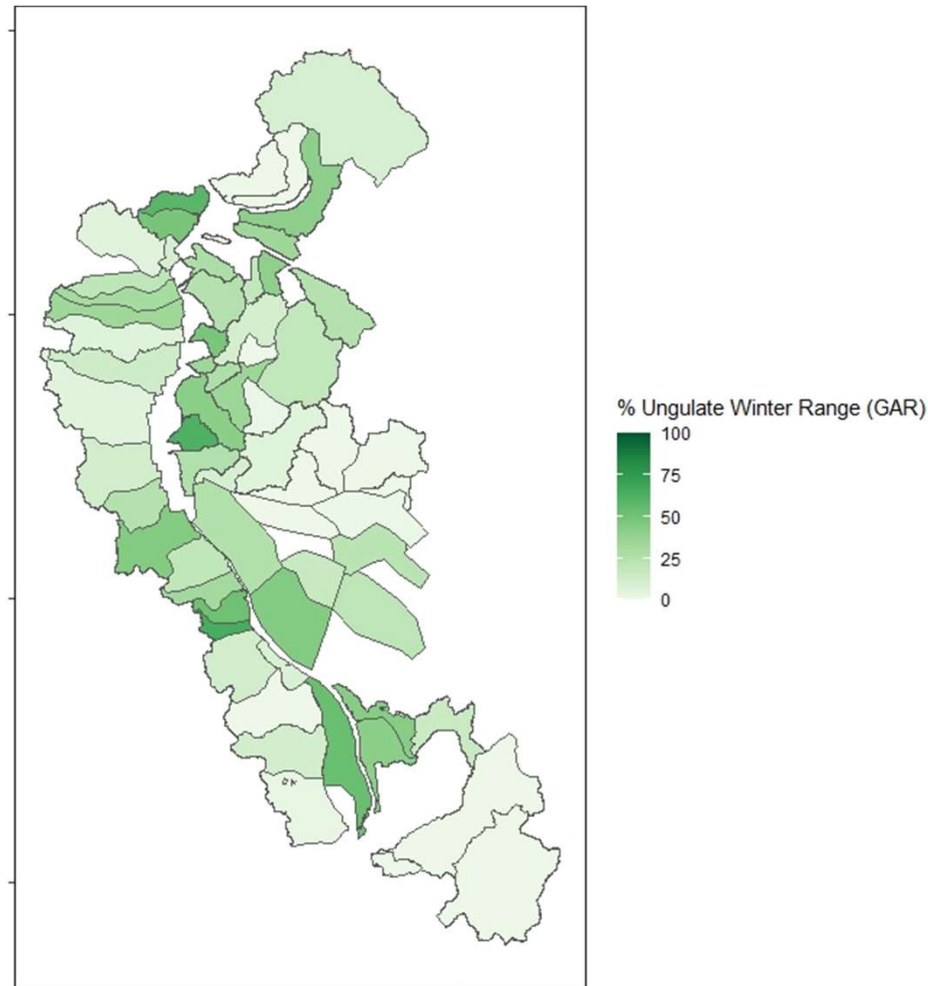
*Preliminary

Add weightings – Core vs Matrix



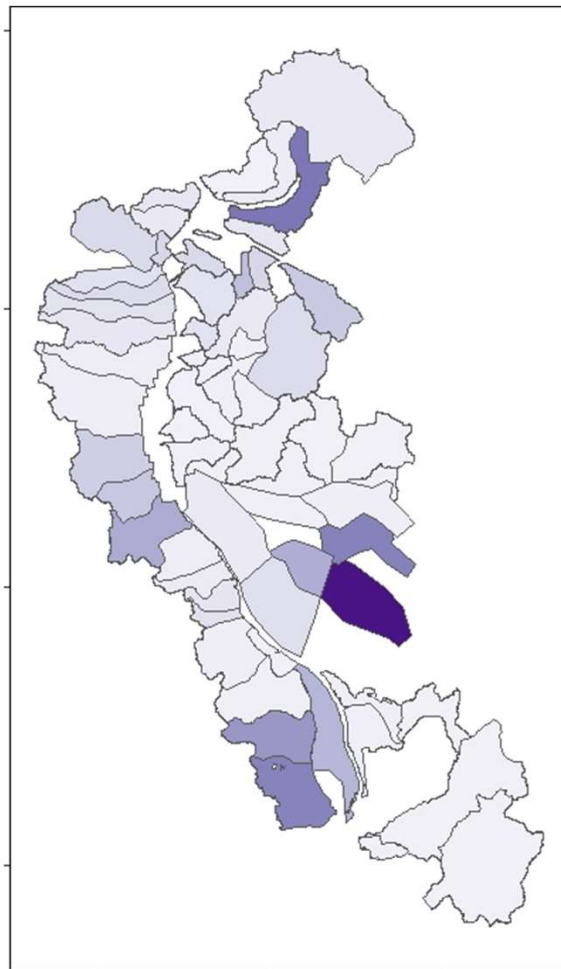
*Preliminary

Add weightings – GAR

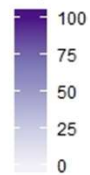
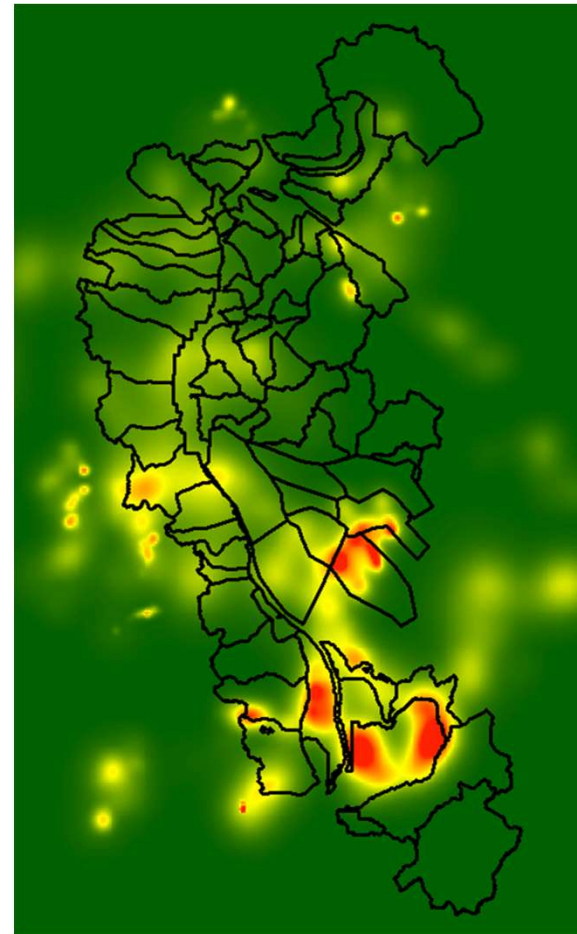


*Preliminary

Add weightings – Caribou Use

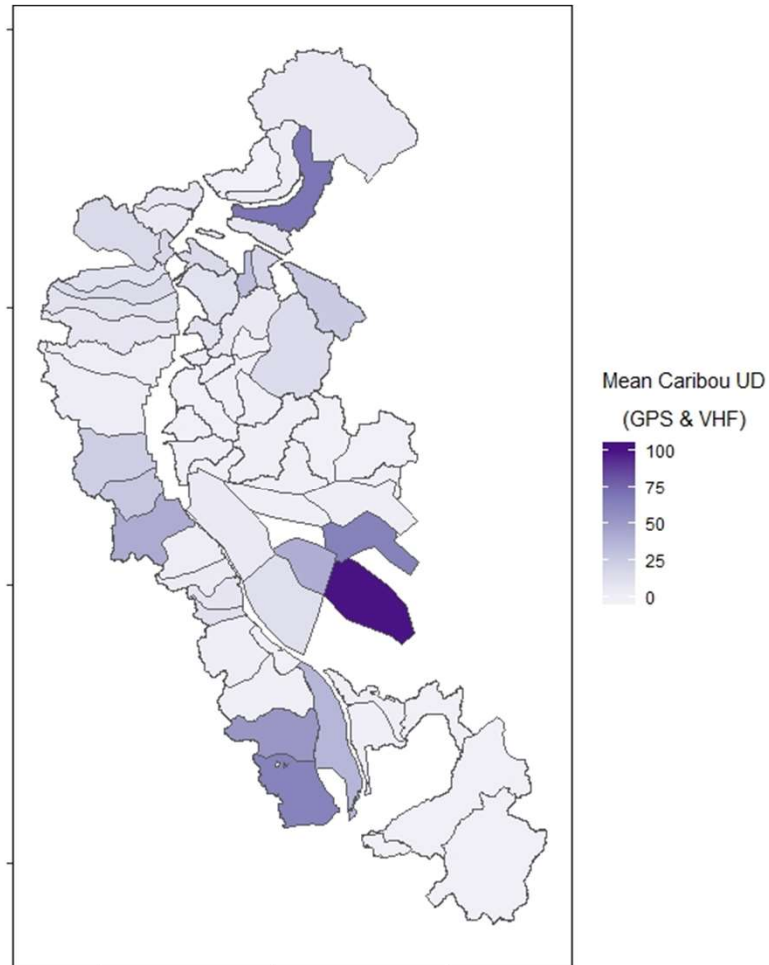


Mean Caribou UD
(GPS & VHF)



*Preliminary

Add weightings – Caribou Use

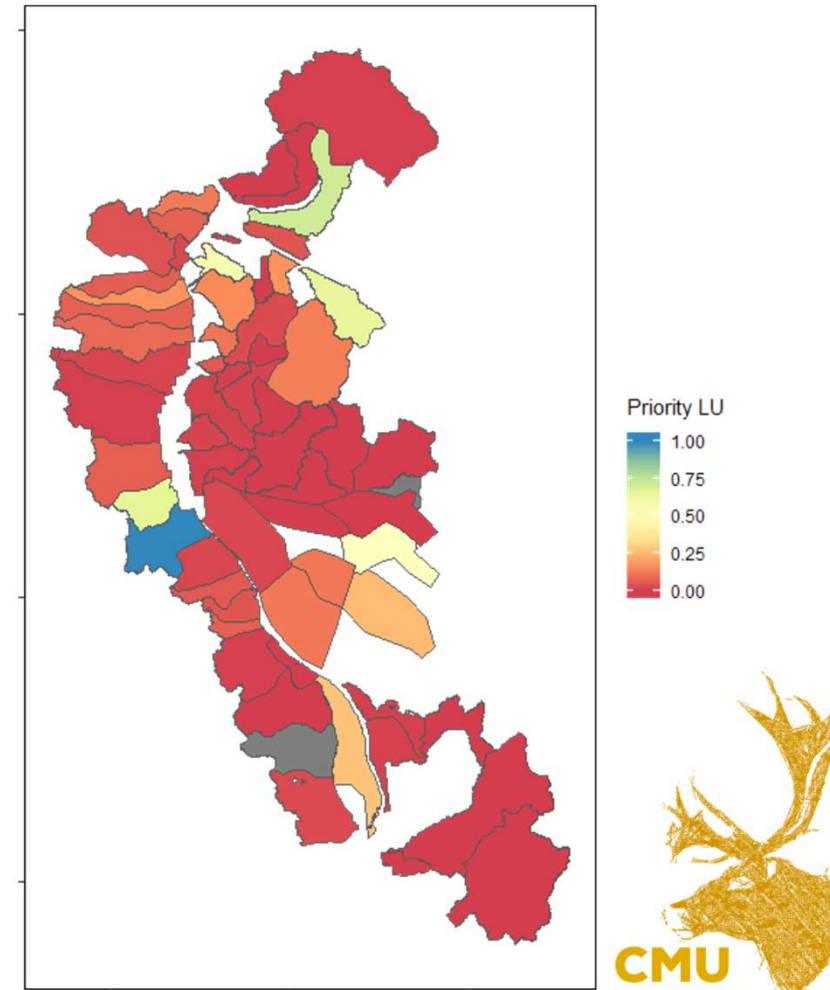


Preliminary Priority Zones

Priority =
(% Forest disturbance 0-40) / Restorable Road Density)
* CaribouUse
* %CoreCaribouRange
* %UngulateWinterRange
* (100- (%Forest Disturbance 0-20))

Grey units are not candidates for restoration
due to the absence of restorable roads

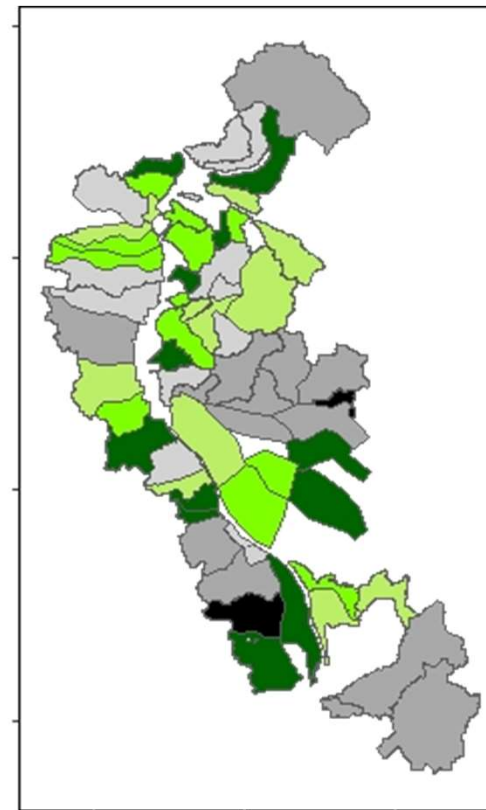
- If any of the weightings is 0, the priority goes to 0



Preliminary Priority Zones

Priority =
(% Forest disturbance 0-40) / Restorable Road Density)
+ CaribouUse
+ %CoreCaribouRange
+ %UngulateWinterRange
+ (100- (%Forest Disturbance 0-20))

Black units are not candidates for restoration
due to the absence of restorable roads



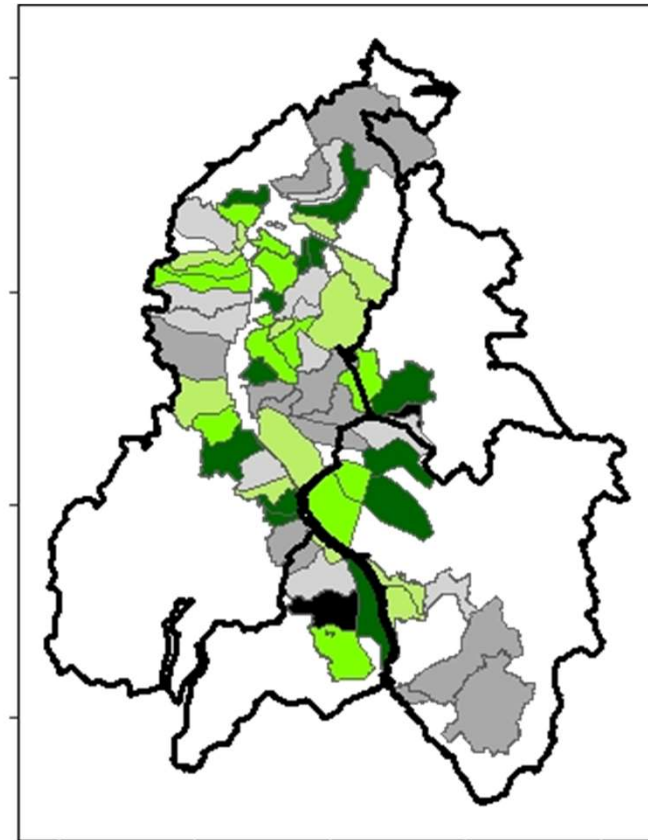
Priority Zones 1 2 3 4 5



Priority Zones by Herd

Priority =
(% Forest disturbance 0-40) / Restorable Road Density)
+ CaribouUse
+ %CoreCaribouRange
+ %UngulateWinterRange
+ (100- (%Forest Disturbance 0-20))

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Priority Zones 1 2 3 4 5



Priority Zones by Herd

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