Quantification Tools to Support Habitat Exchanges and other Markets

December 8, 2014

Quantification Tool (QT) Basics

Used to measure debits and credits in ecosystem markets

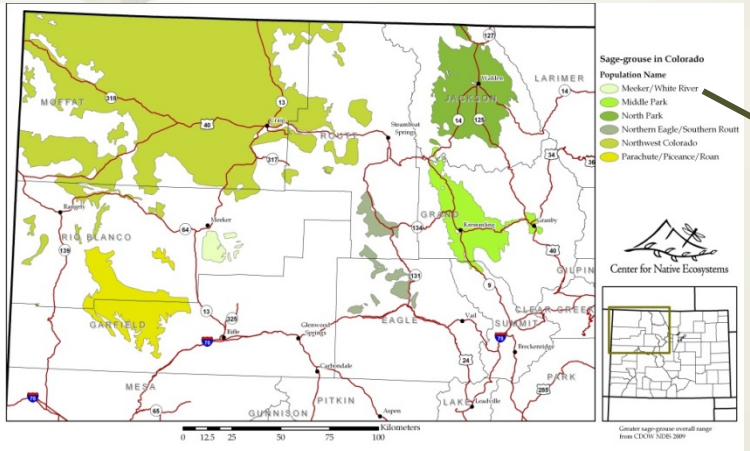
Measures debits and credits using the same approach

The ultimate unit of measure is a functional acre

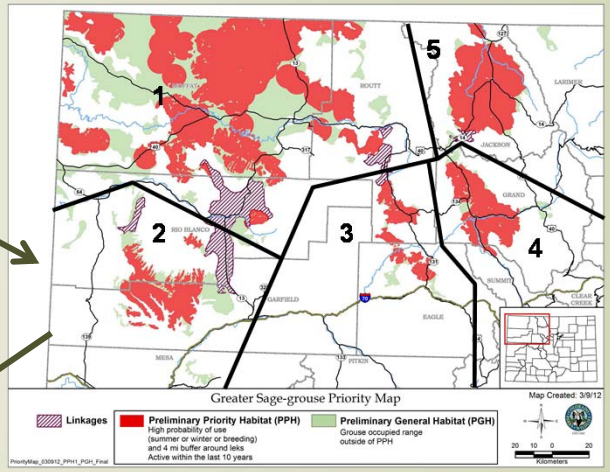
All ecosystem issues span multiple scales – so too must quantification approaches

A Sage Grouse Example of a QT Approach

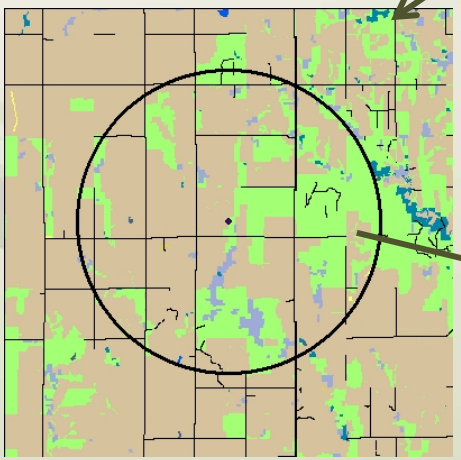
1st Order
Occupied range for the species in CO



2nd Order
Habitats required by subpopulations



3rd Order
Habitats used by individuals in the subpopulation

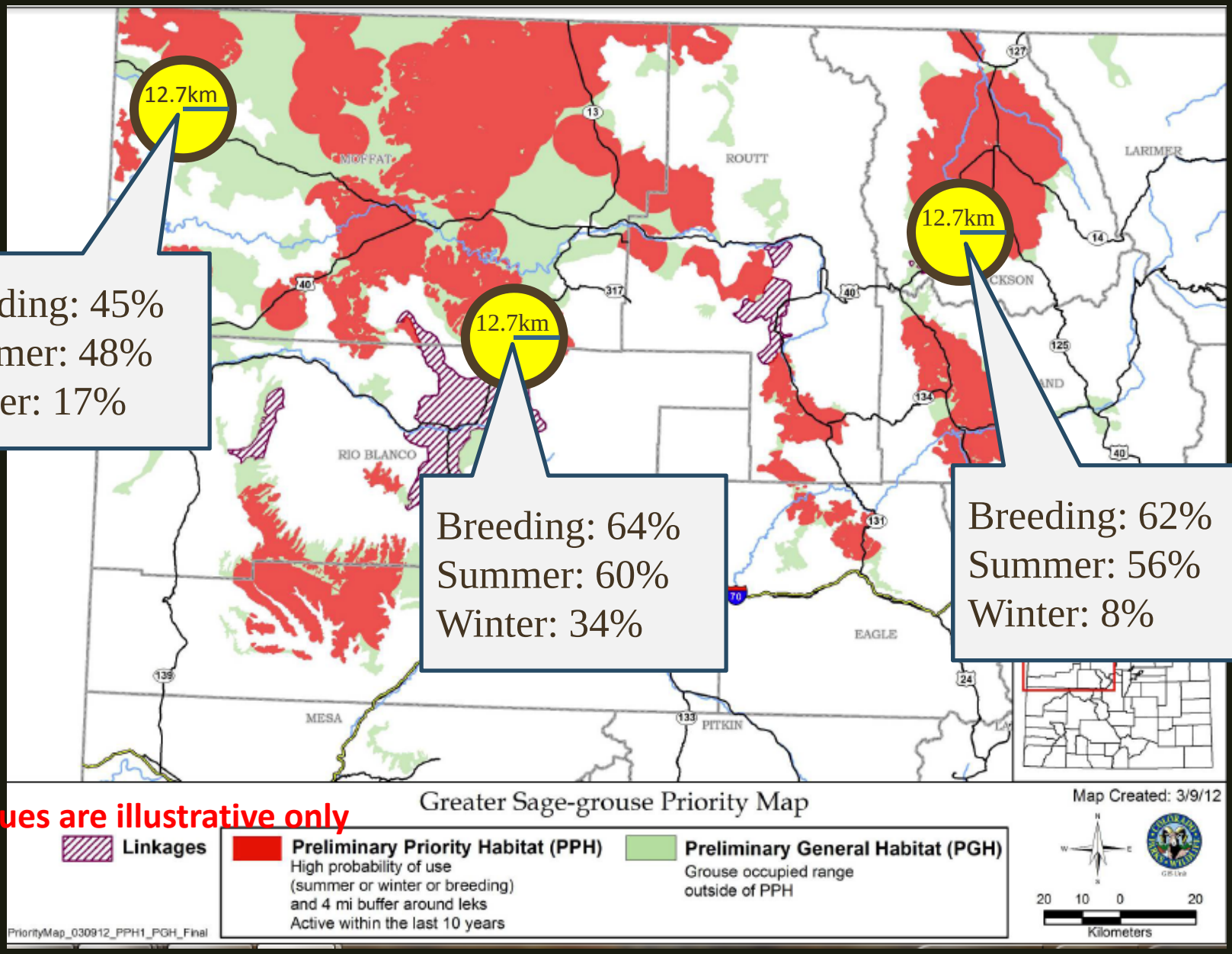


4th Order
Habitat conditions at the site of proposed activities

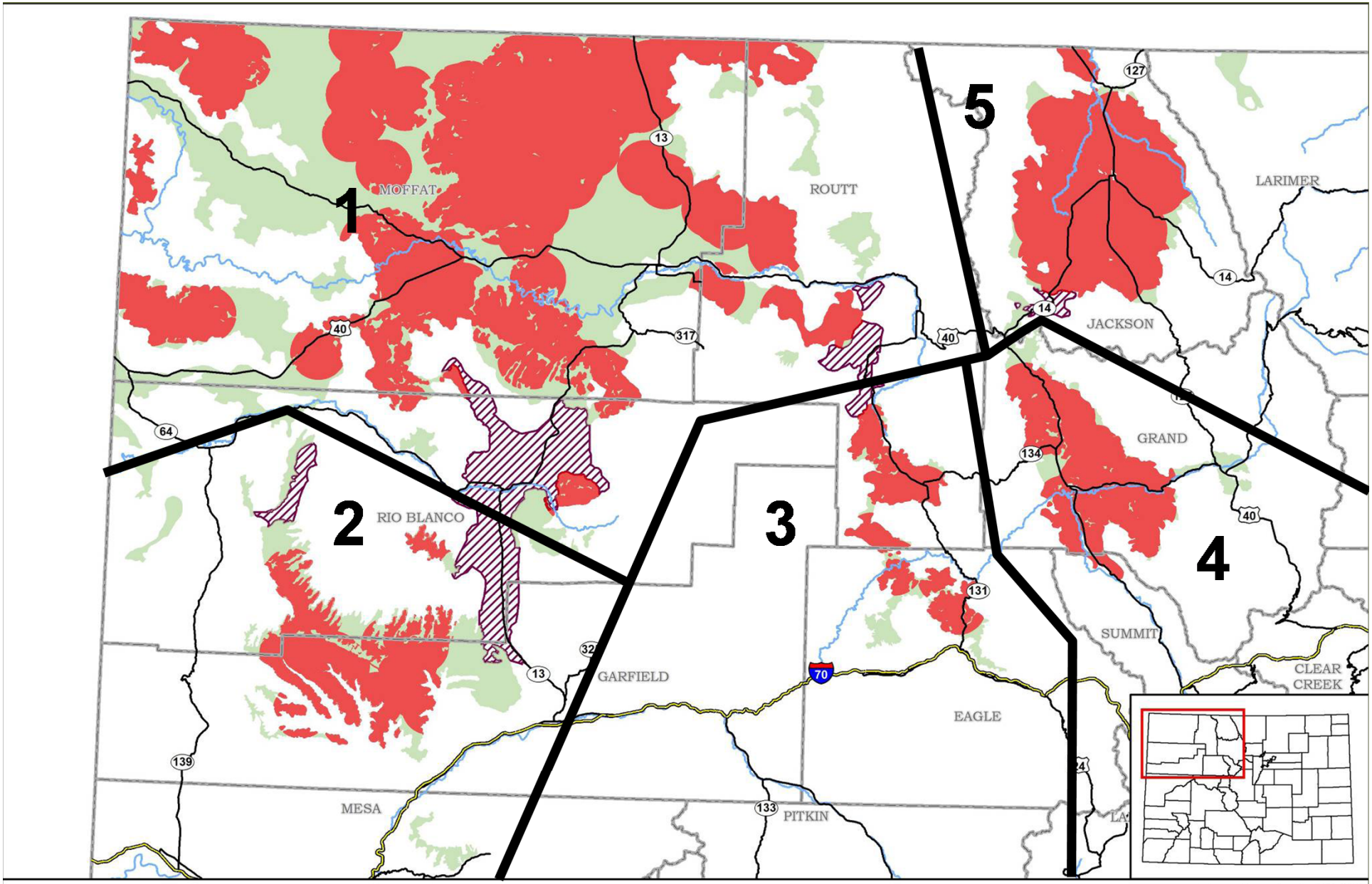
esg

Sage Grouse Example Continued – 3rd Order

Sage Grouse Example Continued - (3rd Order)



*LQI values are illustrative only



Greater Sage-grouse Priority Map

Map Created: 3/9/12

Linkages

Preliminary Priority Habitat (PPH)
High probability of use
(summer or winter or breeding)
and 4 mi buffer around leks

Preliminary General Habitat (PGH)
Grouse occupied range
outside of PPH

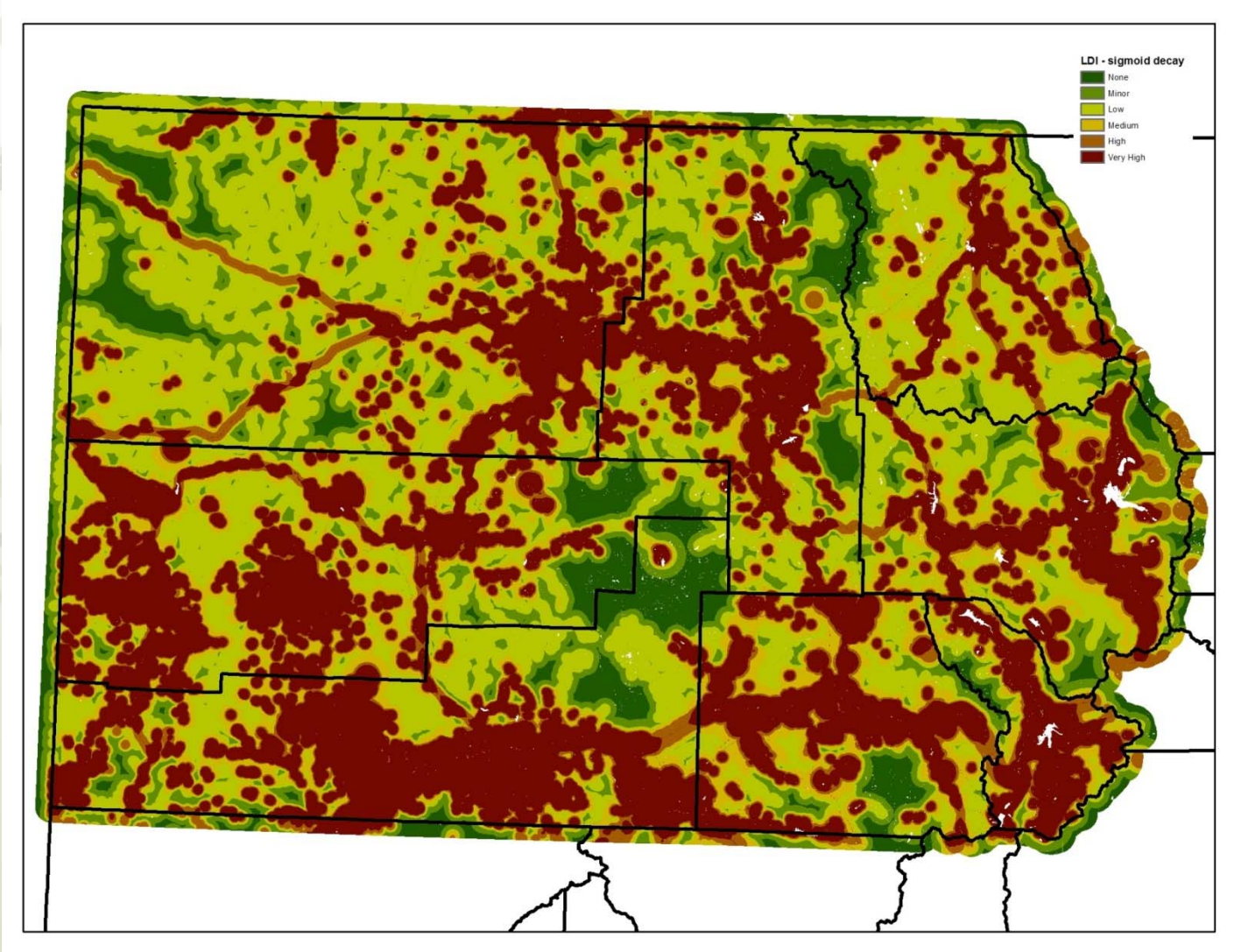
N
W
E
S

COLORADO PARKS WILDLIFE
GIS Unit

20 10 0 20

Sage Grouse Example Continued - (2nd Order)

Landscape Disturbance Index (LDI) represents the cumulative impact of anthropogenic disturbance on a landscape



The Functional Acre

Functional Acres:

- Captures size and quality
- Functional acre change calculated by assessing site level changes and modifying functional acre value by 2nd and 3rd order context scores
- Accounts for the physical footprint of development, as well as indirect effects of "behavioral avoidance"
- Focus on measuring change in condition from management activities (i.e., crediting outcomes vs practices)

What are the goals of the QT tool?

- Measuring debits/credits with an accounting for the influences of all scales
- Balancing rigor and implementation costs (avoid creating undue barrier to participation)
- Capture cumulative effects – making many small changes move towards a larger landscape benefit.
- Providing a quantification approach that can be aggregated to accommodate bundling – or holistic ecosystem transactions.


Thank you for your time . . .