APPLICATION FOR MEMBERSHIP IN ROCKY MOUNTAINS
COOPERATIVE ECOSYSTEM STUDIES UNIT

Gary Tabor and Tyler Creech
November 15th, 2018
Fort Collins, CO
Emergence of Connectivity Conservation Practice

• 19th Century – National Park (Pattern)
• 20th Century – Ecosystem Conservation
• 21st Century – Connectivity Conservation (Process)
Process Conservation: Conserving the Vital Functions of Nature

Wildlife Corridors
Natural Disturbance Regimes
Fire Ecology
Hydrology
Water Catchment
Migration
Dispersal
Pollination
Resilience
Connectivity (Corridors) – Where Pattern meets Process Conservation

Helping communities and organizations make better conservation decisions at the scale nature functions.
LARGE-SCALE SOCIAL CHANGE REQUIRES BROAD CROSS-SECTOR COORDINATION, YET THE SOCIAL SECTOR REMAINS FOCUSED ON THE ISOLATED INTERVENTION OF INDIVIDUAL ORGANIZATIONS.

By John Kania & Mark Kramer
What is Needed - Consistent Practice
Measurable Targets

Areas of Connectivity Conservation (ACCs)
New Conservation Designation
900 Expert Members in over 85 countries
Connecting Social Scale with Ecological Scale

How can we scale up

Large landscape conservation is about –
getting people to conserve land at larger ecologically meaningful scales
One example of linking social scale to ecological scale in addressing climate impacts
Network for Landscape Conservation
Advancing the Practice of Conservation at the Landscape Scale

www. landscapeconservation.org
NEW SOLUTIONS

ARC works to implement creative solutions for wildlife crossing infrastructure to benefit humans and animals. Our success depends on partners and projects across North America.

NEW SOLUTIONS

WHAT'S BEEN DONE ABOUT ROADKILL, AND WHY ISN'T IT ENOUGH?
SCIENTIFIC EXPERTISE

Ecological science:
- Wildlife ecology
- Road ecology
- Connectivity modeling
- Landscape genetics
- Remote sensing and climate models

Social science:
- Ethnographic methods
- Translation of climate science
- Quantitative methods
- Human dimensions of conservation
Where are the most important places within CGNF to manage for ecological connectivity?

How can we apply best-available science to meet requirements for considering connectivity in forest plan revisions under the 2012 Planning Rule?
CLIMATE CHANGE AND WILDLIFE CORRIDORS (NCCASC)

How will climate change alter landscapes used as dispersal corridors by wildlife?

How will wildlife respond?

What management strategies will help us support critical connections?

Figure I7. Bivariate maps of connectivity value versus potential impact projected by the climate niche model (Rehfeldt et al. 2012) in 2030 (left) and 2060 (right).
How will hotter, drier, and more extreme climatic conditions affect vegetation phenology in southwestern grasslands?

How will changes in phenology impact grassland herbivores?

How and where can management action minimize negative impacts?
What management actions can simultaneously benefit freshwater and terrestrial targets?

Where should stakeholders pursue these management actions to maximize benefits to targets they care about?
Where are the riskiest road segments for wildlife-vehicle collisions?

Where do roads intersect important wildlife corridors?

What mitigation measures would be most effective for reducing risk to drivers and ensuring connectivity for wildlife?
How do corridor width, corridor length, and human activities affect the ability of corridors to promote gene flow and genetic diversity?

Does empirical evidence from real landscapes differ from evidence from model system studies?
What characteristics of connectivity conservation plans are associated with successful implementation?

How can we use this information to more effectively plan for connectivity?
HUMAN DIMENSIONS OF CONSERVATION

How can human conceptions of place contribute to large landscape conservation efforts?

What is the public (social) value of ecosystem services provided by conservation practices on working rangelands?
GNLCC ECOLOGICAL CONNECTIVITY PROJECT

Provided public access to >100 spatial datasets on ecological connectivity in online Data Atlas

Organized regional stakeholder workshop on connectivity conservation

Facilitated meetings and strategic planning for Steering Committee and Advisory Team
TRIBAL CLIMATE ADAPTATION PLANNING

Worked with Blackfeet Nation and Confederated Salish and Kootenai Tribes to develop climate adaptation plans

Currently working with Fort Belknap Indian Community on climate planning
IMPROVING WATER STORAGE ON TRIBAL LANDS

Working with high school and college students on the Blackfeet Reservation to install beaver mimicry structures that are helping restore wetlands and floodplains that capture and store water.

Strengthening the Native Science Field Center’s natural resources focus.

Photo: Jacob LeVitus
“We are drowning in information, while starving for wisdom.

The world henceforth will be run by synthesizers, people able to put together the right information at the right time, think critically about it, and make important choices wisely.”

E.O. Wilson, 1998, Consilience
Saving the Planet – by connecting One Large Landscape at a time