Bird Conservancy of the Rockies

SETTING POPULATION AND HABITAT OBJECTIVES FOR GRASSLAND BIRDS:

Central Grasslands Avian Modeling Project (CGAMP)

Chris Latimer, Research Director

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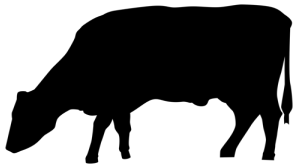
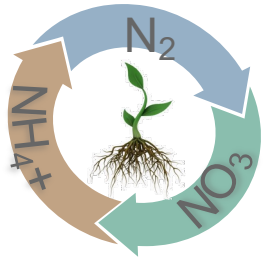
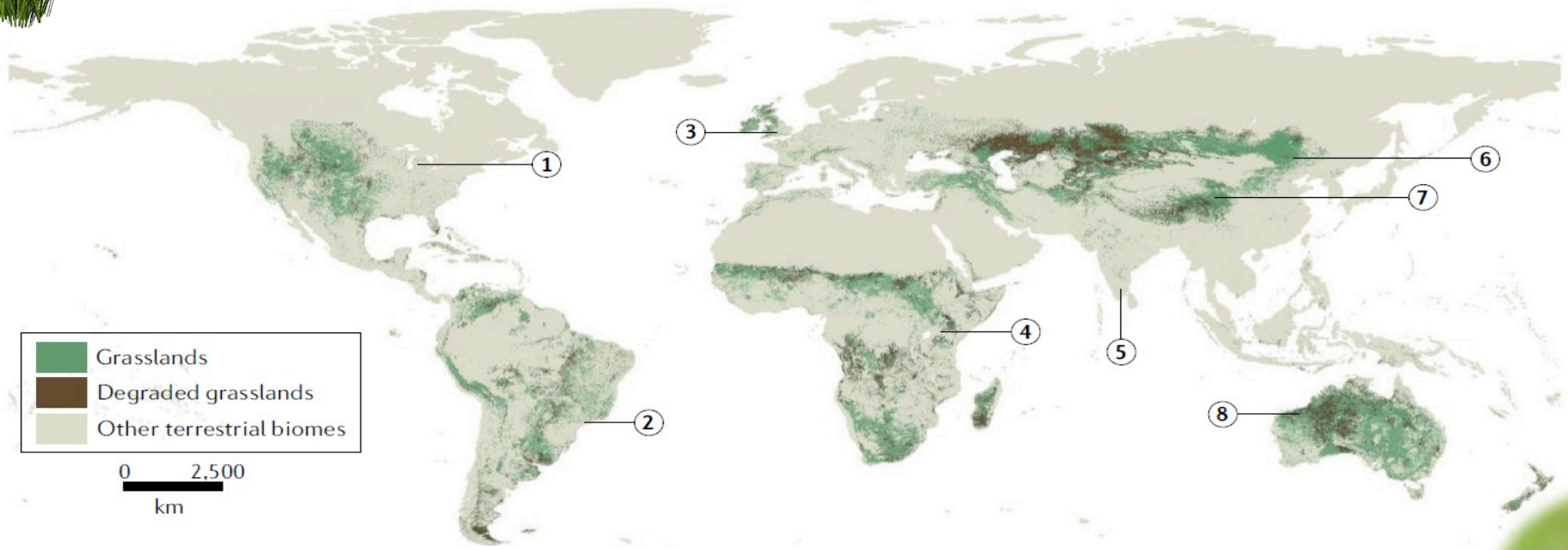
Why Grasslands?

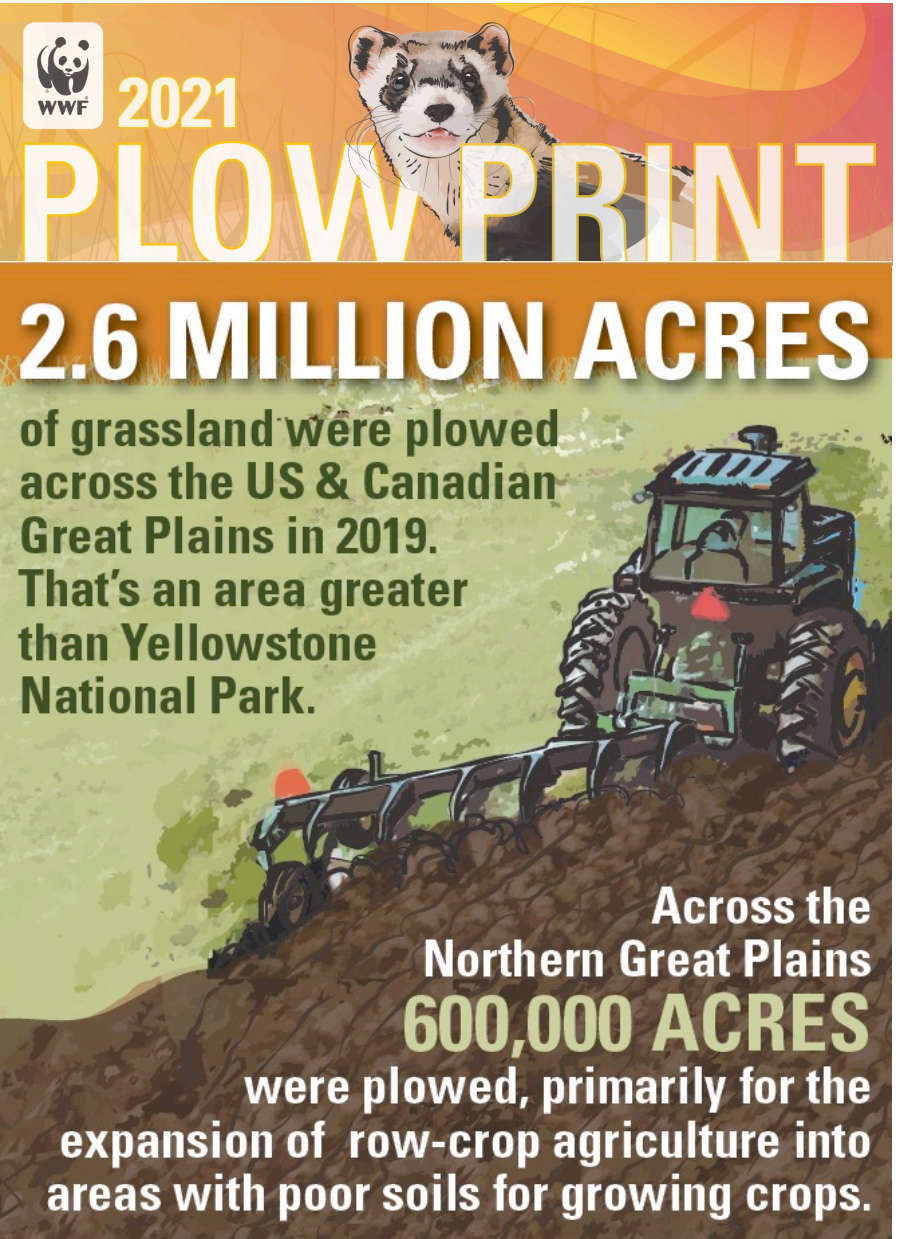






Bardgett et al., 2021

Agricultural Conversion to Cropland

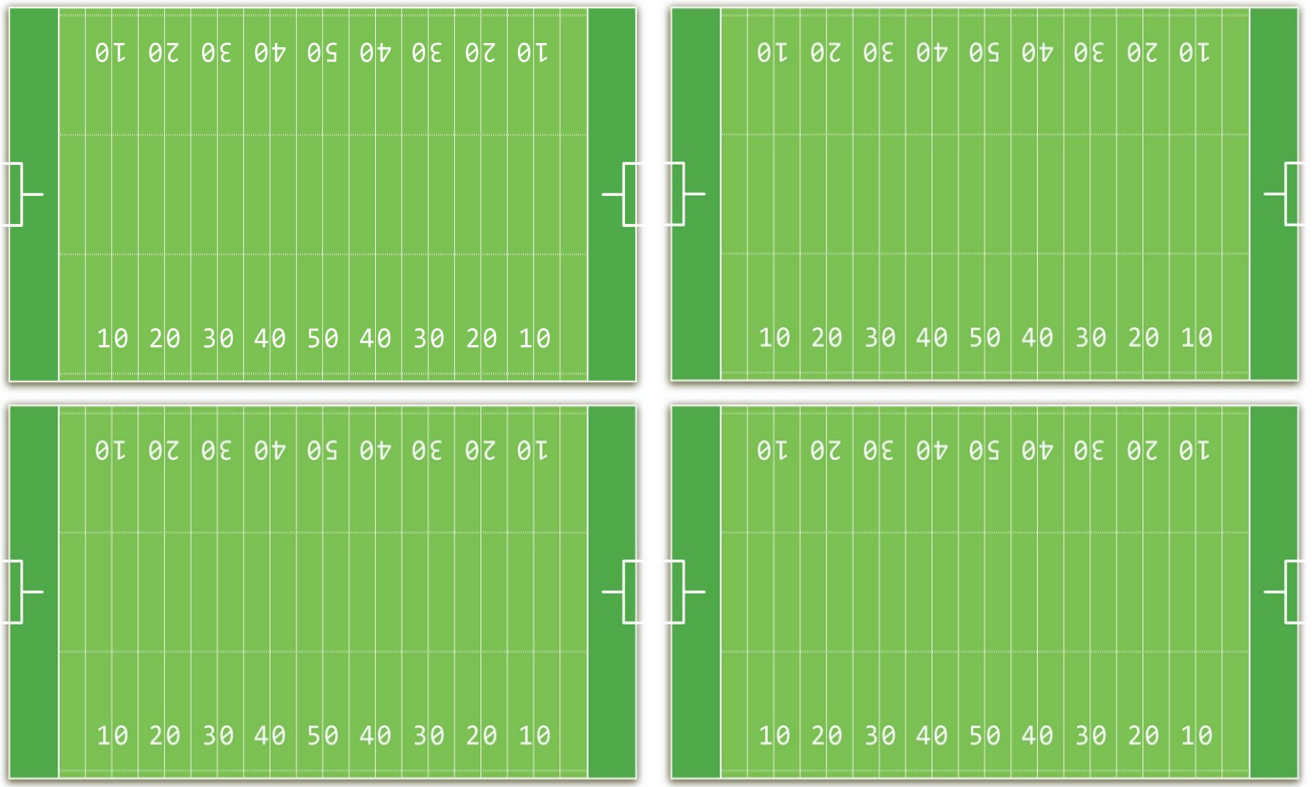


US & CAN:

- ~4 football fields of grassland are lost every minute to agricultural conversion

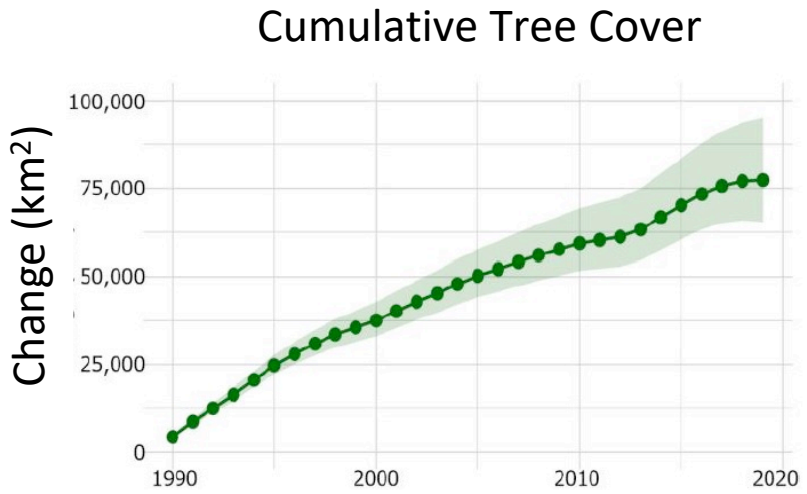
Mexico:

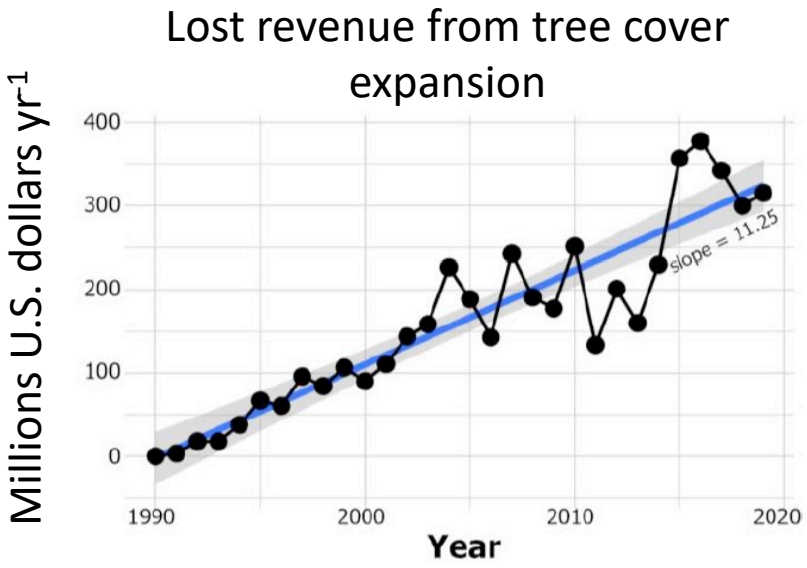
- Cropland expanding at 6%/yr
- >500,000 acres of grassland lost in northern Mexico since 2000



Shrub/Tree Encroachment

- Tree and Shrubs are a key threat to grasslands
- Species like ERC threatening intact grasslands
- Anticipated $5 Billion in lost revenue with greater impacts likely in MX





Morford et al., 2021

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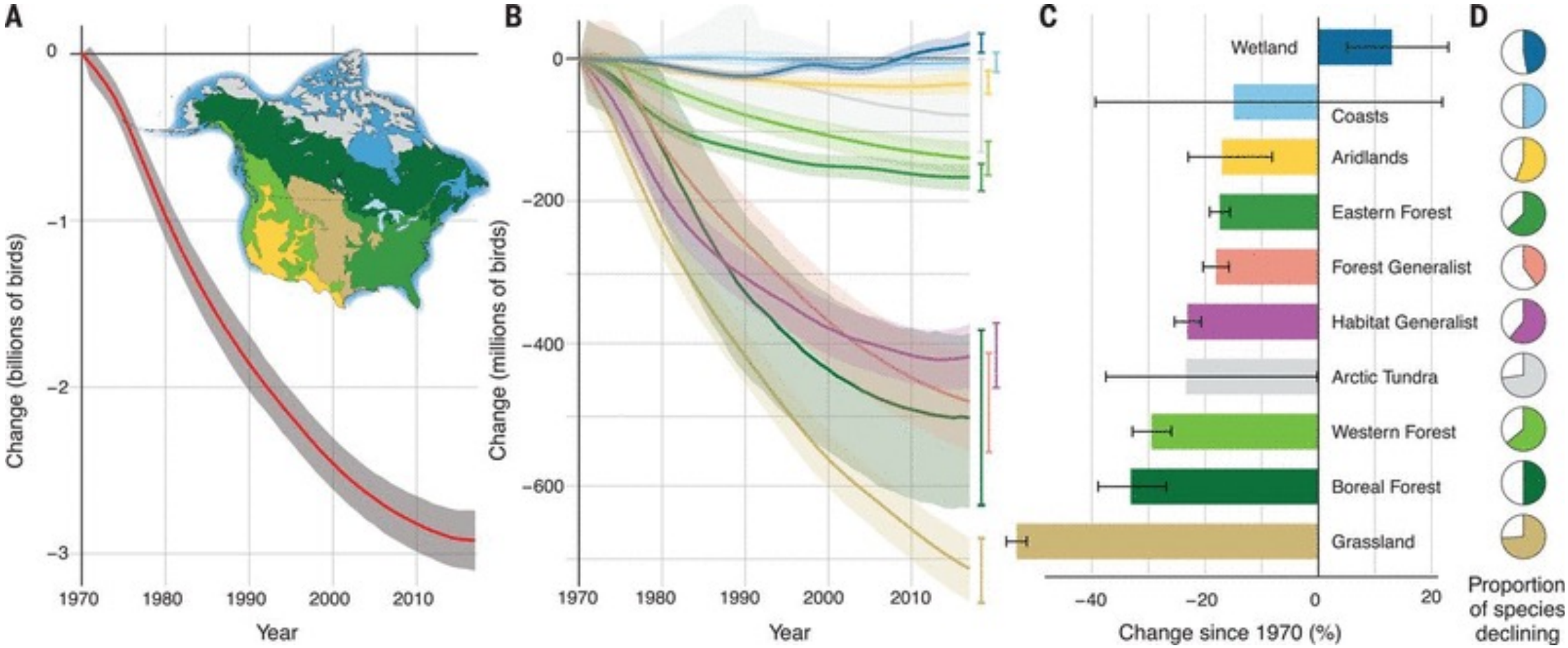
3 Billion Birds: Grasslands are Imperiled

- 72 Million Grassland Birds lost (52%) with 75% of species declining
- Compromise key ecosystem services and functions, including pollination and pest-control



Rosenberg et al., 2019

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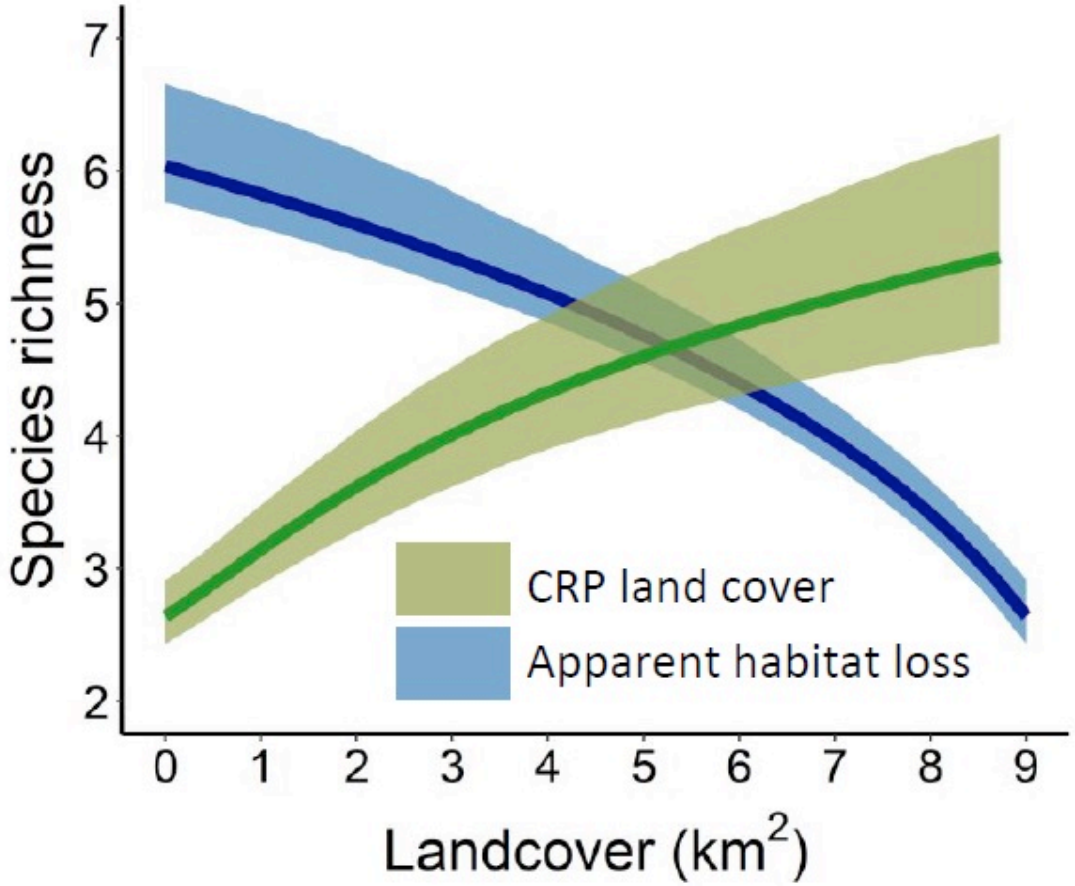
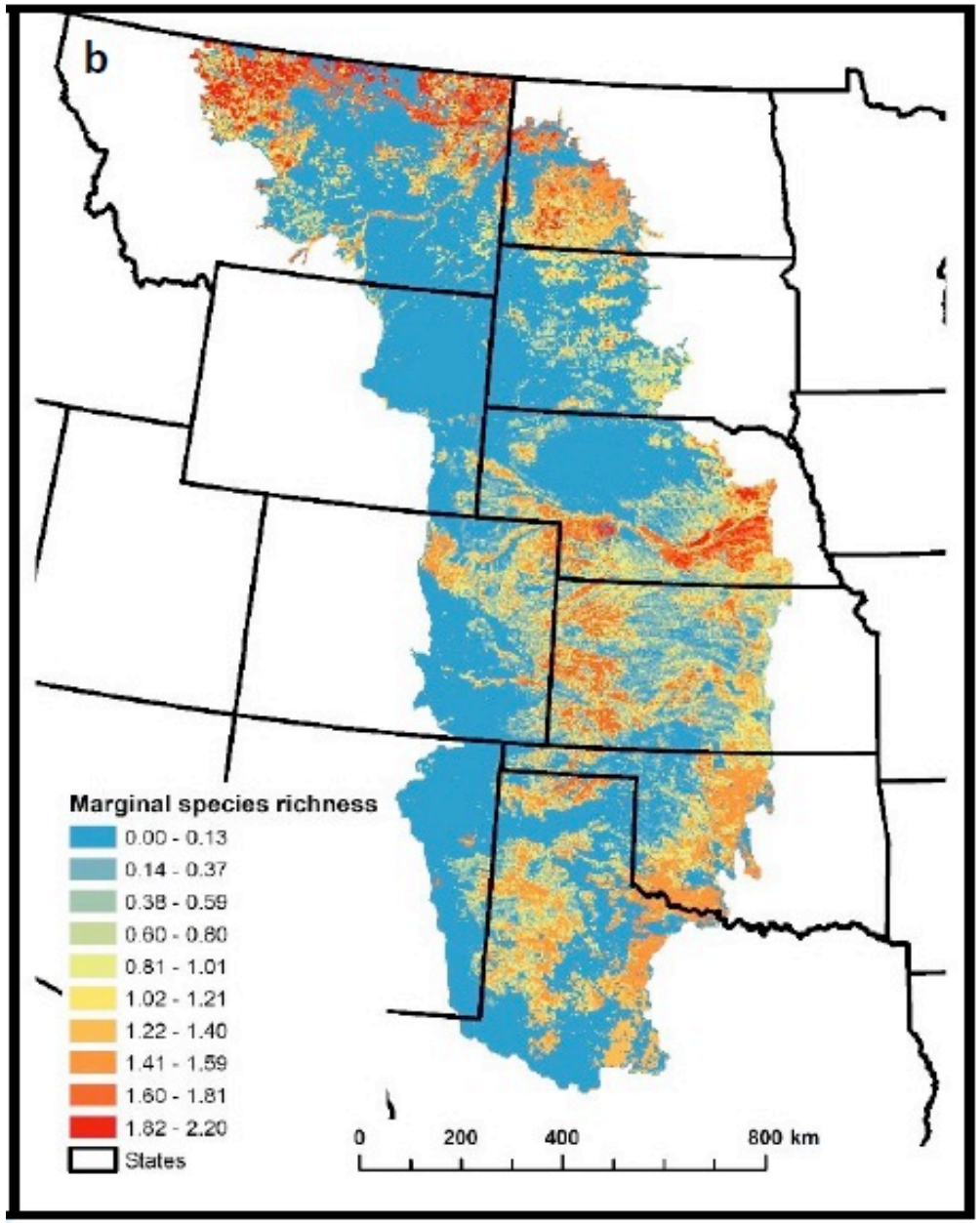
Hope for the Future: Landscape Scale Conservation





Pavlacky et al., 2022

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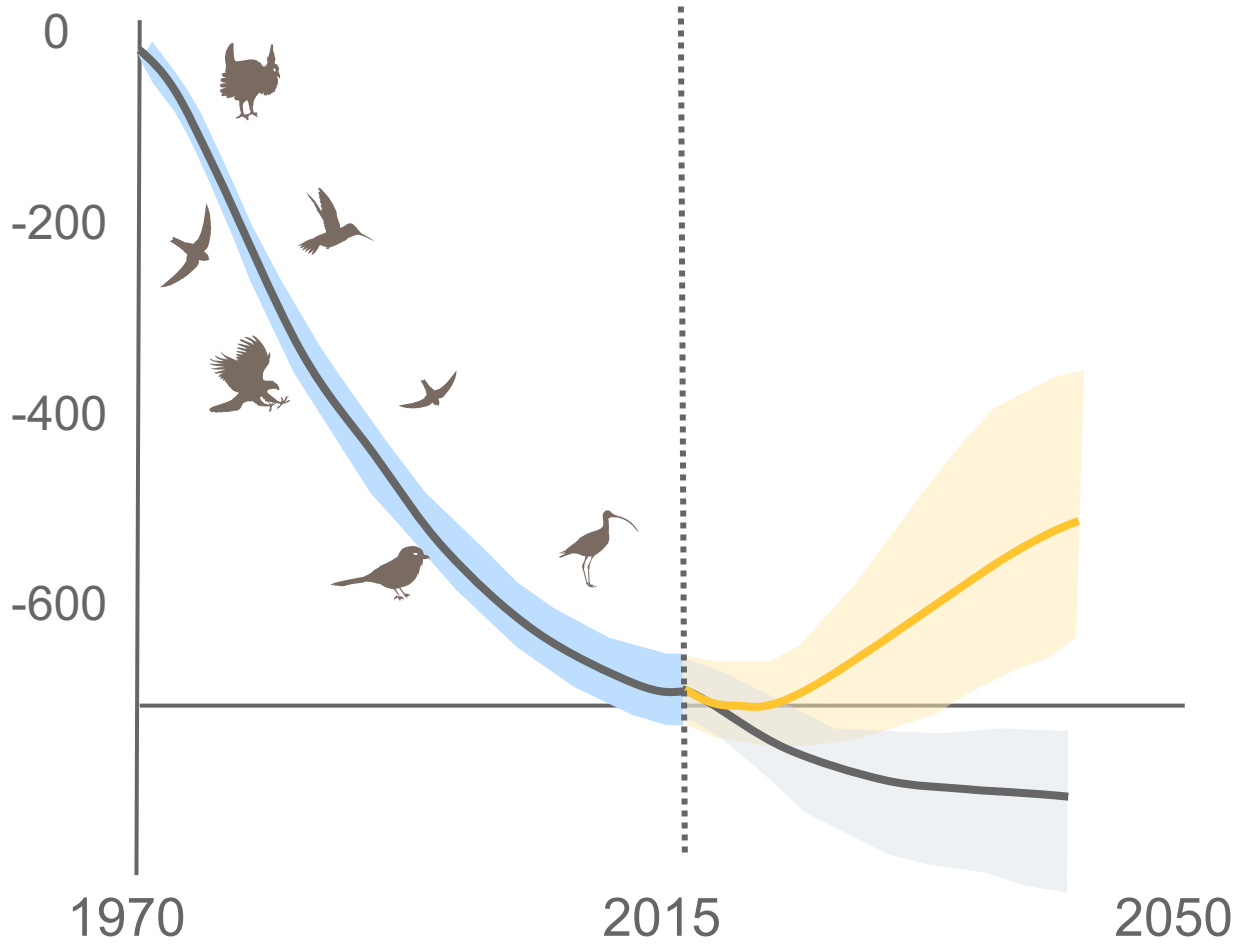
Bending the curve: what could the future look like?



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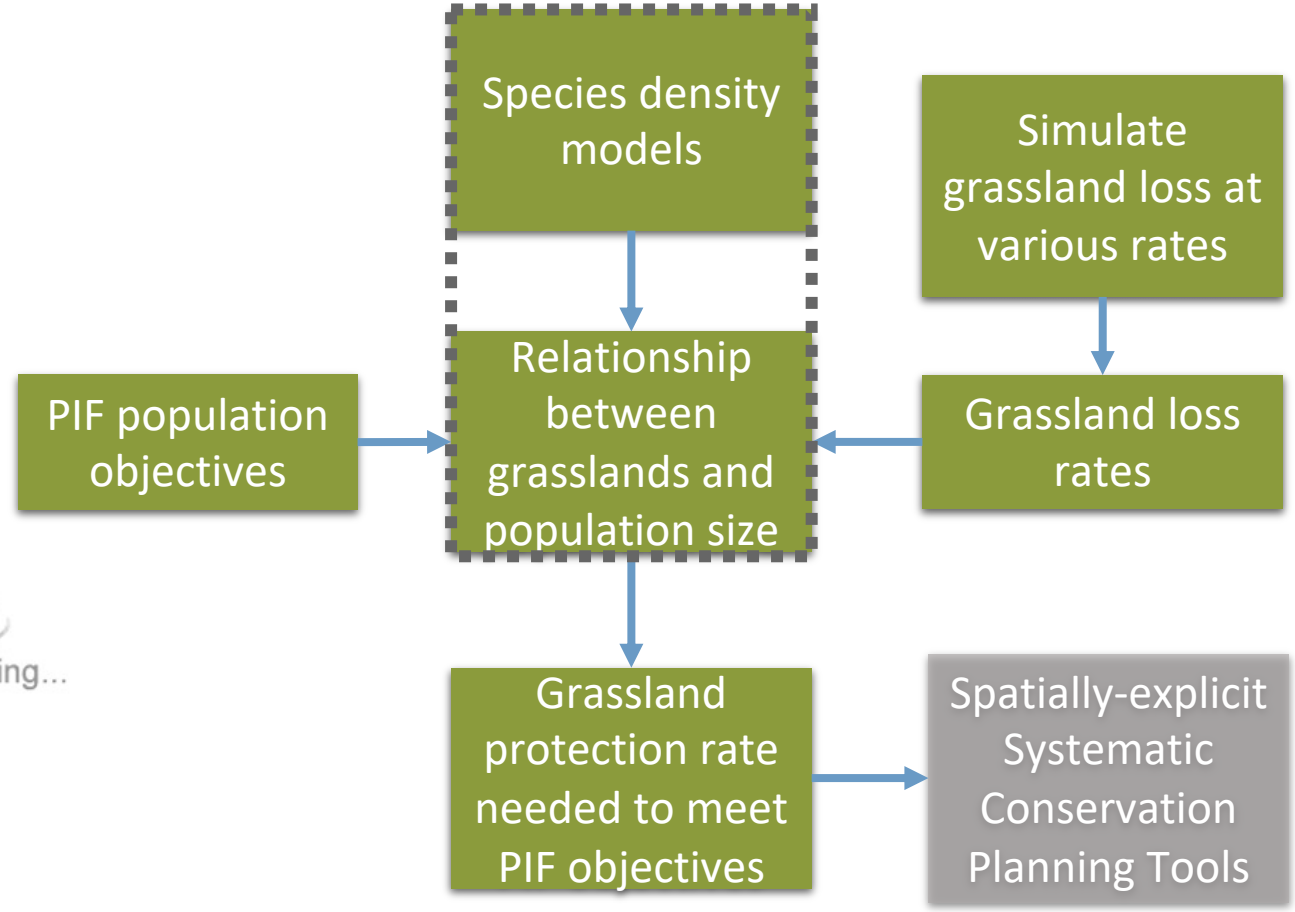
Setting Targets: Central Grasslands Avian Modeling Project (CGAMP)

1. Build technical committee
2. Decide on analysis boundary
3. Develop template polygon and raster
   - 800-m resolution
   - NAD 83 conic equal area projection
4. Decide on covariates
5. Develop covariate spatial data
6. Develop species density models for 250+ grassland bird species
7. Set grassland conservation and restoration acre objectives
8. Make acre objectives spatially explicit
   - Tentative date – Fall 2022



Spatial Variation in Trend x Threat: Lark Bunting

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Bird Conservation Regions

State / Province Boundaries

Population Trend, LARB

Cultivation Level

Increasing

Decreasing

Core Grasslands

At Risk

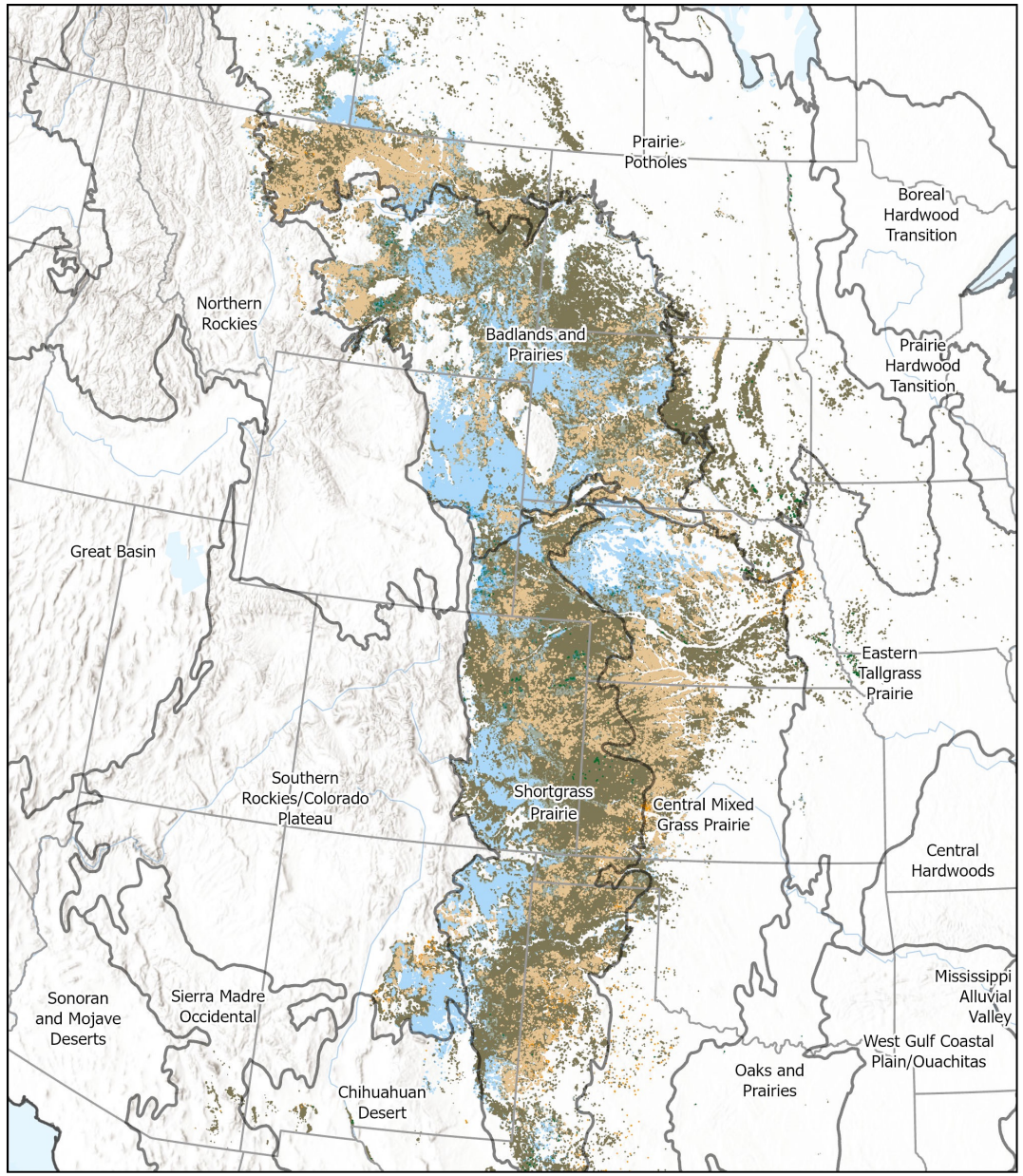
Plowed / Cultivated

N

0 95 190 380

Miles

Map Extent



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Connecting People, Birds and Land

Spatial Variation in Trend x Threat: Chestnut-collared Longspur

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Bird Conservation Regions

State / Province Boundaries

Population Trend, CCLO

Cultivation Level

Increasing

Decreasing

Core Grasslands

At Risk

Plowed / Cultivated

N

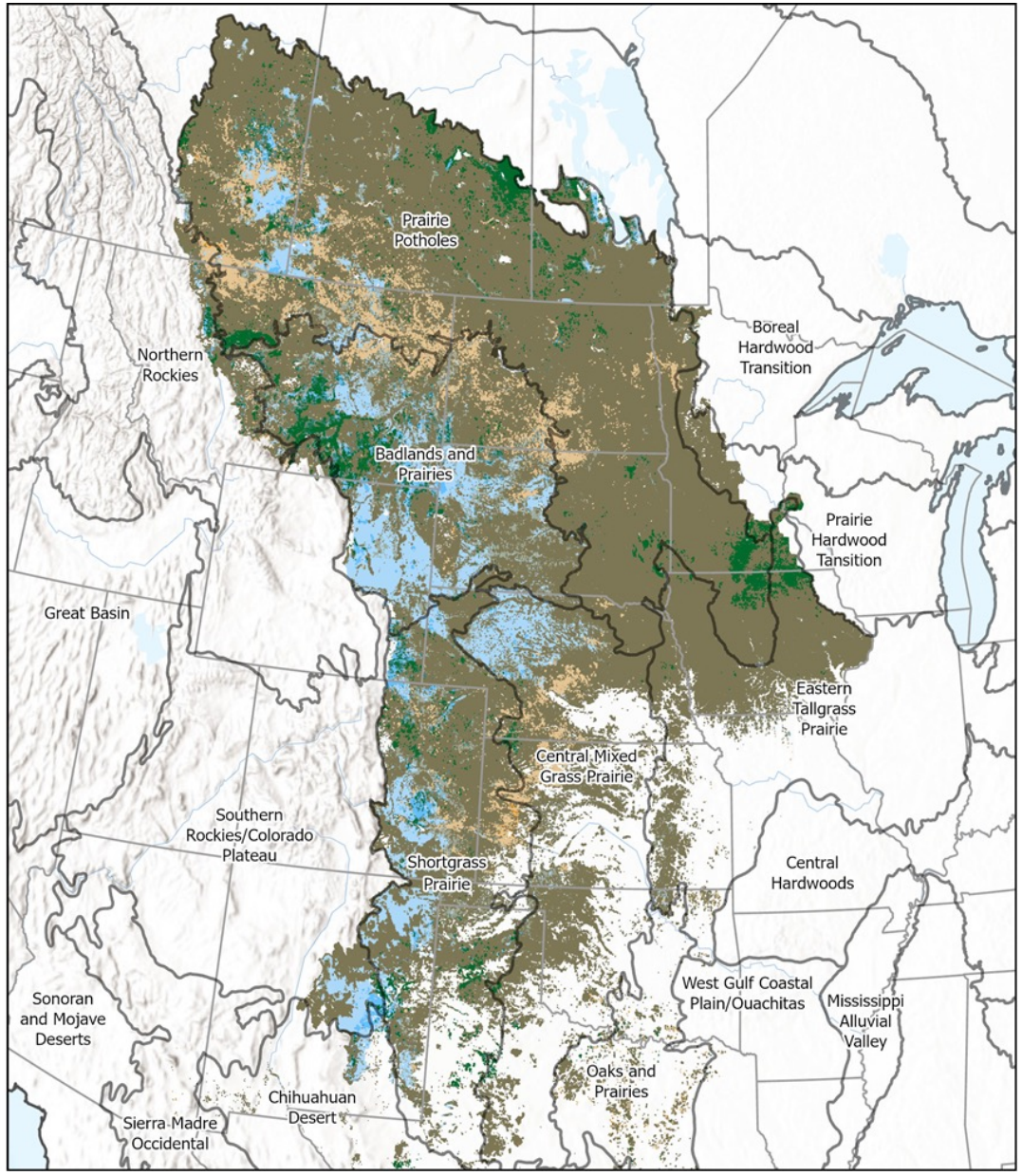
0 115 230 460

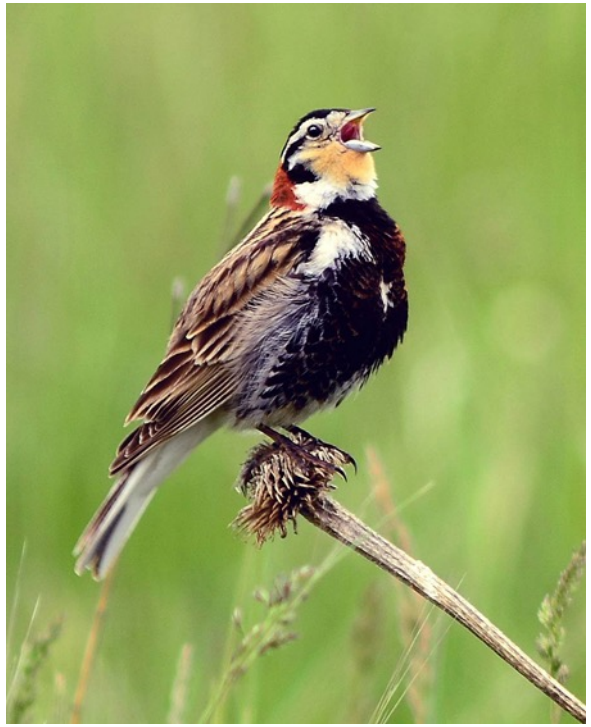
Miles

Map Extent

Bird Conservancy of the Rockies

Connecting People, Birds and Land





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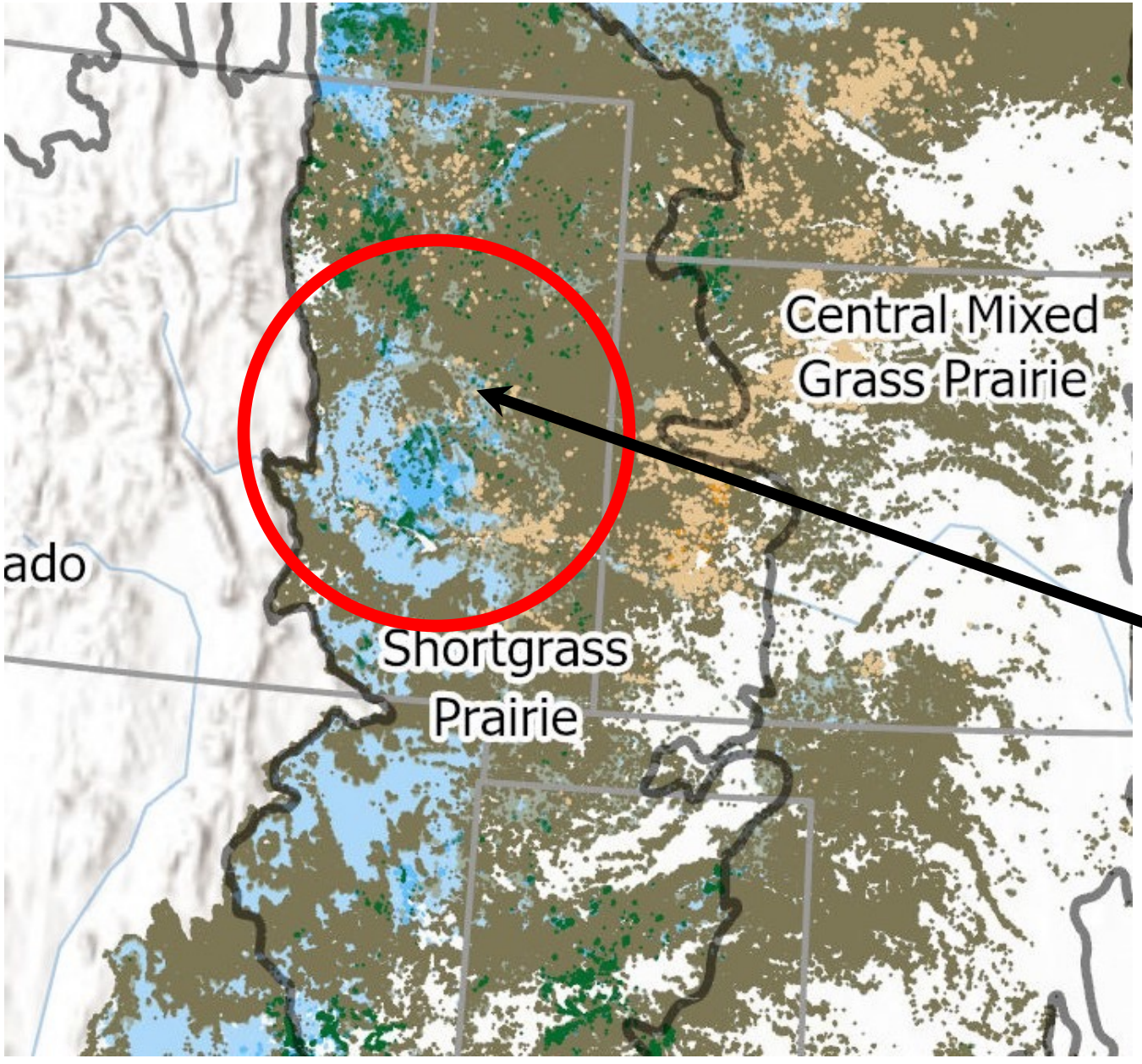

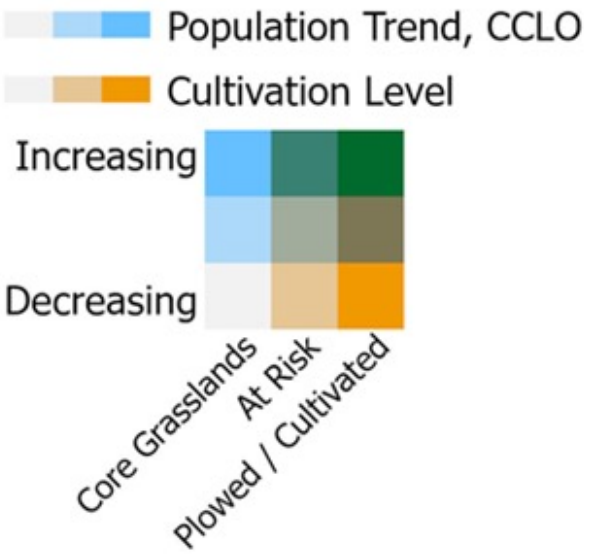

What If:

- Protect/Restore At Risk Grasslands
- Lose At Risk/Core Grasslands

Why?

- Underlying cause/mechanisms

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Integrated approach at Scale: Grassland Roadmap Summit

1. Leverage Science to Inform Conservation
2. Strengthen Collaboration
3. Refine Funding and Policy Initiatives
4. Adaptive co-production approaches

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