

Conservation Strategy for the Greater Prairie-Chicken & the Plains & Prairie Subspecies of Sharp-tailed Grouse



Photo by Steve Oehlenschlager

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And Interstate Work Group

Presented by Jodie Provost
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Upper Midwest Prairie Grouse Summit



Photo by Steve Oehlenschlager

Why Do Fragmented Habitats & Populations Matter?

To wildlife populations:

- Harder to find food and cover, especially for wildlife with large home ranges and that are migratory = less energy and nutrition available to survive, thrive, and reproduce.
- Increases “edge”, decreases interior habitat – affects predation.
- Increased vulnerability to stochastic events – disease outbreaks, floods, droughts, etc.
- Increased vulnerability to climate change – harder to shift their range.
- Less gene flow = less genetic variability/plasticity to allow populations to adapt to changing environmental conditions.

To the ecosystem:

- Less healthy and resilient as habitat and species lost and “the web” is weakened

To people:

- Less ecosystem benefits – recreation and ecotourism, carbon sequestration, clean air and water, biomass products, etc.

SO WHAT ARE WE DOING ABOUT IT??!

Have An Upper Midwest Prairie Grouse Summit!

- **To serve as a forum** for professionals to share management and research information, learn from one another, and initiate a more collaborative approach **to determine and implement strategies** to sustain and recover populations across our ecoregion.
- **Identify Strategies:** From individual on-the-ground habitat projects to policy level changes that affect whole landscapes. Plus monitoring, research, planning, population regulations, outreach to the private landowners and the public, and coordination among partners.



UPPER MIDWEST
PRAIRIE GROUSE SUMMIT

One Strategy – An Interstate Work Group – To Plan and Coordinate

- Western and Midwestern Association of Fish & Wildlife Agencies (WAFWA, MAFWA) Directors approved the Interstate Working Groups in 2015.
- Placed under the WAFWA Western Grassland Initiative.
- Representatives from 14 states (IL, MI, WI, IA, MN, MO, OK, NE, SD, KS, ND, WY, CO, MT) and a Science Team

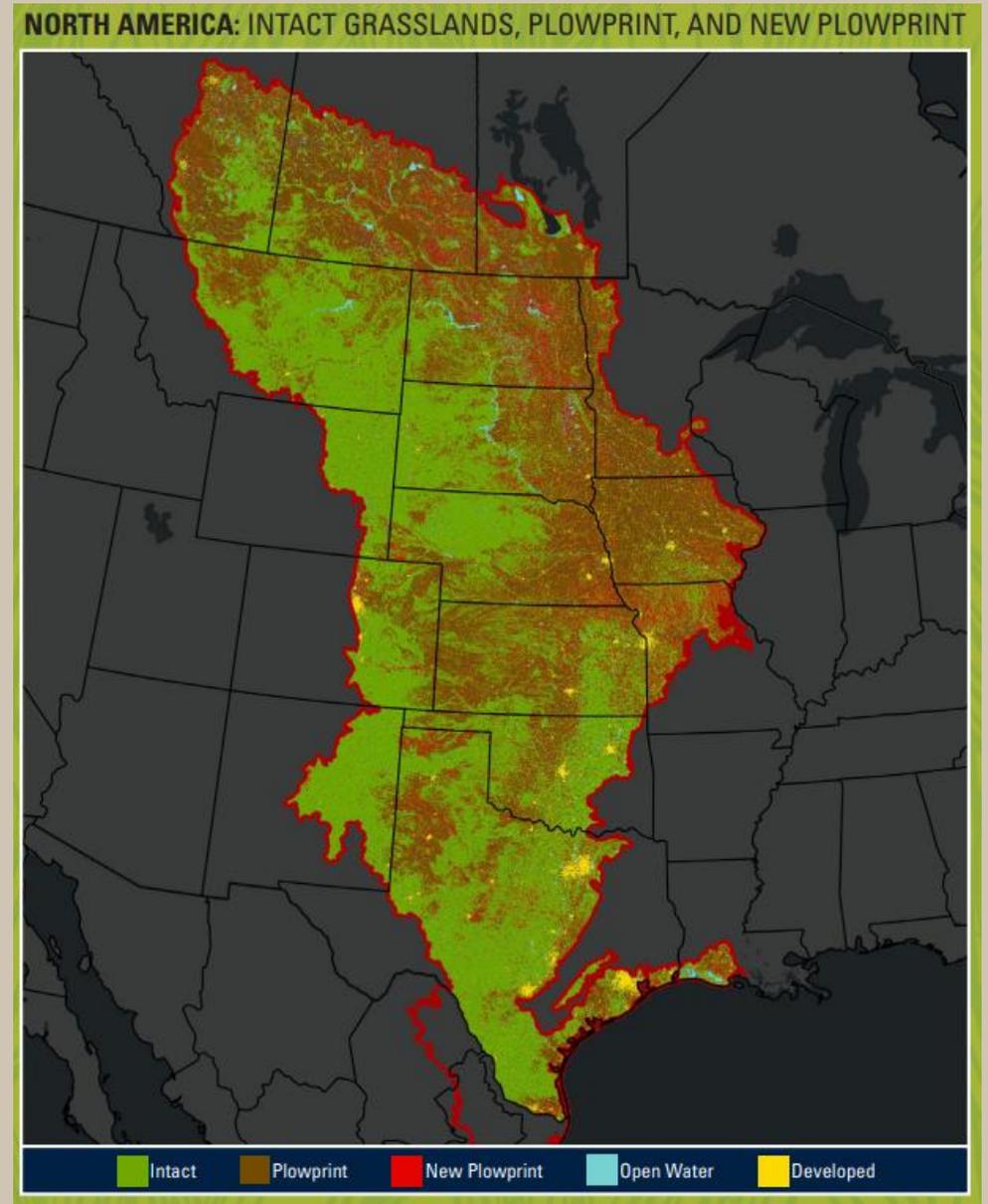


Interstate Work Group

- **To be pro-active, and apply lessons learned** from declining populations of Gunnison and greater sage-grouse and lesser prairie-chicken.
- **Because the status quo is not working.** Competing economic uses and climate change challenges continue, habitat loss continues for greater prairie-chicken (GRPC) and sharp-tailed grouse (STGR).

World Wildlife Fund 2022 Plow Print Report –

- 1.8 million acres of grasslands were plowed under in the Great Plains in 2020
- 385,000 acres were plowed for cropland in the Northern Great Plains



Interstate Work Group

- **Use GRPC and STGR as flagship species**, to expand and coordinate grassland and shrubland conservation efforts. Included interior GRPC and plains and prairie subspecies of STGR.
 - Charismatic, native, resident, landscape-scale species.
 - Ambassadors for habitats ranging from tundra to sage brush.
- **In the long-term, to conserve and restore large blocks of grasslands and shrublands** of native species in sufficient sizes, arrangements, and quality to support populations of these two species.



Report Completed June 2022

Houts, M. E., J. Haufler, K. Fricke, W. Van Pelt. 2022. Conservation Strategy for the Greater Prairie-Chicken and the Plains and Prairie Subspecies of Sharp-tailed Grouse. KBS report 209.

Greater prairie-chicken and sharp-tailed grouse project partners:



Funded in part with funds from USFWS to KS Dept. of Wildlife and Parks (Federal Aid in Wildlife Restoration grant W-113-C-1), especially for GIS work.

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Greater prairie-chicken: Greg Kramos; Sharp-tailed grouse: Nebraskaland Magazine; landscape: Greg Kramos.

On NAGP website at grousepartners.org under “Technical Documents” tab.

See Article in Fall 2022 Grouse Partnership News, p. 24

GROUSE PARTNERSHIP NEWS
Fall 2022

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Cover Photo: Stacy Hoeme, rancher in western Kansas, holds a lesser prairie-chicken prepared for translocation in Colorado. He and other landowner leaders in the Lesser Prairie-Chicken Landowner Alliance are influencing government agencies to help conserve prairie and lesser prairie-chicken habitat.

Interstate Work Group Objectives

- Assess and develop range-wide plans for GRPC and STGR.
- Delineate estimated occupied ranges (EOR).
- Identify conservation priority areas sufficient to maintain viable populations.
- Identify additional species that will benefit from the grassland and shrubland conservation efforts for GRPC and STGR.
- Develop recommendations for policies, management priorities, and funding needed to effectively reverse population declines.
- Recommend consistent monitoring approaches for GRPC and STGR.



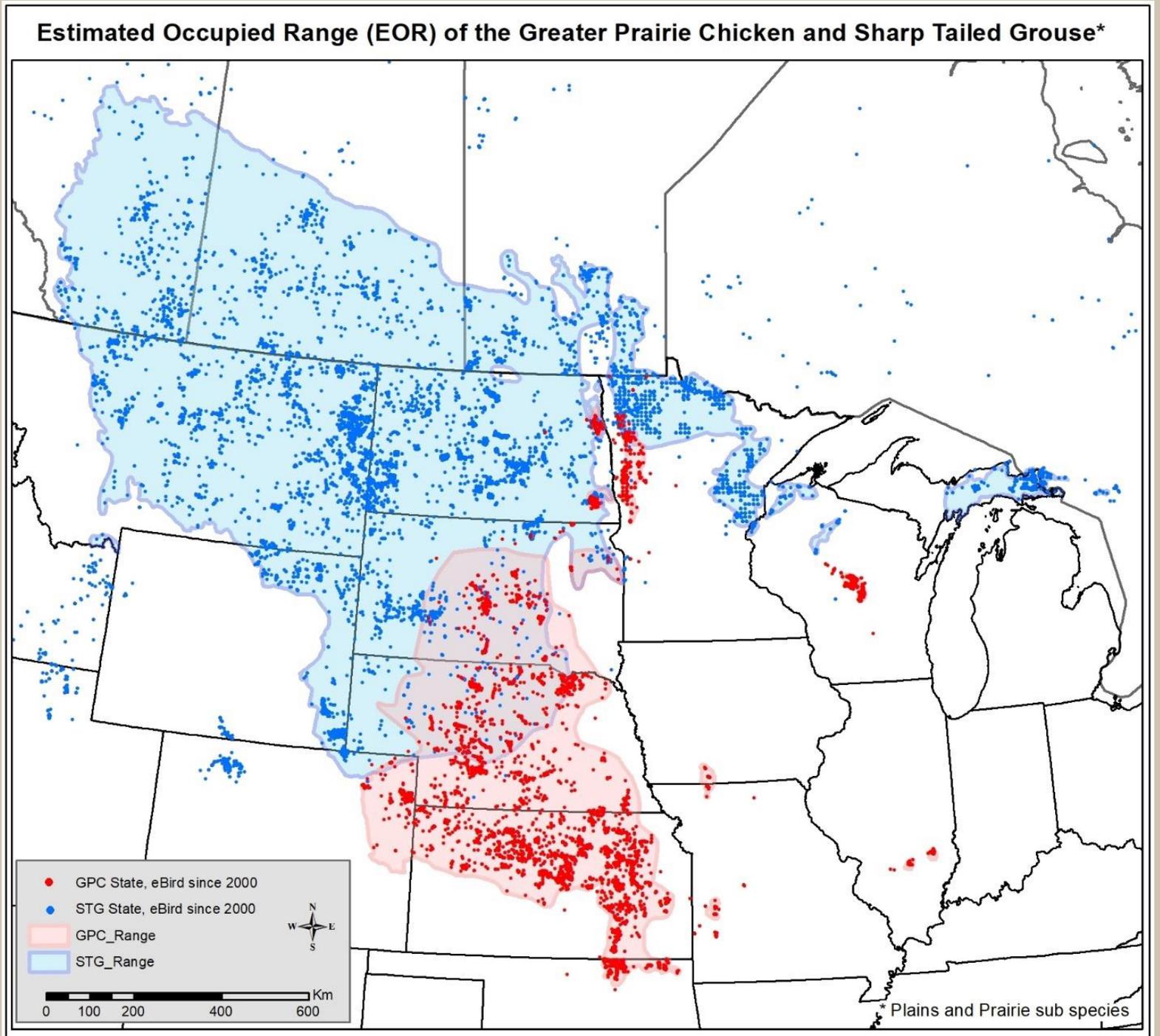
Methods

- Compiled existing information on –
 - population sizes and distribution
 - estimated occupied range
 - habitat requirements and life history
 - lek survey info
 - survey methods
- associated species – state Species in Greatest Conservation Need (SGCN)
- linkages with State Wildlife Action Plans
- also - harvest surveys, threats by ecoregion, optimum habitat descriptions, current conservation initiatives
- Developed a system for prioritizing key conservation areas
- Determined needed actions and funding to achieve a connected system of large blocks of high-quality habitat



Estimated Occupied Range

- Based on lek survey information, eBird locations, and professional assessments by state biologists.
- Use to locate areas and direct resources for management action.



Associated Grassland/Shrubland SGCN

- 113 different SGCN identified that share habitat with GRPC/STGR - 10 mammals, 27 birds, 13 reptiles, 8 amphibians, 55 insects



Survey/Monitoring Methods by States

- Much variation. Range-wide consistent method would allow better comparison between states, be more defensible, etc.
 - Concern by states though in changing method. Try consistent method as add-on once every few years?

State	Species	Opportunistic/Route/Census	Count (L/M/F/T)*	Ground/aerial	# Routes	Apx. total surveyed area (sq mi)	comments
CO	GPC and STG	Listening routes (northeast) Census (southeast)	L/M/F/T	ground	5 routes/yr - alternate each year		Known STG leks are counted from public roads.
IA	GPC	Census known leks + listen at potential	L/M/F/T	ground	4 routes, 33 sites		
IL	GPC	Census (2 sites)	L/M	ground			
KS	GPC	Listening routes	L/M (x2 for T)	ground w/ aerial (every third year)	37 (3 overlap with LPC)		
MI	STG	Opportunistic (survey known leks) and routes (survey points within a square mile).	Lek survey attempts to count all birds using leks. Occupancy survey is presence/absence within the square mile	ground	The lek survey has a variable number of known leks that are surveyed. The occupancy survey covers 37 square miles (37 routes).	37	The lek survey attempts a minimum count of birds at known leks and determines use/non-use of a lek in a given year. Our occupancy survey focuses on the portion of STG range open for harvest. Surveys are not comprehensive and do not cover all of occupied STG range in Michigan.
MN	GPC	17 survey blocks in core and periphery areas based on density	L/M/F/T	ground	17 survey blocks (4 sections in size each)	17 x 4144 ha	standardized in 2004
MN	GPC and STG	Survey known leks (low density areas) & survey routes in higher density areas	L/M/F/T	ground	Different approach depending on density of leks in geographic		
MO	GPC	Census known leks + listen on routes	L/M/F/T	ground			
MT	STG	Block and Routes	L/M/F/T	ground and aerial	6 + more as time allows		
ND	STG	Census blocks	L/M/F/T (x2-3)	ground	27 blocks, historic USFWS refuges		
ND	GPC	Survey areas	L/M/F/T	ground	3 areas, all known leks		
NE	GPC and STG	Breeding Ground Survey (19-mile transects)	L/M/F/T	ground	varies (recent = 11 routes per year)	440 sq miles per year (11 routes x 40 sq mi per route)	Number of routes and sampling frequency variable (1956-present).
NE	GPC and STG	Census Blocks (1 sq. mile)	L/T	ground	216 blocks per year (random selection)	216 sq miles per year	3-year monitoring effort (2020-2022)
OK	GPC	Listening routes	L/T	ground	26		
SD	GPC and STG	Listening routes and census blocks	L/M/F/T	ground	10 + ___ census areas		
WI	GPC and STG	Listening routes	L/M	ground			
WY	STG	census known leks + listen on routes	L/M/F/T	ground	25 routes, ~75% run every year		Male, Female and Unknown birds are collected at each lek, both stand alone leks and along routes. We sum to get total.

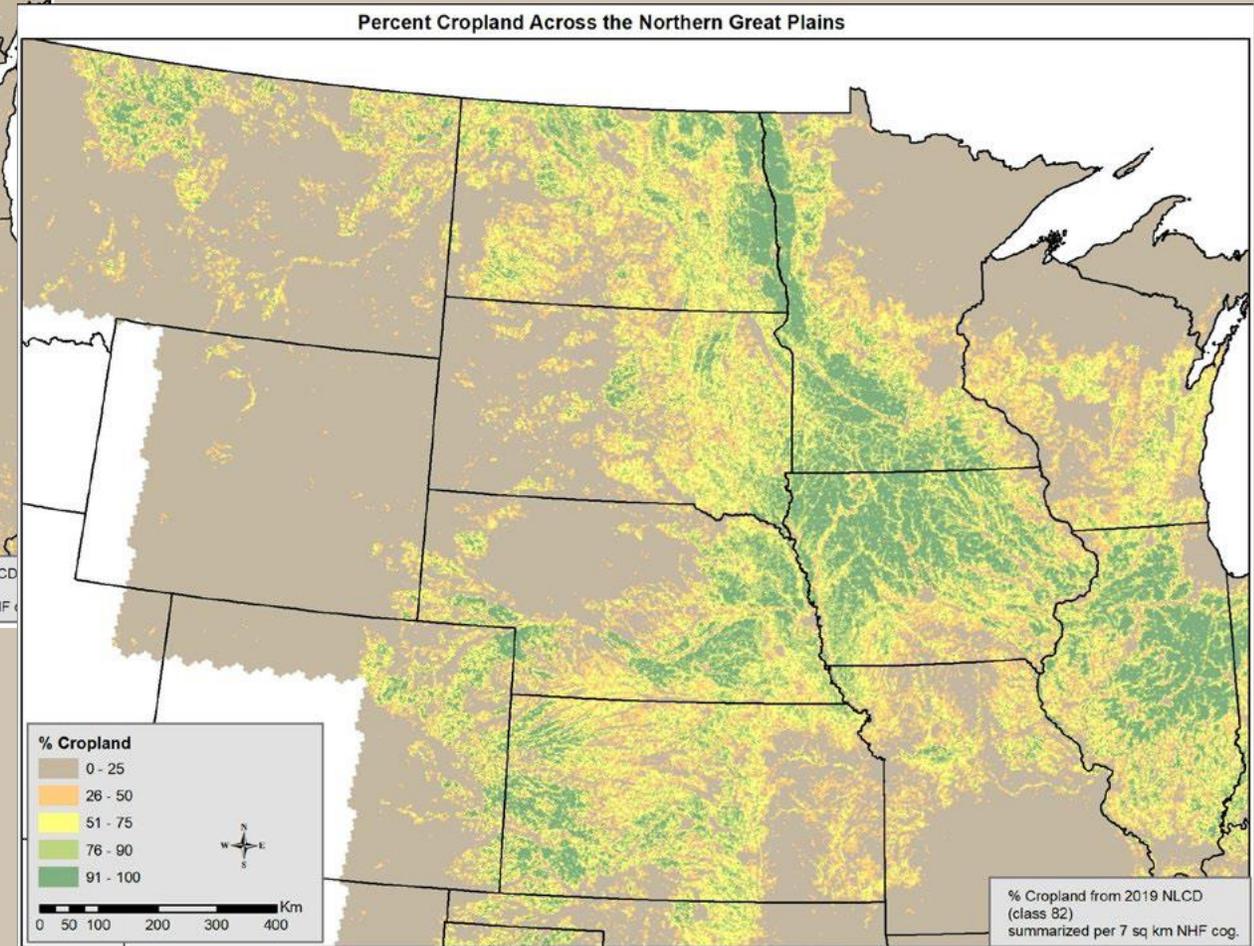
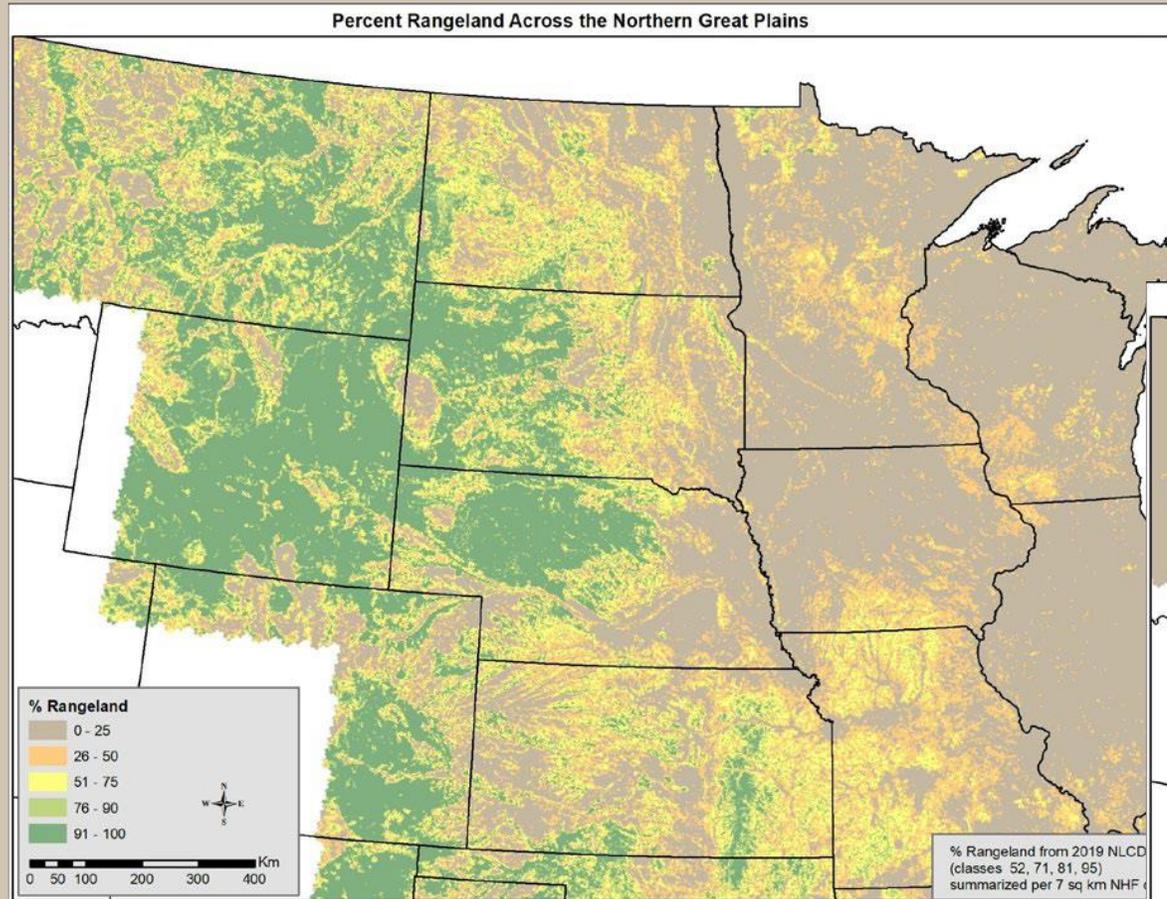
Tool to Identify Key Areas for Conservation

- GIS analysis conducted to develop a conservation planning tool to ID key areas for conservation for GRPC and STGR. Included –
 - amount of grasslands in areas of varying sizes
 - amounts of cropland
 - lands impacted by development
 - extent of invasion by trees
 - potential risks of grassland conversion or loss from conversion
 - energy development
- Western states with larger and more widely distributed populations can use tool to identify areas with best potential for habitat mgt.
- Eastern states have more limited distributions, so have mostly already identified primary areas for conservation.



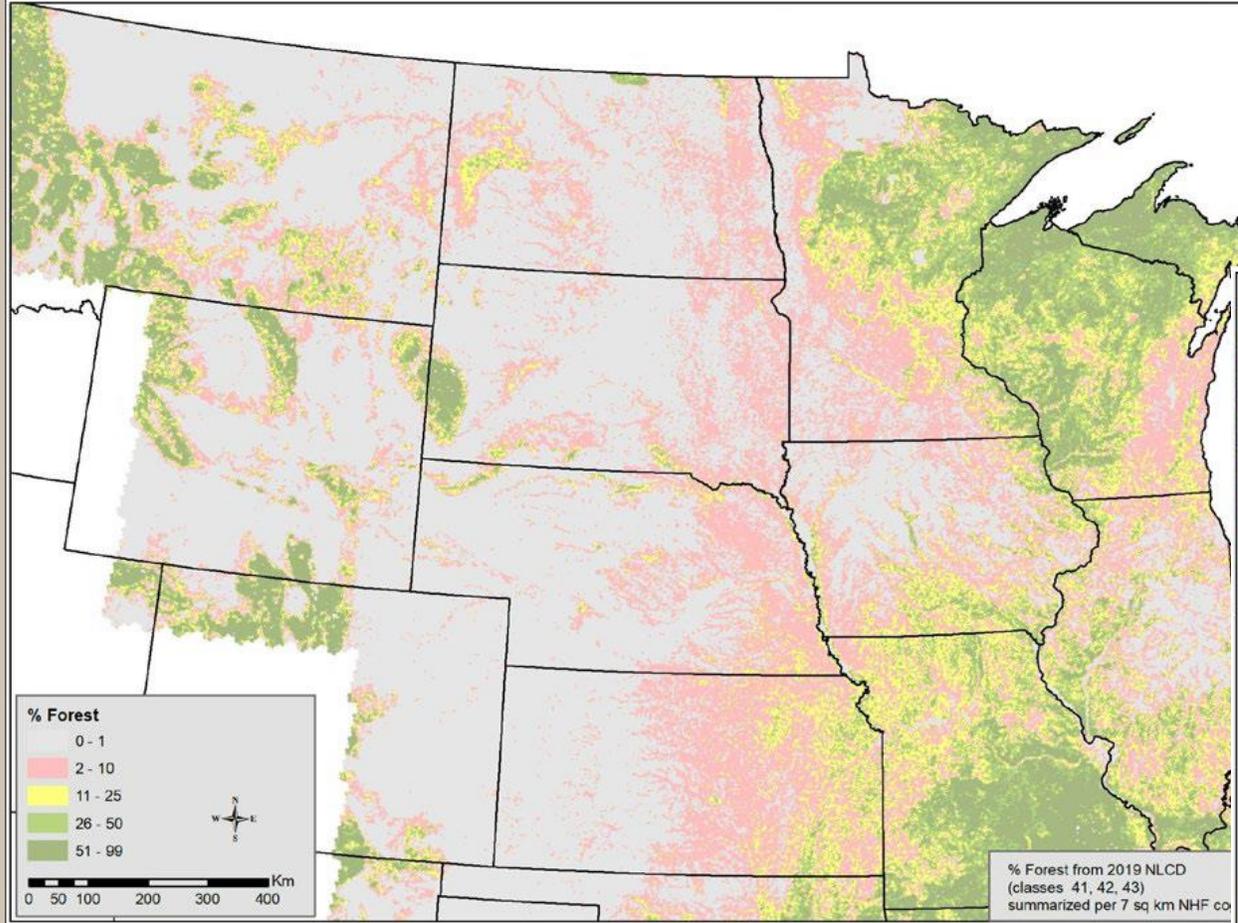
Photo by John Dengler

Assessed Risks - Percent Rangeland & Cropland

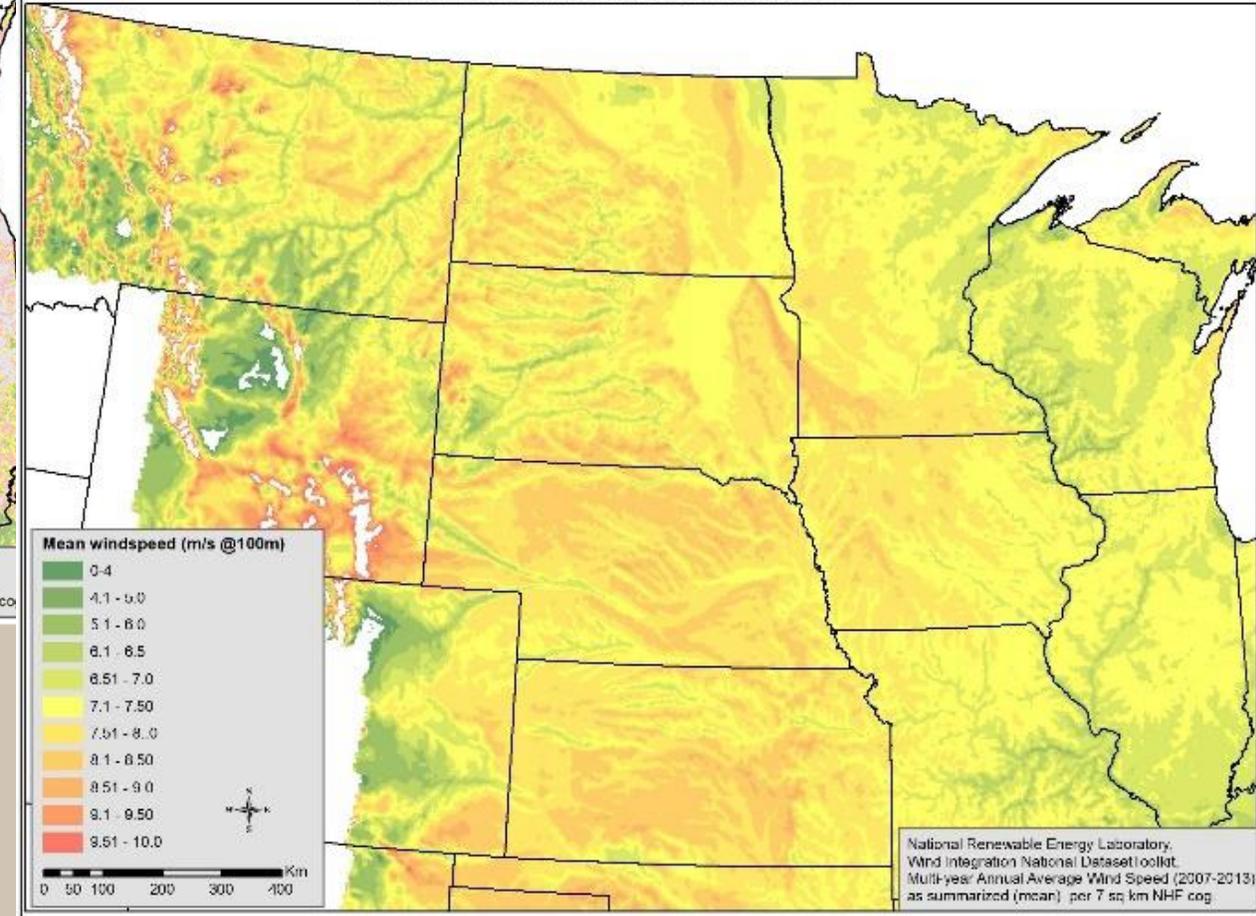


Assessed Risks - Percent Forest & Mean Windspeed

Percent Forest Across the Northern Great Plains



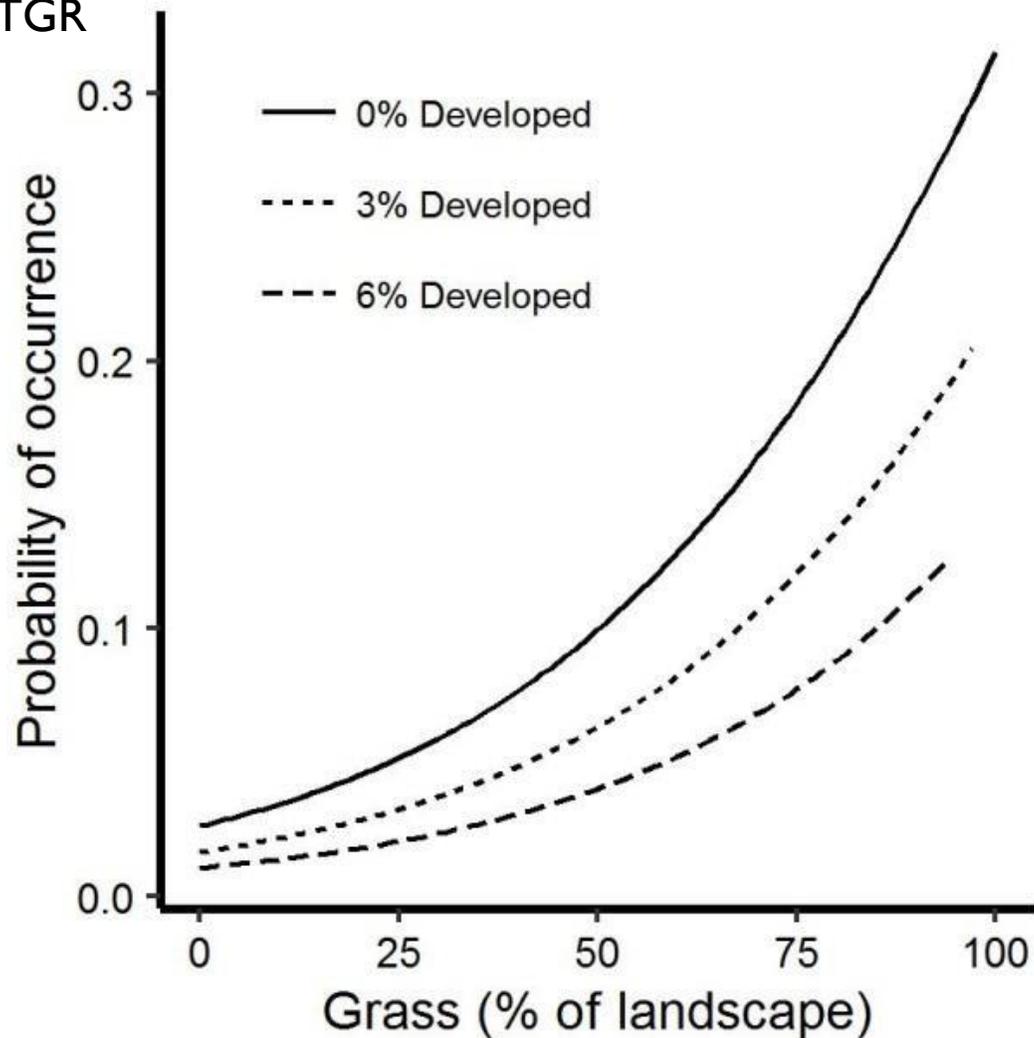
Mean Windspeed Across the Northern Great Plains



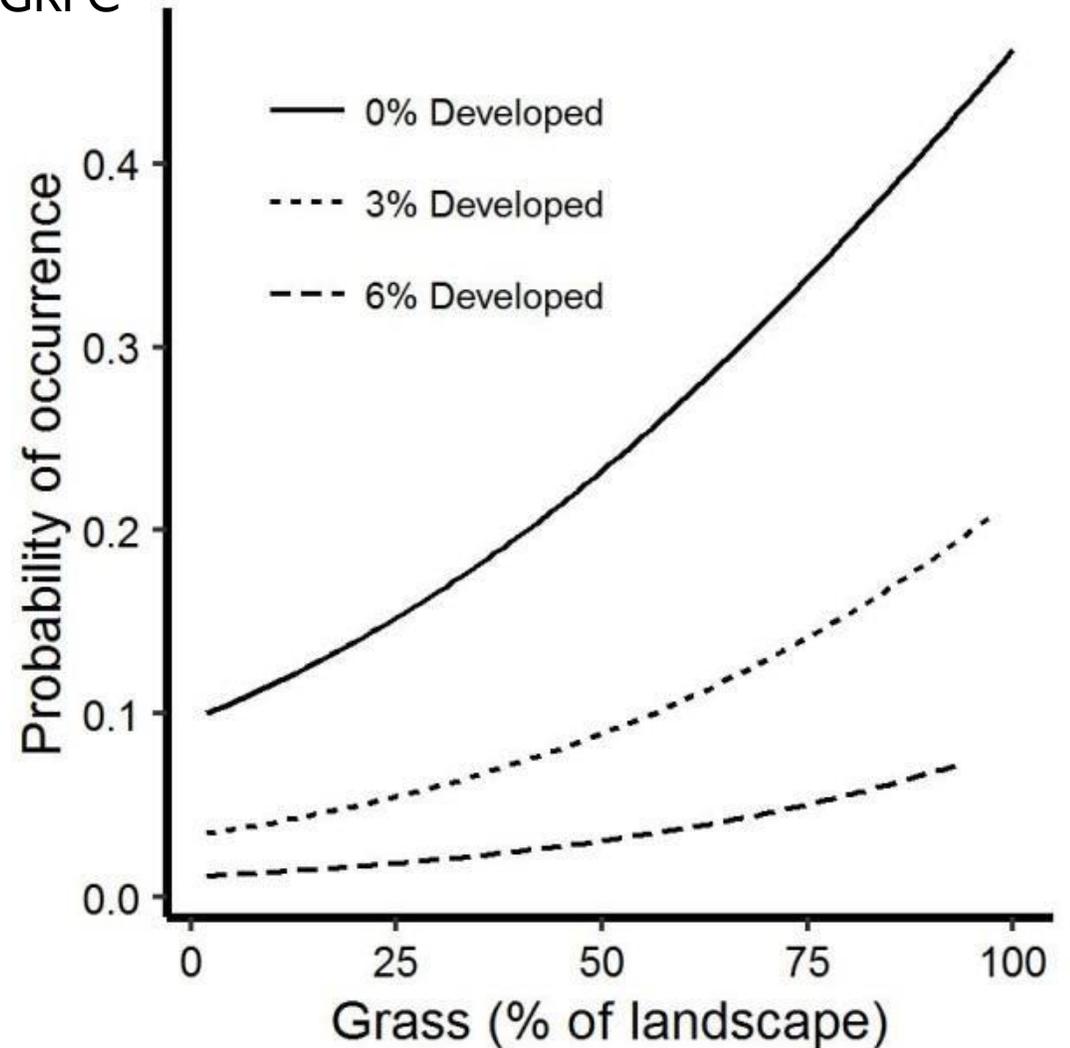
South Dakota STGR & GRPC Models

- Probability of Occurrence best above 75% grassland, 85-90% ideal (Runia and Solem 2018)

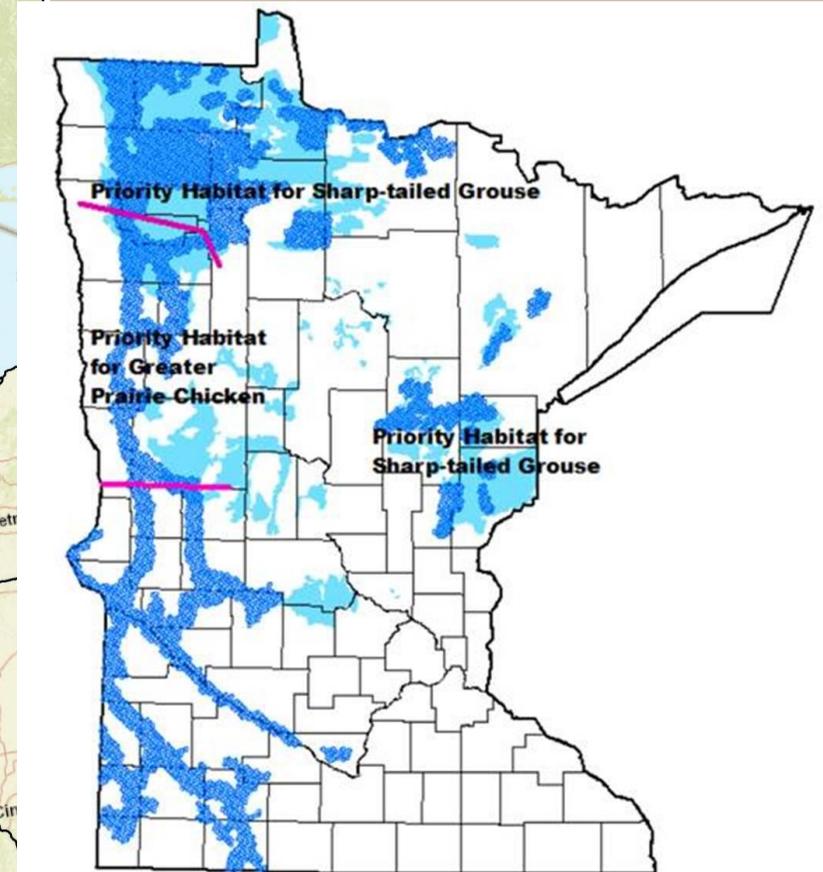
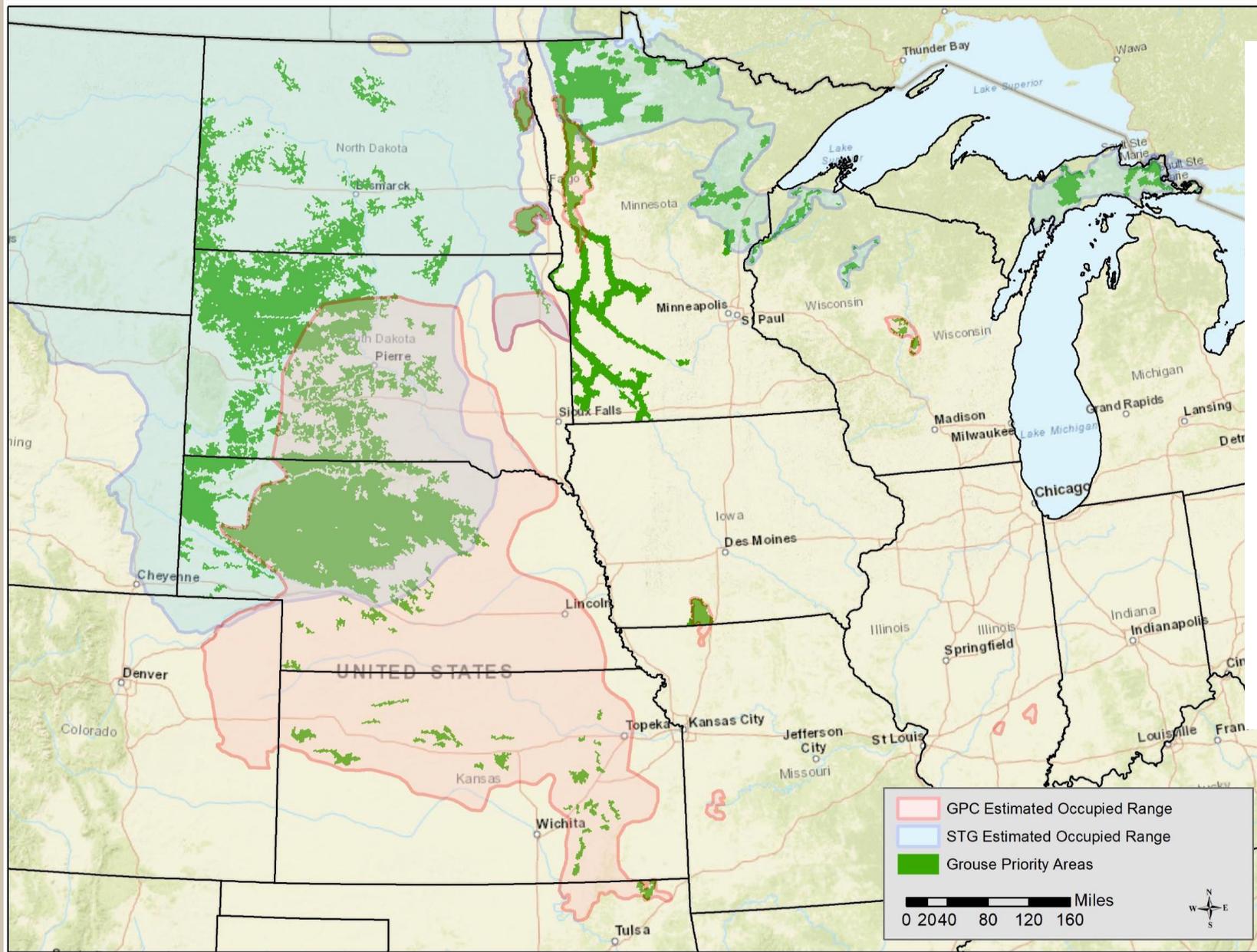
STGR



GRPC



GRPC and STGR High Priority Potential Habitat Areas



2022-2032 MN STGR Mgt. Plan
by MSGS
(on their website at sharptails.org)

Recommendations/Next Steps

- **New conservation actions, more funding, and better coordination and delivery** are important to future of GRPC and STGR.
- **A more strategic approach is needed** – direct funds to priority/core areas.
- **Establishing core areas of 50,000-acres blocks** of high-quality grassland/shrubland habitat across range of each species is deemed essential to assure long-term populations.
- **Each state needs to identify where and how many priority/core areas** – some have, some left it open.
- **Identify the areas in consultation with partners** – NRCS, FSA, USFWS, PF, TNC, grassland coalitions, energy industry, etc.
- **Coordinate with other grassland/shrubland conservation initiatives** to maximize efficiency and use of conservation funding in the areas.
- **This Conservation Strategy represents a starting point**, a working document subject to updates and revision.

Recommendations/Next Steps

- **Private lands are critical** - Farm Bill conservation programs form a foundation along with USFWS Partners for Fish and Wildlife Program, state habitat programs, and other organization funding.
- **Within priority/core areas, desired conservation outcomes must be top priority** and landowners given sufficient incentives and assurances through all available programs.



Recommendations/Next Steps

- **The Interstate Work Group should continue to meet and coordinate** across state lines, and expand to include additional partners:
 - Additional agencies (e.g., NRCS, FSA, USFS, etc.)
 - Conservation organizations (e.g., PF, TNC, NWF, ABC, Audubon, etc.)
 - Foundations (e.g., NFWF)
 - Energy companies (e.g., wind and solar)
 - Landowner groups (e.g., grazing coalitions)

This broader coalition should seek additional funding and delivery mechanisms for grouse conservation through policy or other changes.



Conclusions

- **Agreement on need for more strategic conservation delivery** and development of the multi-state assessment were an important advancement.
- **GPRC and STGR can serve as excellent flagship species** to help lead grassland/shrubland conservation efforts.
- **More and Better Actions are needed NOW** to keep GRPC, STGR, and associated grassland/shrubland species from further declines.
- **Larger collaborative efforts** are needed with a broader coalition of partners, including energy industry and private landowners.
- **Developing a system of 50,000-acre blocks** for targeted delivery of high-quality prairie grouse habitat is an essential step to maintaining functional grassland/shrubland ecosystems.

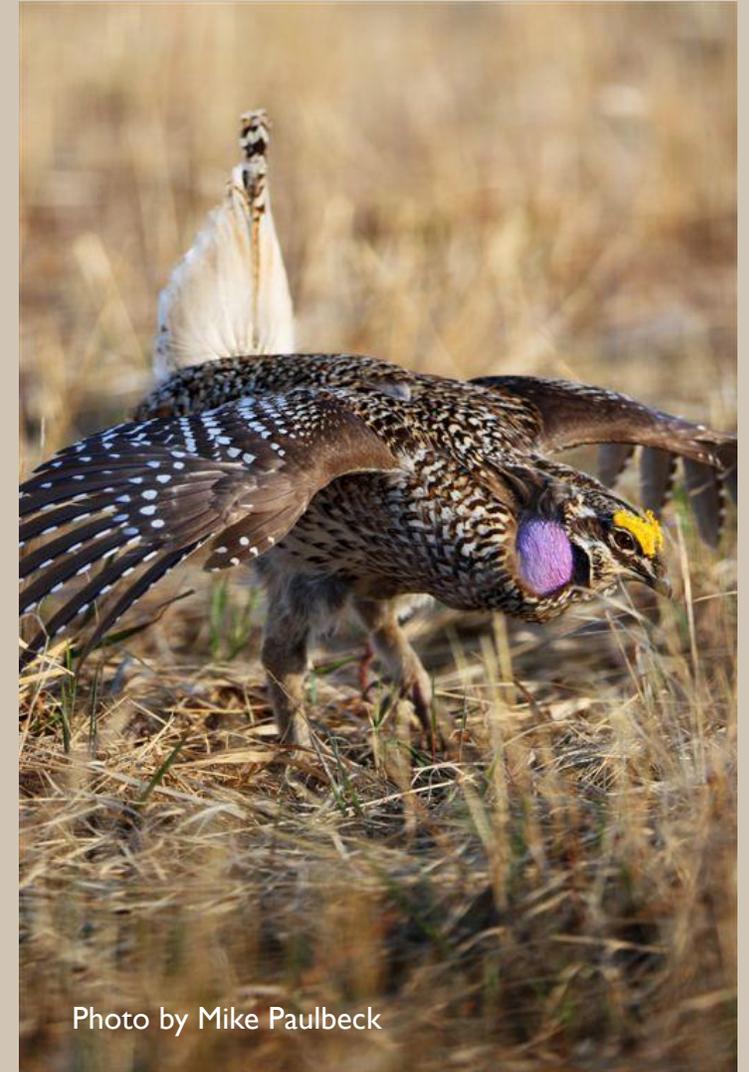
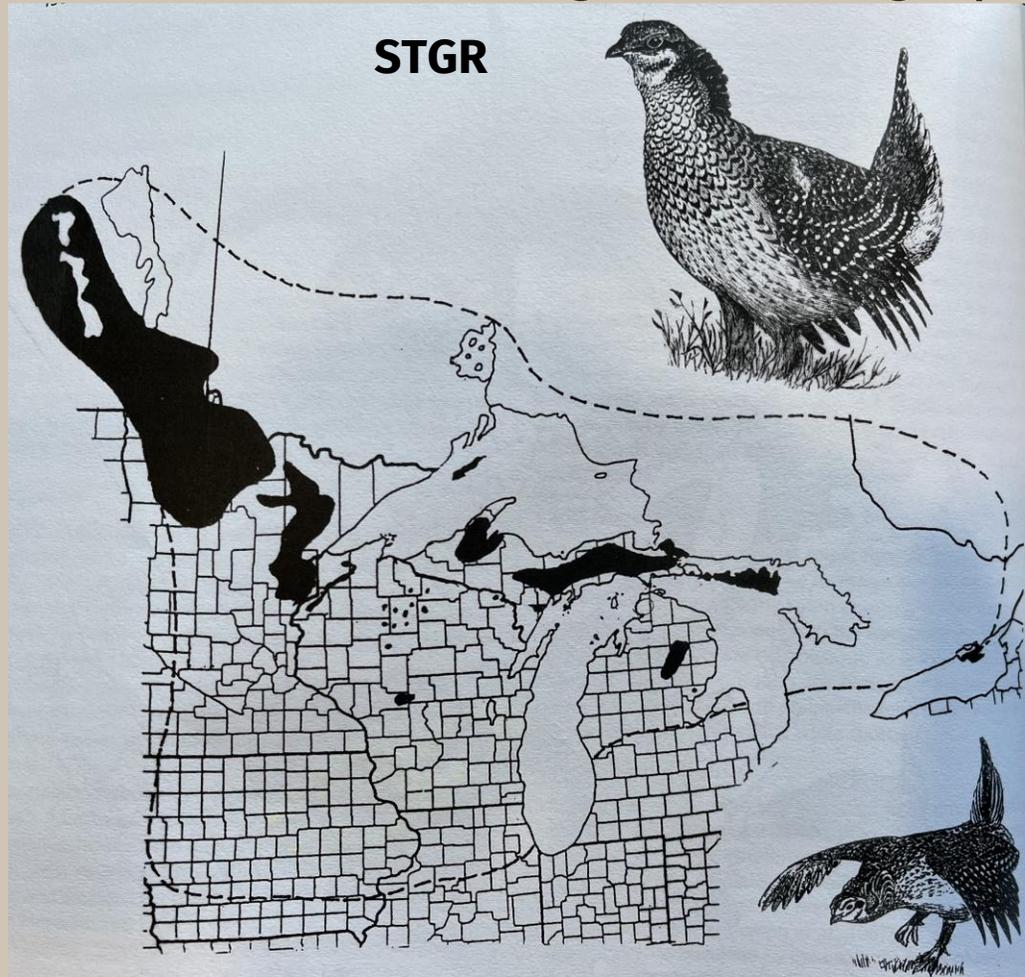


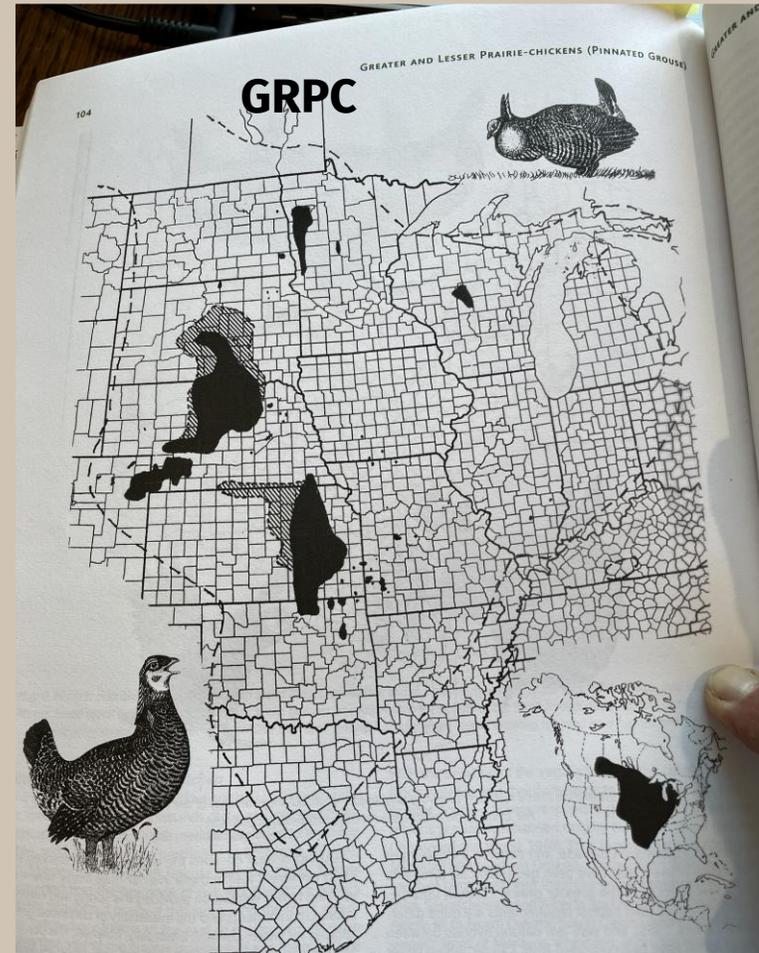
Photo by Mike Paulbeck

So What Does This Mean in the Upper Midwest?

- Unlike out West, we mostly already have priority/core areas identified – it's all that is left.
- So, we must keep, grow, and connect our fragments.
- How to best do that through habitat mgt., population mgt., and outreach?



Map 14. Historic (dashed line) and current (inked) distributions of the prairie sharp-tailed grouse.



Map 11. Historic (dashed line) and current (inked) distributions of the interior greater prairie-chicken. Marginal populations are indicated by hatching. The race's maximum historic distribution is shown on the inset map.

Especially Considering Climate Change

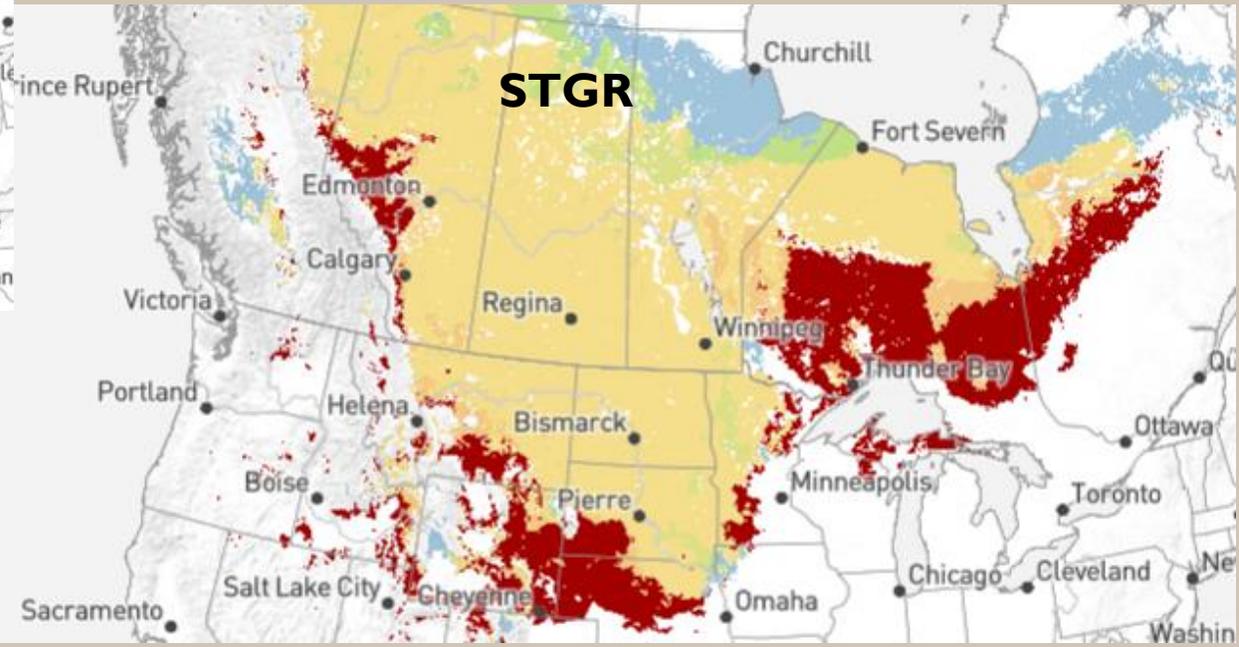
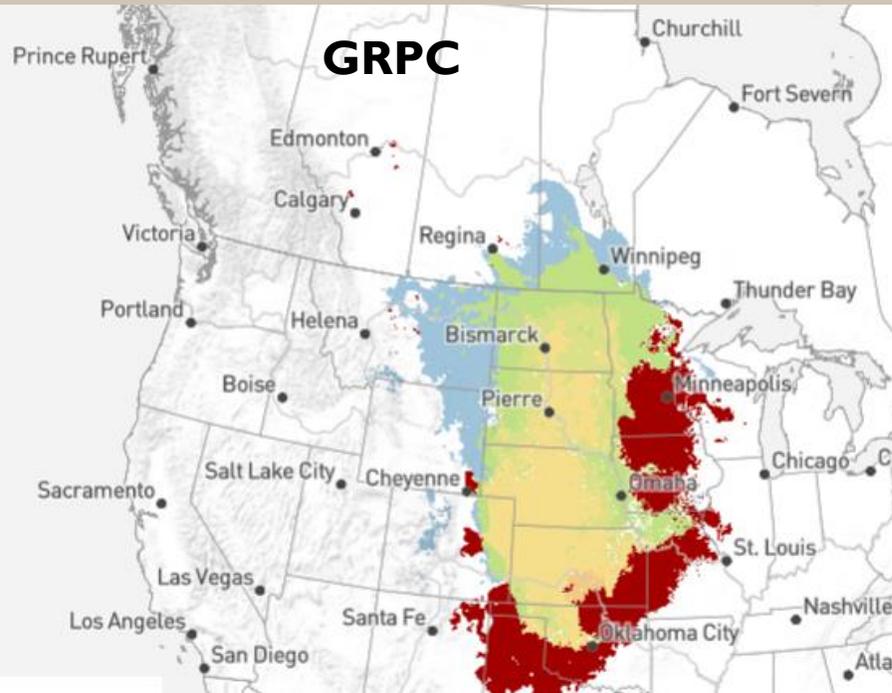
Possible GRPC and STGR range changes in summer with 1.5 degree Celsius increase from Audubon Birds and Climate Change Report scenarios

<https://www.audubon.org/climate/survivalbydegrees>

Two-thirds of North American birds are at increasing risk of extinction from global temperature rise.

Overall species vulnerability status:

Moderate



Question & Answer / Thank You!

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