Grazing & Grassland Birds Webinar

Thursday, May 7 1:00 - 2:00 pm

Optional networking discussion to follow

GrassWorks Inc.

NORTH CENTRAL SARE Sustainable Agriculture Research & Education

GLACIERLAND RESOURCE CONSERVATION AND DEVELOPMENT, INC. "Making Things Happen"

River Country Resource Conservation and Development Council, Inc BUILDING CONNECTIONS

CIAS

Why Birds Are Important

- Ecosystem function
- Indicators of environmental issues
- Pest control
- Clean-up crews

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Why Birds Are Important

- Ecotourism / bird feeding / hunting
- Seed dispersers
- Pollinators

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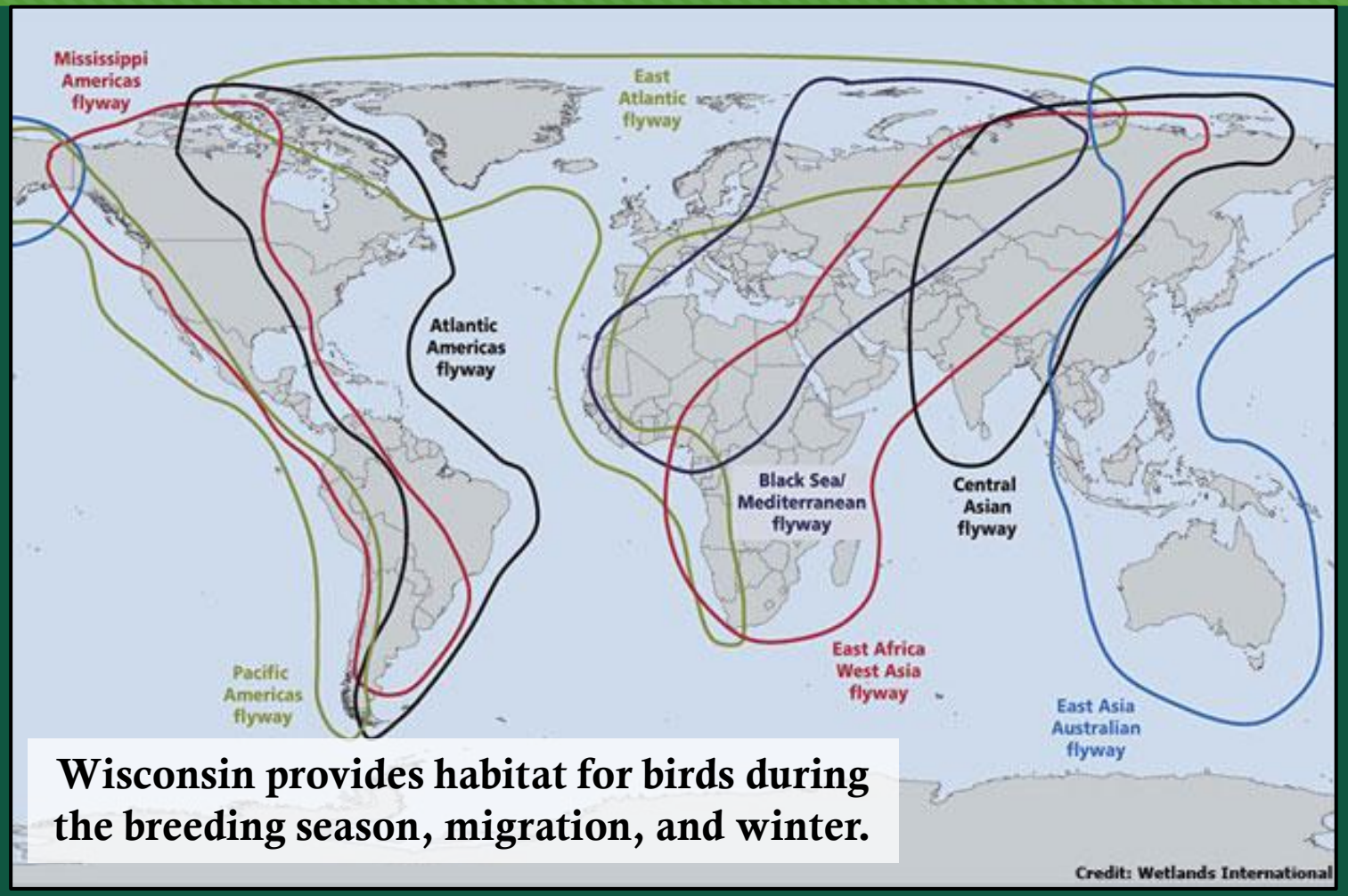
Global Avian Diversity



Wisconsin provides habitat for birds during the breeding season, migration, and winter.

- 18,043 species in world
- 2,059 species in N. America

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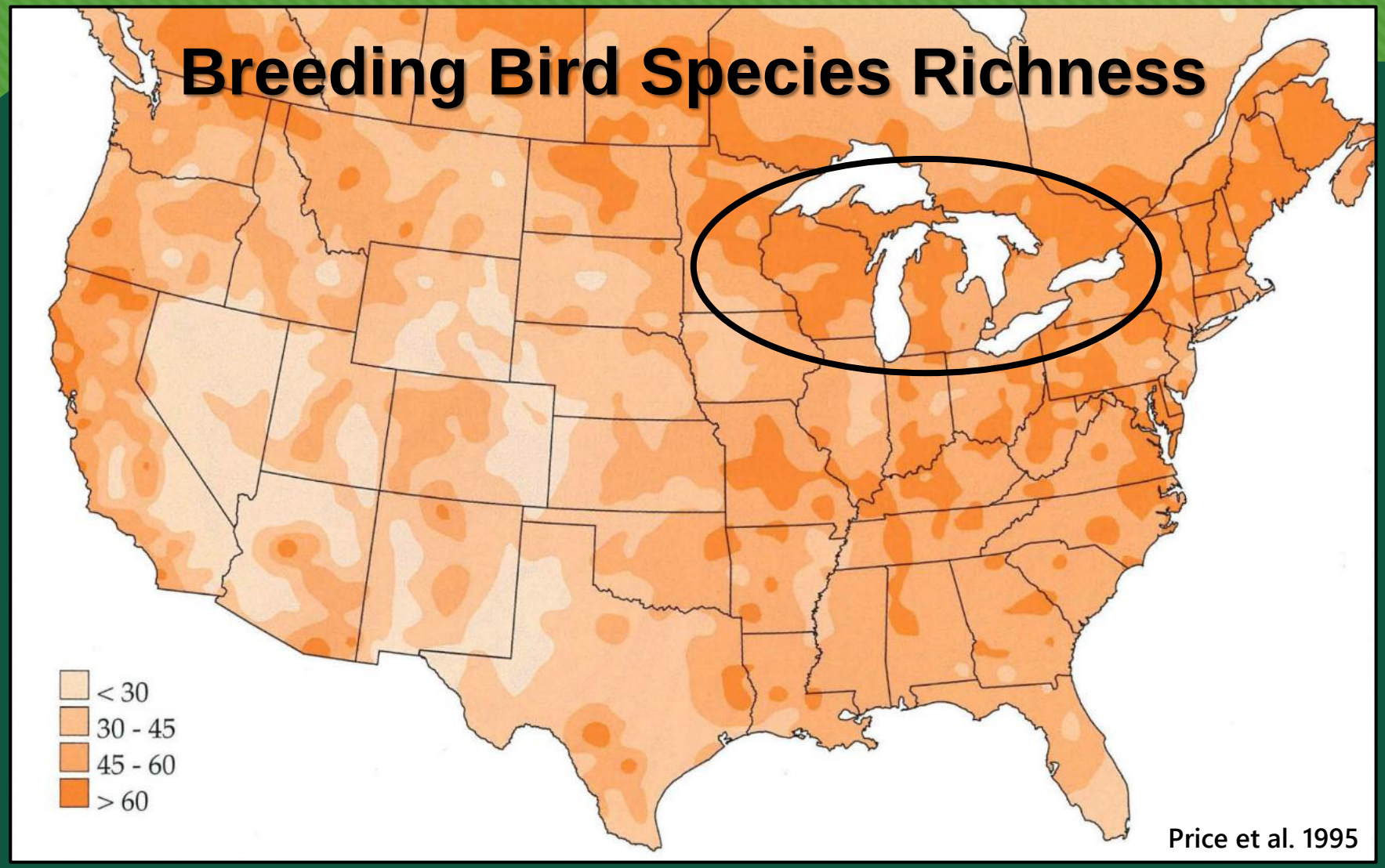
Great Lakes Avian Diversity



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Wisconsin Avian Diversity

- 454 species found in the state (eBird)
- 243 species breed (Atlas 2 Project, 2015-19)

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2019 Bird Study

BIODIVERSITY LOSS

Decline of the North American avifauna

Kenneth V. Rosenberg[1,2]*, Adriaan M. Dokter[1], Peter J. Blancher[3], John R. Sauer[4], Adam C. Smith[5], Paul A. Smith[3], Jessica C. Stanton[6], Arvind Panjabi[7], Laura Helft[1], Michael Parr[2], Peter P. Marra[8]†

2,900,000,000

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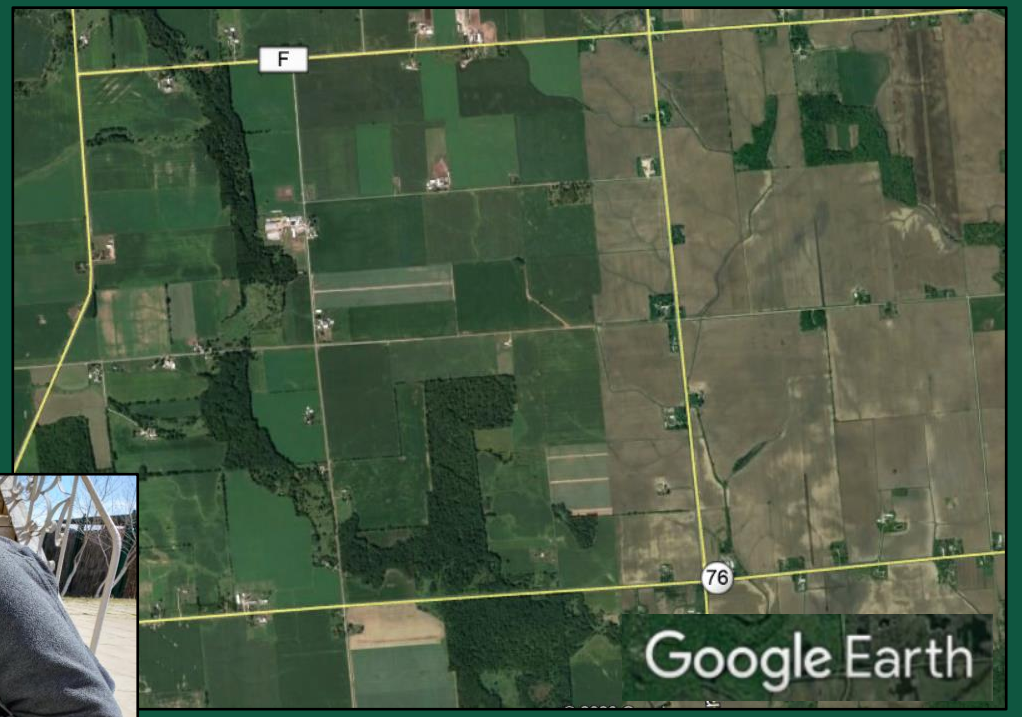
Why Are Birds Declining?

- Habitat loss + fragmentation
- Window collisions
- Invasive species
- Outdoor cats
- Climate change
- Pesticides



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Wisconsin Land Ownership

- Wisconsin consists of 34.8 million acres
- 1.8 million acres = Federal Land
- 1.6 million acres = State Land
- 2.6 million acres = County Land
- **28.8 million acres = Private Land**

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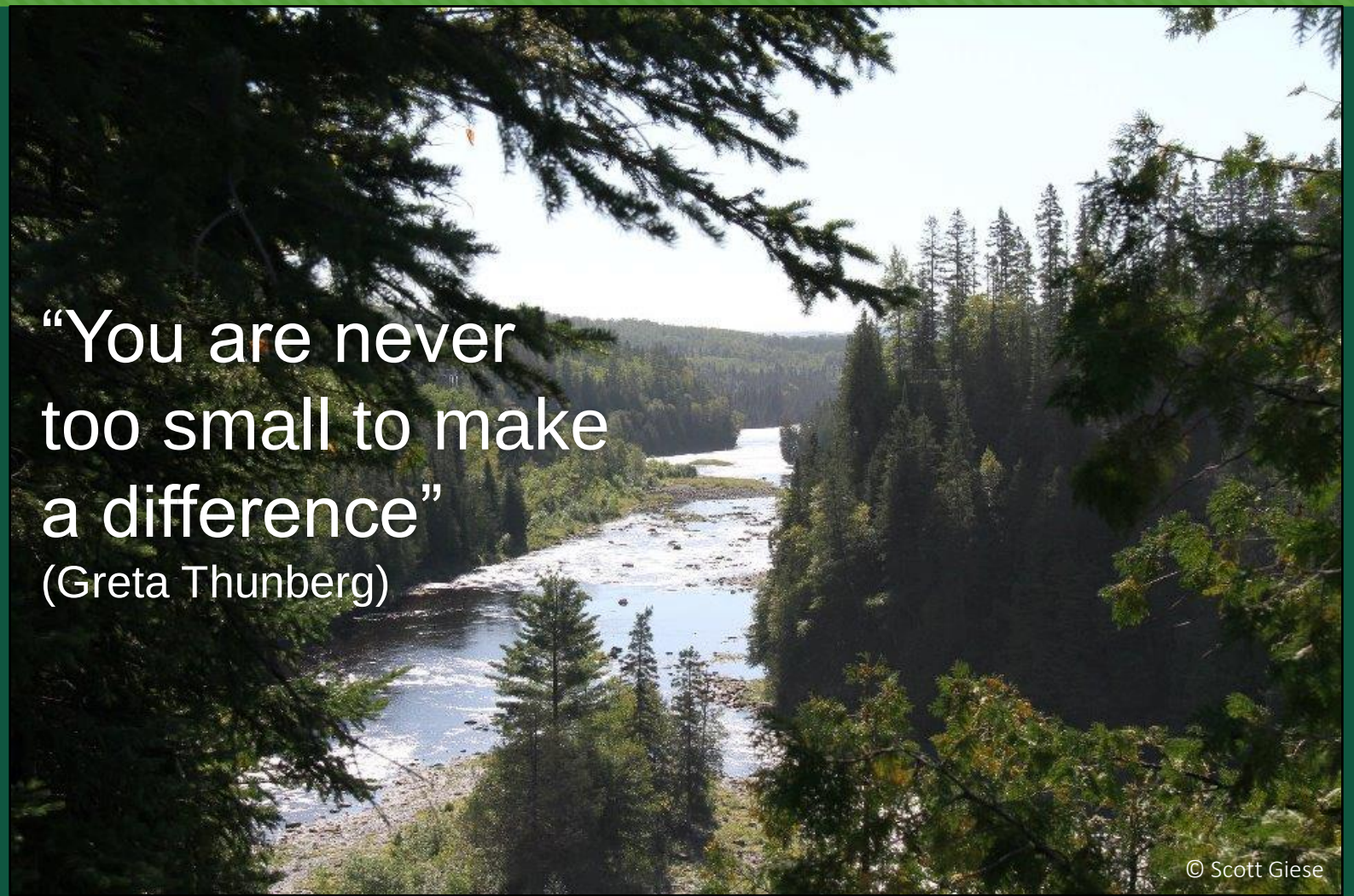
Make a Difference



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Grazing and Grassland Birds in Wisconsin

David Sample WI DNR

What are Grassland birds?

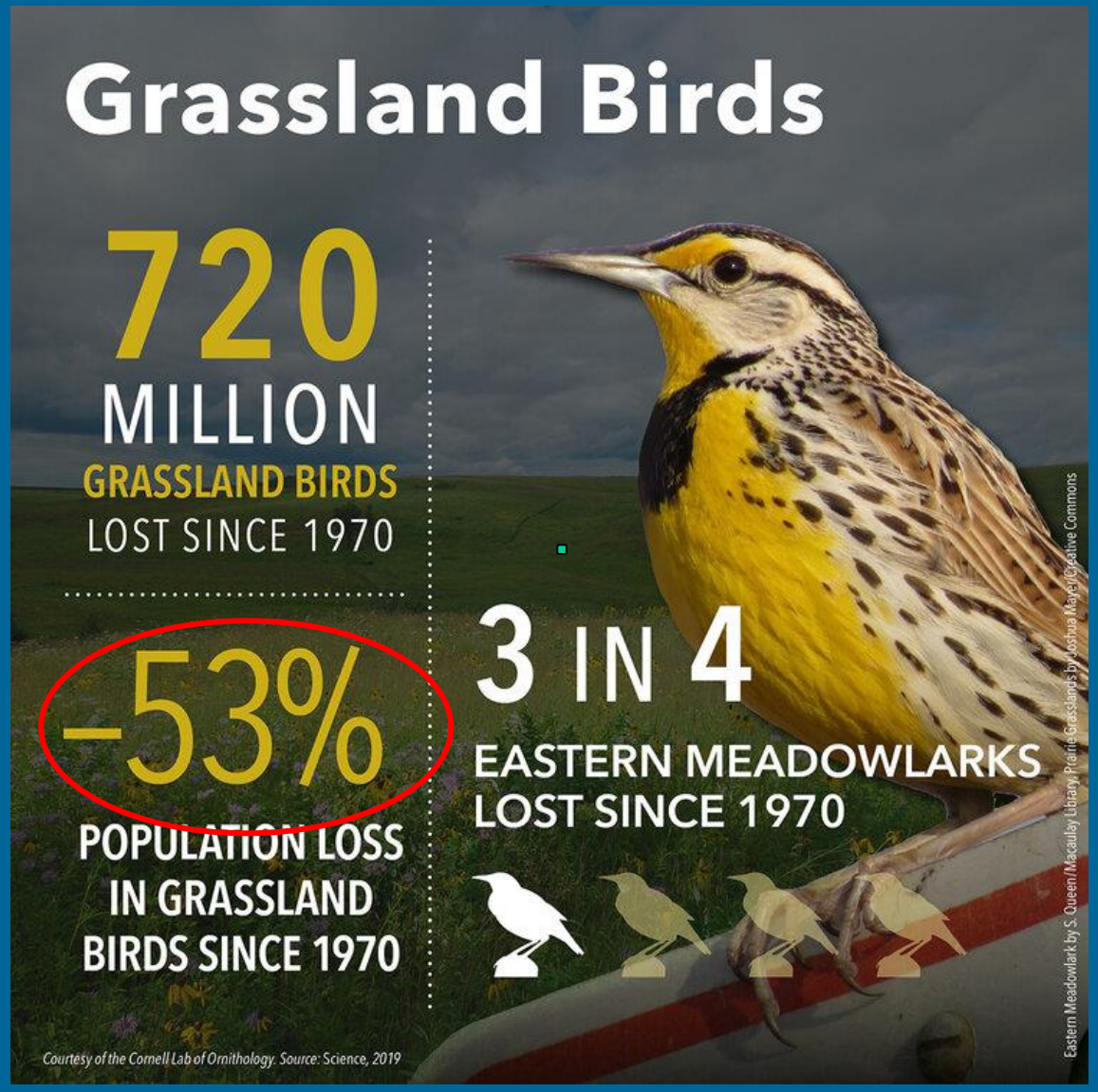
- Obligate Grassland Birds: Species that require grasslands for most or all parts of their breeding cycles and who don’t require non-grassland features such as trees or shrubs.

Obligate Grassland Bird Species in Wisconsin

+Northern Harrier
*Greater Prairie-chicken
*Upland Sandpiper
+Short-eared Owl
Horned Lark
Sedge Wren
+Dickcissel
+Vesper Sparrow
Savannah Sparrow
+Grasshopper Sparrow
*Henslow's Sparrow
+LeConte's Sparrow
+Nelson's Sparrow
+Bobolink
+Eastern Meadowlark
+Western Meadowlark

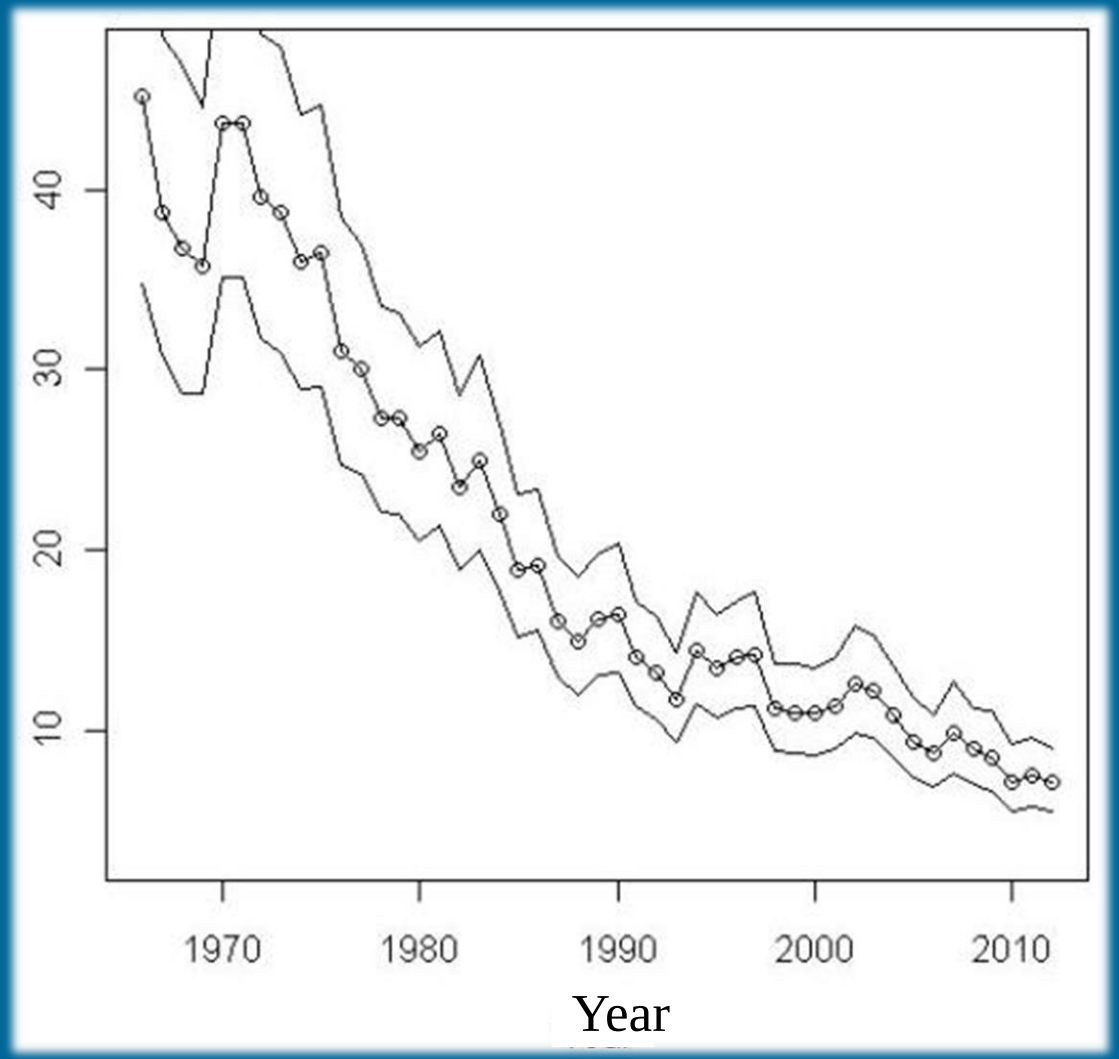
* = listed as Endangered or Threatened + = Species of Greatest Conservation Need

3 Billion Birds Report



Science, 2019

Example: Bobolink Population Decline



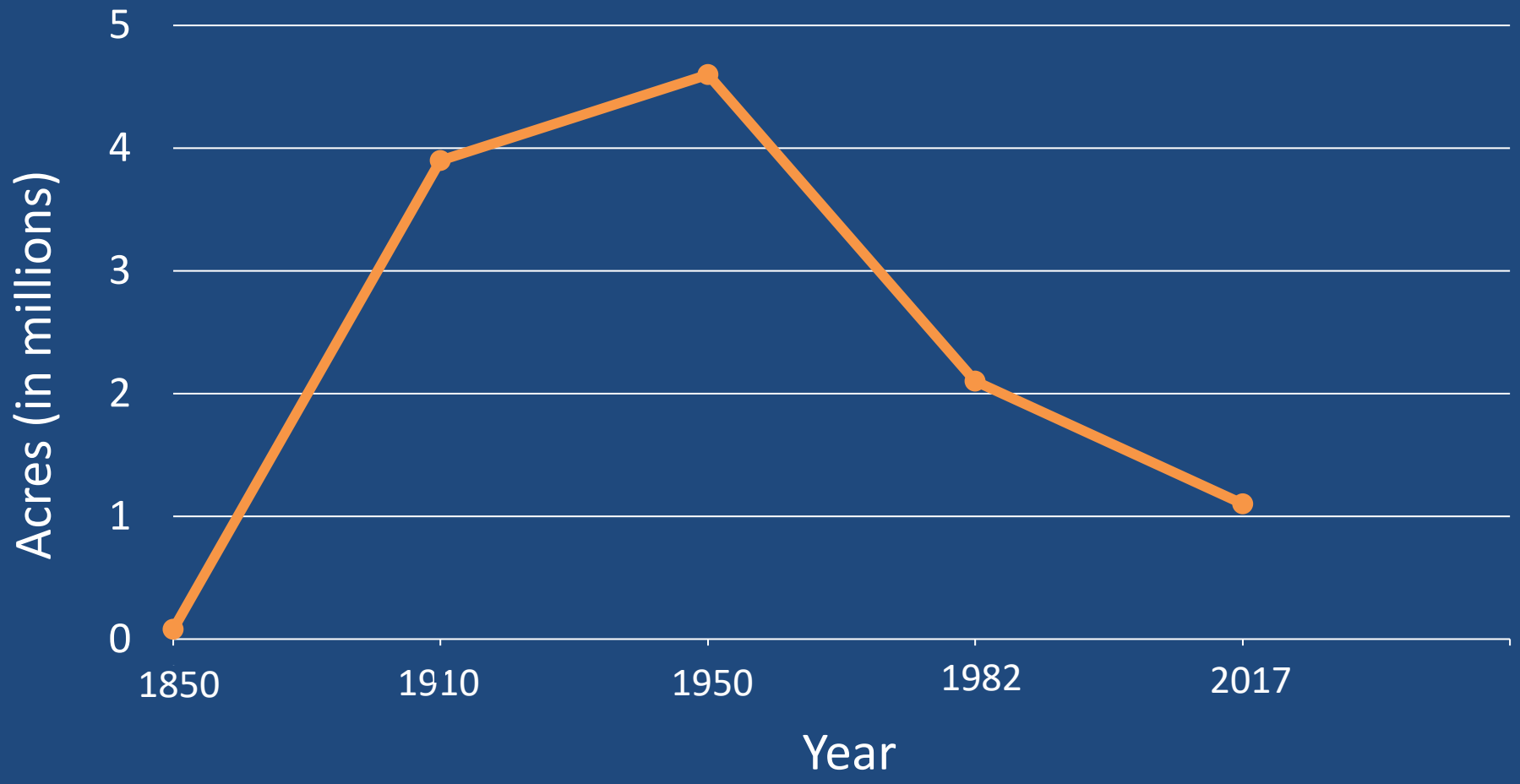
BCR Region 23 - Prairie-Hardwood Transition – BBS Results c/o USGS Patuxent.

Causes of Population Declines for Grassland Birds?

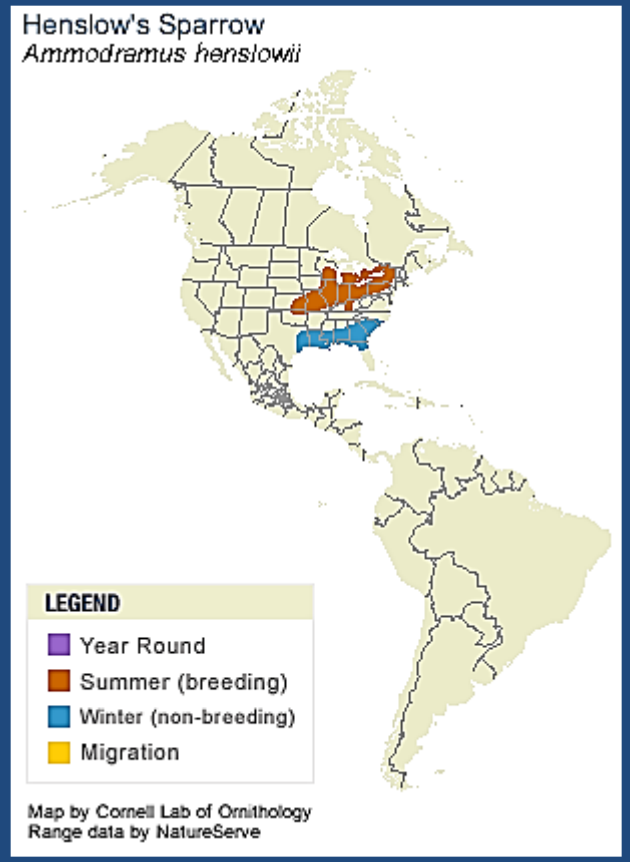
– Land Use Changes: Habitat loss and alteration
  - Fragmentation
  - Development
  - Woody encroachment
  - Predators
  - Conversion of grass-based farming to corn, soybeans, and alfalfa
  - Changes in farming practices – intensification

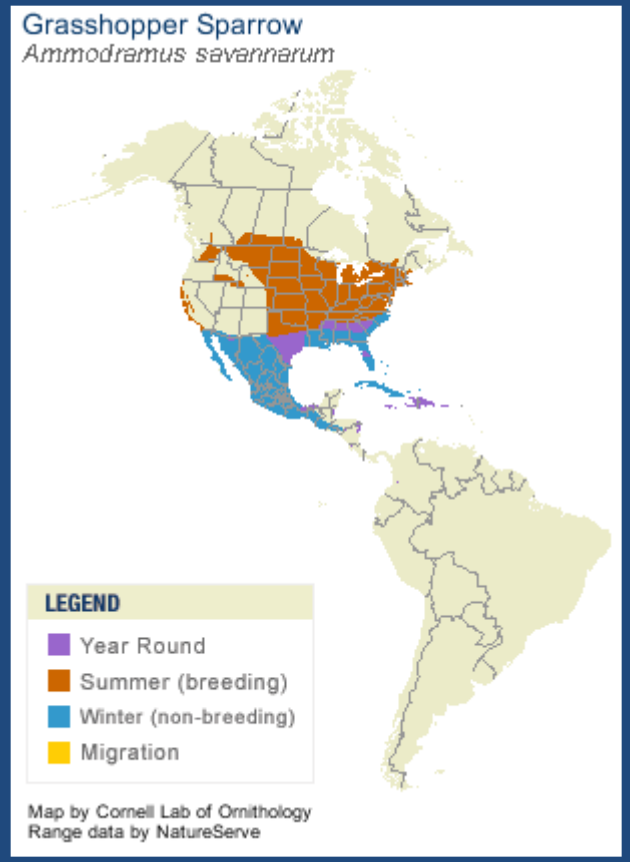
– Wintering ground and migration pathway problems

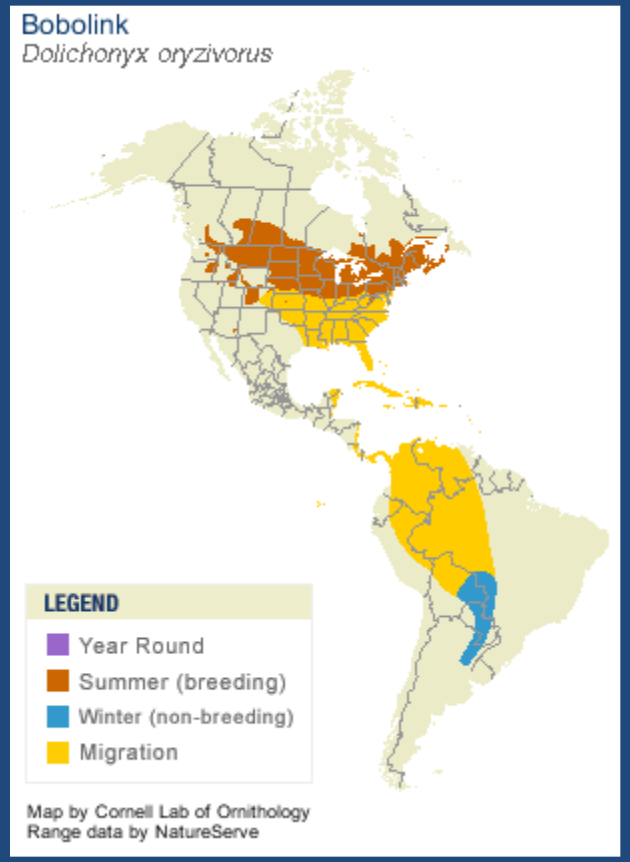
Pasture in Wisconsin 1850 - 2017



Triple Threat:
Winter – Migration - Breeding

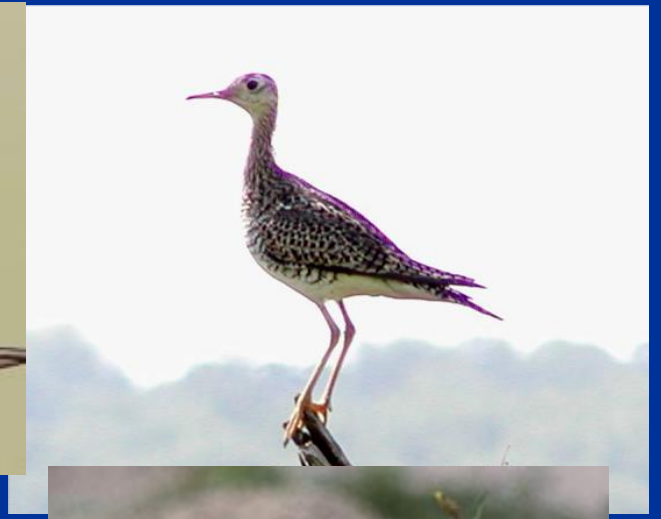






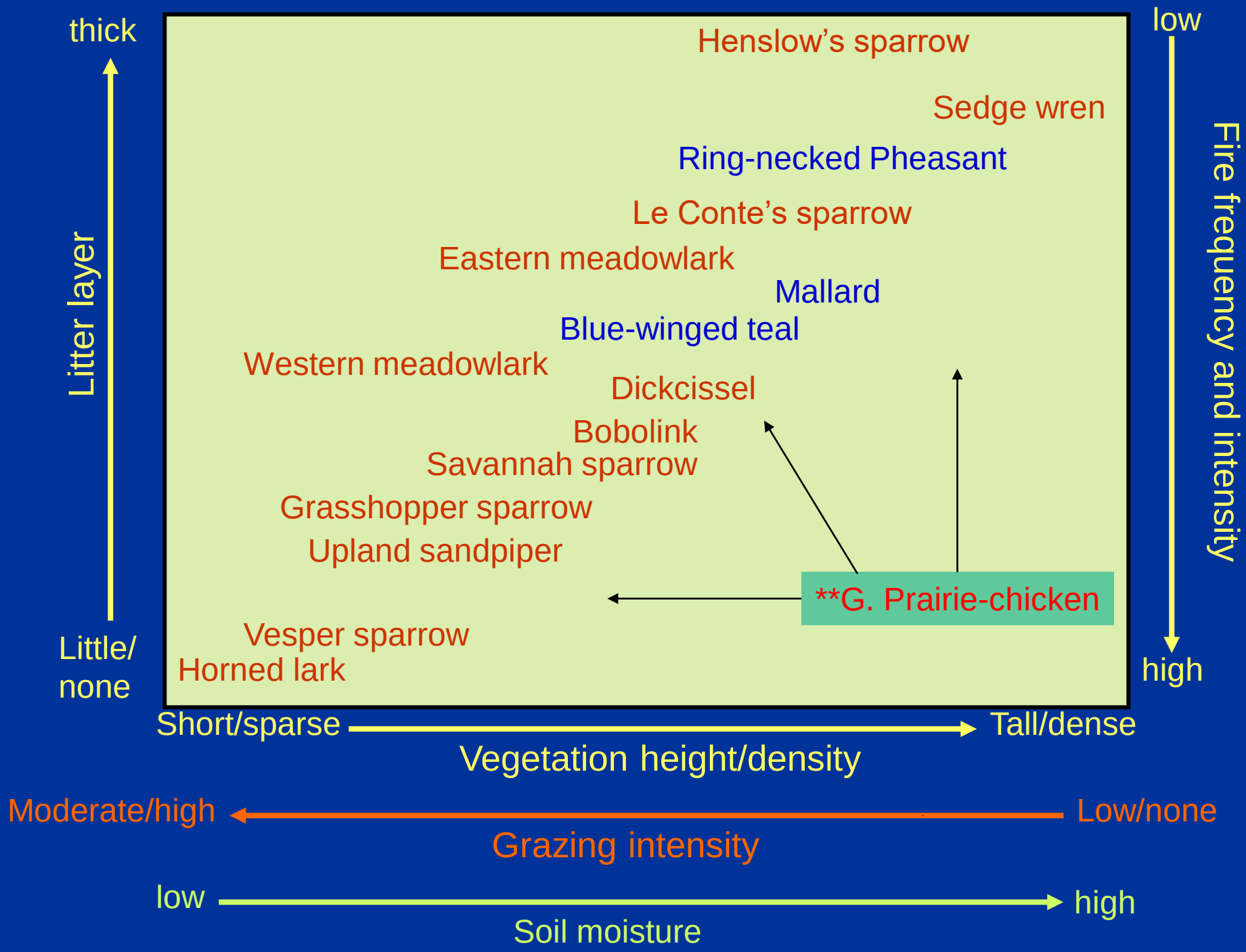
A Continuum of Habitat Structure Requirements

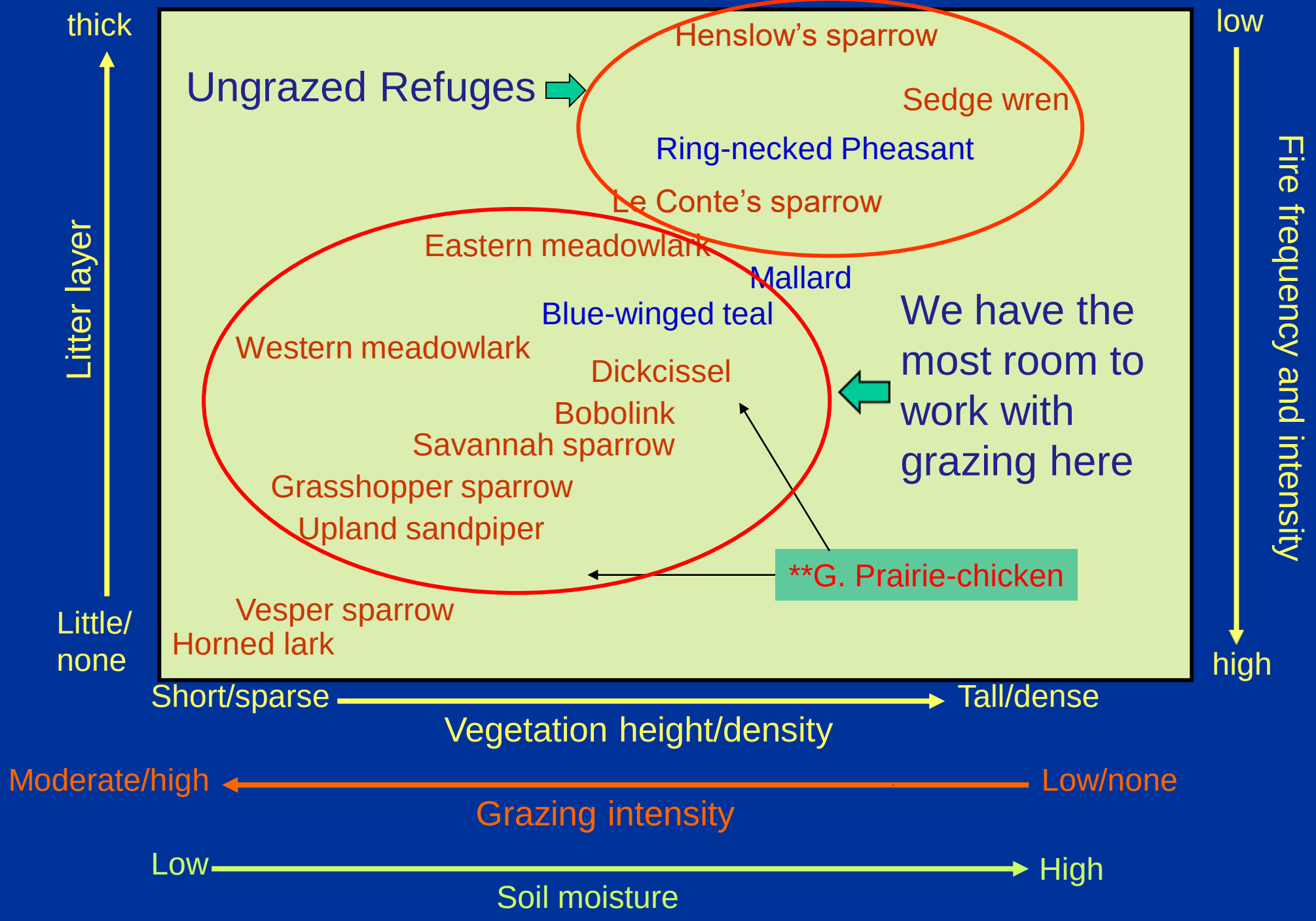
- Shortgrass species:
  - Horned Lark, Vesper Sparrow Grasshopper Sparrow, Upland Sandpiper, Western Meadowlark



- Midgrass species:
  - Savannah Sparrow, Eastern Meadowlark, Bobolink, Dickcissel

- Tallgrass species:
  - Henslow's Sparrow, Sedge Wren
  - Typically also like dense litter


thick
Litter layer
Little/
none
Henslow's sparrow
Sedge wren
Ring-necked Pheasant
Le Conte's sparrow
Eastern meadowlark
Mallard
Blue-winged teal
Western meadowlark
Dickcissel
Bobolink
Savannah sparrow
Grasshopper sparrow
Upland sandpiper
**G. Prairie-chicken
Vesper sparrow
Horned lark
low
Fire frequency and intensity
high
Short/sparse
Tall/dense
Vegetation height/density
Moderate/high
Low/none
Grazing intensity
low
high
Soil moisture

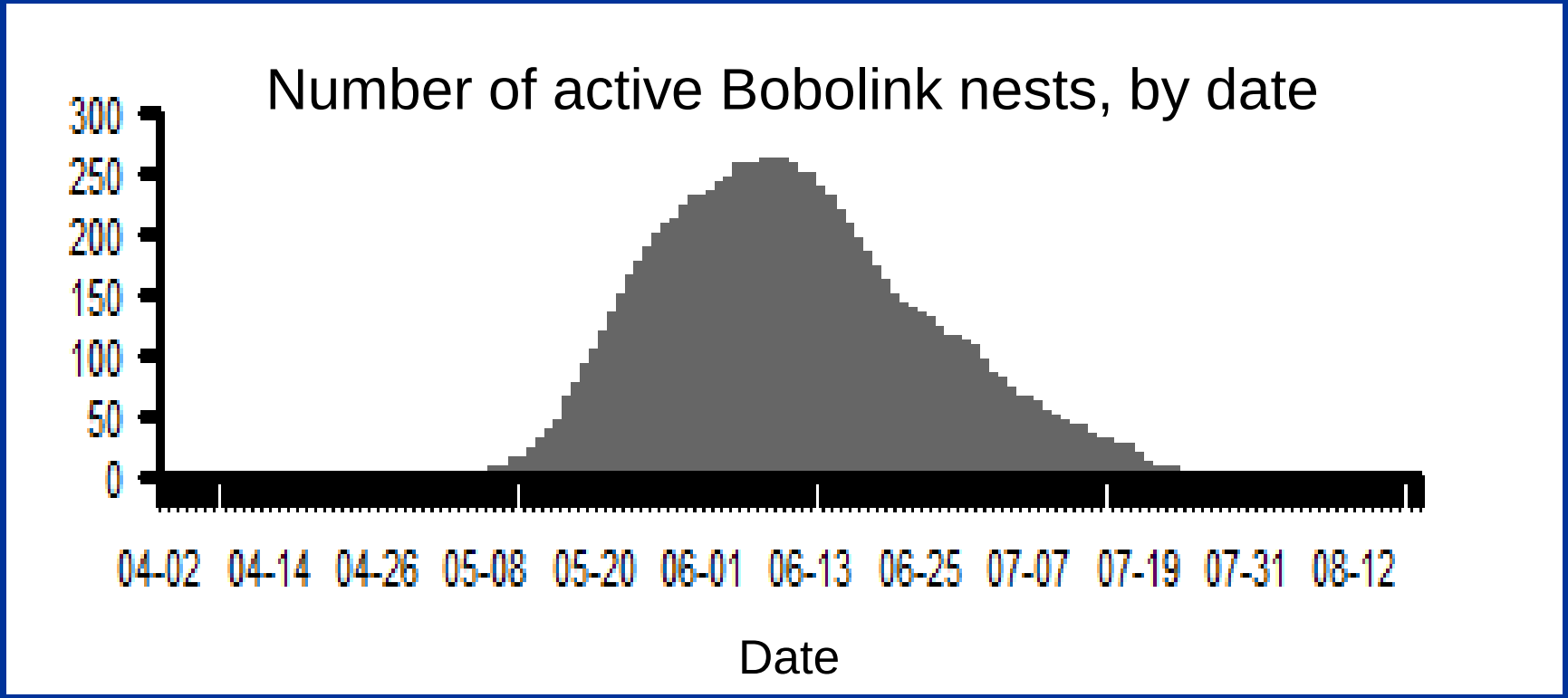

thick
Litter layer
Little/
none
low
Fire frequency and intensity
high
Ungrazed Refuges
Henslow's sparrow
Sedge wren
Ring-necked Pheasant
Le Conte's sparrow
Eastern meadowlark
Mallard
Blue-winged teal
Western meadowlark
Dickcissel
Bobolink
Savannah sparrow
Grasshopper sparrow
Upland sandpiper
Vesper sparrow
Horned lark
We have the most room to work with grazing here
**G. Prairie-chicken
Short/sparse
Tall/dense
Vegetation height/density
Moderate/high
Low/none
Grazing intensity
Low
High
Soil moisture

Grassland Management and Birds

- Why: Grasslands need disturbance
- What: management impacts vegetation structure, plant spp. composition, soils, and animals (directly & indirectly)
- Where: occurs at management unit-level
- When: good question - it all depends
- How often: another good question
- How intense: – it all depends
- **It All Depends**…. on what the management goals are. Responses are *variable!*

Grassland Birds and Habitat Disturbance

- Grasslands need disturbance
- Grassland birds need no or minimal disturbance during the nesting season



Variables in Pasture Systems that Impact Grassland Birds

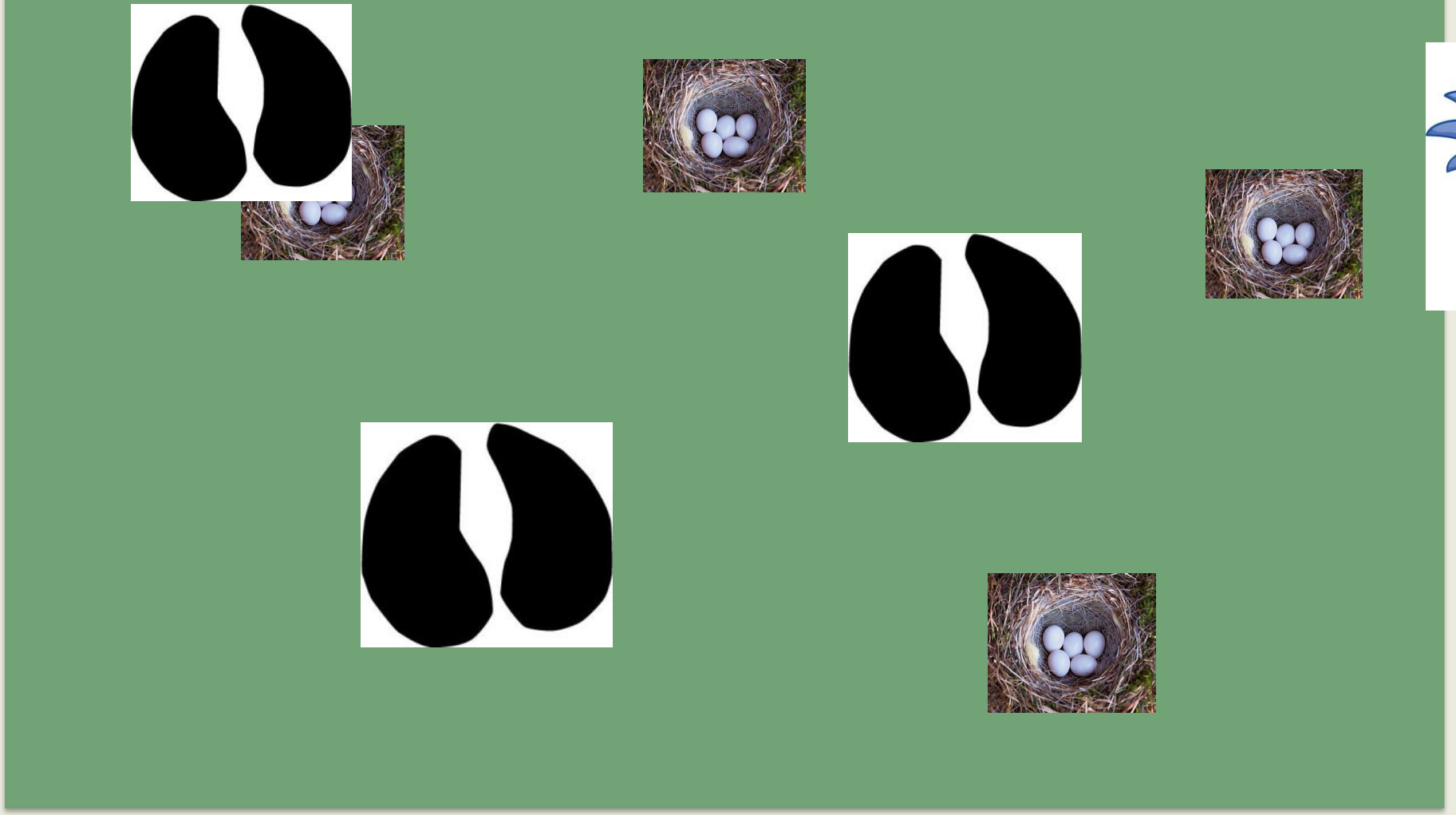
- Stocking rate
- Livestock class, Grazing type
- Seasonality (when does grazing occur?)
- Duration of grazing and rest periods
- Incorporation of ungrazed “refuges”
- Watering system (as affects cattle behavior)
- Amount and height of residual vegetation left in pasture

Variables in Pasture Systems that Impact Grassland Birds

- Pasture size, surrounding landscape
- Vegetation composition
  - Cool and/or warm season grasses
  - Grass and forb species - diversity
  - Presence of plants cattle avoid
- Soil type and quality; soil moisture
- Weather – temperature and precipitation

Direct Impacts of Grazing on Active Bird Nests:

Trampling losses are a function of #cattle * # days in pasture and size of paddock or pasture



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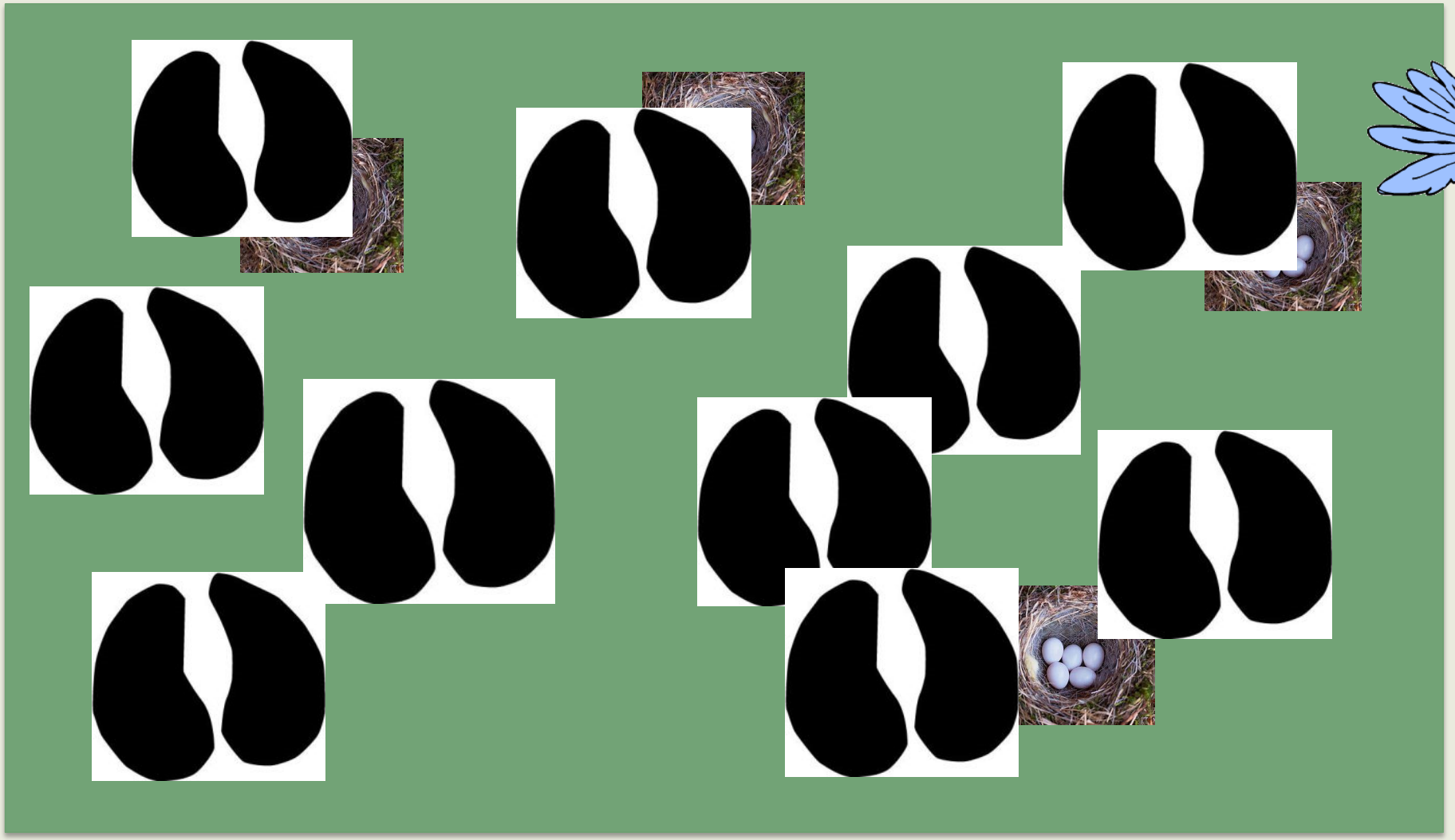
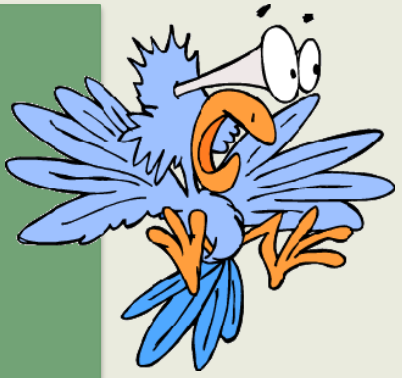
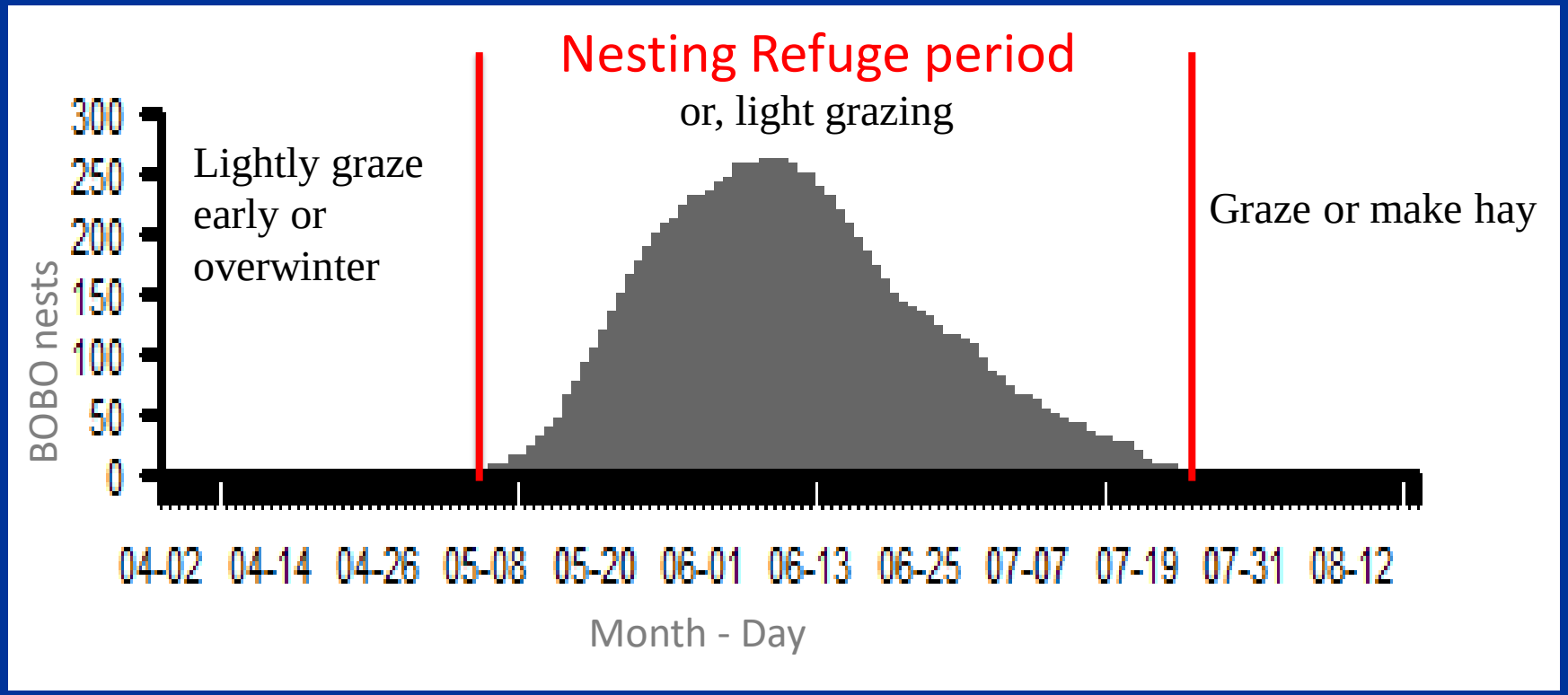




Incorporating Bobolink Nesting Phenology Within a Grazing Practice



Timing Matters!

Tips for working grasslands

Laura Judge
University of Wisconsin-Madison
Agroecology MS program

WI grassland acreage

~100,000 acres state-owned

Privately-owned:

- ~4,000,000 acres in hay
- ~1,100,000 acres in pasture
- > 200,000 acres of CRP

#1 Nesting season refuge

Leave portion of grassland unharvested April 25 – August 1

#2 High residual (rotational grazing)

Rotate to next paddock when plant height ≥ 8 inches

#3 Long rest interval (rotational grazing)

Allow 35 - 40+ days rest before re-grazing paddocks

#4 Lower stocking rate

(animal unit = 1,000 lbs)

Ultra-light ~ 4 acres/1.5 animal units
Light ~ 3 acres/1.5 animal units
Moderate ~ 2 acres/1.5 animal units

Working grasslands important to birds due to large acreage

Improving nest success is possible

Audubon

Audubon Conservation Ranching Program

A MARKET-BASED APPROACH TO GRASSLAND CONSERVATION

Audubon

Our Purpose

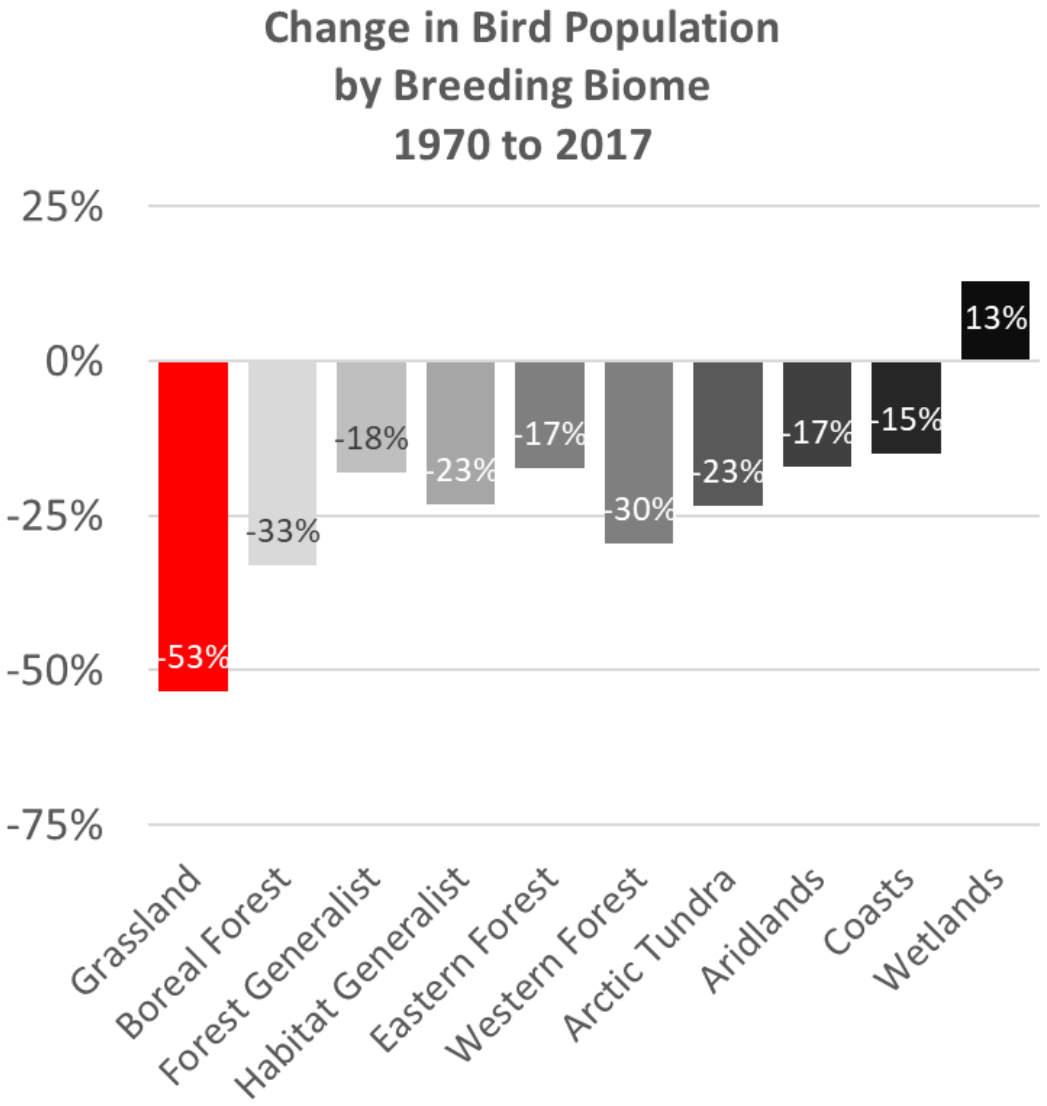
To reverse grassland bird population declines by restoring and enhancing grassland habitat on millions of acres

Alarming Declines

Grassland birds have some of the most dramatic and sustained declines of any group of birds by habitat type.

>50% decline in 50 years

MRBO Photo



Source: "Decline of the North American avifauna." Rosenberg et. al. (2019). Table 1.

Audubon

Our Strategy

Use a bird-friendly ranch certification to empower conscientious consumers to incentivize good grassland stewardship on farms and ranches

Audubon

Our Approach

Enlist and assist America's ranchers, the stewards of our remaining grassland landscapes, in implementing Conservation Ranching practices on grassland and rangeland in key conservation landscapes in the Great Plains and the American West

Audubon

Grassland birds are facing a crisis

How can we achieve significant, lasting changes at scale to reverse population declines?

Making the Connection

- Vast majority of grasslands are privately owned
- The fate of grassland birds is dependent on farms and ranches
- Economic forces tend to drive land use change
- Habitat loss is inextricably linked to our food system!
- Consumers are becoming increasing conscious of how food is raised
- Informed consumers can impact conservation through their everyday food choices.

Audubon

Grasslands Need Grazers

Restoring the evolutionary relationship between grazing animals and grasslands is key to restoring bird habitat…and may be an essential part of the equation for mitigating climate change.

Restoring Functional Ecosystems

Cattle can mimic the role of bison, restoring ecosystem functions and nutrient cycles that rebuild soil, conserve water, and fuel plant growth--creating a diverse mosaic of habitat across the landscape.

Audubon

A Market-based Approach

Connect bird-friendly livestock management practices to consumer demand for healthy food and environmental sustainability

A Market-*driven* Approach

…and create the mechanism whereby that demand can *incentivize* more ranches to become Audubon certified, → more acres of bird habitat

The Audubon Certification connects conscientious consumers to ranches where bird-friendly management is supporting grassland bird conservation, with benefits to pollinators, soil health, and other grassland wildlife

Audubon

The Audubon Certification

Audubon's "green seal" is the premiere certification for products that have positive impacts on grassland bird habitat and grassland ecosystems. It empowers consumers to support conservation by selecting products bearing the Audubon seal, knowing that these products come from lands where grazing and management practices ensure diverse bird habitat, healthy soils, abundant pollinators, and cleaner waters.

Program Standards

Four Pillars

- Habitat Management
- Forage and Feeding
- Animal Health and Welfare
- Environmental Sustainability

Audubon

TARGET GRASSLAND BIRD SPECIES
Flint Hills Ecoregion

Bell's Vireo	Henslow's Sparrow
Chuck Wills Widow	Loggerhead Shrike
Common Nighthawk	Northern Bobwhite
Common Poorwill	Northern Harrier
Dickcissel	Scissor-tailed Flycatcher
Eastern Kingbird	Short-eared owl
Eastern Meadowlark	Upland Sandpiper
Field Sparrow	Western Meadowlark
Grasshopper Sparrow	Western Kingbird
Greater Prairie-Chicken	

Habitat Management Plans

- Developed for each ranch
- Provide habitat for target grassland birds
- Restoration, diversification, invasive species/brush control,
- Cycles of disturbance and recovery
- Regenerative grazing, AHSD, Holistic Planned Grazing, Adaptive, Managed Grazing, Patch-Burn Grazing
- Create patchiness within and among the landscape

Forage and Feeding

- No feedlots
- In-pasture feeding if dispersed
- No antibiotics or hormones
- No feed with animal byproducts

Animal Health and Welfare

- Open pastures, unconfined
- Good health status (BCS 4-7)
- No antibiotics or hormones
- Cattle handling
- USDA or State-inspected processing plant

Environmental Sustainability

- No broadcast spraying unless approved in HMP
- No neonicotinoids, Ivermectin
- Riparian protection
- Nutrient management
- Eliminate GMOs

Producer Assistance

- Transition to new grazing approach
- Connect to state & federal cost-share programs via partners
- Connect to finishers, brands, retailers
- Promotion, Marketing
- PF/QF in Oklahoma

Ecological Monitoring

- Bird monitoring
- Territory mapping, density
- Bird-Friendliness Index
- Vegetation
- Soil Health

Benefits to Birds

Pilot sites in Missouri

3x biodiversity

5x bird density

Market Development

- National – Blue Nest Beef
- Regional – Corner Post, Prairiebird Pastures, Evergreen, Burgundy Beef
- Local – Ranch to Retail/Restaurant or Direct to Consumer

  - Identify market potential
  - Identify hurdles and barriers
  - Identify entrepreneurs and brands
  - Facilitate market partner success via technical assistance, promotion and support
  - Tell the story and spread the word!

Audubon

Ranches and Retailers

85 participating ranches (initial onboarding to fully certified) totaling 1,891,384 acres

Ranches in 13 states (CA, CO, KS, MO, MT, NE, NV, NM, ND, OK, SD, TX, WY)

74 restaurants, grocery stores, shops, institutions, and online outlets in 8 states

Audubon

Products bearing the Audubon-certified seal come from lands where grazing and management practices ensure diverse bird habitat, healthy soil, abundant pollinators, and cleaner waters.

To learn more about participating ranches and retailers near you, visit **Audubon.org/ranching**.

Better for the land, better for you.





GRAZED ON
Audubon
CERTIFIED
BIRD FRIENDLY LAND

AUDUBON.ORG/RANCHING

Pasture Walk “for the birds”

Sauk County

Sauk County WI
Conservation, Planning, and Zoning Department

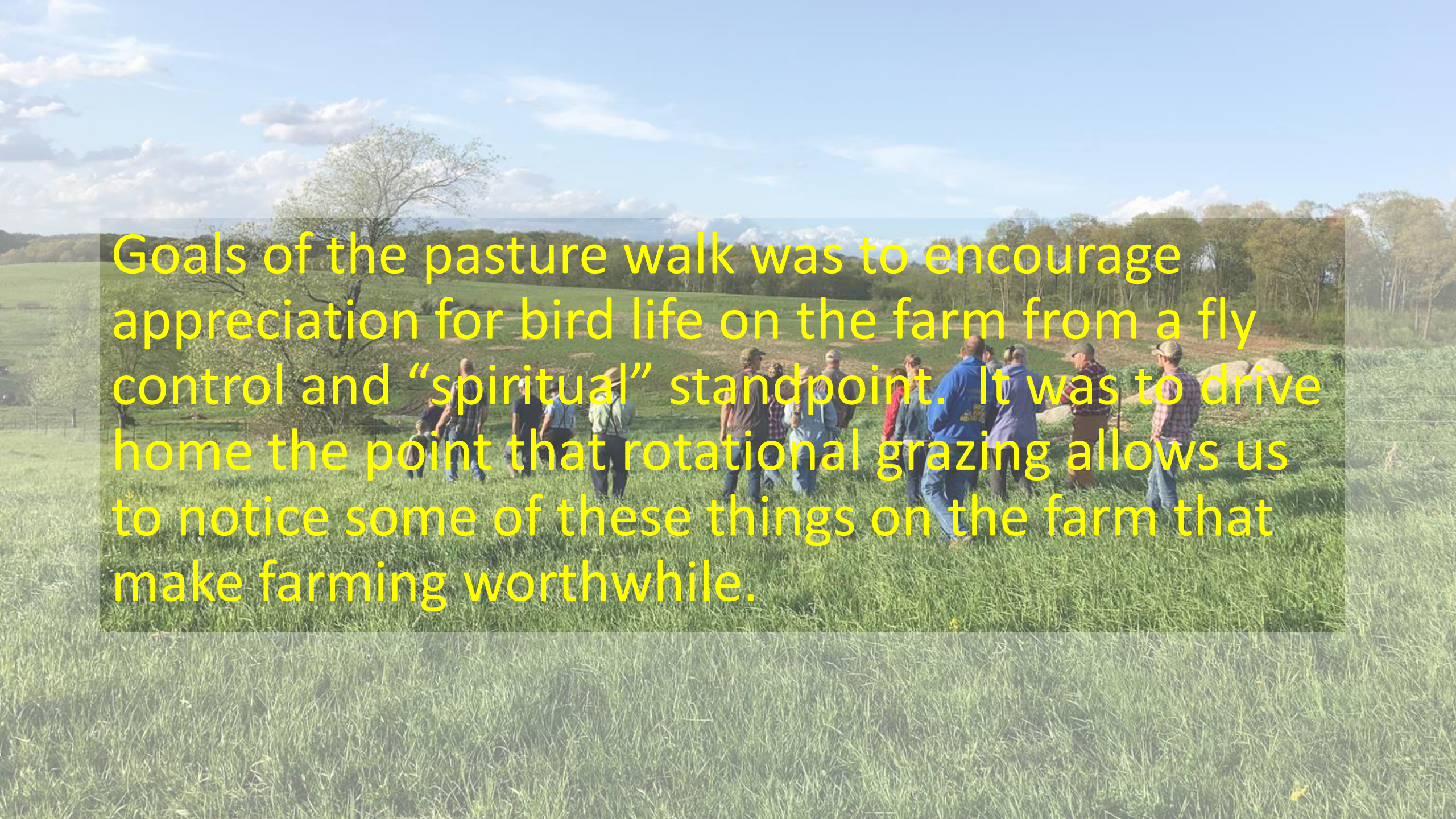
Pasture Walk – Peter Kinsman Farm
Wednesday, May 22nd, 6-8pm

Location: E2940 Co Rd K, Lime Ridge, WI 53942

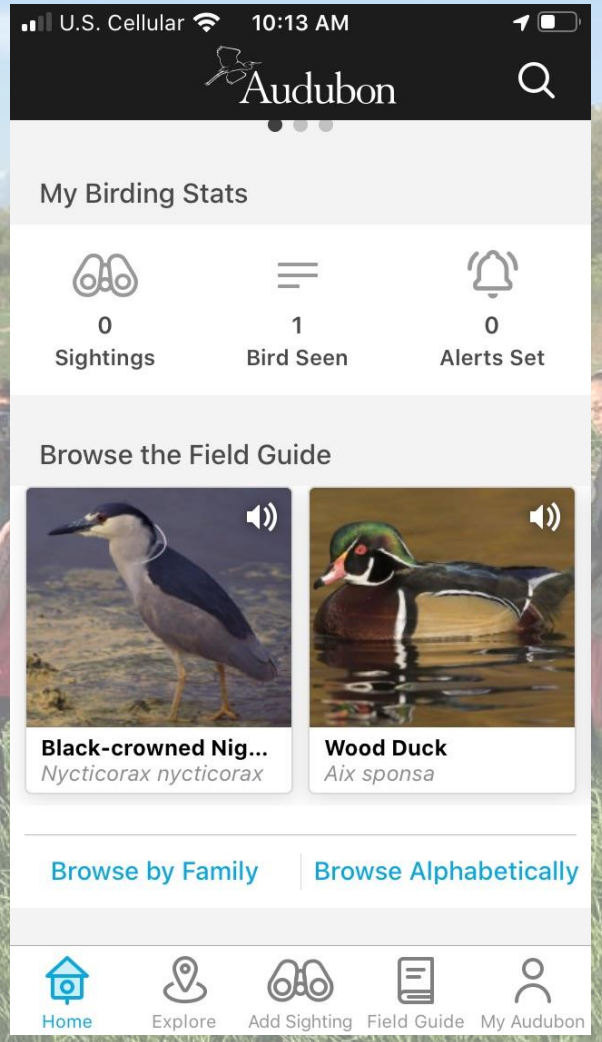
What is the internal rate of return of having birds on your property? It's estimated that a tree swallow family can eat approximately 8000 flies per day. Peter has built and installed quite a few tree swallow birdhouses around his pastures. We will look at various birdhouse designs and talk about placement as well as discussing the psychological value of birds on the farm. **This pasture walk is "for the birds..."**

For more information, contact **Serge Koenig**.

serge.koenig@saukcountywi.gov or **355-4837**


Goals of the pasture walk was to encourage appreciation for bird life on the farm from a fly control and “spiritual” standpoint. It was to drive home the point that rotational grazing allows us to notice some of these things on the farm that make farming worthwhile.

Tested participants knowledge of bird songs with the Audubon app



Showed participants tree swallow boxes and handed out designs

Thank you to all our speakers and attendees!

- **Erin Giese**, Senior Research Specialist, Cofrin Center for Biodiversity, UW-Green Bay
- **Dave Sample**, Conservation Biologist, Wisconsin DNR
- **Laura Judge**, MS Candidate in Agroecology, UW-Madison
- **Chris Wilson**, Director, Audubon Conservation Ranching Program