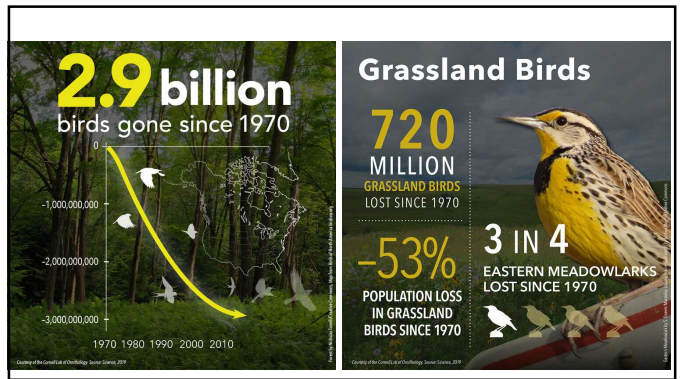
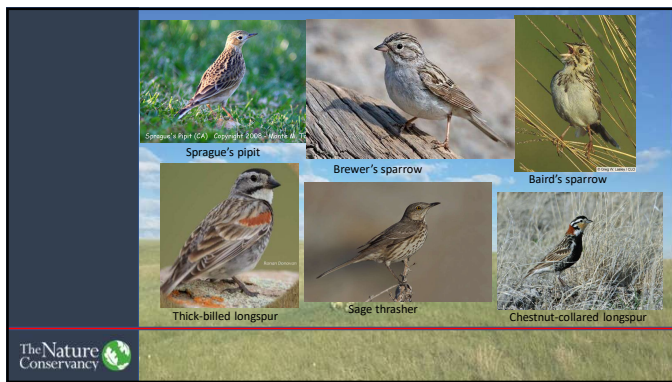




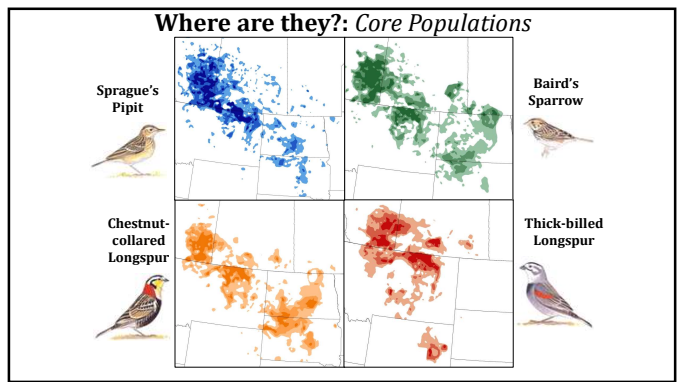
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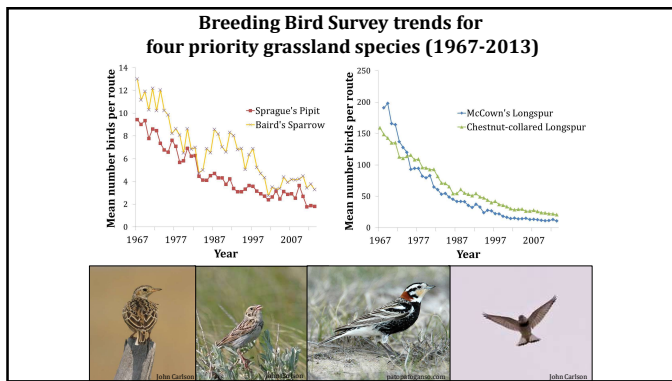
2



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## Targeted Local Monitoring for Priority Grassland Birds

### Why a "new" local effort?

- How do trends in local populations compare to the rest of the breeding range?
- What is the trend in abundance associated with habitat restoration, enhancement, management or protection projects?

### What was missing?

- Local "neighborhood" scale
- Targeted on 5 priority species
- Grassland habitat, silty soils, flat topography



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Table 4. Estimated trend in abundance for priority species in non-treatment and treatment sites from 2016-2022. Estimated using Poisson models of point count data. Bold and asterisk indicates statistical significance at  $P < 0.05$ . Red indicates significant negative trends, blue indicates significant positive trend.

Species	Non-treatment (native/control)		Grassland restoration		Expiring CRP grazing enhancement		Native grazing system enhancement	
	$\beta$	P	$\beta$	P	$\beta$	P	$\beta$	P
Sprague's pipit	<b>-0.23*</b>	<0.001	0.04	0.79	0.07	0.107	<b>-0.20*</b>	0.047
Baird's sparrow	<b>-0.14*</b>	<0.001	<b>0.14*</b>	<0.001	-0.04	0.059	-0.02	0.824
Chestnut-collared longspur	0.01	0.343	<b>-0.09*</b>	<0.001	-0.04	0.083	<b>0.14*</b>	<0.001
Thick-billed (McCown's) longspur	<b>-0.30*</b>	<0.001	<b>-0.42*</b>	<0.001	<b>0.24*</b>	0.023	-0.34	0.102
Brewer's sparrow	<b>0.13*</b>	<0.001	0.03	0.835	-	-	-	-

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## Birds and grasshoppers

- Grasshoppers are a key food for many grassland birds
- Birds have mixed impact on grasshopper populations (e.g. Branson 2005, Fowler et al 1991)
- May select for larger hoppers

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### What can we do?



- Maintain habitat
- Monitoring and research
- Candidate Conservation Agreement with Assurances
- Audubon Conservation Ranching Program

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