Upper Mississippi Forest Partnership

Important Migratory Bird Habitat
Grassland Birds LINK Model Results (2001 Land Cover Update)

GRASSLAND BIRDS USED IN LINK QUERY:

Bobolink
Dickcissel
Eastern Meadowlark
Grasshopper Sparrow
Greater Prairie-Chicken
Henslow's Sparrow
Le Contes Sparrow
Loggerhead Shrike
Northern Bobwhite
Northern Harrier
Sedge Wren
Sharp-tailed Grouse
Upland Sandpiper

SOURCE LAYER:

National Land Cover Dataset (2001) within UMRS boundary intersecting the states of MN, WI, IA, IL, IN, and MO

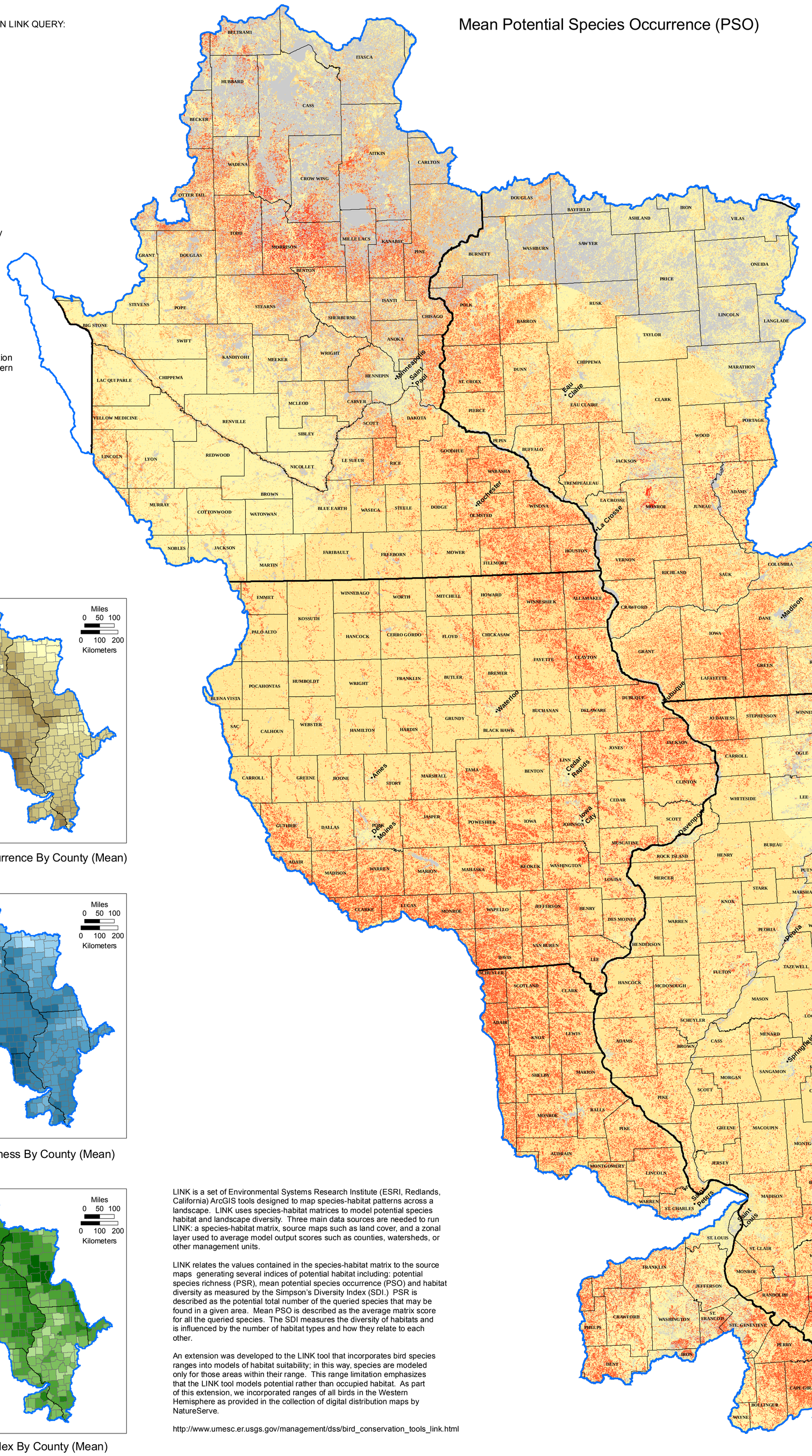
ZONAL LAYER:

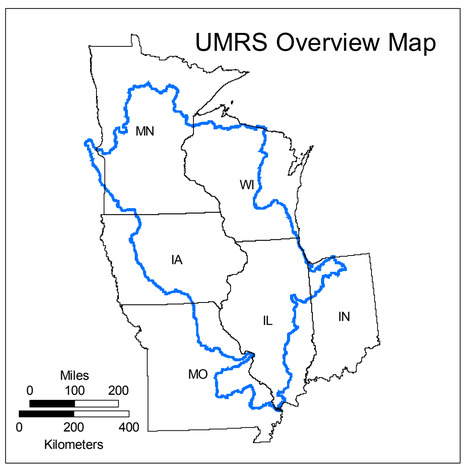
Counties

RANGE USED:

NatureServe: Digital Distribution Maps of the Birds of the Western Hemisphere

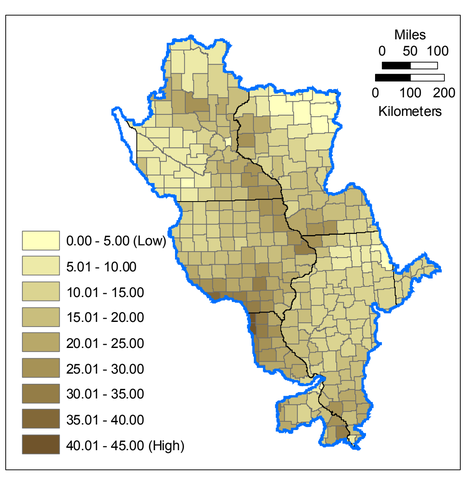
Mean Potential Species Occurrence (PSO)



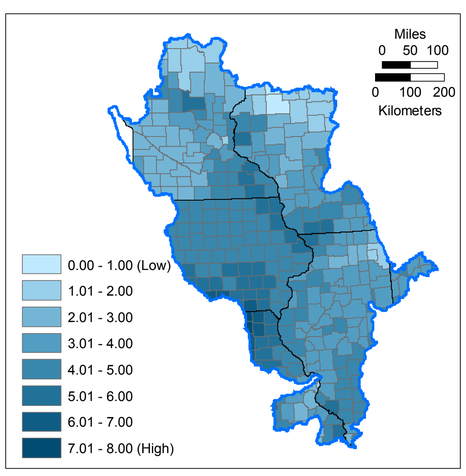


	Open Water	Developed - Open Space	Developed - Low Intensity	Developed - Medium Intensity	Developed - High Intensity	Barren Land (Rock - Sand - Clay)	Deciduous Forest	Evergreen Forest	Mixed Forest	Shrub - Scrub	Grassland - Herbaceous	Pasture - Hay	Cultivated Crops	Woody Wetlands	Emergent Herbaceous Wetlands
Grassland Birds															
Bobolink	0	20	0	0	0	11	0	0	0	0	100	100	0	0	20
Dickcissel	0	0	0	0	0	0	0	0	0	0	100	80	20	0	0
Eastern Meadowlark	0	20	20	0	40	9	0	0	0	40	80	100	20	0	20
Grasshopper Sparrow	0	20	0	0	0	0	0	0	0	0	100	80	0	0	0
Greater Prairie-Chicken	0	0	0	0	0	11	0	0	0	20	100	100	1	0	0
Henslow's Sparrow	0	0	0	0	0	0	0	0	0	20	100	40	0	0	40
Le Conte's Sparrow	0	0	0	0	0	0	0	0	0	0	60	40	0	0	100
Loggerhead Shrike	0	0	0	0	0	11	0	0	0	40	100	100	0	0	0
Northern Bobwhite	0	0	20	0	0	34	40	0	0	60	100	80	100	20	0
Northern Harrier	0	0	0	0	0	11	0	0	0	40	100	100	0	40	80
Sedge Wren	0	0	0	0	0	0	0	0	0	0	60	40	0	40	100
Sharp-tailed Grouse	0	0	0	0	0	34	0	20	40	100	60	100	2	0	0
Upland Sandpiper	0	40	0	0	0	0	0	0	0	0	100	100	39	0	0

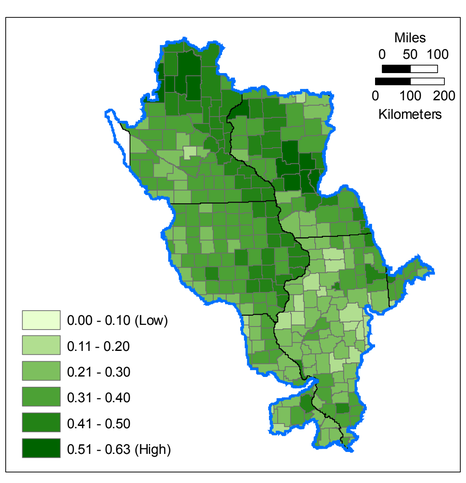
Grassland birds matrix scores



Potential Species Occurrence By County (Mean)



Potential Species Richness By County (Mean)



Simpson's Diversity Index By County (Mean)

LINK is a set of Environmental Systems Research Institute (ESRI, Redlands, California) ArcGIS tools designed to map species-habitat patterns across a landscape. LINK uses species-habitat matrices to model potential species habitat and landscape diversity. Three main data sources are needed to run LINK: a species-habitat matrix, source maps such as land cover, and a zonal layer used to average model output scores such as counties, watersheds, or other management units.

LINK relates the values contained in the species-habitat matrix to the source maps generating several indices of potential habitat including: potential species richness (PSR), mean potential species occurrence (PSO) and habitat diversity as measured by the Simpson's Diversity Index (SDI.) PSR is described as the potential total number of the queried species that may be found in a given area. Mean PSO is described as the average matrix score for all the queried species. The SDI measures the diversity of habitats and is influenced by the number of habitat types and how they relate to each other.

An extension was developed to the LINK tool that incorporates bird species ranges into models of habitat suitability; in this way, species are modeled only for those areas within their range. This range limitation emphasizes that the LINK tool models potential rather than occupied habitat. As part of this extension, we incorporated ranges of all birds in the Western Hemisphere as provided in the collection of digital distribution maps by NatureServe.

http://www.umesc.er.usgs.gov/management/dss/bird_conservation_tools_link.html

Map Date: September 24, 2009

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