

**Conservation Estate Portfolio for the  
Eastern Meadowlark  
(*Sturnella magna*)**

**Bird Conservation Region 23  
(Prairie Hardwood Transition)**



<http://www.mbr-pwrc.usgs.gov/id/framlst/i5010id.html>

By Jason J. Rohweder and Wayne E. Thogmartin  
U.S. Geological Survey, Upper Midwest Environmental  
Sciences Center, La Crosse, WI 54603  
Email: [wthogmartin@usgs.gov](mailto:wthogmartin@usgs.gov)

February 2007

## Preface

Mapped patterns in the distribution and abundance of rare or focal species can be useful in identifying priority areas for conservation. We have modeled and mapped rare bird abundance in the upper midwestern United States for more than a dozen species of conservation concern. Our work has focused on the Prairie Hardwood Transition (Bird Conservation Region 23). This portfolio describes the conservation context of one species in the Prairie Hardwood Transition. We outlined areas of peak predicted abundance relative to federal, tribal, and state managed lands. This juxtaposition of predicted relative abundance and land management authorities is the conservation estate for this focal species. Identifying these land management authorities relative to areas in which the species is most abundant may help to focus conservation resources in those areas in which they may do the most good.

## Data References

Major Cities depicted using data acquired from the National Atlas of the United States web site (<http://nationalatlas.gov/mld/citiesx.html>). Major cities were determined to be those that had a population in 2000 of greater than 5,000 persons.

Major Roads depicted using data acquired from the National Atlas of the United States web site (<http://nationalatlas.gov/mld/roadtrl.html>). Roads were determined to be Major if they were classified as *Principal Highway* or *Limited Access Highway* according to the data field "Feature".

States data were created by Geographic Data Technology, Inc. This data was published by Environmental Systems Research Institute (ESRI) and made available for distribution.

Counties data were acquired from the National Atlas of the United States web site (<http://www.nationalatlas.gov/mld/countyp.html>).

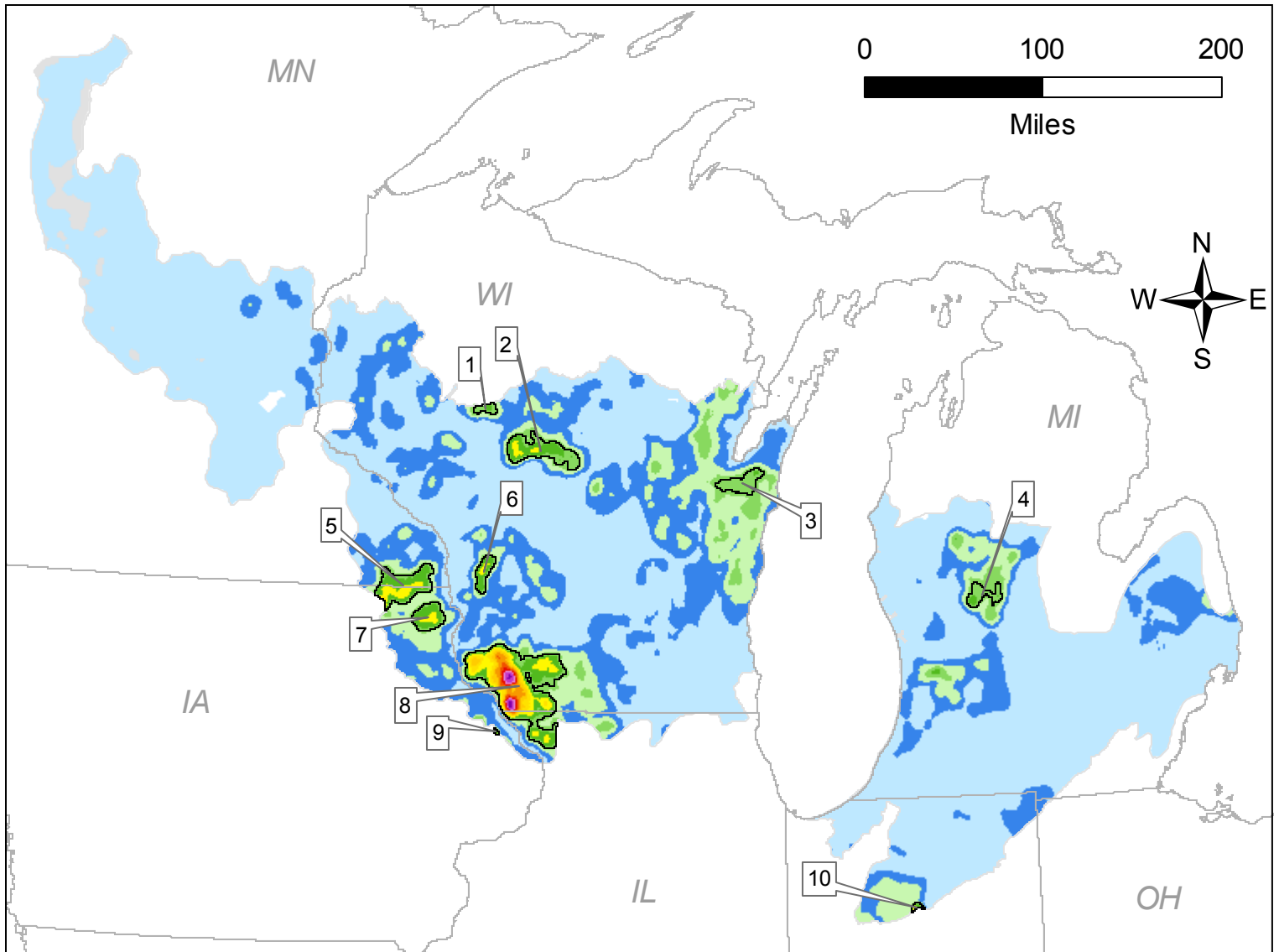
Federal and State lands depicted using Protected Areas Database, version 4: (<http://www.consbio.org/cbi/projects/PAD/index.htm>). Federal and State lands were identified based upon the data field "Owner".




Tribal lands depicted using data acquired from the National Atlas of the United States web site (<http://www.nationalatlas.gov/mld/indlanp.html>).

## Methodology

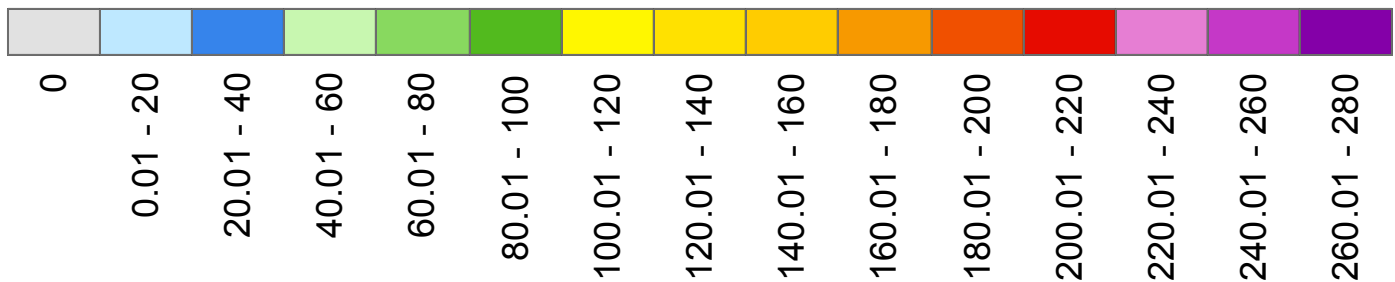
For detailed methodology on avian abundance modeling, see: [http://www.umesc.er.usgs.gov/terrestrial/migratory\\_birds/bird\\_conservation\\_methods.html](http://www.umesc.er.usgs.gov/terrestrial/migratory_birds/bird_conservation_methods.html)

# Predicted Relative Abundance and 10-Highest Peaks of Predicted Relative Abundance for the Eastern Meadowlark



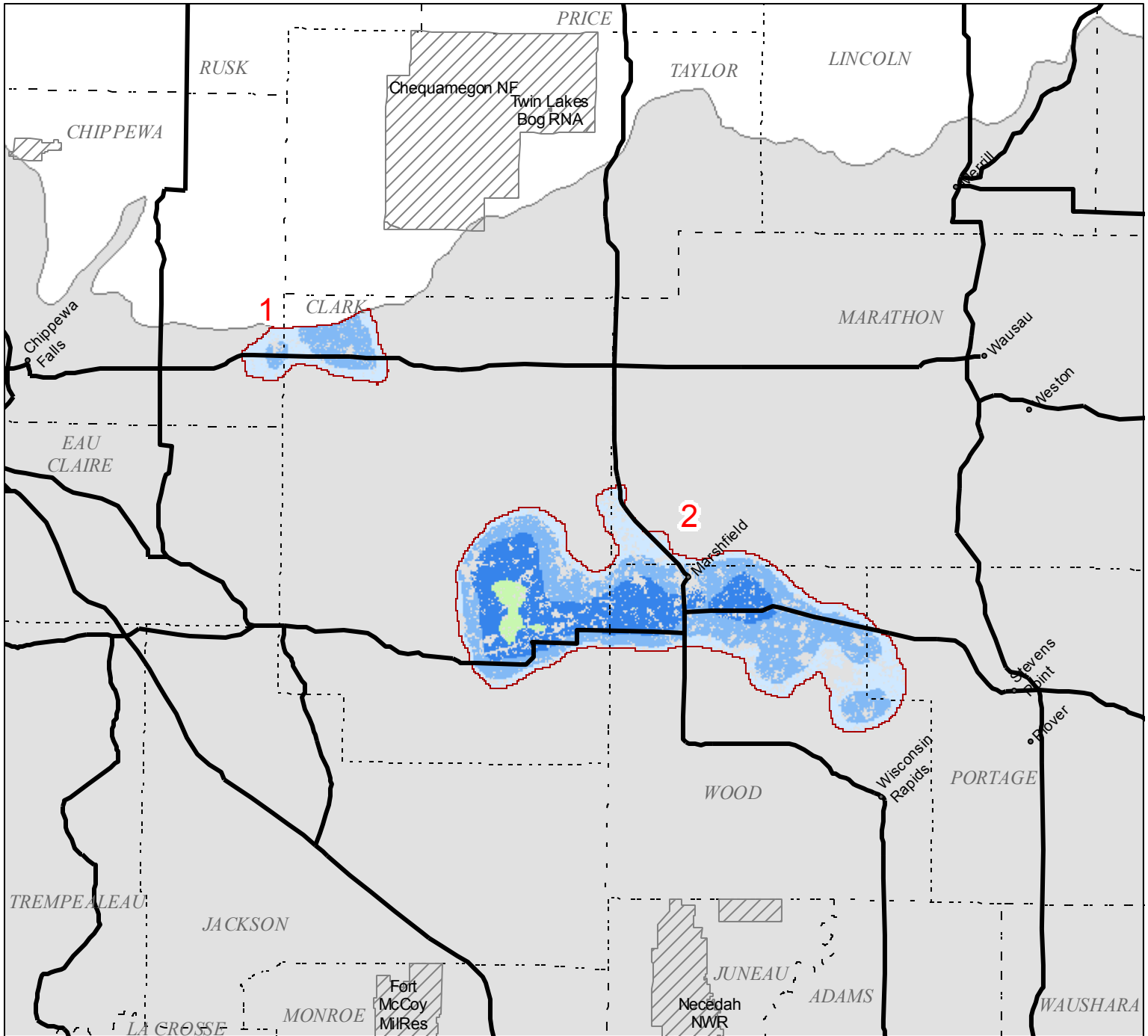
-  Top 10 Hotspots
-  States
-  Bird Conservation Region (BCR) 23 Boundary

Eastern Meadowlark Relative Abundance  
(Predicted Mean Count / Breeding Bird Survey)



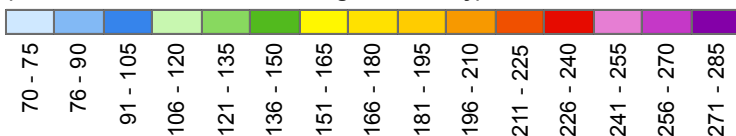
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Federal Lands

## Hotspots 1 and 2

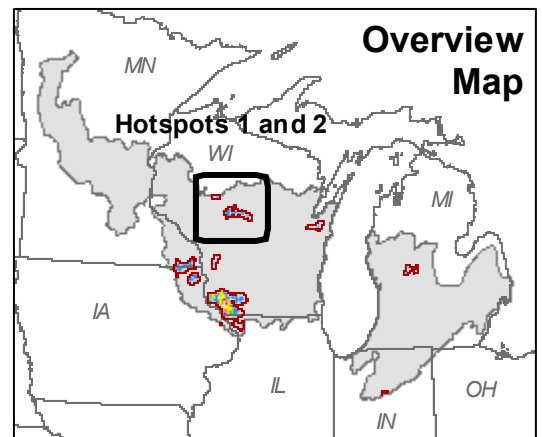


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▨ Federal Lands (Protected Areas Database IV)

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

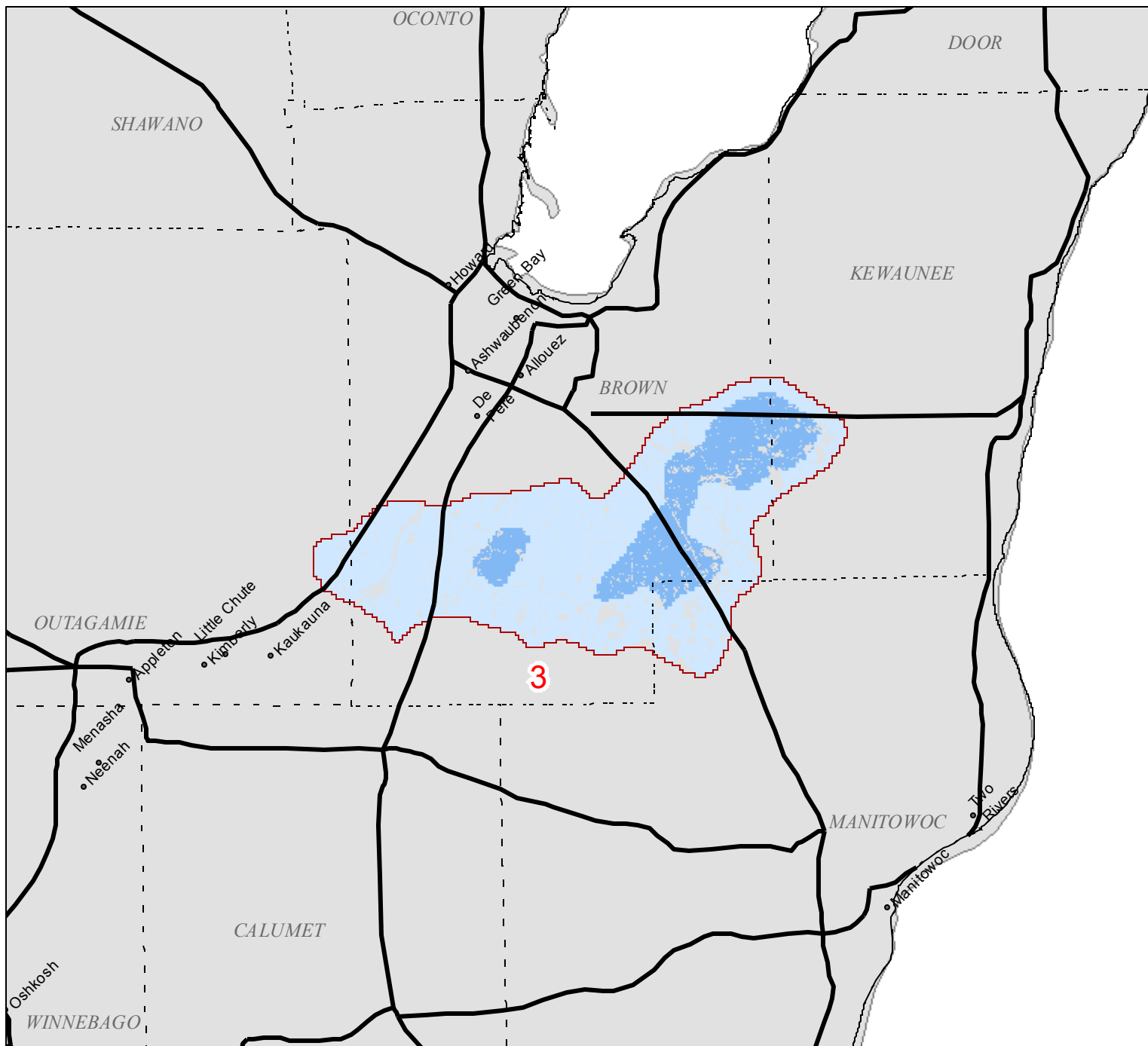


Miles  
1:821,492



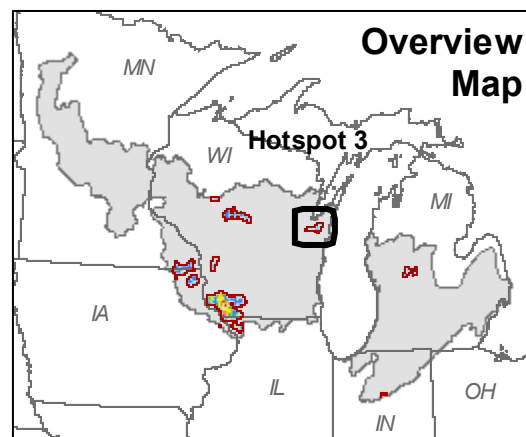
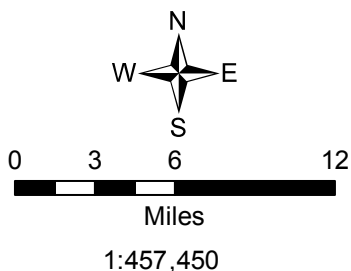
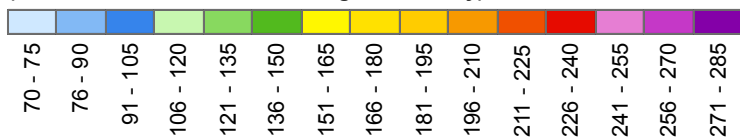
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Federal Lands

Hotspot 3



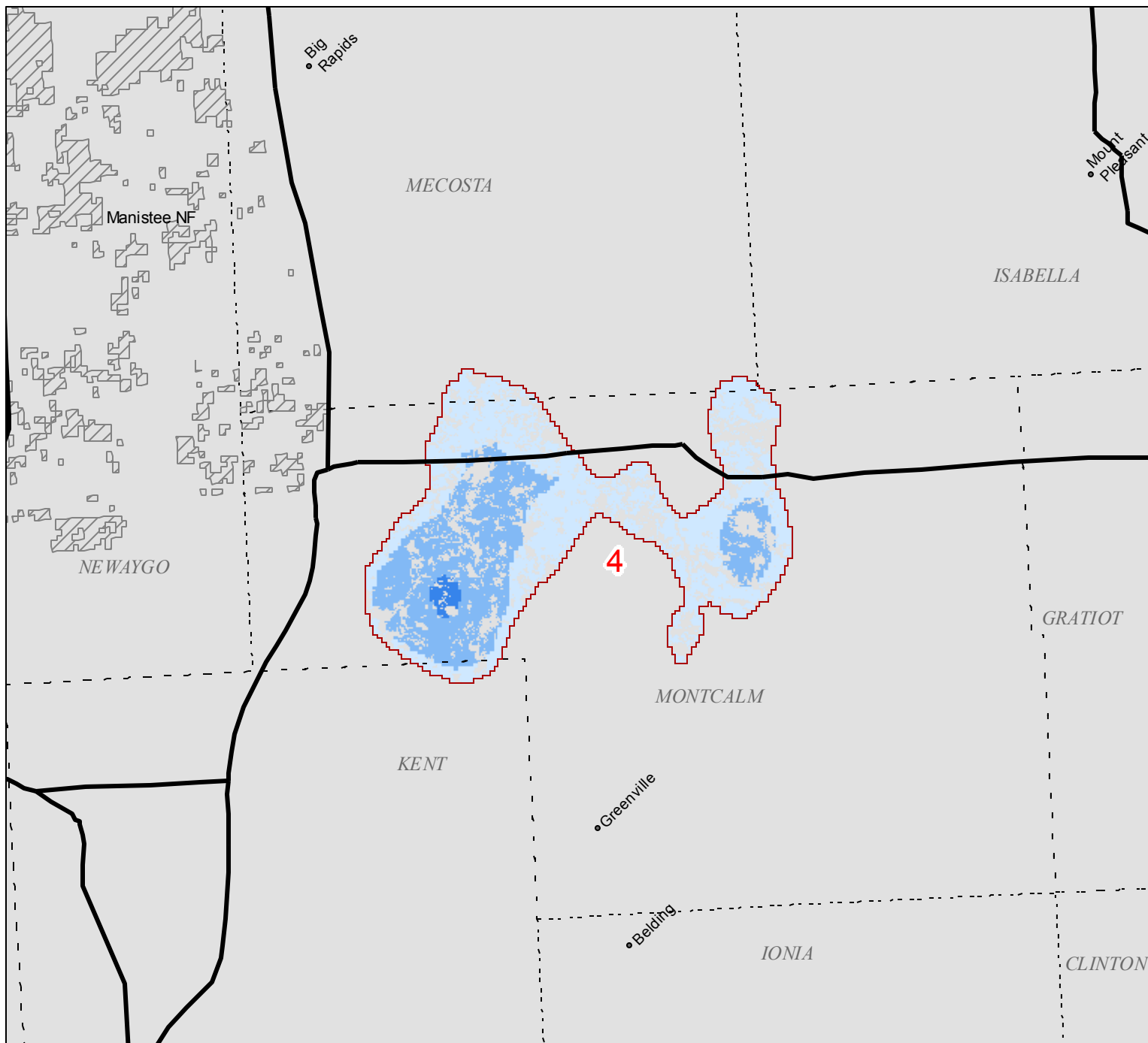
- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- - - Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▨ Federal Lands (Protected Areas Database IV)

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



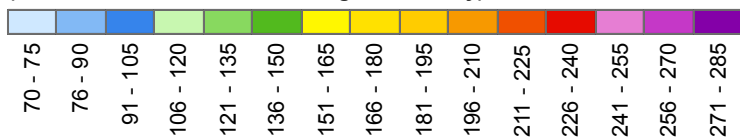
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Federal Lands

Hotspot 4

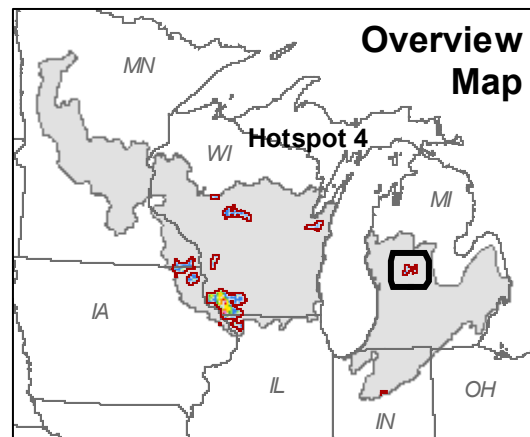


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- - - Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▨ Federal Lands (Protected Areas Database IV)

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

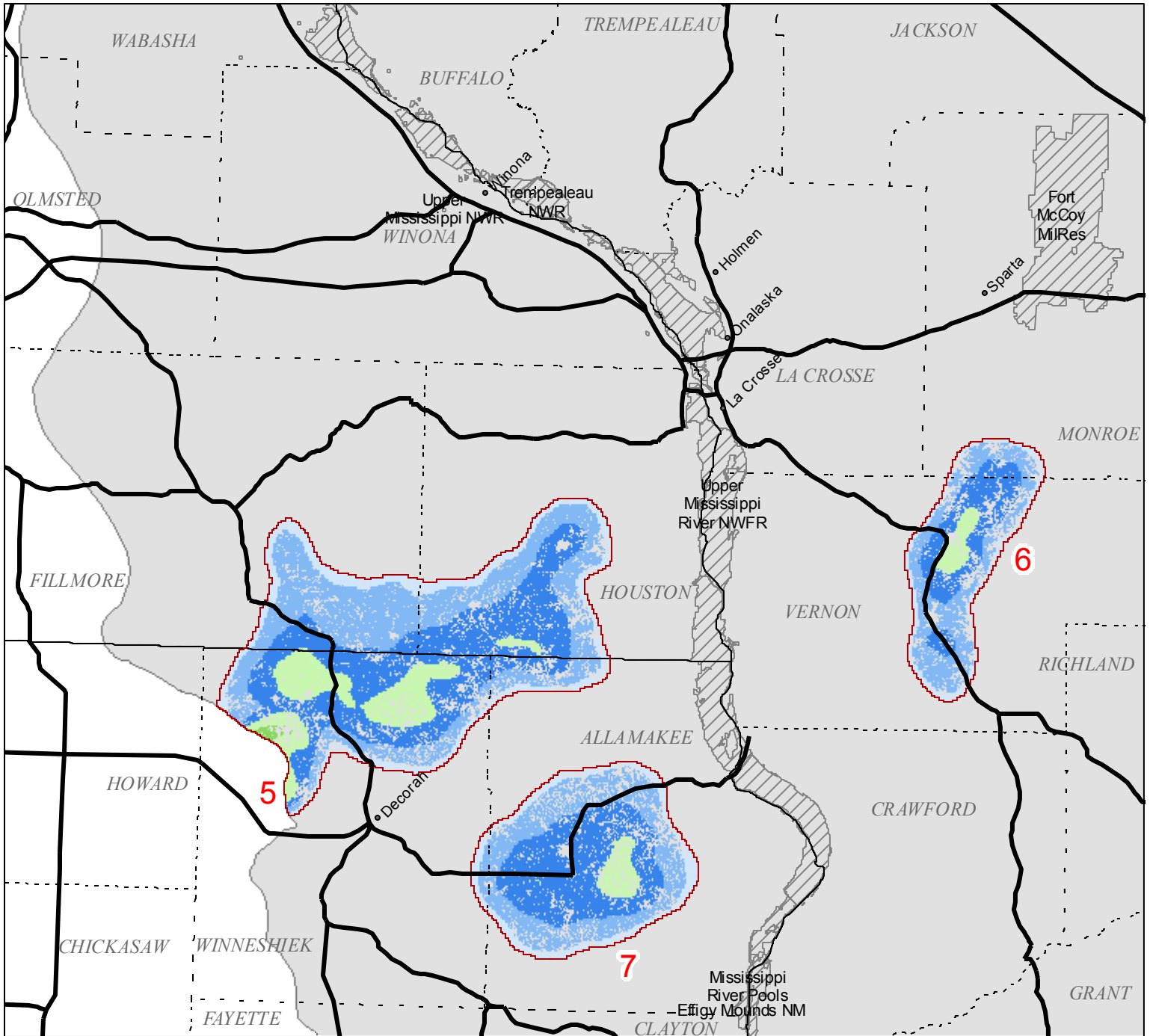


1:423,861



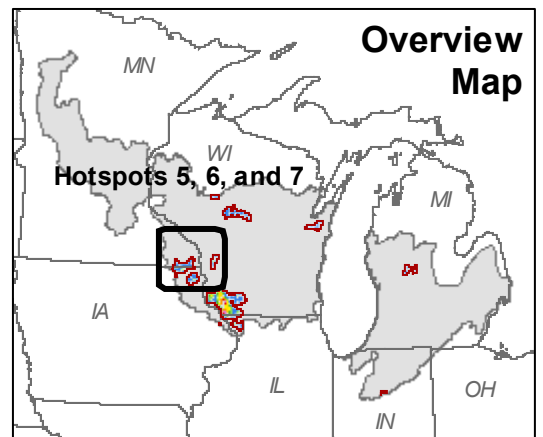
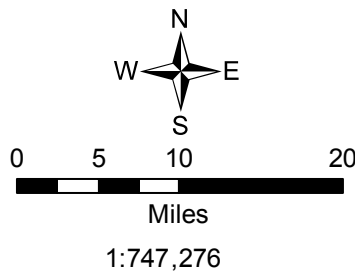
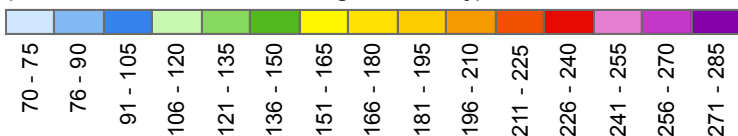
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Federal Lands

Hotspots 5, 6, and 7



- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▨ Federal Lands (Protected Areas Database IV)

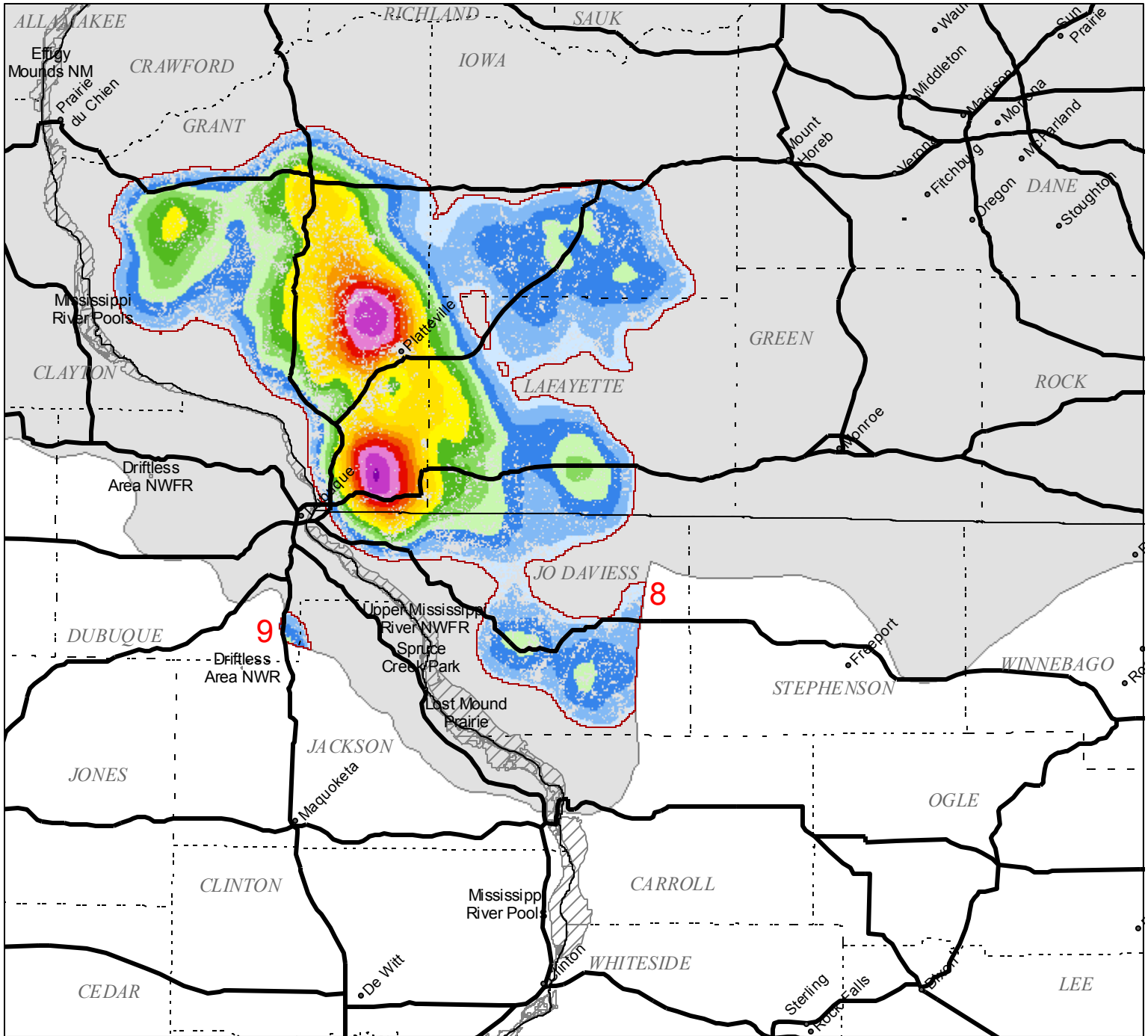
**Eastern Meadowlark Relative Abundance**  
(Predicted Mean Count / Breeding Bird Survey)





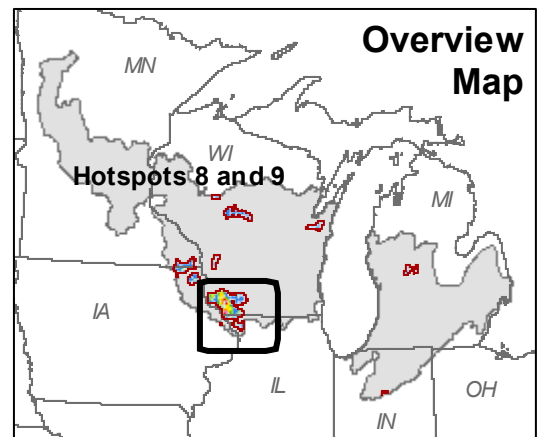
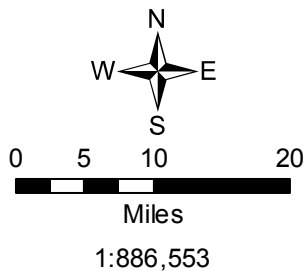
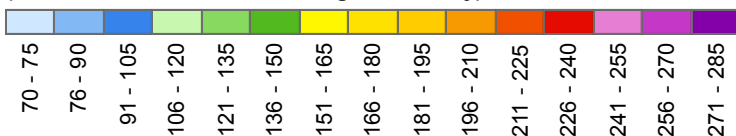
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlayed with Federal Lands

Hotspots 8 and 9



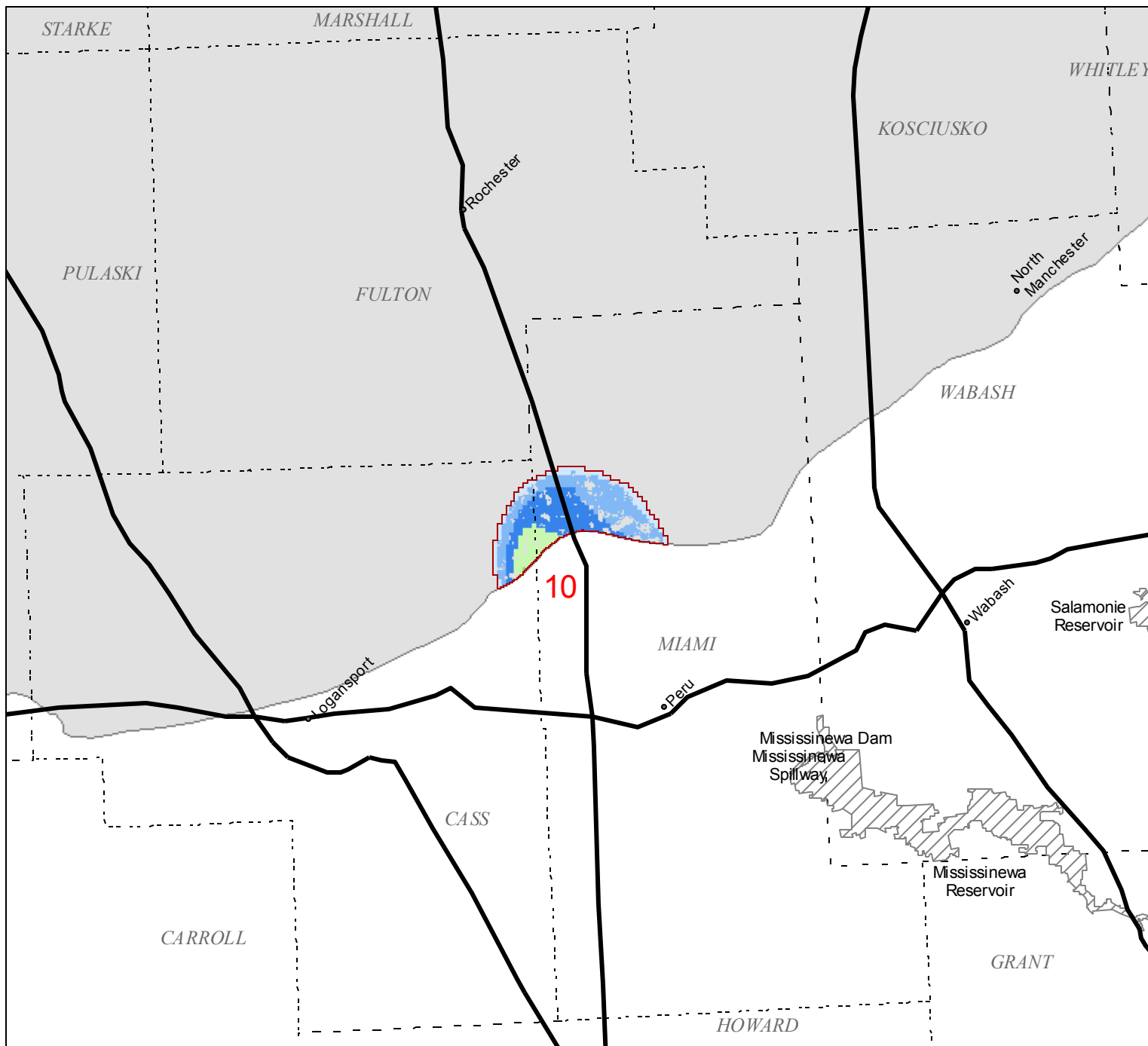
- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▨ Federal Lands (Protected Areas Database IV)

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



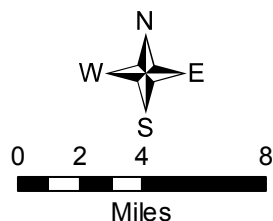
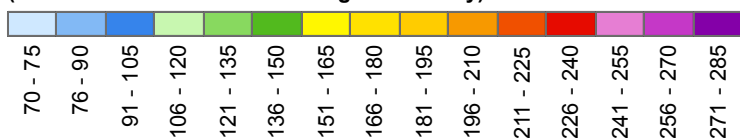
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlayed with Federal Lands

Hotspot 10

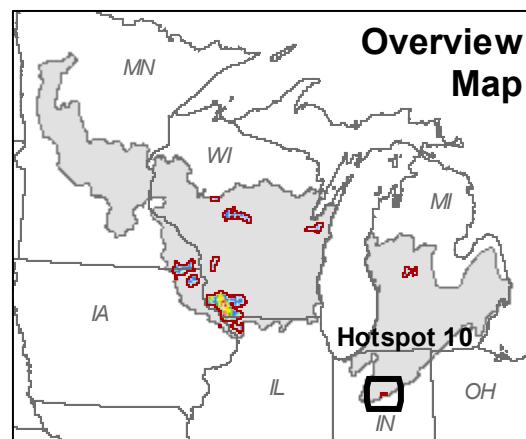


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▨ Federal Lands (Protected Areas Database IV)

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

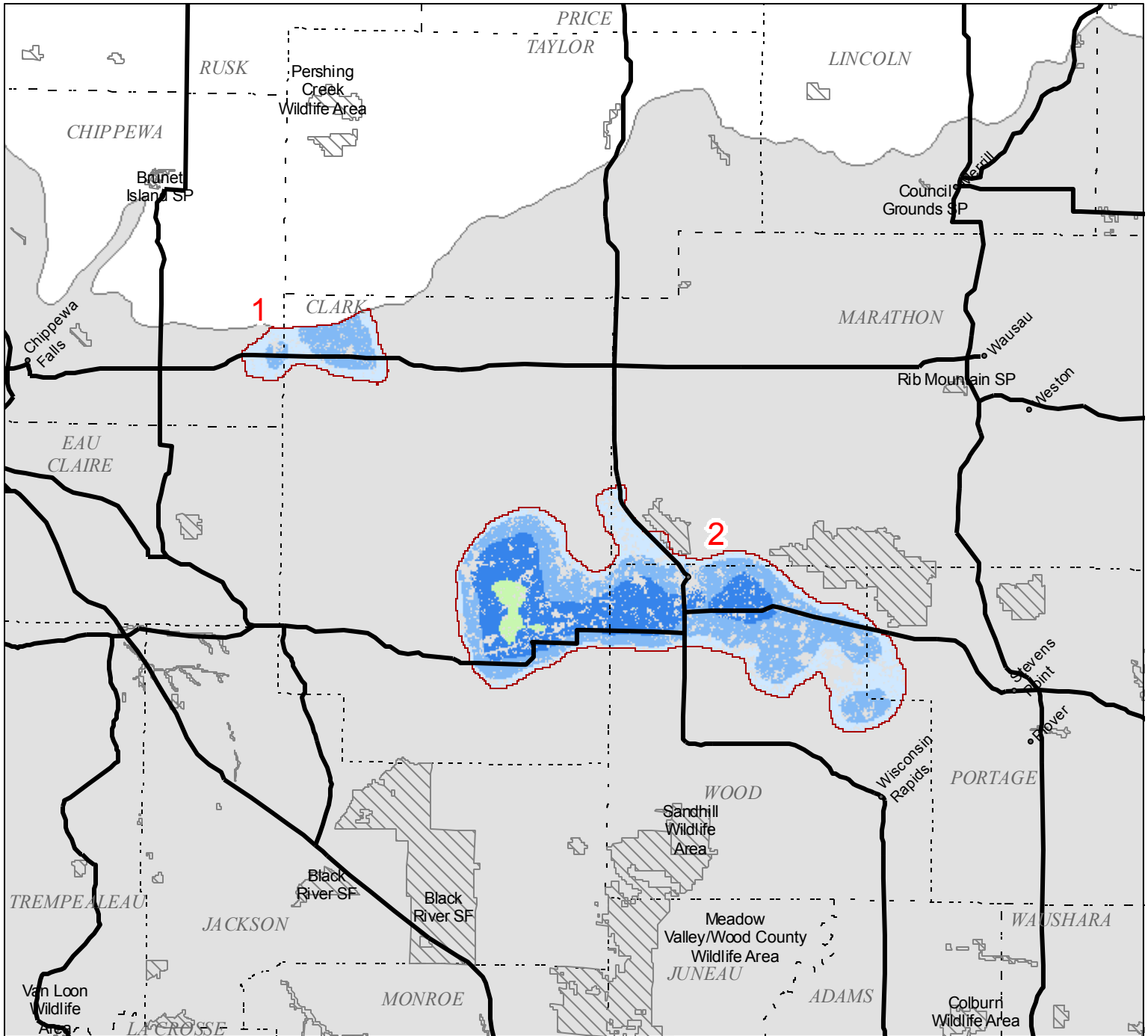


1:390,497



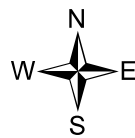
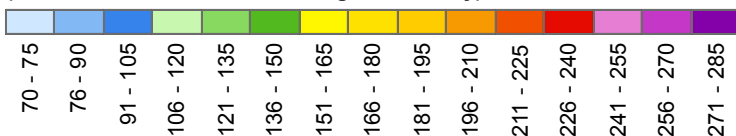
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with State Lands

## Hotspots 1 and 2

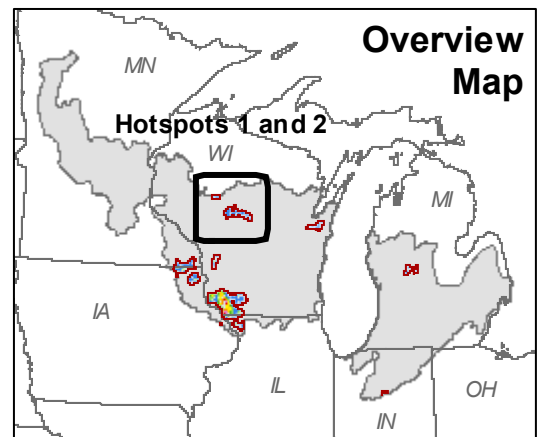


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▨ State Lands (Protected Areas Database IV)

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

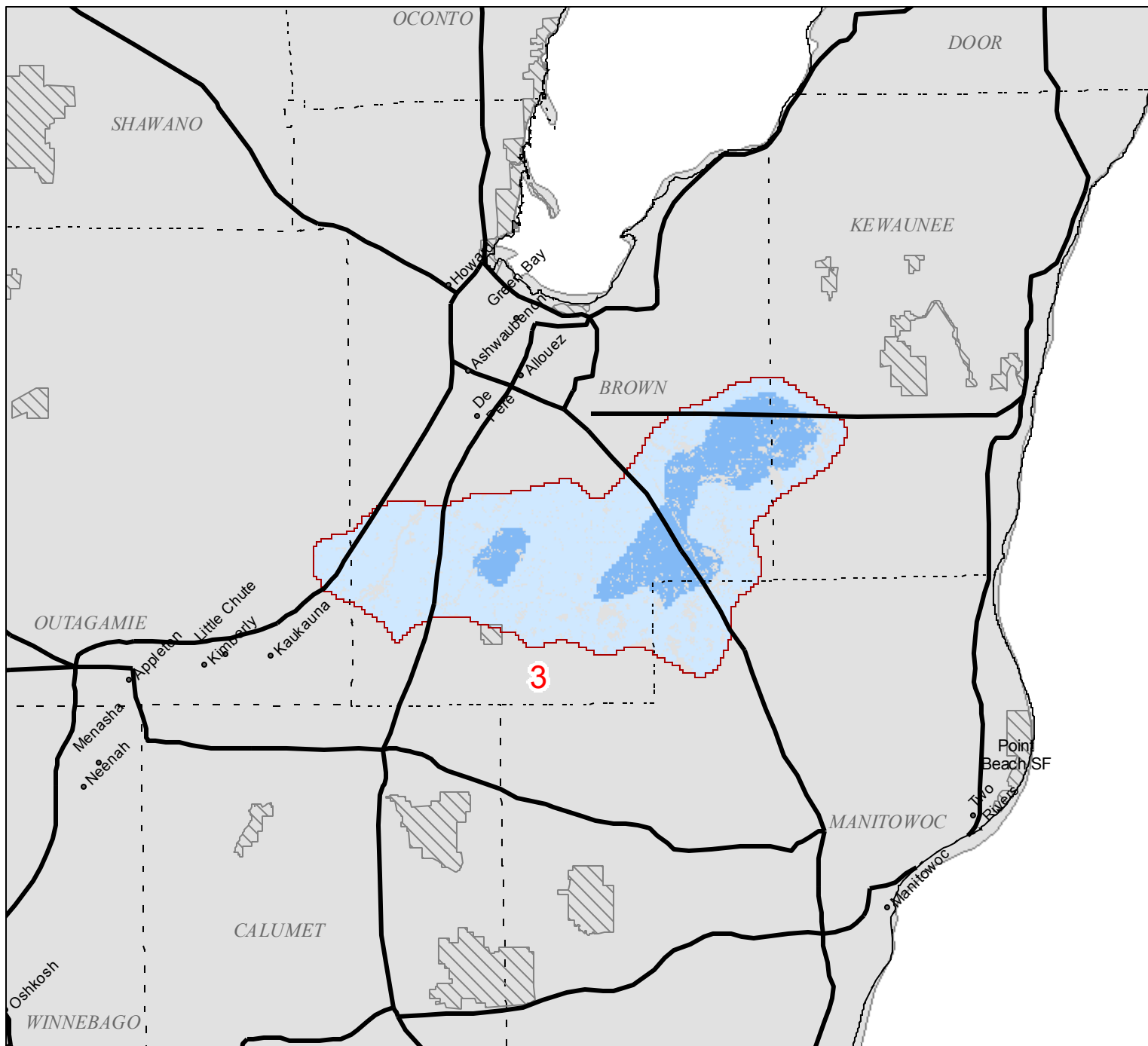


1:821,492



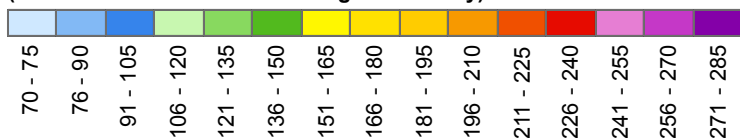
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with State Lands

Hotspot 3

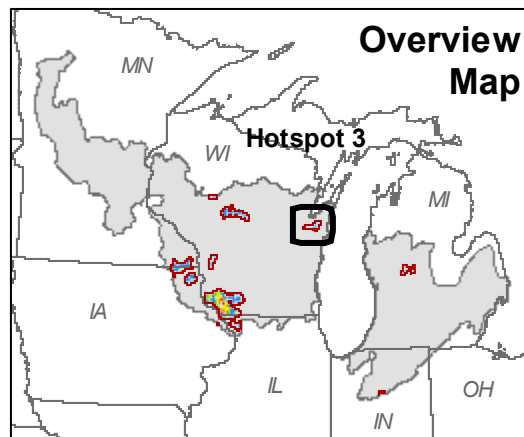


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- - - Counties
- ▨ State Lands (Protected Areas Database IV)
- ▭ Bird Conservation Region (BCR) 23 Boundary

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

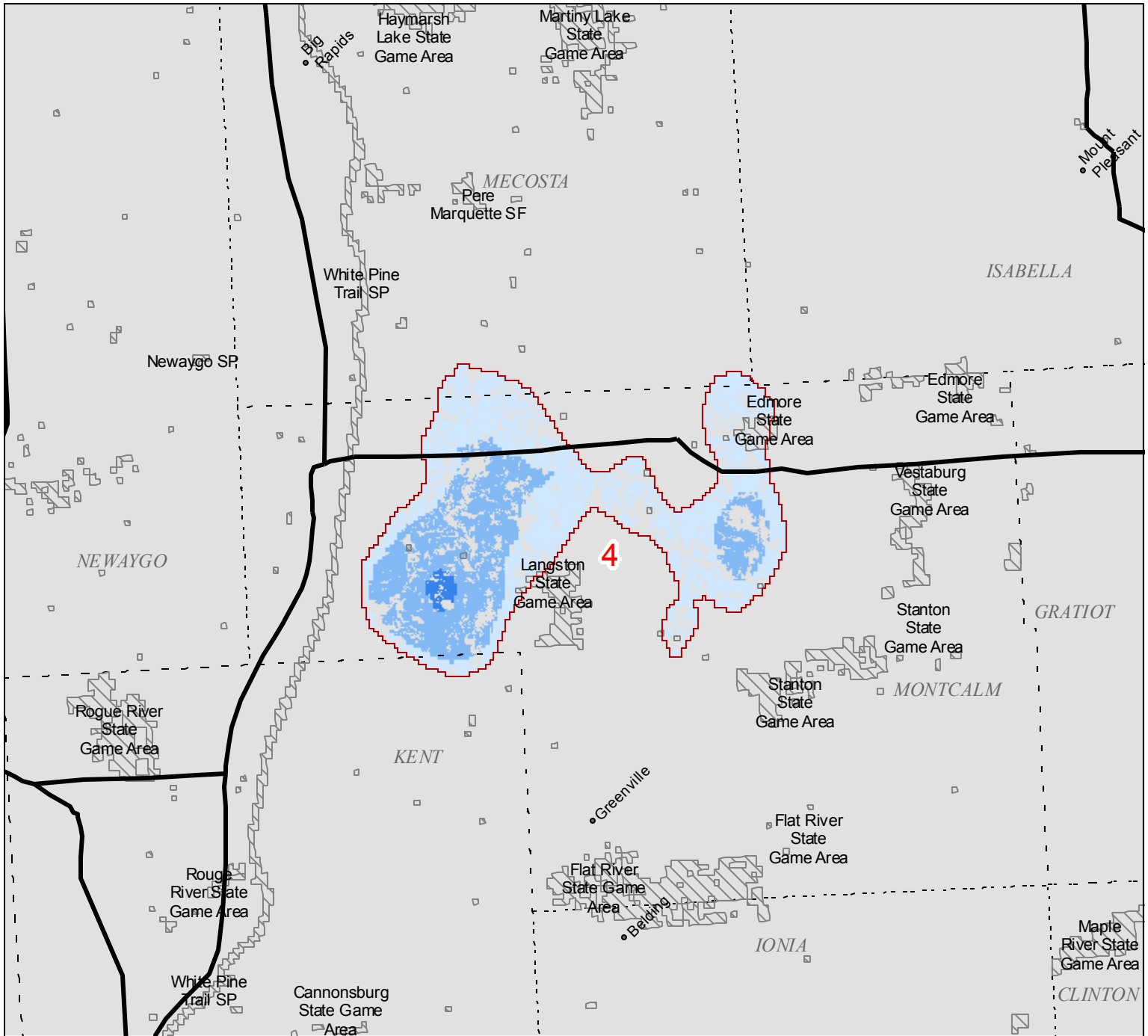


1:457,450



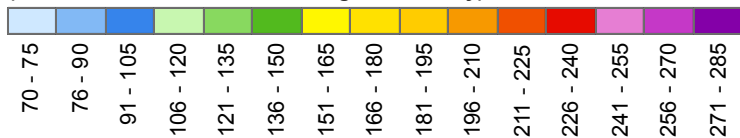
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with State Lands

## Hotspot 4

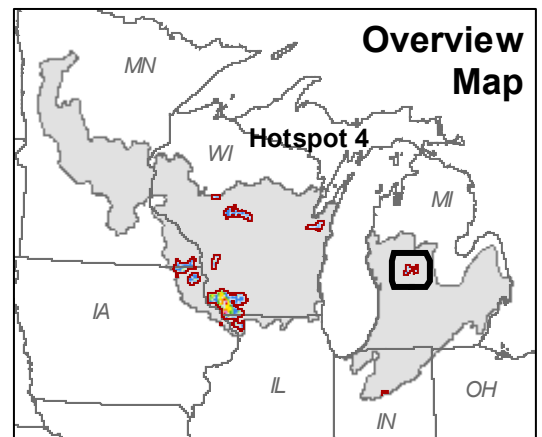


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- - - Counties
- ▨ State Lands (Protected Areas Database IV)
- ▭ Bird Conservation Region (BCR) 23 Boundary

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

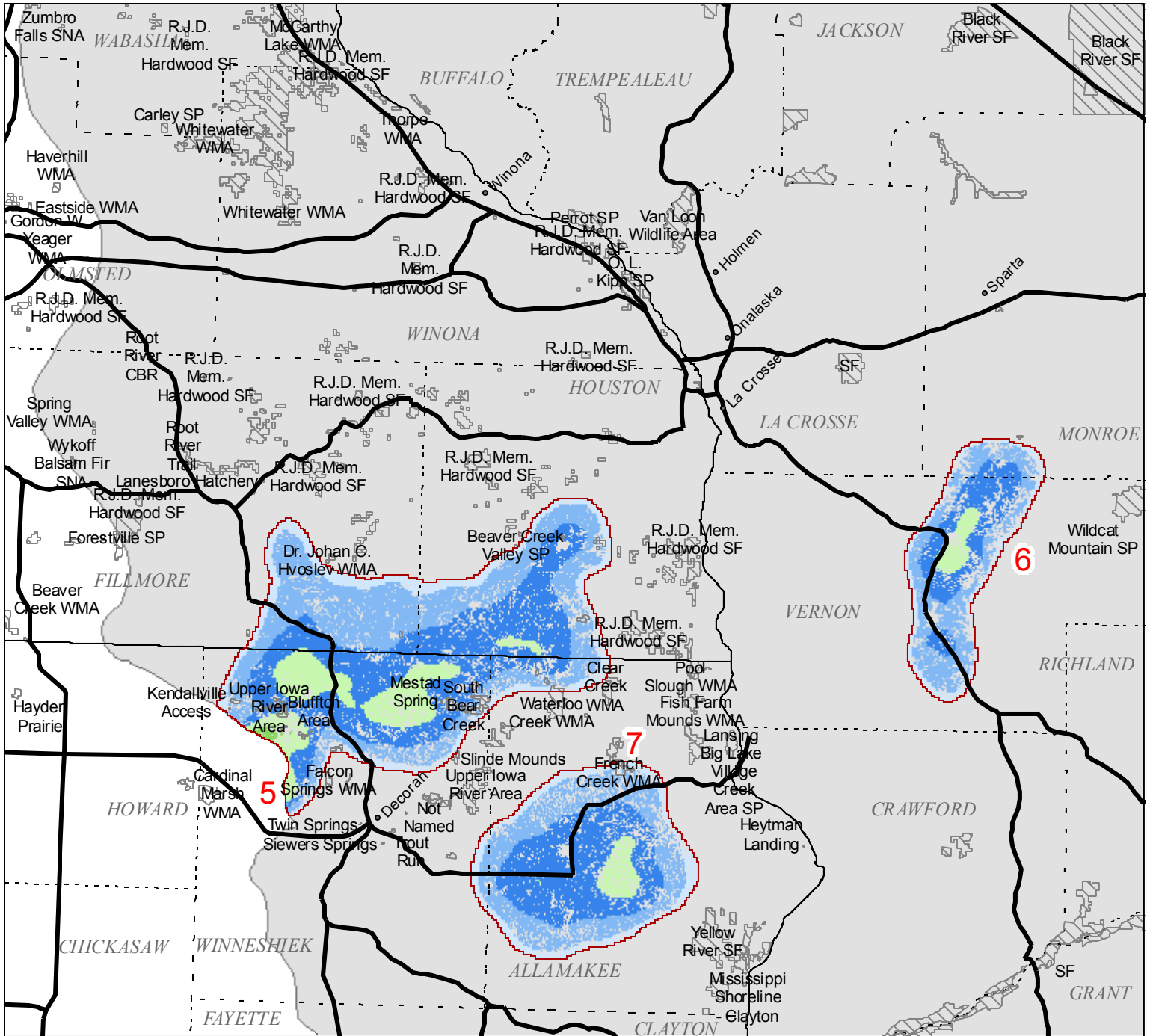


1:423,861



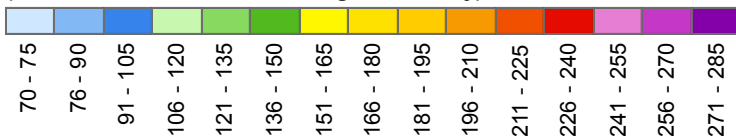
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with State Lands

## Hotspots 5, 6, and 7

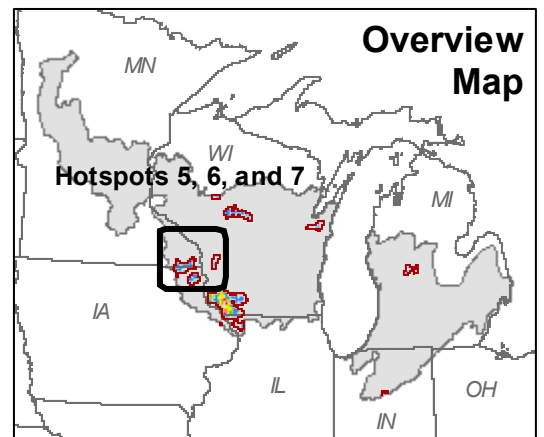


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▨ State Lands (Protected Areas Database IV)
- ▭ Bird Conservation Region (BCR) 23 Boundary

**Eastern Meadowlark Relative Abundance**  
(Predicted Mean Count / Breeding Bird Survey)



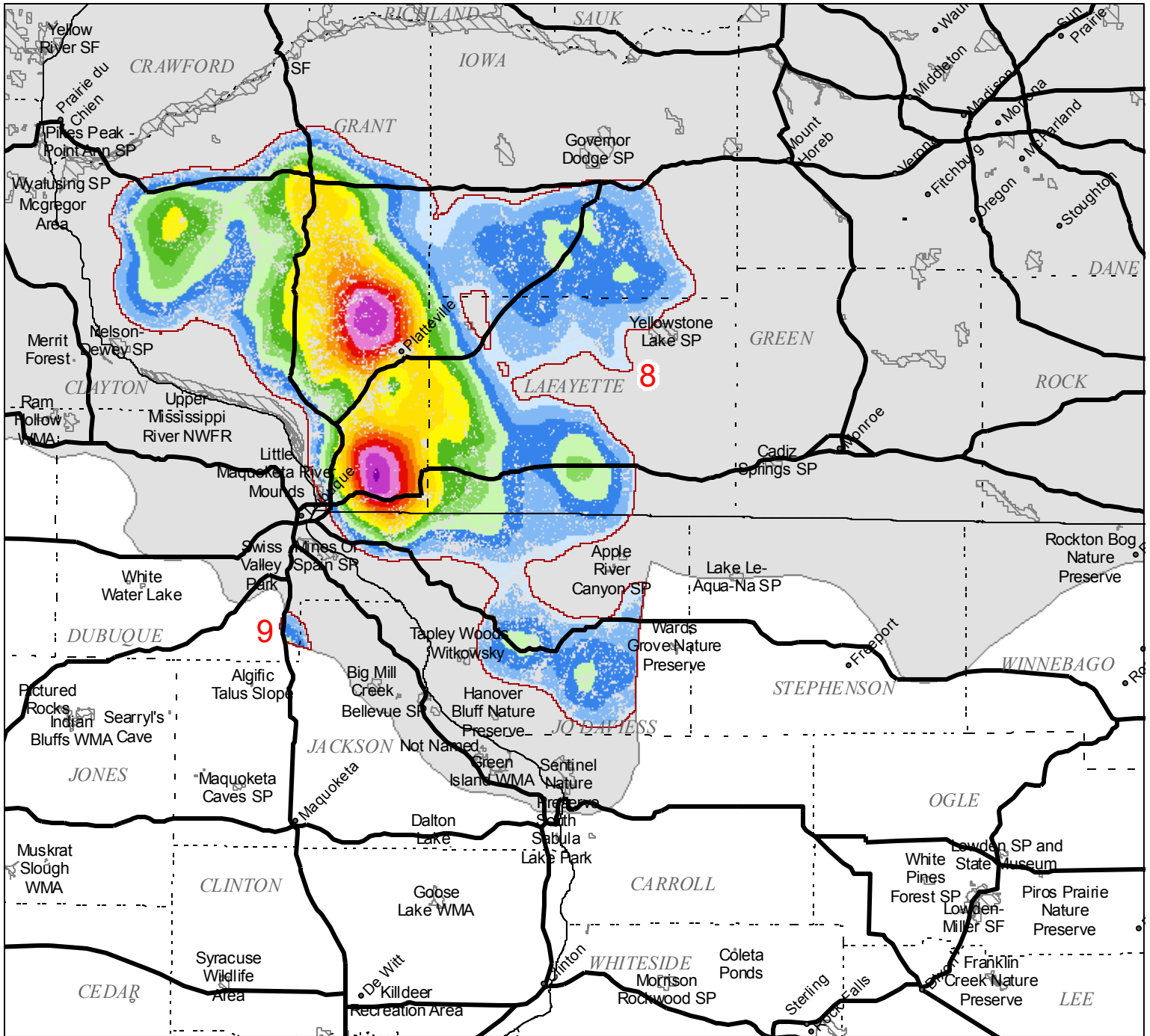
1:747,276





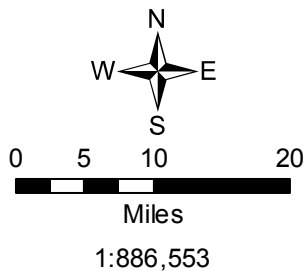
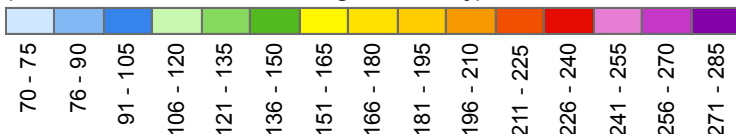
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlayed with State Lands

## Hotspots 8 and 9

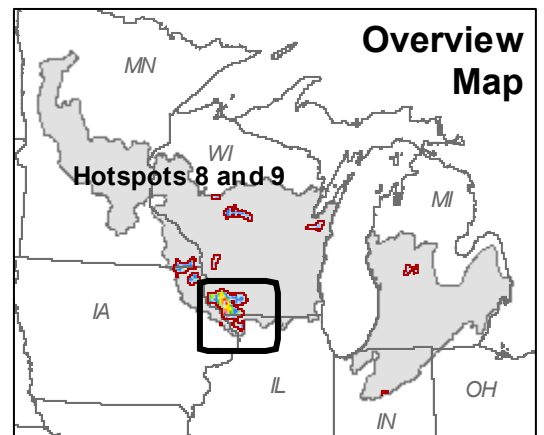


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▨ State Lands (Protected Areas Database IV)
- ▨ Bird Conservation Region (BCR) 23 Boundary

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

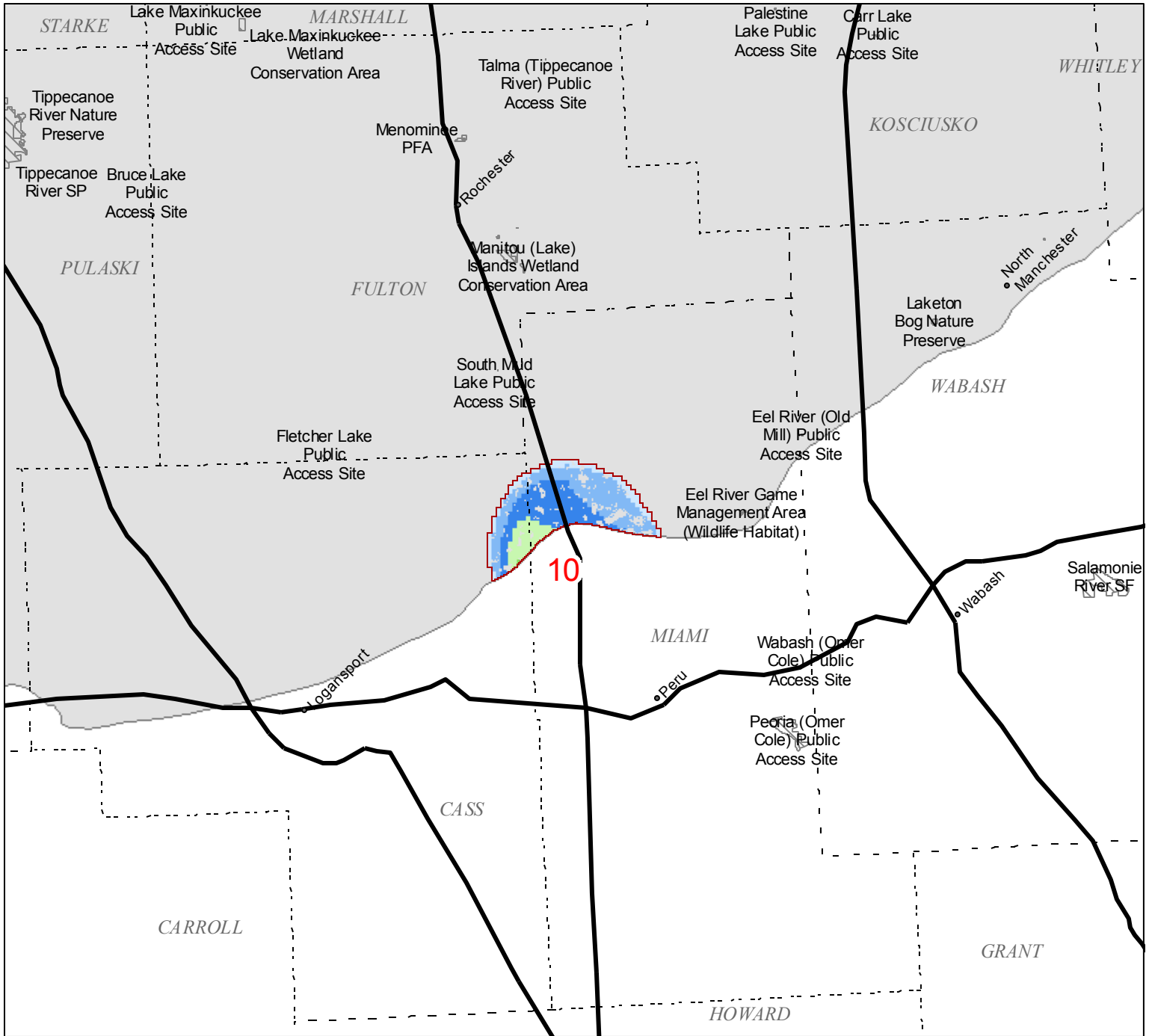


1:886,553



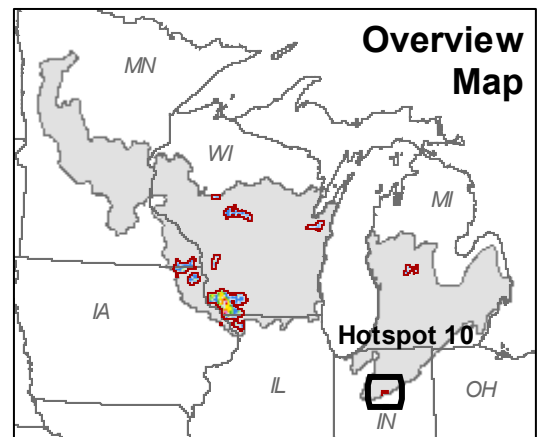
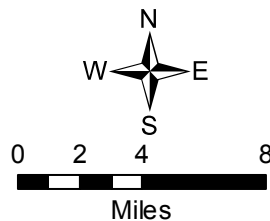
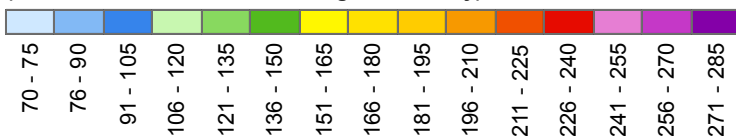
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlayed with State Lands

Hotspot 10



- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▭ State Lands (Protected Areas Database IV)

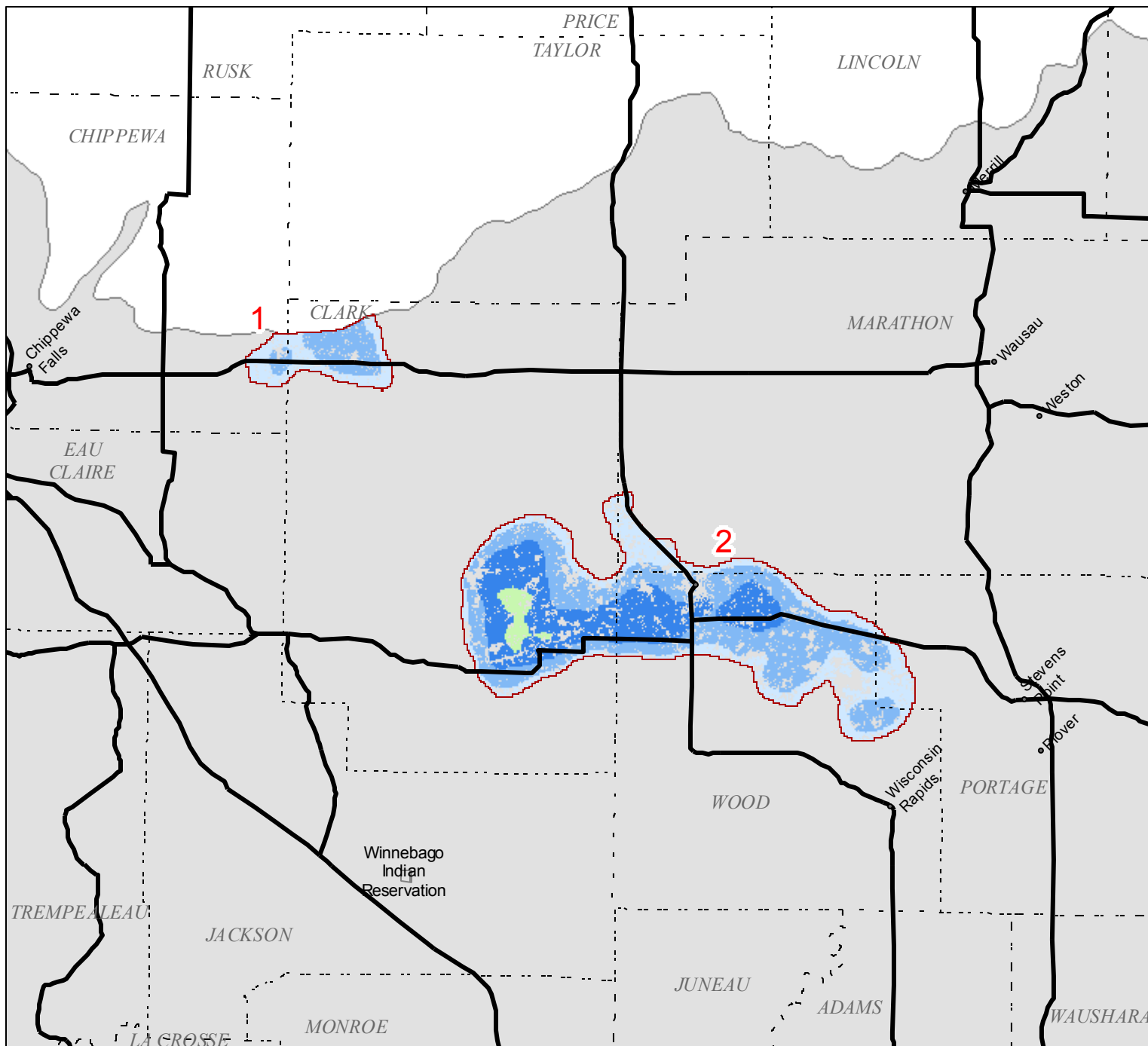
### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)





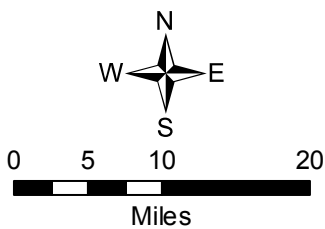
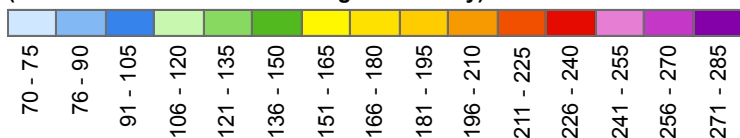
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Tribal Lands

## Hotspots 1 and 2

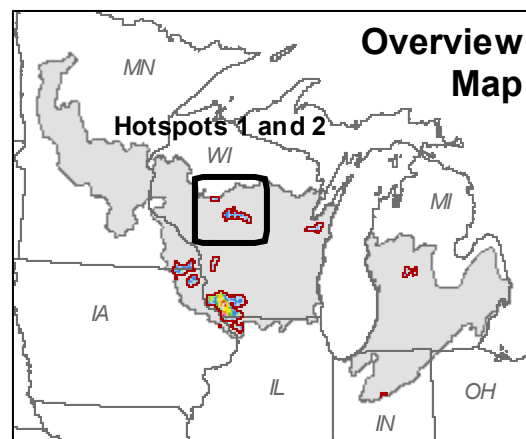


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

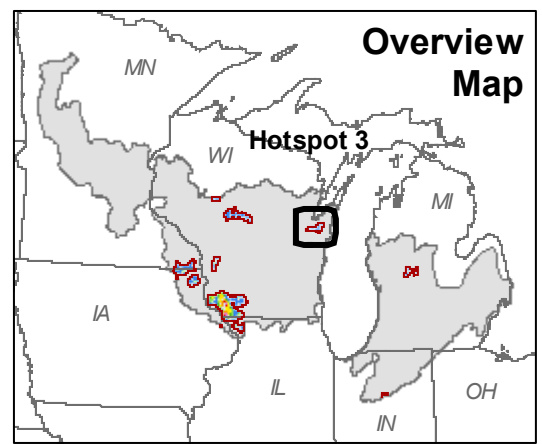
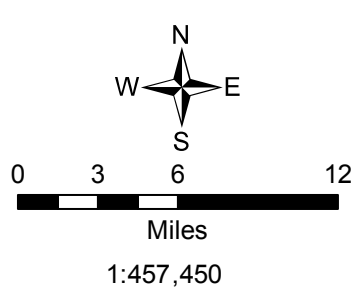
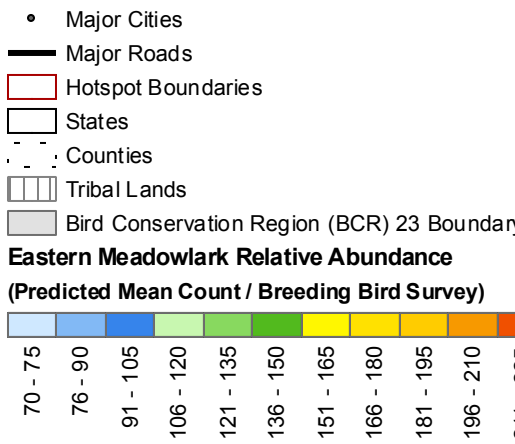
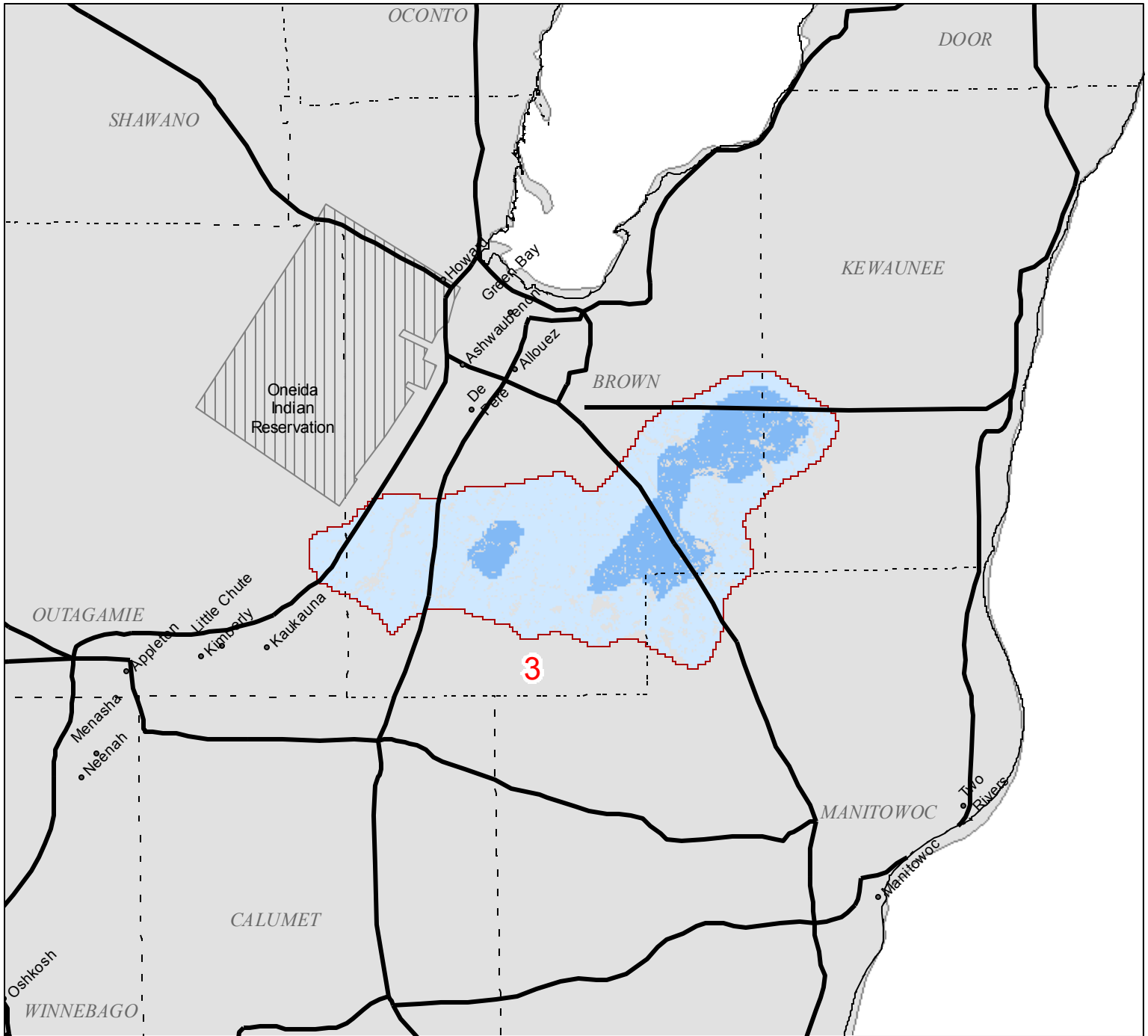


1:821,492



# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspot 3



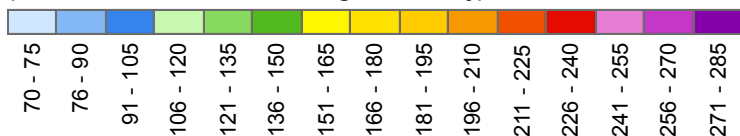
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspot 4

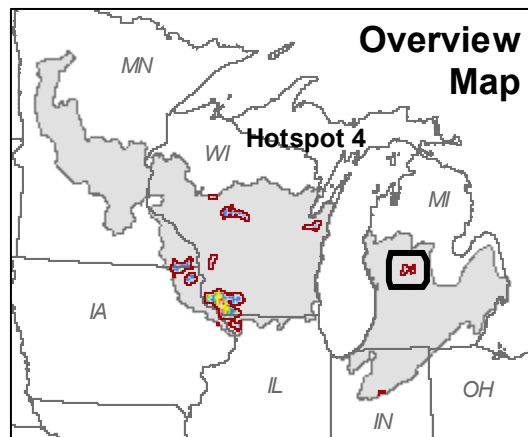


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- - - Counties
- ▨ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

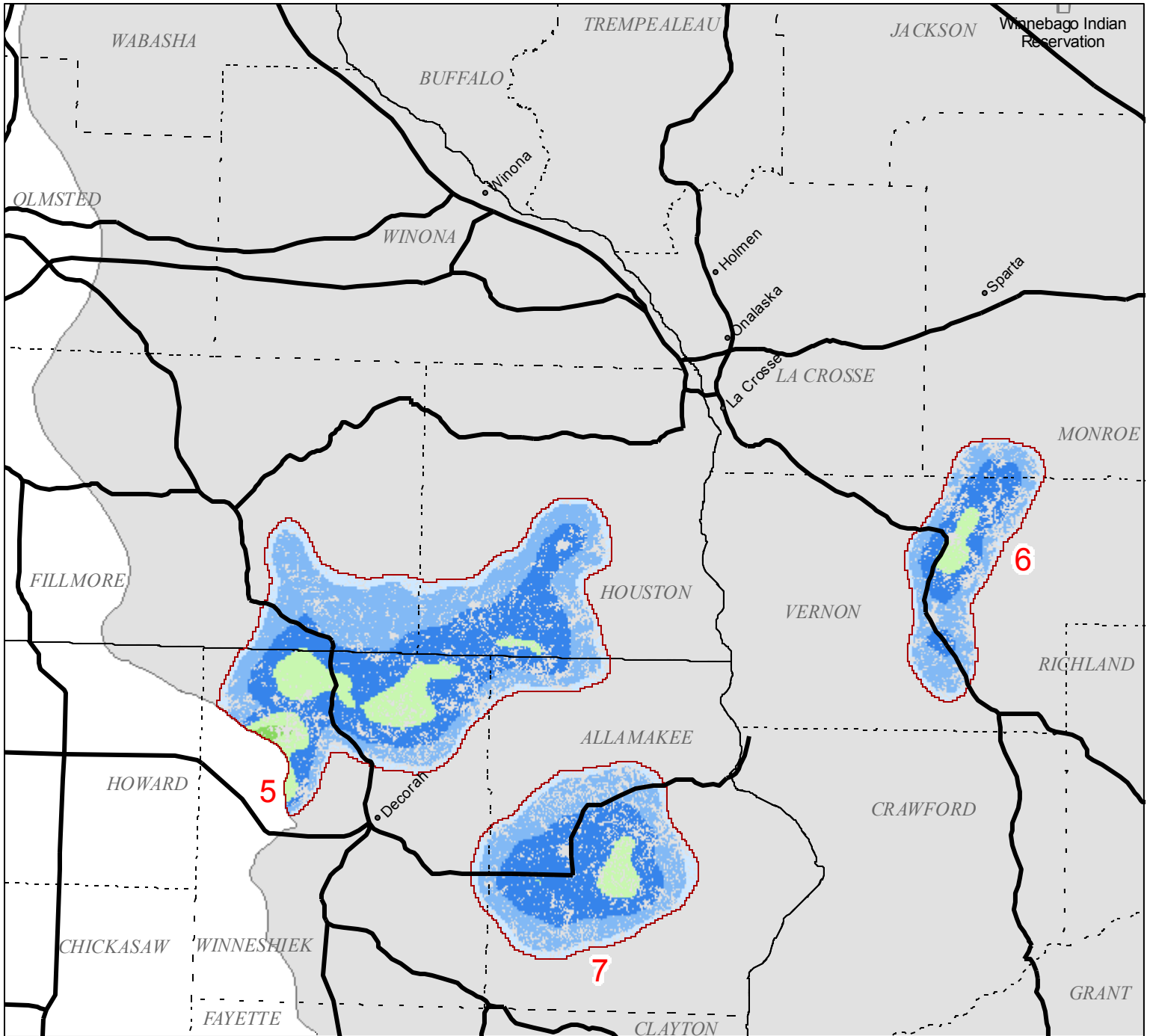


1:423,861



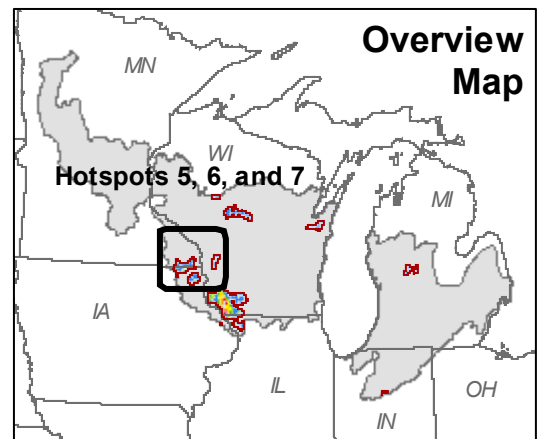
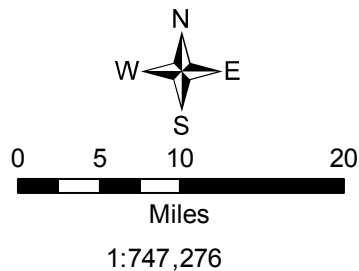
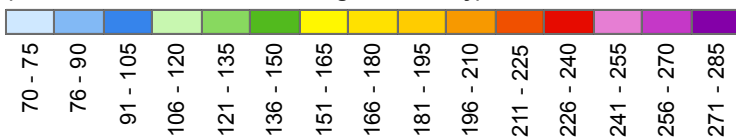
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspots 5, 6, and 7



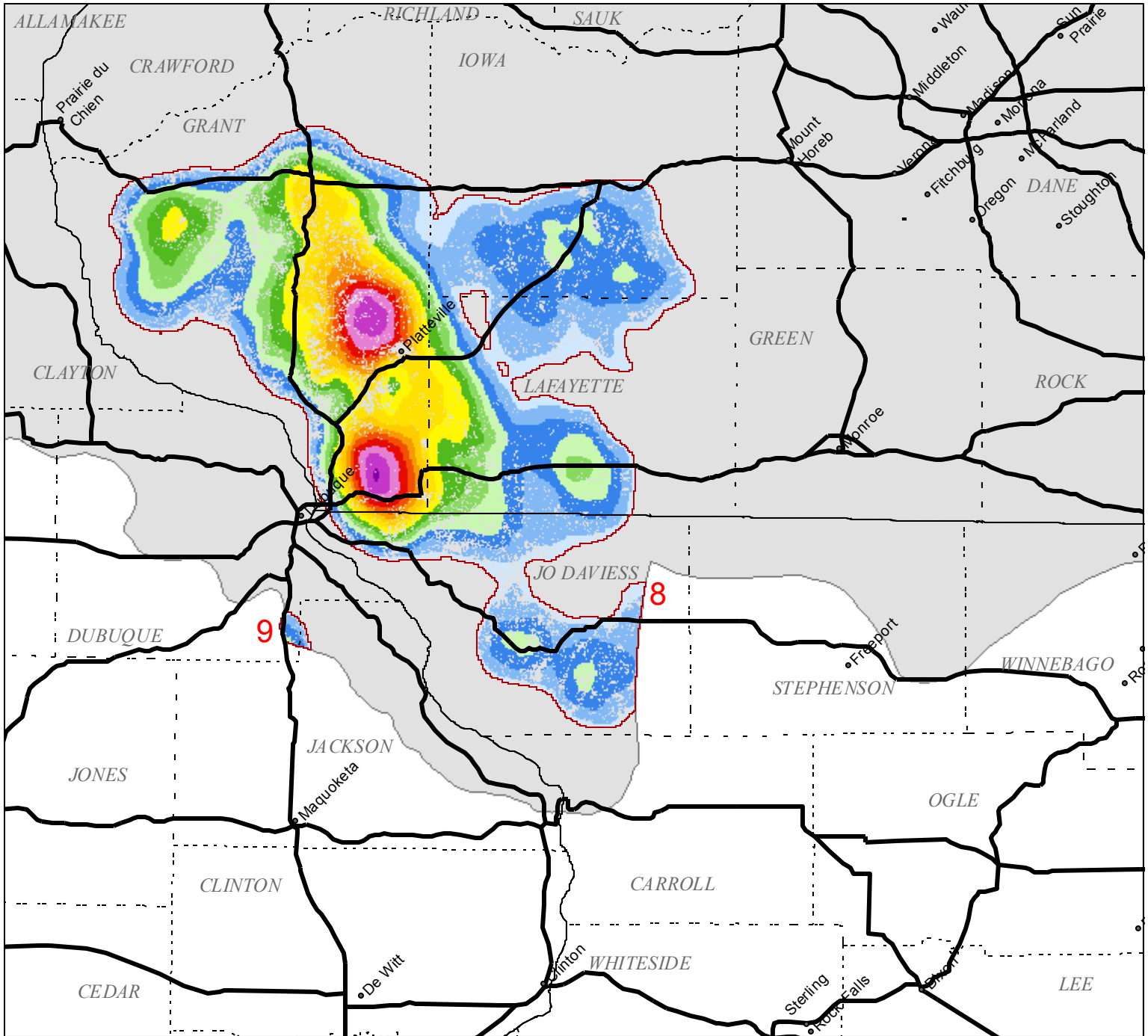
- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▨ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

**Eastern Meadowlark Relative Abundance**  
(Predicted Mean Count / Breeding Bird Survey)



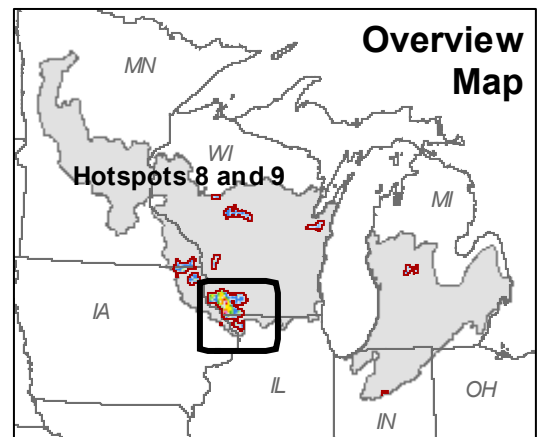
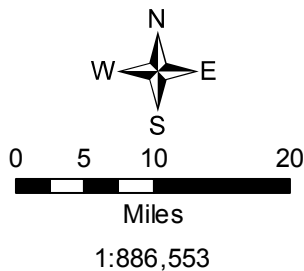
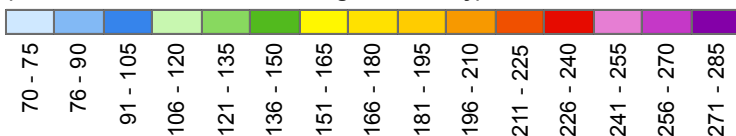
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspots 8 and 9



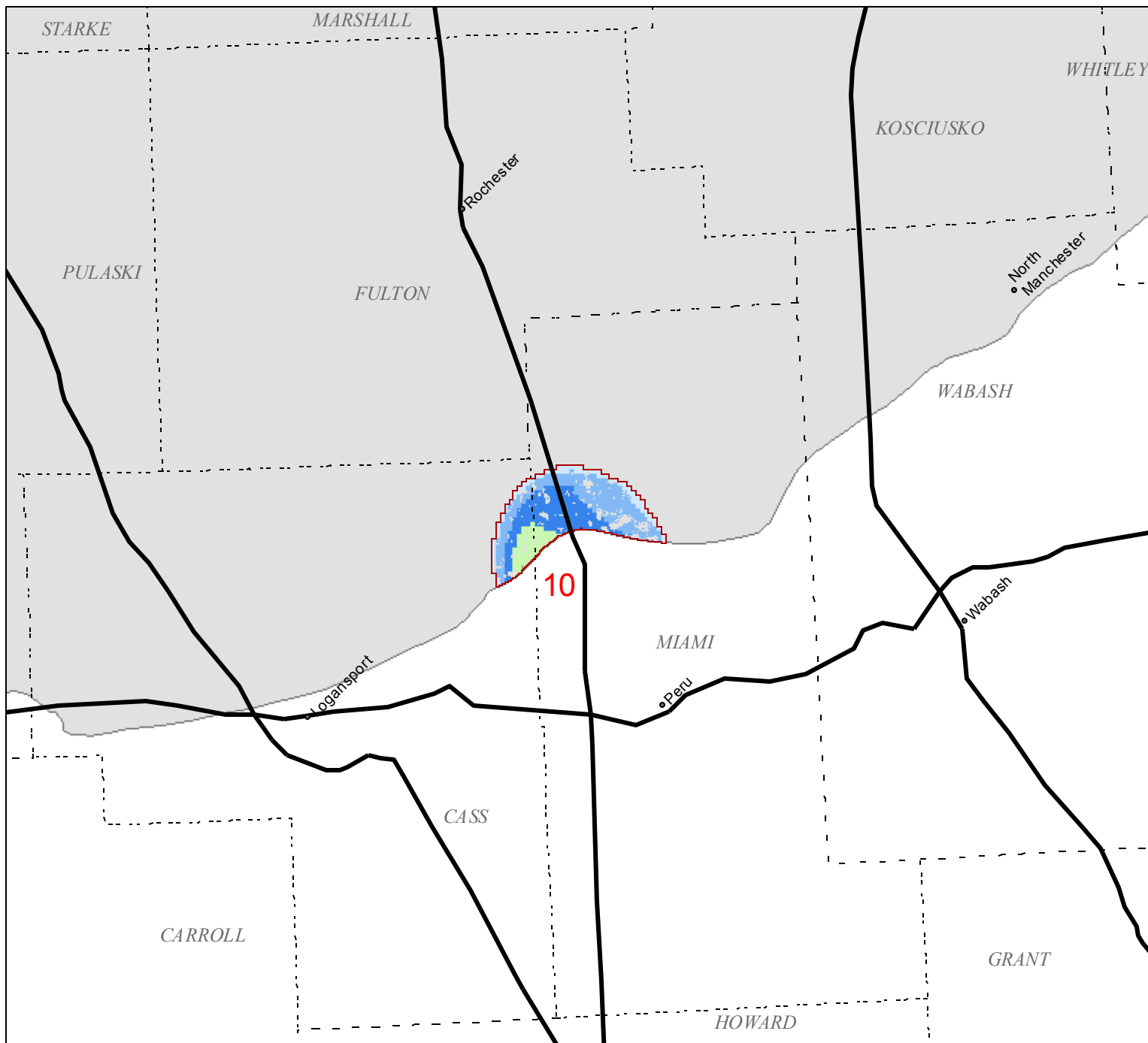
- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▨ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



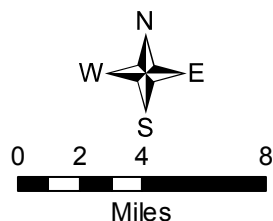
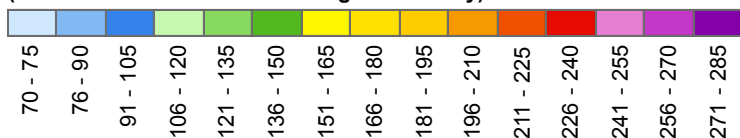
# Eastern Meadowlark (EAME) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspot 10

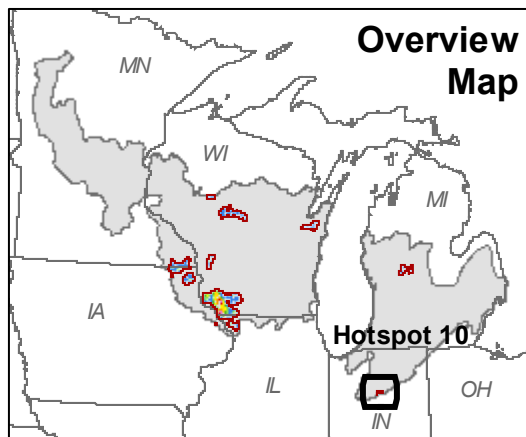


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- - - Counties
- ▨ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

### Eastern Meadowlark Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



1:390,497



**Eastern Meadowlark Predicted Relative Abundance Summary by Hotspot  
Federal Managed Lands Versus Lands Not Under Federal Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
Hotspot 1 - Unmanaged by Federal	143.40	0.00	66.02	88.00	88.00	26.84	10,519,400	100.00	100.00
Hotspot 1 - Managed by Federal	0.00								
Hotspot 2 - Unmanaged by Federal	1,100.34	0.00	68.06	111.00	111.00	35.16	83,214,300	100.00	100.00
Hotspot 2 - Managed by Federal	0.00								
Hotspot 3 - Unmanaged by Federal	506.43	0.00	65.74	83.00	83.00	23.22	36,992,700	100.00	100.00
Hotspot 3 - Managed by Federal	0.00								
Hotspot 4 - Unmanaged by Federal	380.43	0.00	53.33	92.00	92.00	34.89	22,540,500	100.00	100.00
Hotspot 4 - Managed by Federal	0.00								
Hotspot 5 - Unmanaged by Federal	1,176.78	0.00	75.15	126.00	126.00	36.26	98,267,100	100.00	100.00
Hotspot 5 - Managed by Federal	0.00								
Hotspot 6 - Unmanaged by Federal	347.94	0.00	65.21	112.00	112.00	40.20	25,209,400	100.00	100.00
Hotspot 6 - Managed by Federal	0.00								
Hotspot 7 - Unmanaged by Federal	558.00	0.00	69.57	115.00	115.00	38.43	43,136,000	100.00	100.00
Hotspot 7 - Managed by Federal	0.00								
Hotspot 8 - Unmanaged by Federal	4,226.44	0.00	101.67	272.00	272.00	60.14	477,462,000	100.00	100.00
Hotspot 8 - Managed by Federal	0.00								
Hotspot 9 - Unmanaged by Federal	18.21	0.00	75.93	116.00	116.00	34.33	1,536,280	100.00	100.00
Hotspot 9 - Managed by Federal	0.00								
Hotspot 10 - Unmanaged by Federal	49.73	0.00	78.59	122.00	122.00	31.70	4,342,160	100.00	100.00
Hotspot 10 - Managed by Federal	0.00								

**SUMMARY**

Total Area Unmanaged (sq km)	8,507.69	Sum* Total Unmanaged	803,219,840
Total Area Managed (sq km)	0.00	Sum* Total Managed	0
Total Area (sq km)	8,507.69	Total Sum*	803,219,840

Total Area Unmanaged %	100.00	Sum* Total Unmanaged %	100.00
Total Area Managed %	0.00	Sum* Total Managed %	0.00

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

**Eastern Meadowlark Predicted Relative Abundance Summary by Hotspot  
State Managed Lands Versus Lands Not Under State Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
Hotspot 1 - Unmanaged by State	143.40	0.00	66.02	88.00	88.00	26.84	10,519,400	100.00	100.00
Hotspot 1 - Managed by State	0.00								
Hotspot 2 - Unmanaged by State	1,098.62	0.00	68.13	111.00	111.00	35.12	83,171,400	99.84	99.95
Hotspot 2 - Managed by State	1.72	0.00	22.47	72.00	72.00	32.81	42,991	0.16	0.05
Hotspot 3 - Unmanaged by State	506.07	0.00	65.75	83.00	83.00	23.22	36,969,600	99.93	99.94
Hotspot 3 - Managed by State	0.36	0.00	57.58	70.00	70.00	26.75	23,030	0.07	0.06
Hotspot 4 - Unmanaged by State	374.13	0.00	53.96	92.00	92.00	34.62	22,430,200	98.34	99.51
Hotspot 4 - Managed by State	6.30	0.00	15.75	87.00	87.00	30.21	110,295	1.66	0.49
Hotspot 5 - Unmanaged by State	1,163.21	0.00	75.66	126.00	126.00	35.85	97,781,400	98.85	99.51
Hotspot 5 - Managed by State	13.57	0.00	32.20	122.00	122.00	44.19	485,684	1.15	0.49
Hotspot 6 - Unmanaged by State	347.94	0.00	65.21	112.00	112.00	40.20	25,209,400	100.00	100.00
Hotspot 6 - Managed by State	0.00								
Hotspot 7 - Unmanaged by State	555.75	0.00	69.78	115.00	115.00	38.31	43,091,500	99.60	99.90
Hotspot 7 - Managed by State	2.26	0.00	17.74	83.00	83.00	32.76	44,457	0.40	0.10
Hotspot 8 - Unmanaged by State	4,221.33	0.00	101.78	272.00	272.00	60.09	477,403,000	99.88	99.99
Hotspot 8 - Managed by State	5.11	0.00	10.41	95.00	95.00	26.37	59,132	0.12	0.01
Hotspot 9 - Unmanaged by State	18.21	0.00	75.93	116.00	116.00	34.33	1,536,280	100.00	100.00
Hotspot 9 - Managed by State	0.00								
Hotspot 10 - Unmanaged by State	49.73	0.00	78.59	122.00	122.00	31.70	4,342,160	100.00	100.00
Hotspot 10 - Managed by State	0.00								

**SUMMARY**

Total Area Unmanaged (sq km)	8,478.38	Sum* Total Unmanaged	802,454,340
Total Area Managed (sq km)	29.32	Sum* Total Managed	765,589
Total Area (sq km)	8,507.70	Total Sum*	803,219,929

Total Area Unmanaged %	99.66	Sum* Total Unmanaged %	99.90
Total Area Managed %	0.34	Sum* Total Managed %	0.10

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.



**Eastern Meadowlark Predicted Relative Abundance Summary by Hotspot  
Tribal Lands Versus Lands Not Under Tribal Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
Hotspot 1 - Unmanaged by Tribal	143.40	0.00	66.02	88.00	88.00	26.84	10,519,400	100.00	100.00
Hotspot 1 - Managed by Tribal	0.00								
Hotspot 2 - Unmanaged by Tribal	1,100.34	0.00	68.06	111.00	111.00	35.16	83,214,300	100.00	100.00
Hotspot 2 - Managed by Tribal	0.00								
Hotspot 3 - Unmanaged by Tribal	506.43	0.00	65.74	83.00	83.00	23.22	36,992,700	100.00	100.00
Hotspot 3 - Managed by Tribal	0.00								
Hotspot 4 - Unmanaged by Tribal	380.43	0.00	53.33	92.00	92.00	34.89	22,540,500	100.00	100.00
Hotspot 4 - Managed by Tribal	0.00								
Hotspot 5 - Unmanaged by Tribal	1,176.78	0.00	75.15	126.00	126.00	36.26	98,267,100	100.00	100.00
Hotspot 5 - Managed by Tribal	0.00								
Hotspot 6 - Unmanaged by Tribal	347.94	0.00	65.21	112.00	112.00	40.20	25,209,400	100.00	100.00
Hotspot 6 - Managed by Tribal	0.00								
Hotspot 7 - Unmanaged by Tribal	558.00	0.00	69.57	115.00	115.00	38.43	43,136,000	100.00	100.00
Hotspot 7 - Managed by Tribal	0.00								
Hotspot 8 - Unmanaged by Tribal	4,226.44	0.00	101.67	272.00	272.00	60.14	477,462,000	100.00	100.00
Hotspot 8 - Managed by Tribal	0.00								
Hotspot 9 - Unmanaged by Tribal	18.21	0.00	75.93	116.00	116.00	34.33	1,536,280	100.00	100.00
Hotspot 9 - Managed by Tribal	0.00								
Hotspot 10 - Unmanaged by Tribal	49.73	0.00	78.59	122.00	122.00	31.70	4,342,160	100.00	100.00
Hotspot 10 - Managed by Tribal	0.00								

**SUMMARY**

Total Area Unmanaged (sq km)	8,507.69	Sum* Total Unmanaged	803,219,840
Total Area Managed (sq km)	0.00	Sum* Total Managed	0
Total Area (sq km)	8,507.69	Total Sum*	803,219,840

Total Area Unmanaged %	100.00	Sum* Total Unmanaged %	100.00
Total Area Managed %	0.00	Sum* Total Managed %	0.00

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

**Eastern Meadowlark Predicted Relative Abundance Summary by State  
Federal Managed Lands Versus Lands Not Under Federal Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
IA - Unmanaged by Federal	6,982.18	0.00	32.90	126.00	126.00	30.64	255,258,000	96.80	99.66
IA - Managed by Federal	230.67	0.00	3.35	54.00	54.00	8.42	858,580	3.20	0.34
IL - Unmanaged by Federal	3,208.05	0.00	36.02	216.00	216.00	34.38	128,398,000	96.68	99.57
IL - Managed by Federal	110.30	0.00	4.53	59.00	59.00	8.83	555,360	3.32	0.43
IN - Unmanaged by Federal	13,070.80	0.00	14.87	122.00	122.00	14.33	215,904,000	99.68	99.99
IN - Managed by Federal	41.35	0.00	0.68	9.00	9.00	1.51	31,286	0.32	0.01
MI - Unmanaged by Federal	57,537.80	0.00	9.76	92.00	92.00	13.83	623,699,968	98.06	99.92
MI - Managed by Federal	1,139.19	0.00	0.41	42.00	42.00	2.12	522,845	1.94	0.08
MN - Unmanaged by Federal	49,220.50	0.00	5.11	107.00	107.00	11.83	279,728,000	98.73	99.68
MN - Managed by Federal	635.37	0.00	1.28	27.00	27.00	2.96	901,815	1.27	0.32
OH - Unmanaged by Federal	110.41	0.00	22.29	38.00	38.00	14.25	2,734,720	100.00	100.00
OH - Managed by Federal	0.00								
WI - Unmanaged by Federal	96,519.50	0.00	20.59	272.00	272.00	28.48	2,208,250,112	99.00	99.86
WI - Managed by Federal	976.24	0.00	2.88	41.00	41.00	6.45	3,123,510	1.00	0.14

**SUMMARY**

Total Area Unmanaged (sq km)	226,649.24	Sum* Total Unmanaged	3,713,972,800
Total Area Managed (sq km)	3,133.12	Sum* Total Managed	5,993,396
Total Area (sq km)	229,782.36	Total Sum*	3,719,966,196

Total Area Unmanaged %	98.64	Sum* Total Unmanaged %	99.84
Total Area Managed %	1.36	Sum* Total Managed %	0.16

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

**Eastern Meadowlark Predicted Relative Abundance Summary by State  
State Managed Lands Versus Lands Not Under State Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
IA - Unmanaged by State	7,046.34	0.00	32.49	126.00	126.00	30.63	254,367,008	97.69	99.32
IA - Managed by State	166.51	0.00	9.46	122.00	122.00	20.55	1,749,420	2.31	0.68
IL - Unmanaged by State	3,278.40	0.00	35.34	216.00	216.00	34.33	128,732,000	98.80	99.83
IL - Managed by State	39.95	0.00	4.99	90.00	90.00	11.81	221,636	1.20	0.17
IN - Unmanaged by State	12,948.40	0.00	14.94	122.00	122.00	14.35	214,936,992	98.75	99.54
IN - Managed by State	163.72	0.00	5.49	50.00	50.00	8.15	998,021	1.25	0.46
MI - Unmanaged by State	56,466.40	0.00	9.81	92.00	92.00	13.85	615,481,984	96.23	98.60
MI - Managed by State	2,210.56	0.00	3.56	87.00	87.00	9.07	8,741,430	3.77	1.40
MN - Unmanaged by State	48,427.60	0.00	5.15	107.00	107.00	11.89	277,329,984	97.14	98.82
MN - Managed by State	1,428.22	0.00	2.08	98.00	98.00	5.68	3,300,040	2.86	1.18
OH - Unmanaged by State	101.07	0.00	23.57	38.00	38.00	13.87	2,647,150	91.54	96.80
OH - Managed by State	9.34	0.00	8.44	33.00	33.00	10.46	87,572	8.46	3.20
WI - Unmanaged by State	94,536.00	0.00	20.85	272.00	272.00	28.64	2,189,839,872	96.96	99.03
WI - Managed by State	2,959.68	0.00	6.55	95.00	95.00	12.68	21,530,900	3.04	0.97

**SUMMARY**

Total Area Unmanaged (sq km)	222,804.21	Sum* Total Unmanaged	3,683,334,990
Total Area Managed (sq km)	6,977.98	Sum* Total Managed	36,629,019
Total Area (sq km)	229,782.19	Total Sum*	3,719,964,009

Total Area Unmanaged %	96.96	Sum* Total Unmanaged %	99.02
Total Area Managed %	3.04	Sum* Total Managed %	0.98

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.

**Eastern Meadowlark Predicted Relative Abundance Summary by State  
Tribal Lands Versus Lands Not Under Tribal Management**

Description	Area (sq km)	Mean Predicted Count / Breeding Bird Survey				SD	Sum*	Percent Area Managed/ Unmanaged	Percent Sum* Managed/ Unmanaged
		Min	Mean	Max	Range				
IA - Unmanaged by Tribal	7,212.85	0.00	31.96	126.00	126.00	30.63	256,116,992	100.00	100.00
IA - Managed by Tribal	0.00								
IL - Unmanaged by Tribal	3,318.35	0.00	34.97	216.00	216.00	34.31	128,954,000	100.00	100.00
IL - Managed by Tribal	0.00								
IN - Unmanaged by Tribal	13,112.10	0.00	14.82	122.00	122.00	14.33	215,935,008	100.00	100.00
IN - Managed by Tribal	0.00								
MI - Unmanaged by Tribal	58,154.70	0.00	9.42	92.00	92.00	13.56	608,945,984	99.11	97.55
MI - Managed by Tribal	522.27	0.00	26.33	77.00	77.00	22.17	15,276,800	0.89	2.45
MN - Unmanaged by Tribal	47,959.20	0.00	5.24	107.00	107.00	11.97	279,289,984	96.20	99.52
MN - Managed by Tribal	1,896.59	0.00	0.64	9.00	9.00	0.52	1,340,000	3.80	0.48
OH - Unmanaged by Tribal	110.41	0.00	22.29	38.00	38.00	14.25	2,734,720	100.00	100.00
OH - Managed by Tribal	0.00								
WI - Unmanaged by Tribal	96,268.00	0.00	20.57	272.00	272.00	28.48	2,200,640,000	98.74	99.51
WI - Managed by Tribal	1,227.65	0.00	7.87	67.00	67.00	17.01	10,728,500	1.26	0.49

**SUMMARY**

Total Area Unmanaged (sq km)	226,135.61	Sum* Total Unmanaged	3,692,616,688
Total Area Managed (sq km)	3,646.51	Sum* Total Managed	27,345,300
Total Area (sq km)	229,782.12	Total Sum*	3,719,961,988

Total Area Unmanaged %	98.41	Sum* Total Unmanaged %	99.26
Total Area Managed %	1.59	Sum* Total Managed %	0.74

\* Sum refers to the cumulative predicted relative abundance values for each cell (900 sq meters) in each managed category.

A note on interpretation: If the "Total Area Unmanaged" and "Sum\* Total Unmanaged" exceeds that of their respective Managed cells, this indicates a majority of the area and population is outside of direct governmental jurisdiction. If the "Sum\* Total Managed %" is less than the "Total Area Managed %", this indicates that the conservation estate does a poorer job than a random placement of managed lands. Conversely, if the "Sum\* Total Managed %" exceeds that of the "Total Area Managed %", then the conservation estate does a better job than a random placement of the conservation estate.