

Conservation Estate Portfolio for the Cerulean Warbler (*Dendroica cerulea*)

Bird Conservation Region 23 (Prairie Hardwood Transition)



http://www.birds.cornell.edu/AllAboutBirds/BirdGuide/Cerulean_Warbler_dtl.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

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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>).

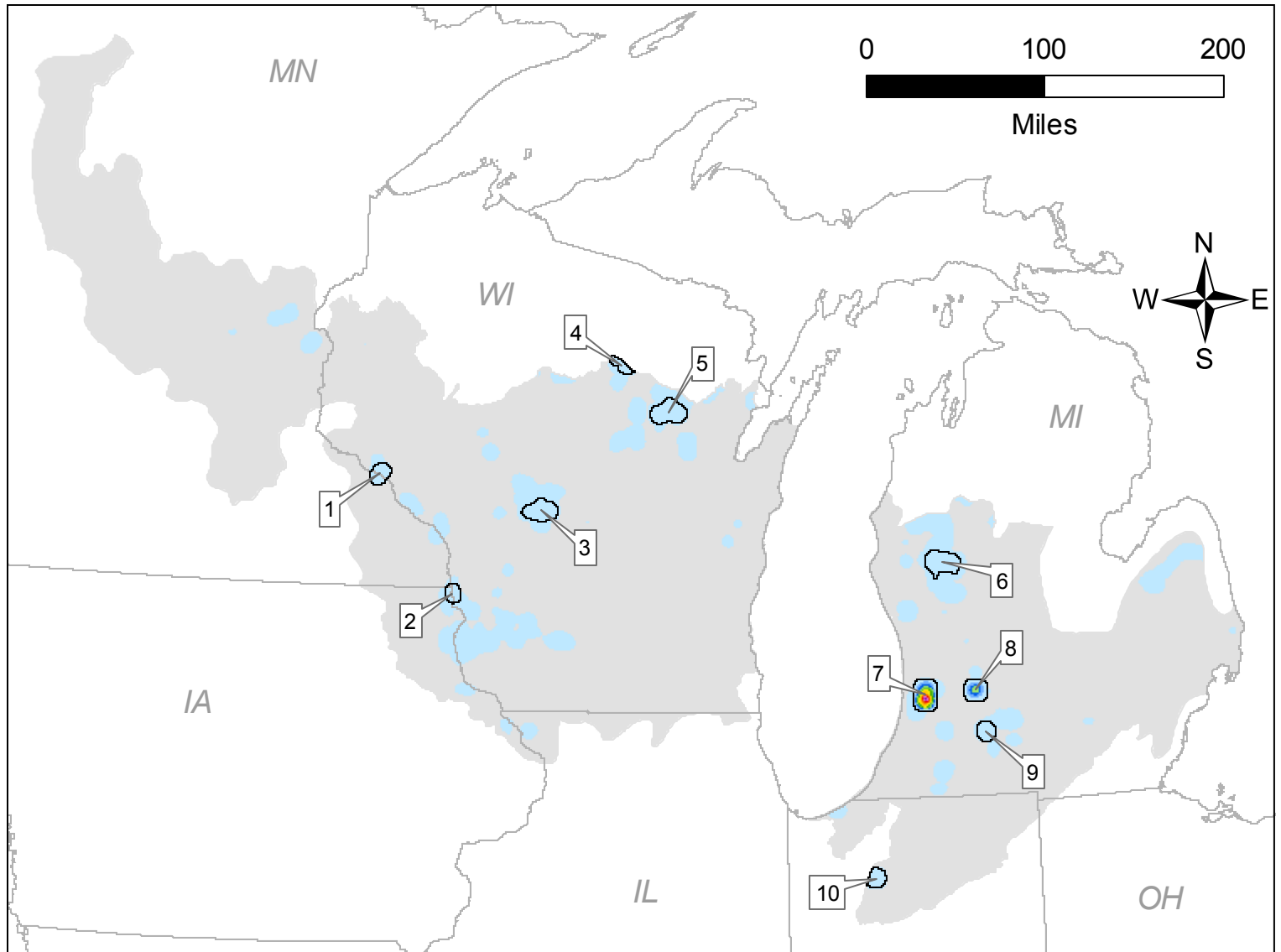
Federal and State lands depicted using Protected Areas Database, version 4: (<http://www.consbio.org/cbi/projects/PAD/index.htm>). Federal and State lands were identified based upon the data field “Owner”.




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

Methodology

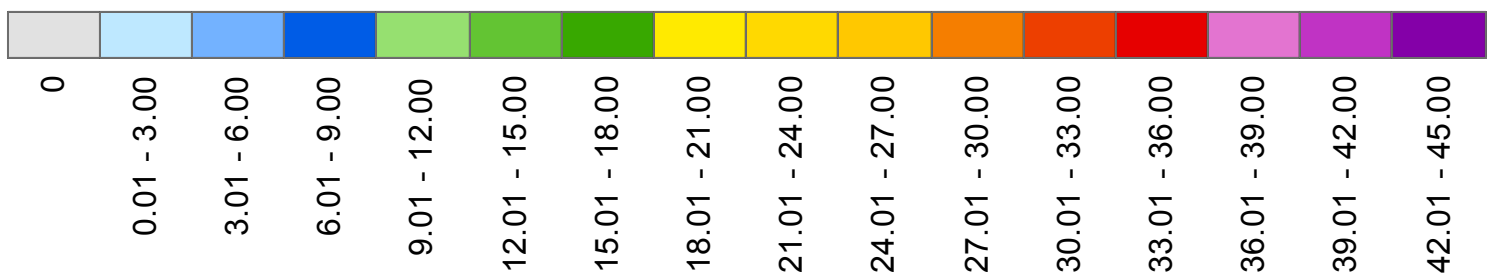
For detailed methodology on avian abundance modeling, see: http://www.umesc.er.usgs.gov/terrestrial/migratory_birds/bird_conservation_methods.html

Predicted Relative Abundance and 10-Highest Peaks of Predicted Relative Abundance for the Cerulean Warbler



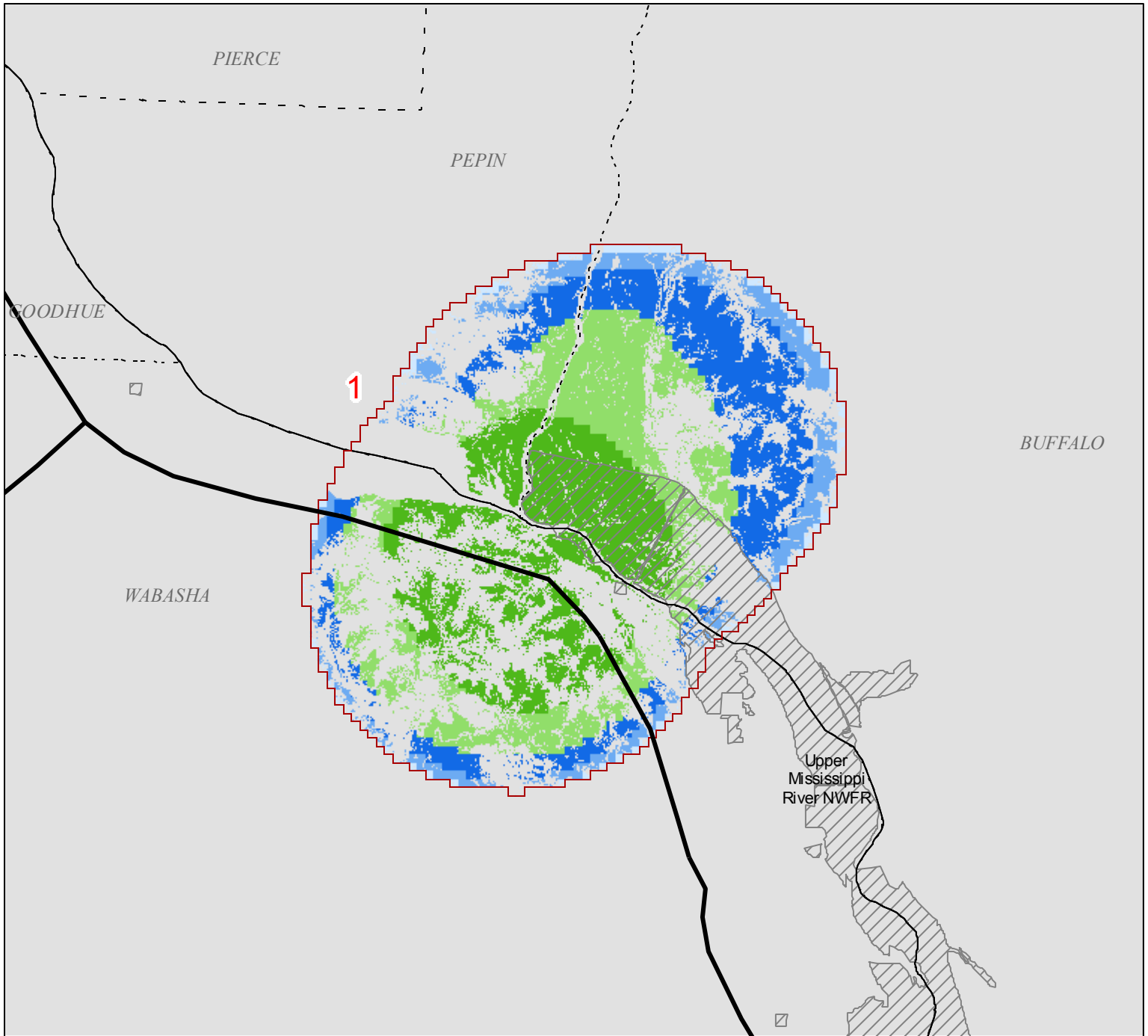
-  Top 10 Hotspots
-  States
-  Bird Conservation Region (BCR) 23 Boundary

Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)



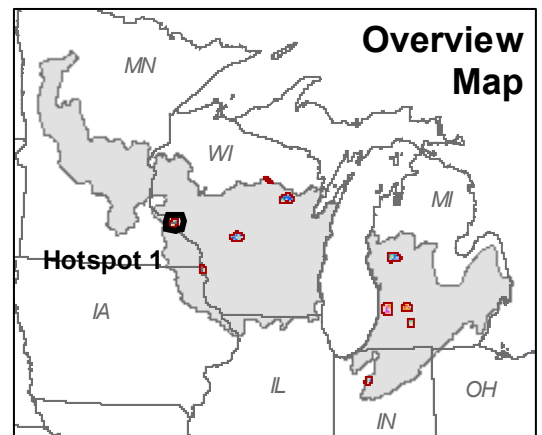
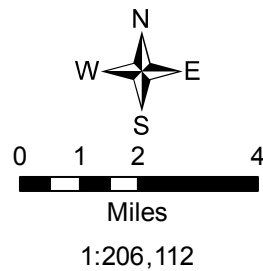
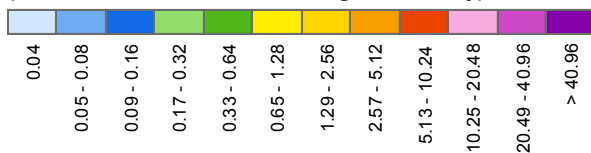
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Federal Lands

Hotspot 1



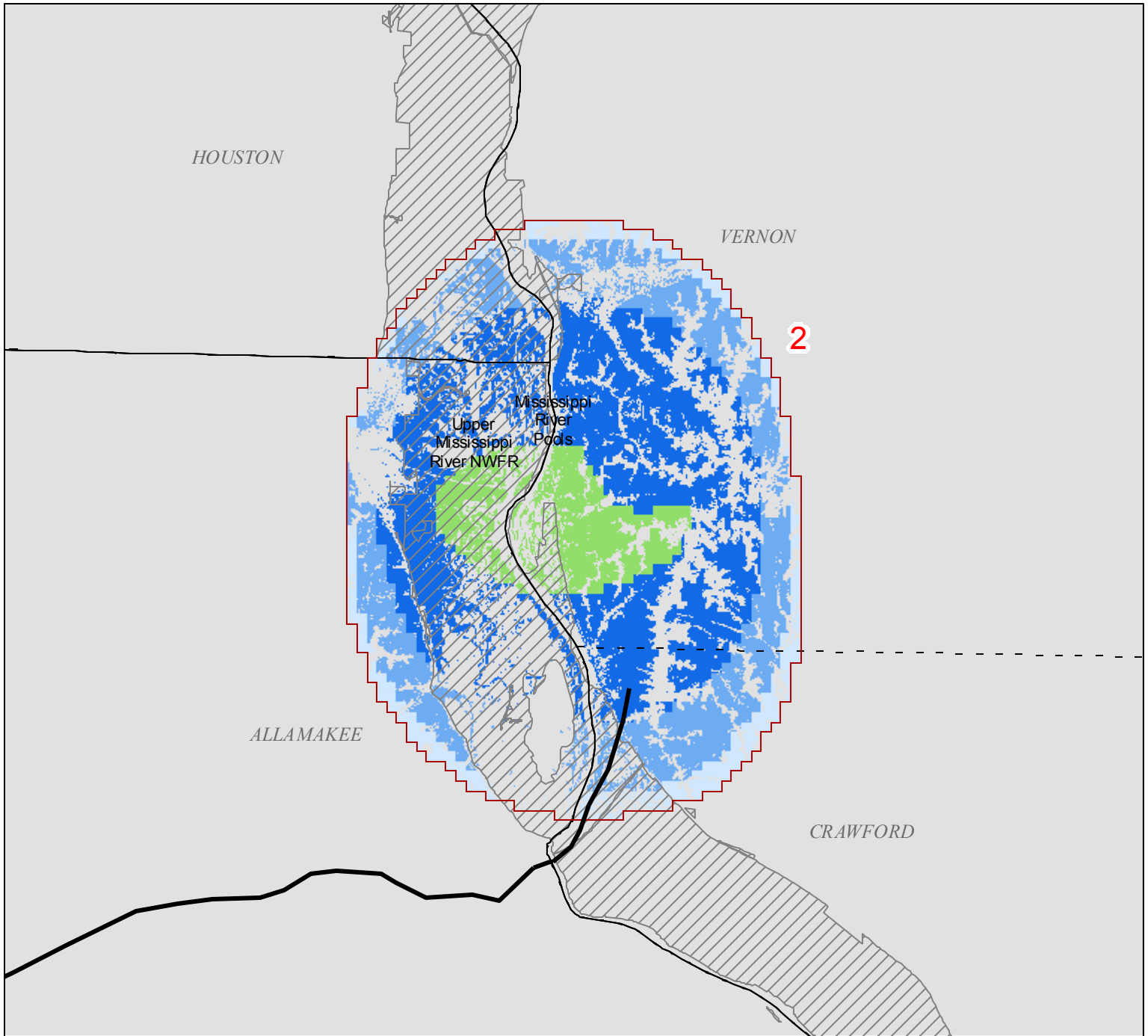
- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Bird Conservation Region (BCR) 23 Boundary
- ▭ Federal Lands (Protected Areas Database IV)

Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)



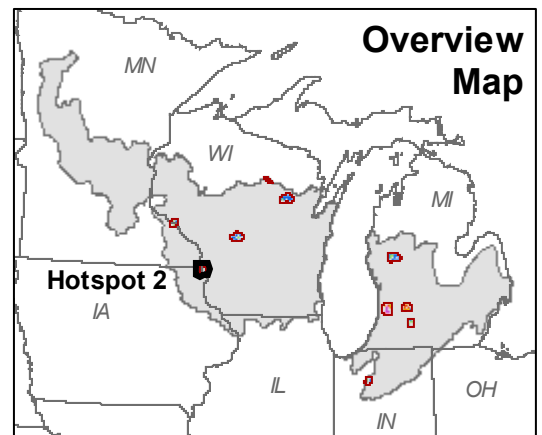
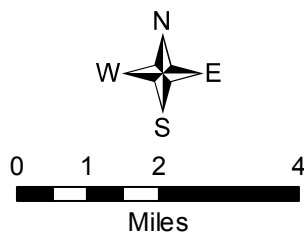
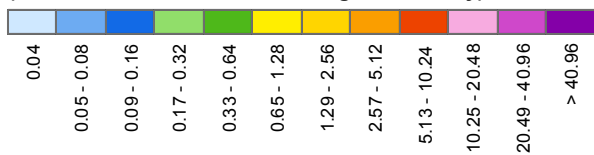
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Federal Lands

Hotspot 2



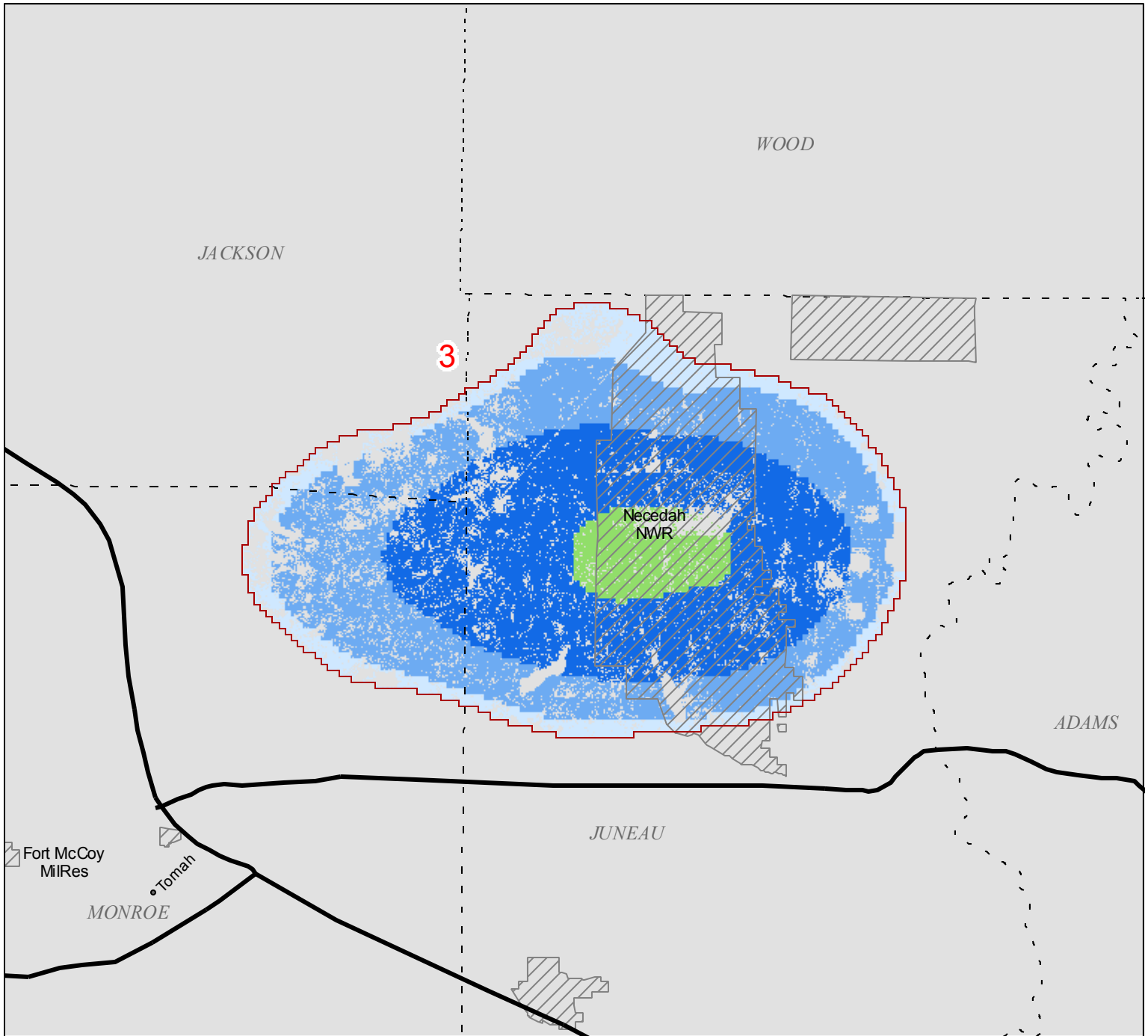
- Major Cities
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Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)



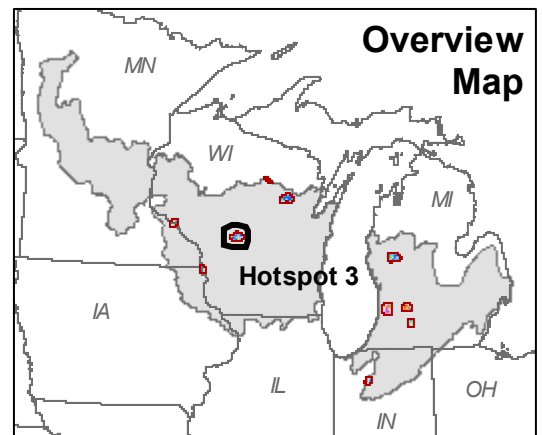
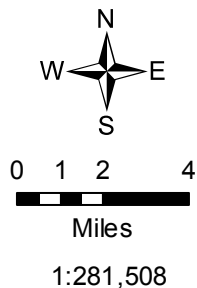
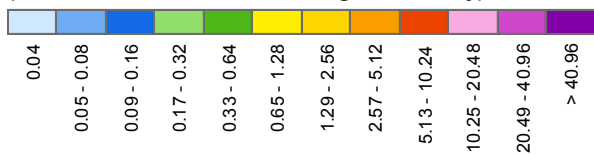
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Federal Lands

Hotspot 3



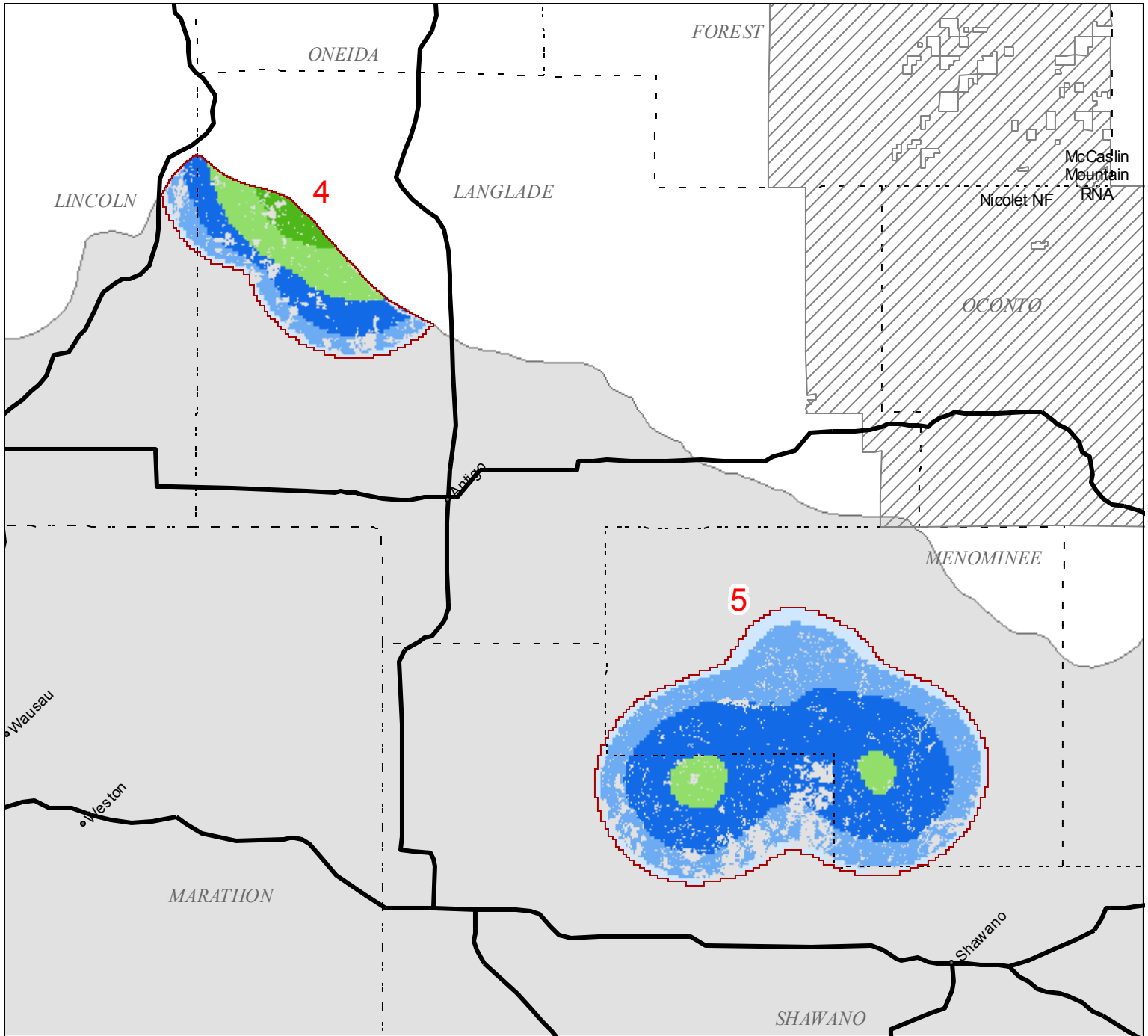
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Cerulean Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



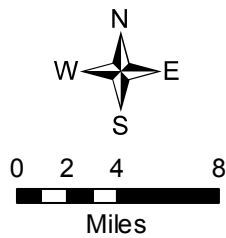
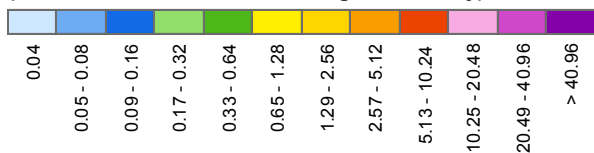
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Federal Lands

Hotspots 4 and 5

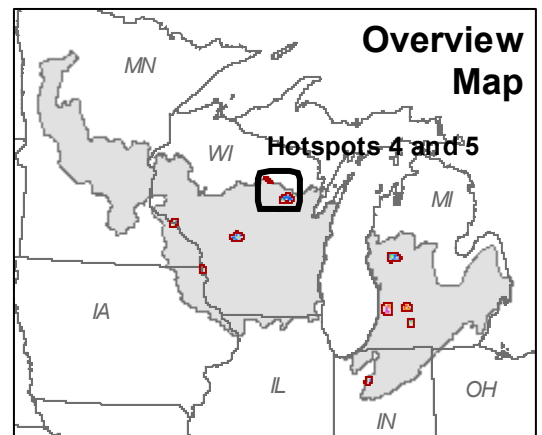


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Cerulean Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

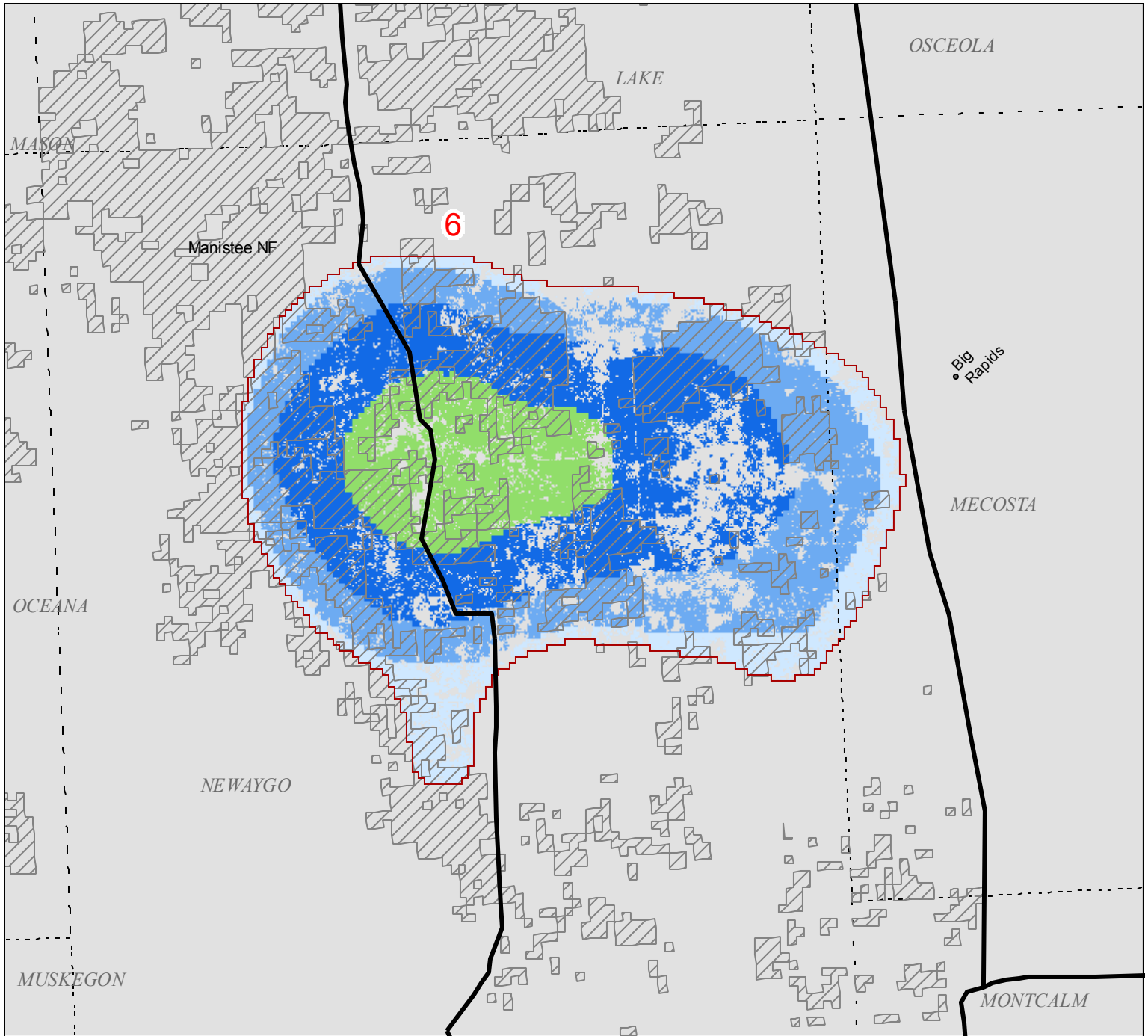


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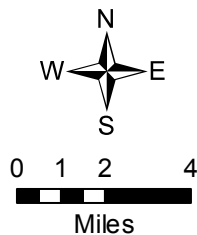
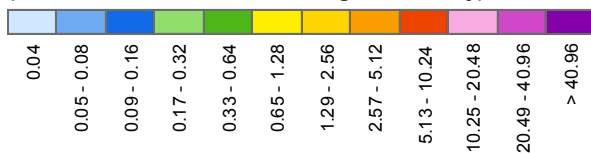
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Federal Lands

Hotspot 6

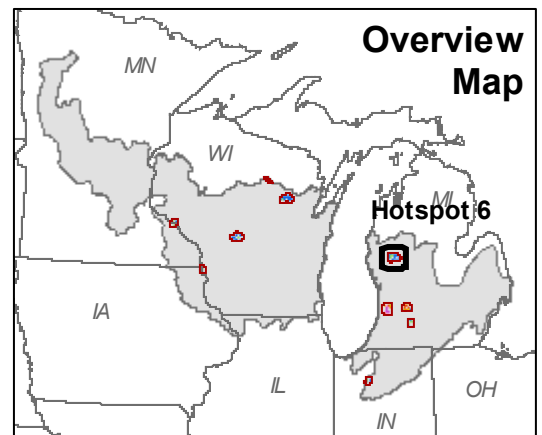


- Major Cities
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Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)

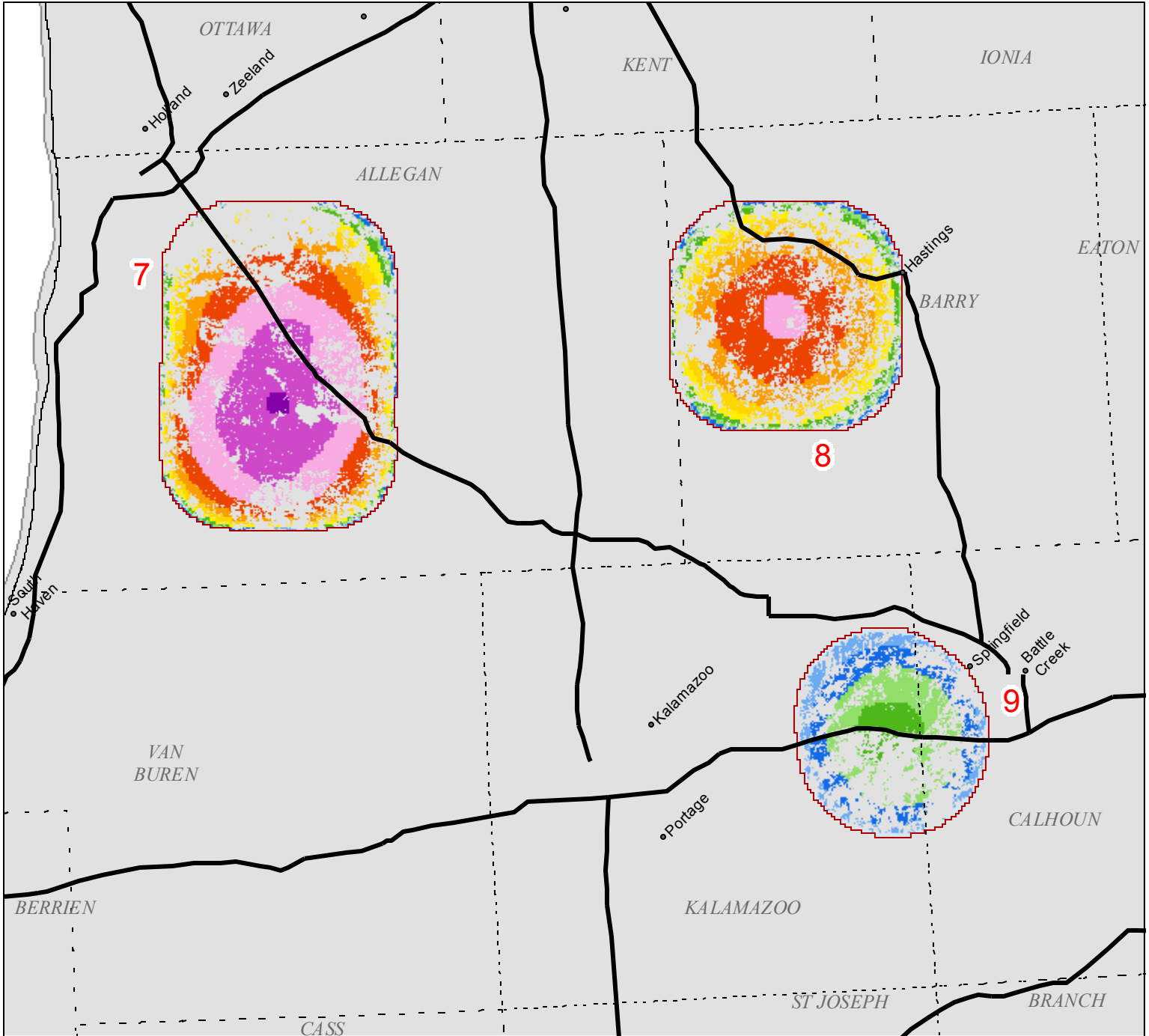


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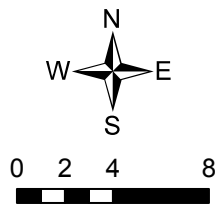
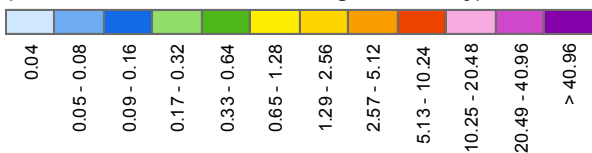
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Federal Lands

Hotspots 7, 8, and 9

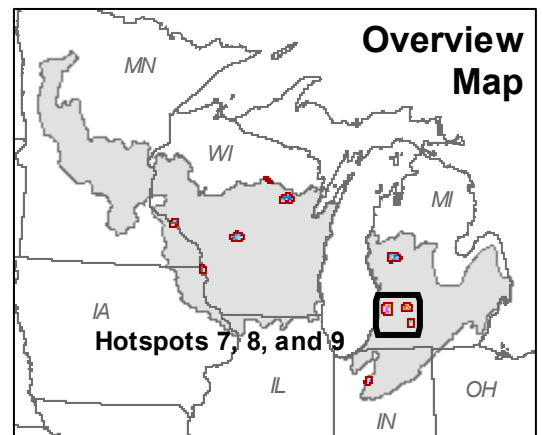


- Major Cities
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- ▭ Counties
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Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)

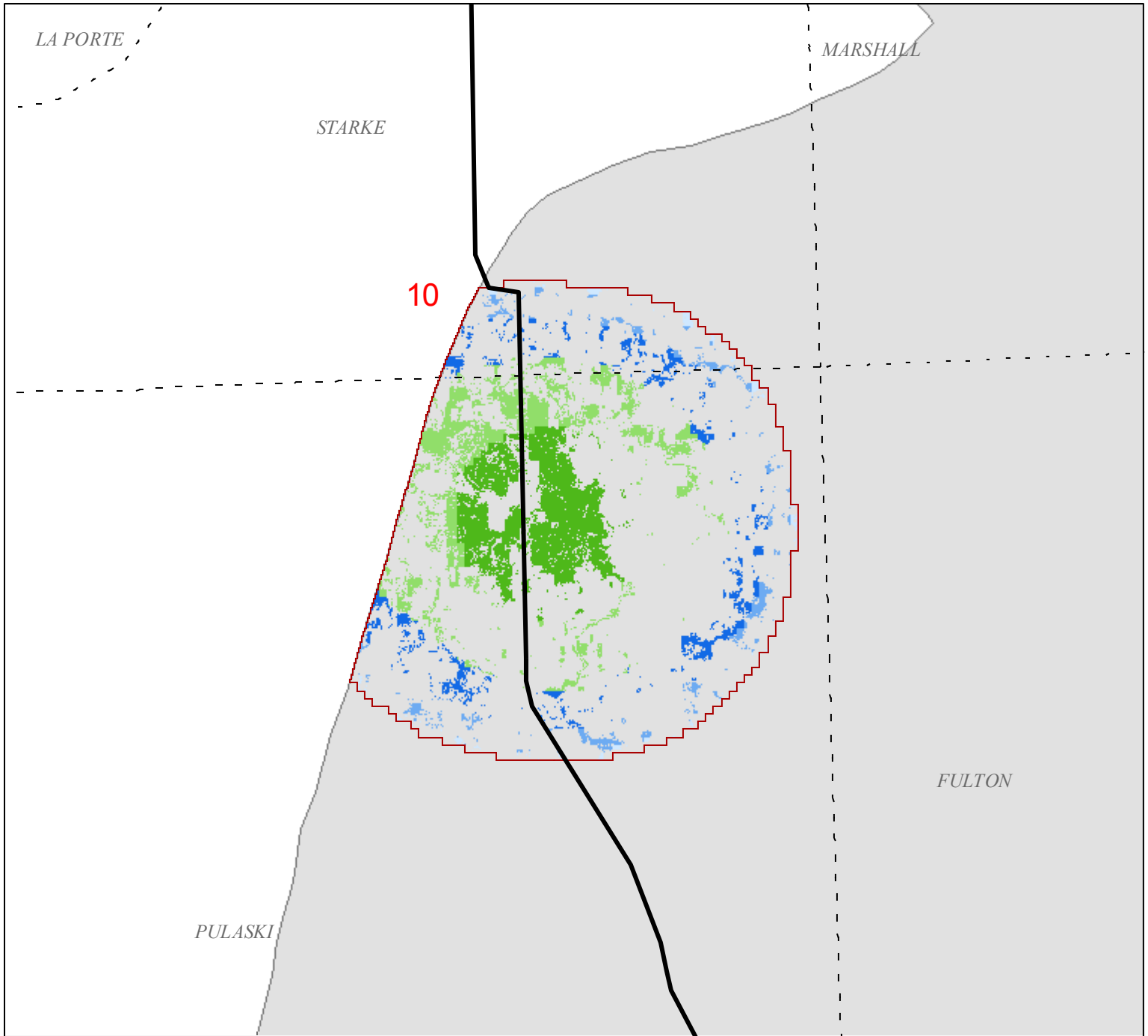


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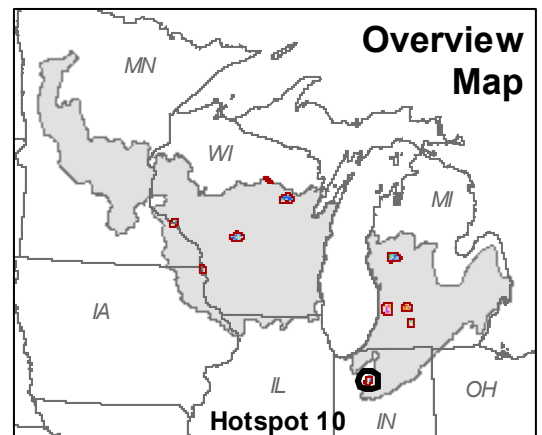
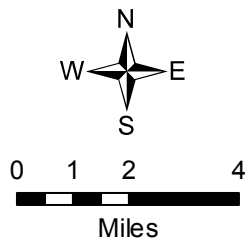
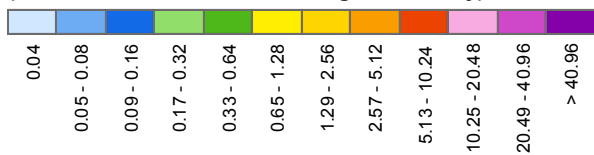
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Federal Lands

Hotspot 10



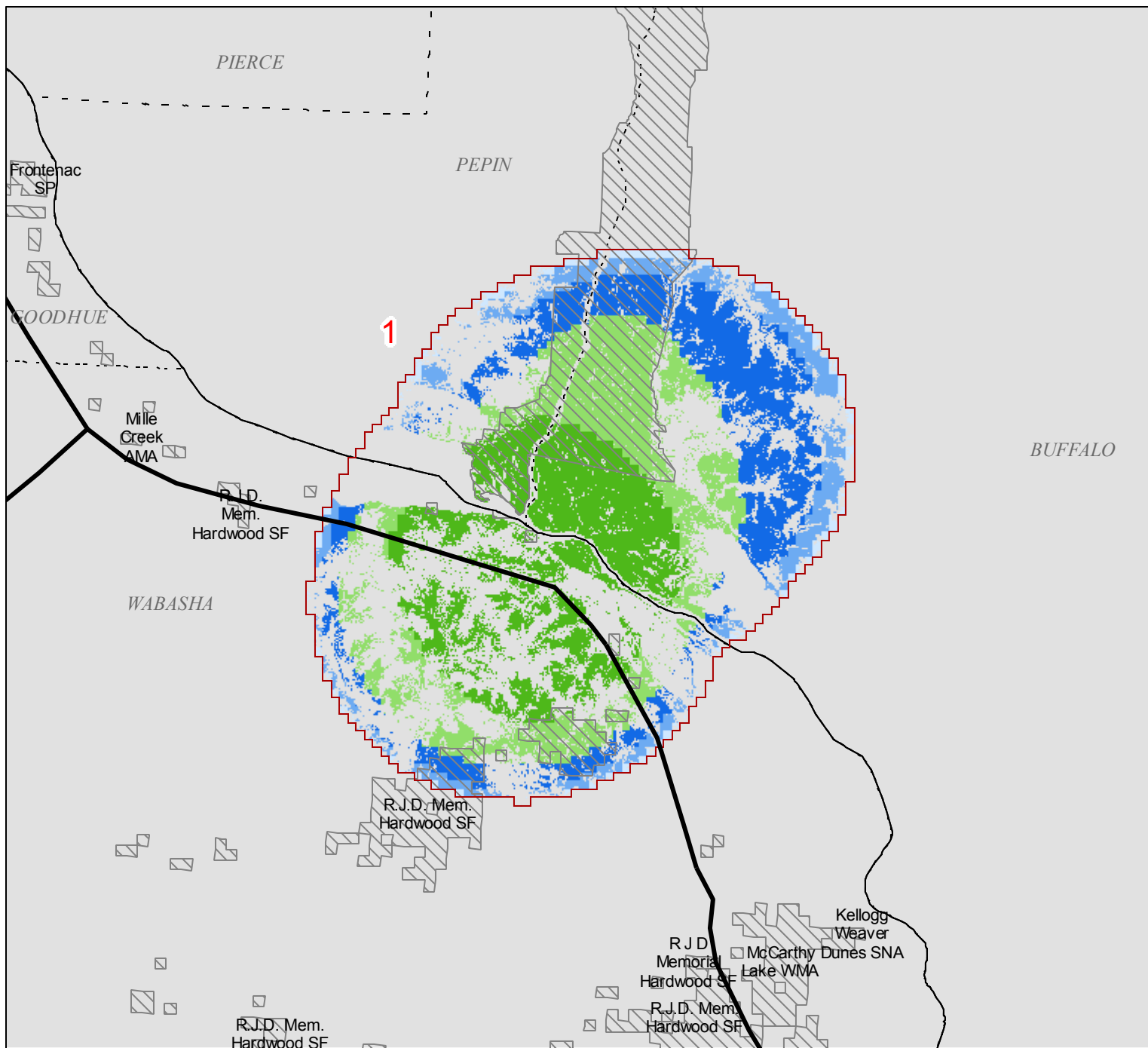
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Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)



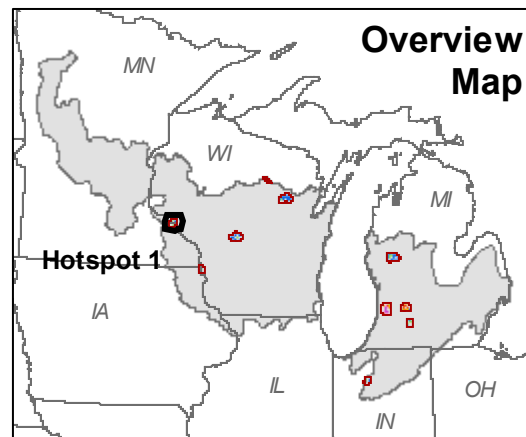
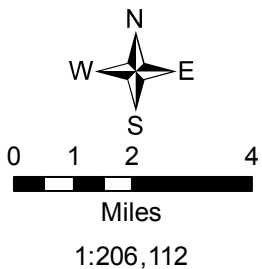
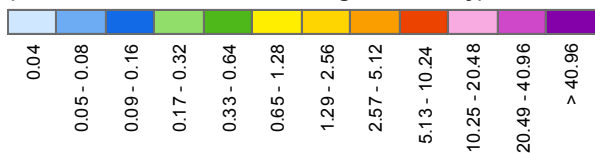
Cerulean Warbler (CERW) Predicted Relative Abundance Overlayed with State Lands

Hotspot 1



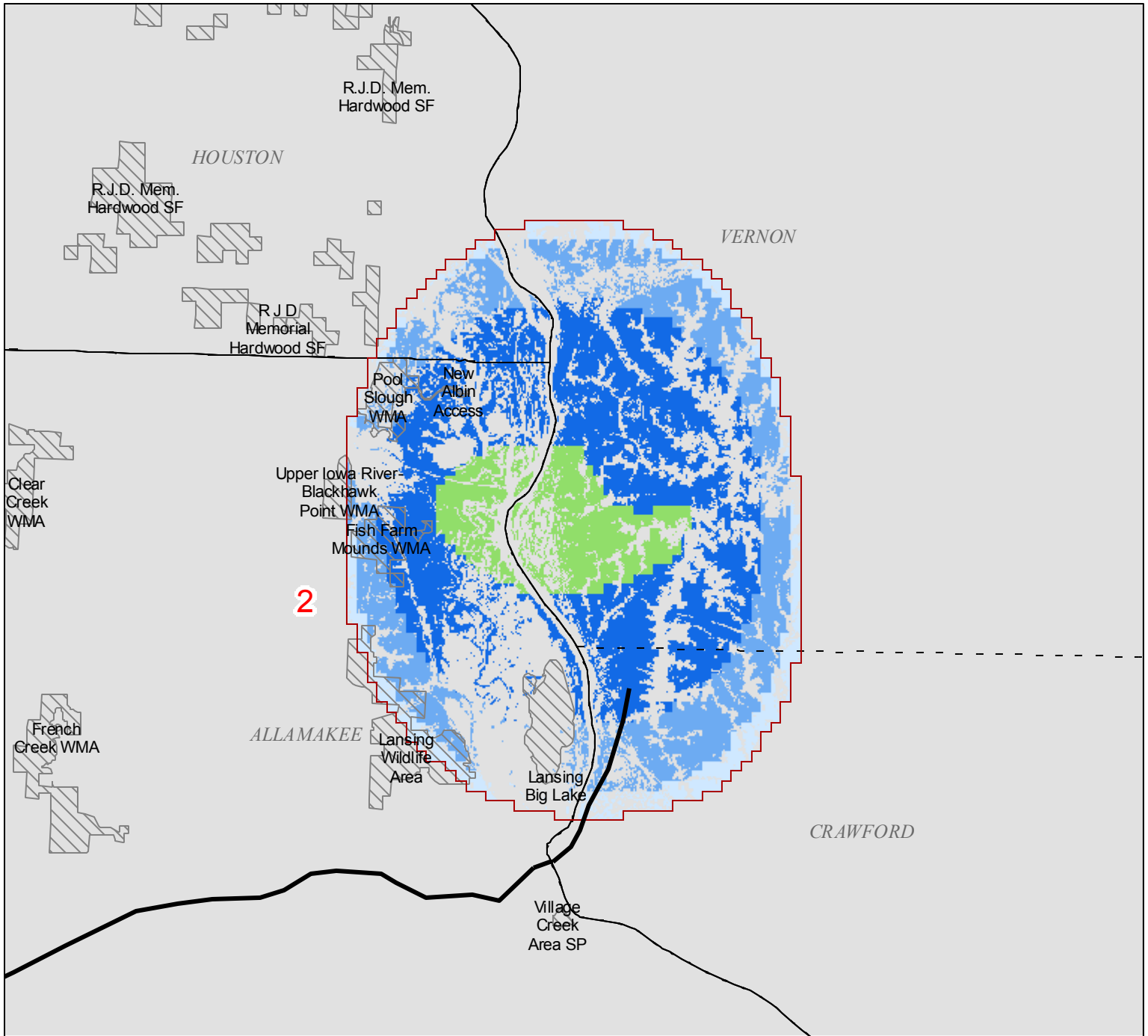
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**Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)**



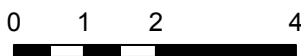
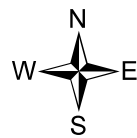
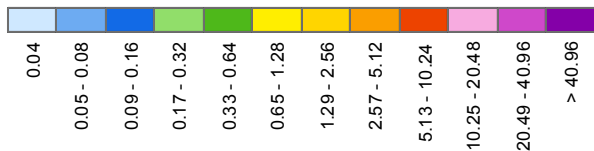
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with State Lands

Hotspot 2



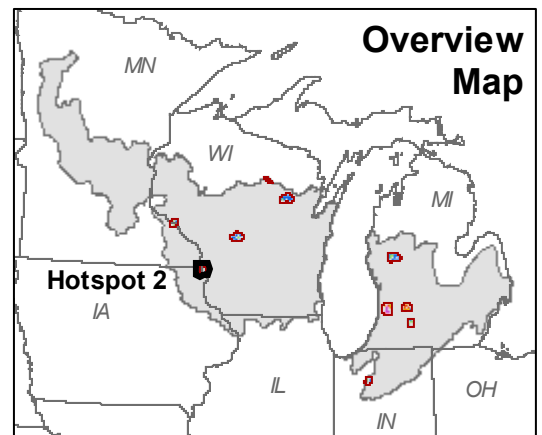
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Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)



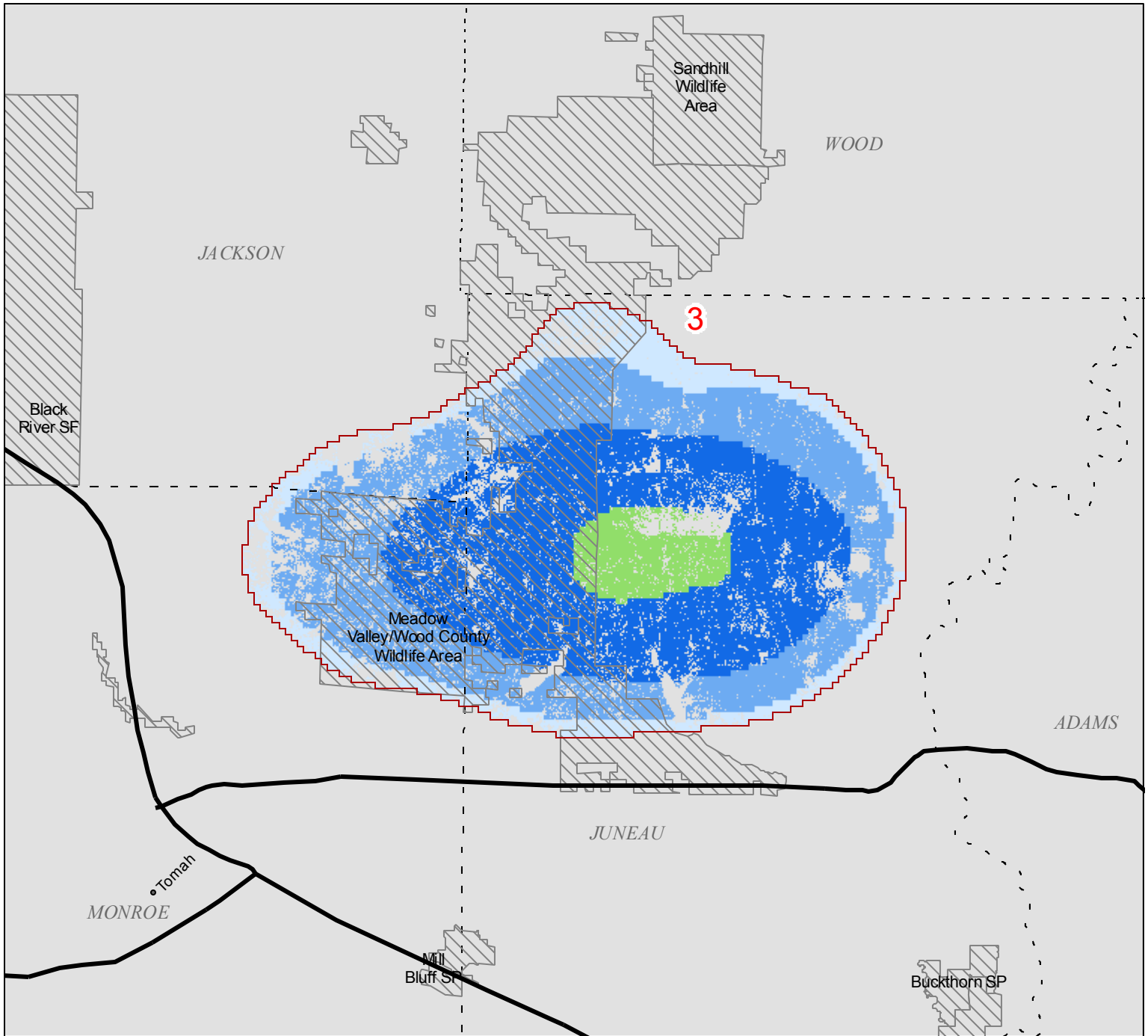
Miles

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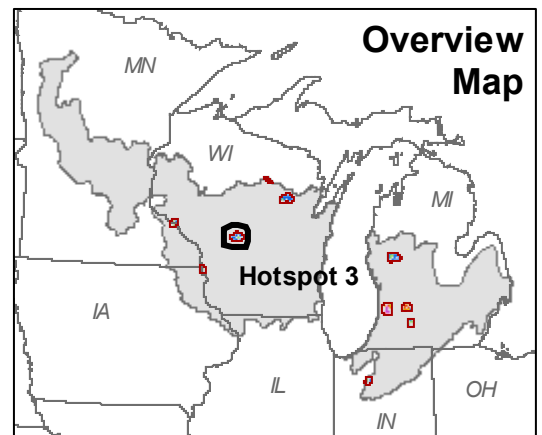
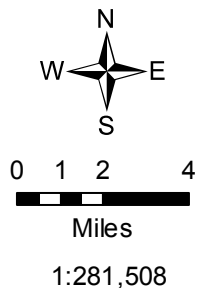
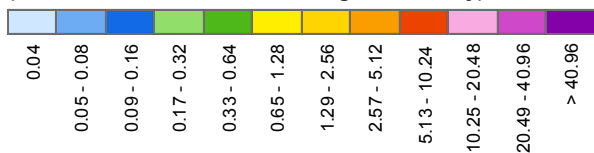
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with State Lands

Hotspot 3



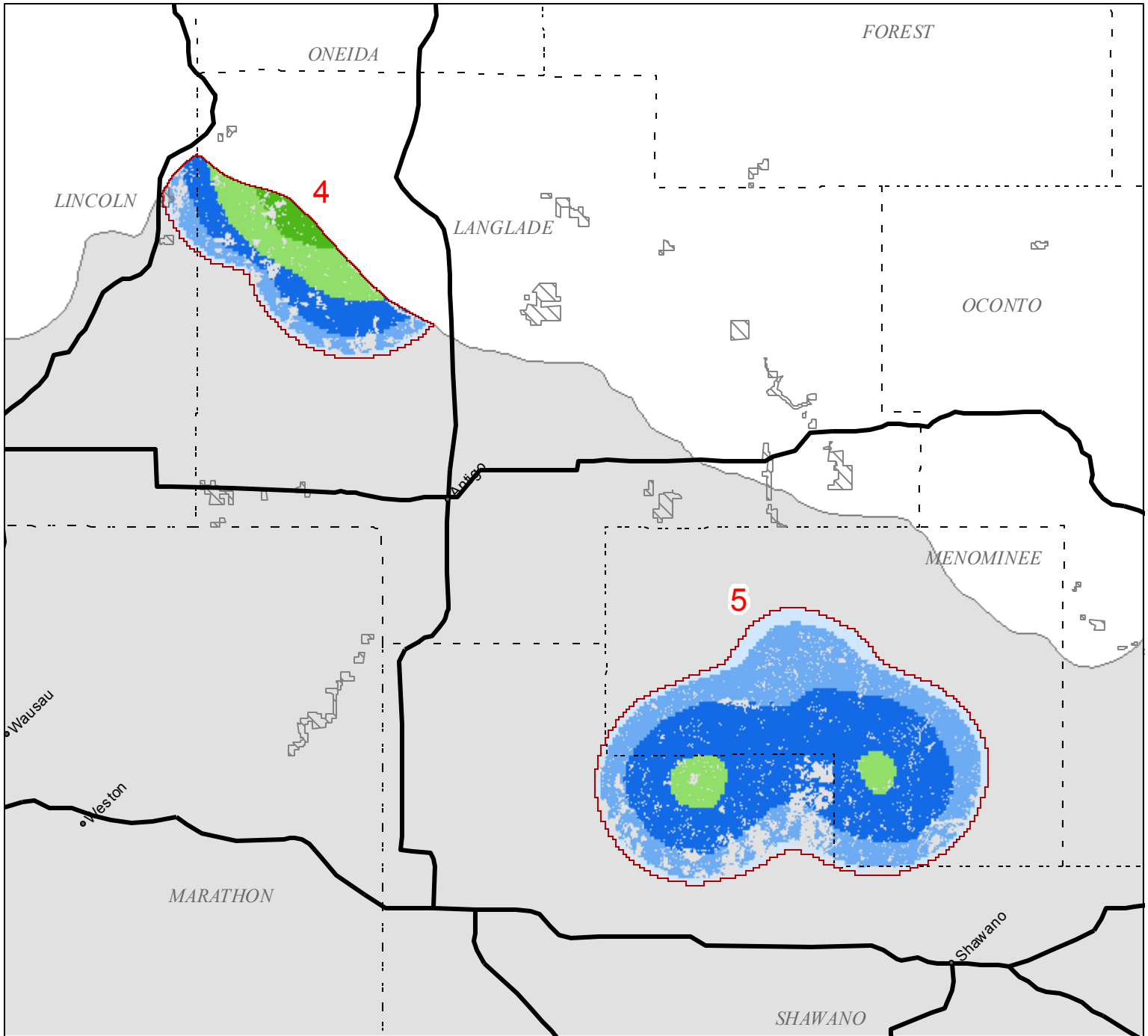
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Cerulean Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)



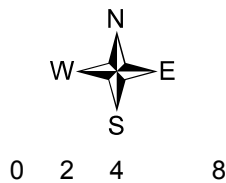
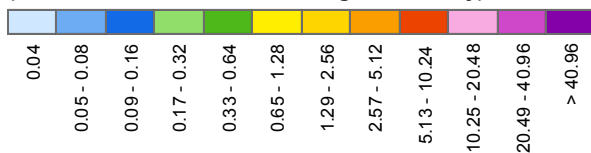
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with State Lands

Hotspots 4 and 5

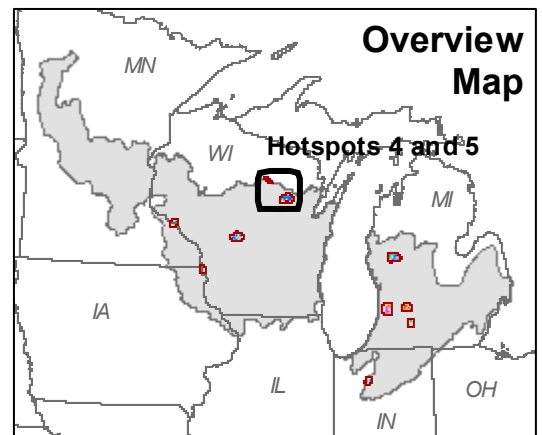


- Major Cities
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Cerulean Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

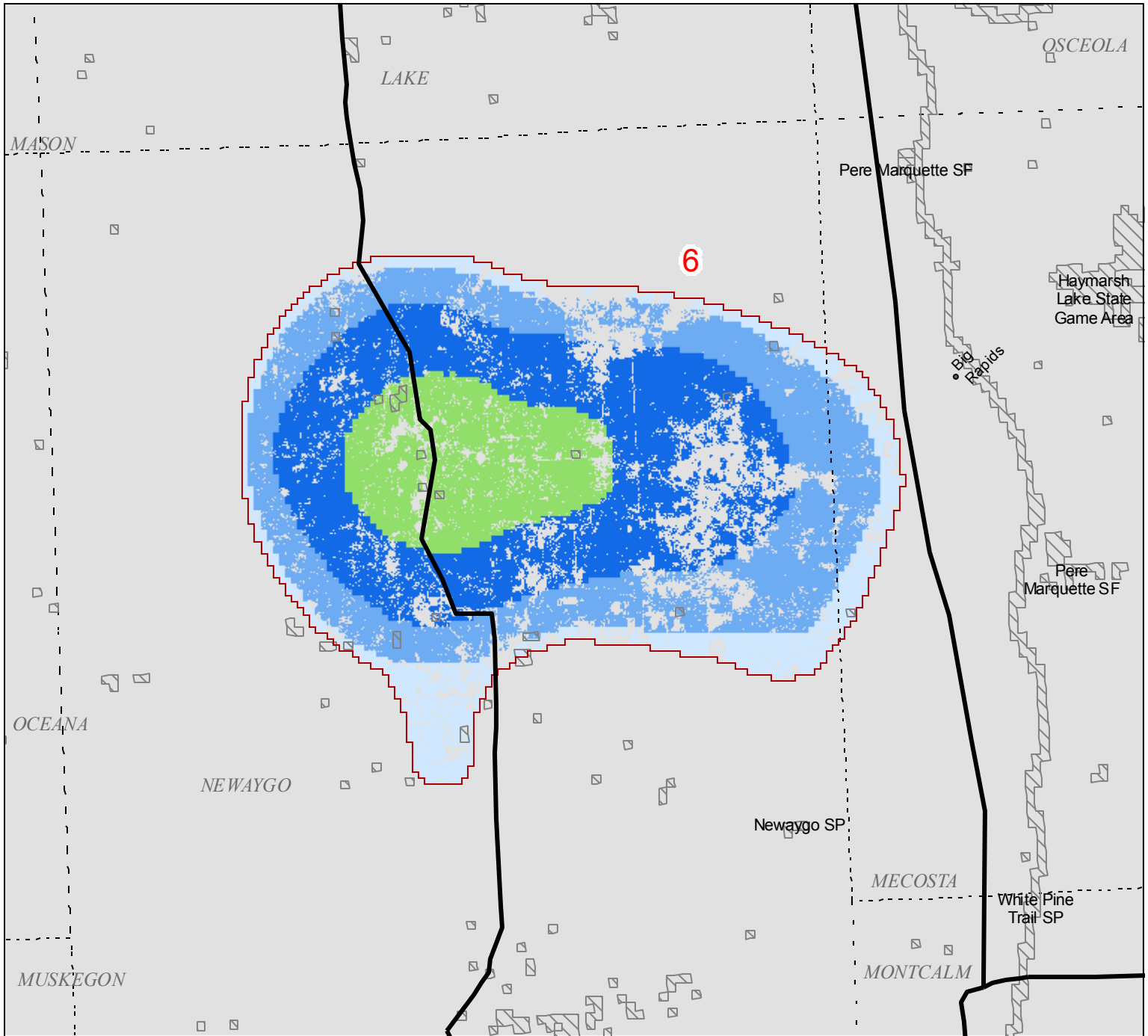


Miles
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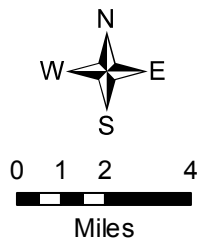
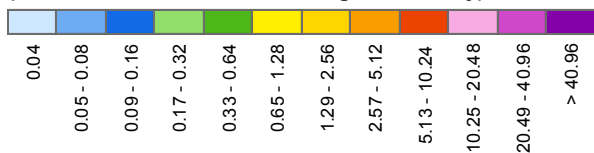
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with State Lands

Hotspot 6

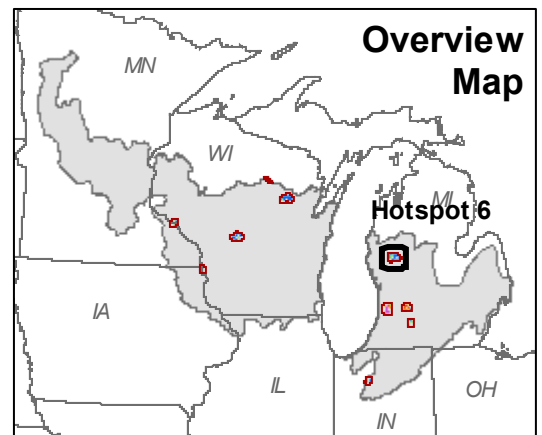


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Cerulean Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

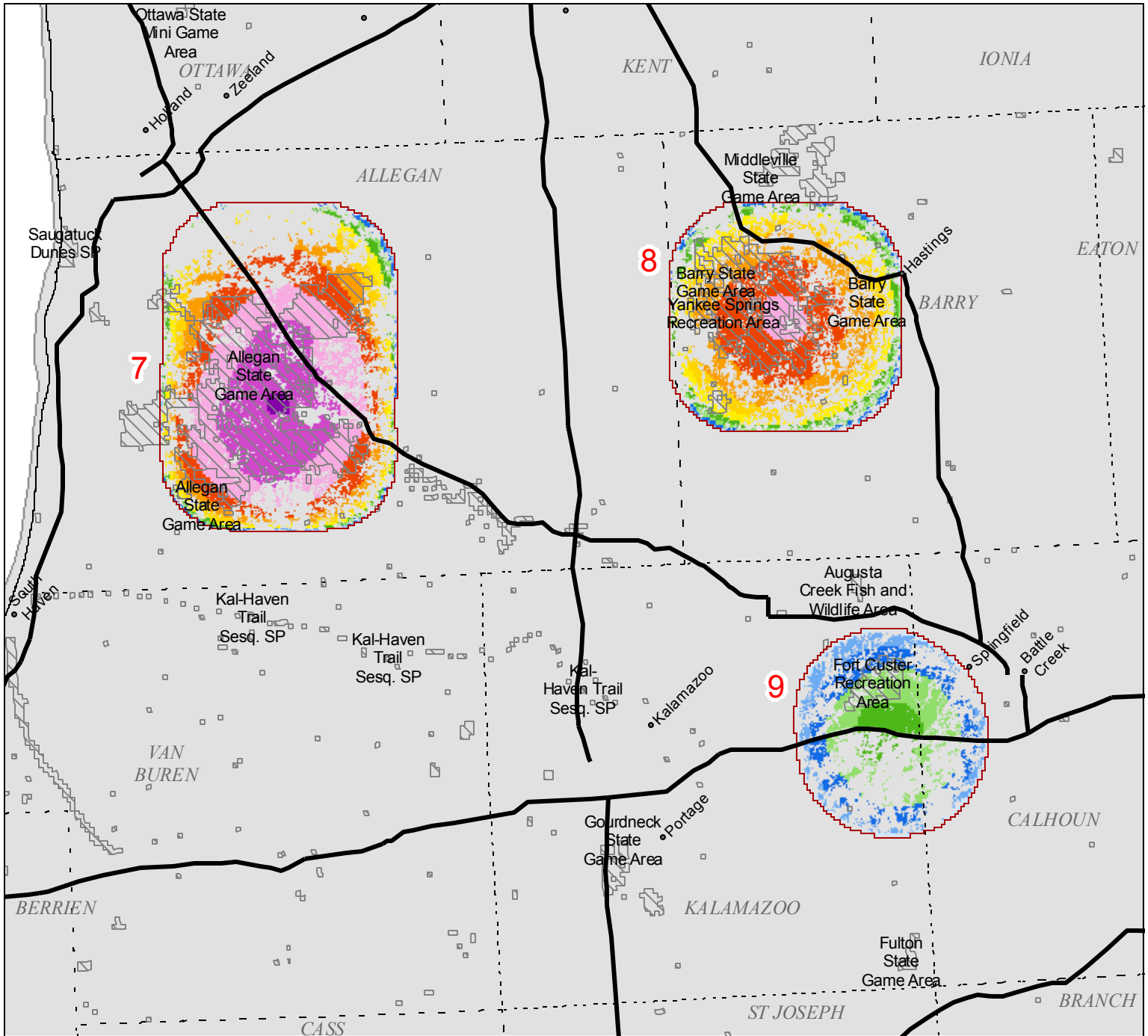


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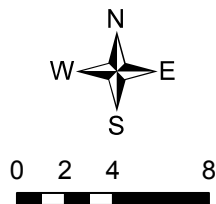
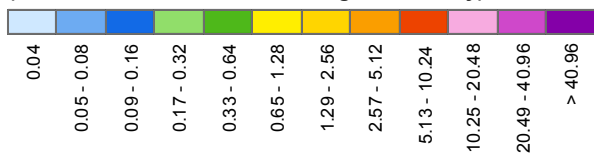
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with State Lands

Hotspots 7, 8, and 9

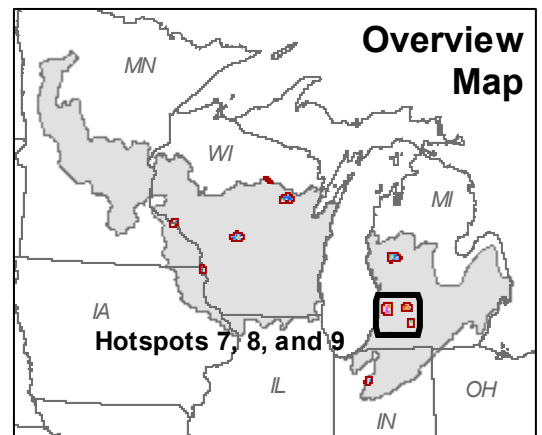


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Cerulean Warbler Relative Abundance
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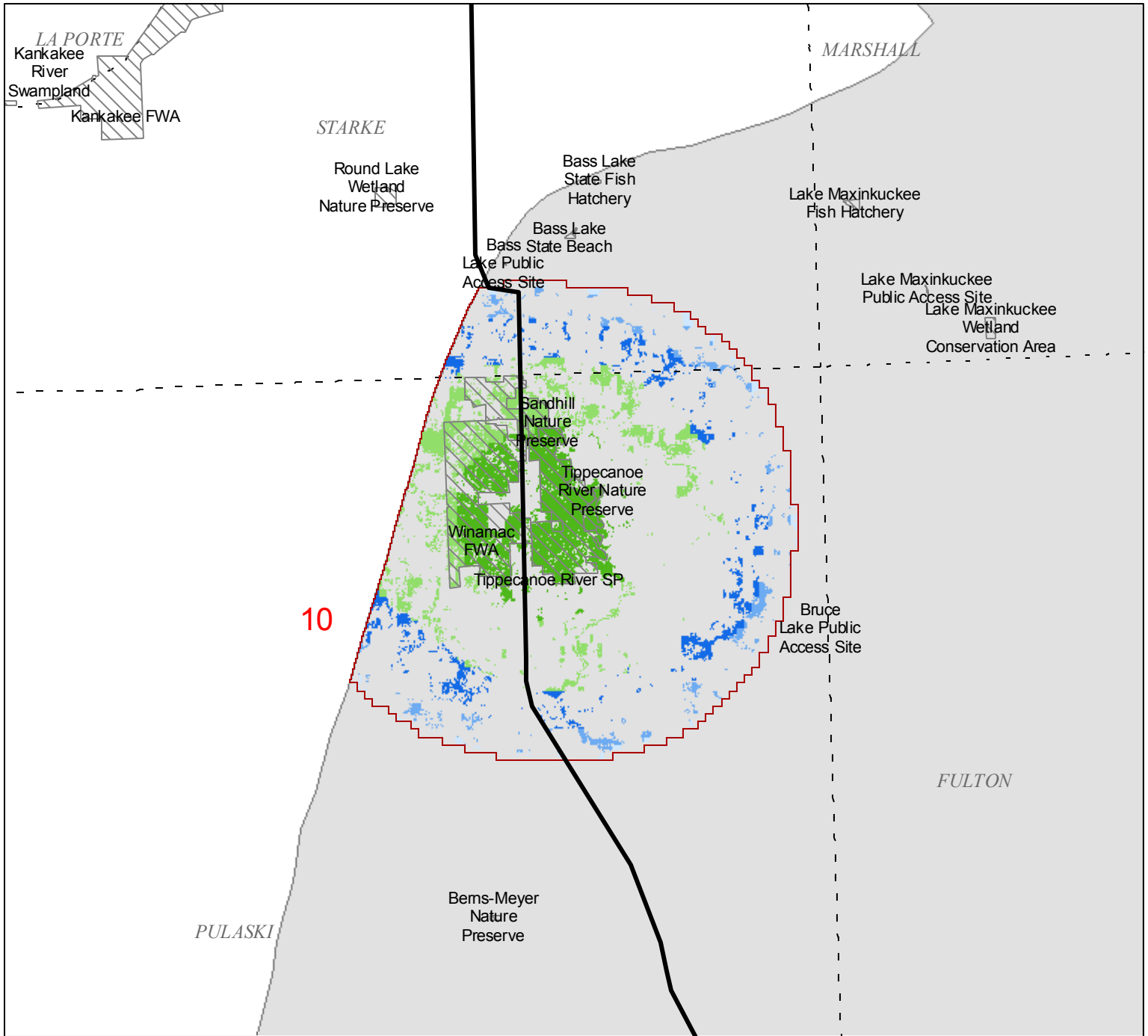


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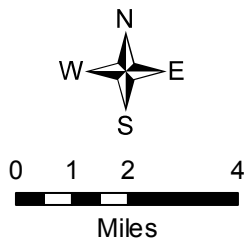
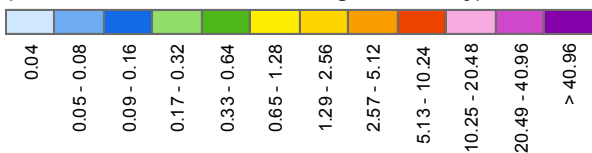
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Hotspot 10

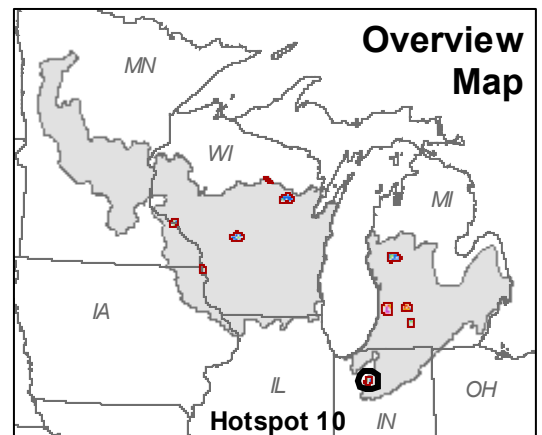


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Cerulean Warbler Relative Abundance
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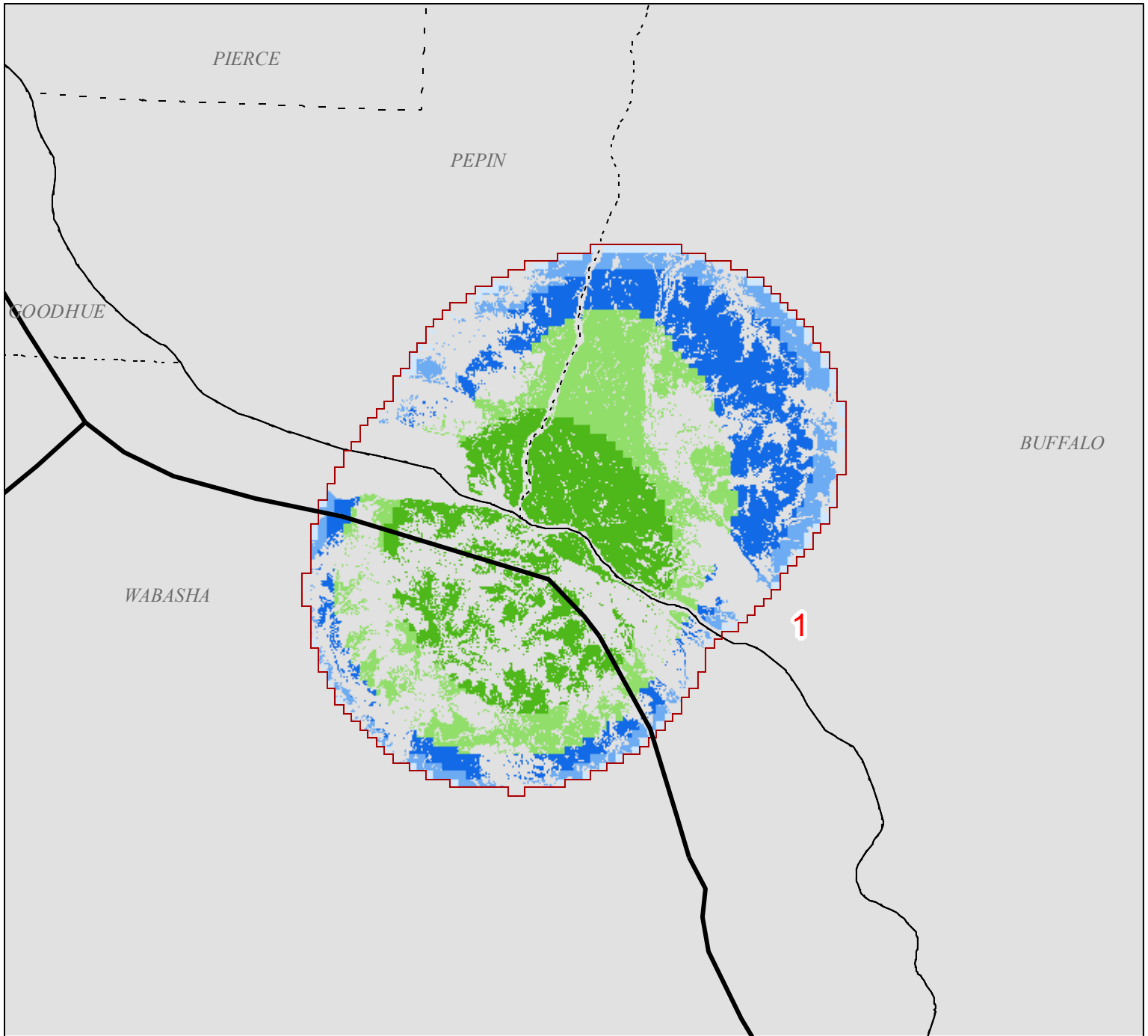


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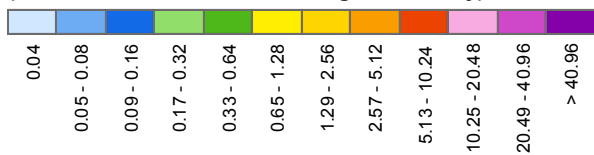
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspot 1



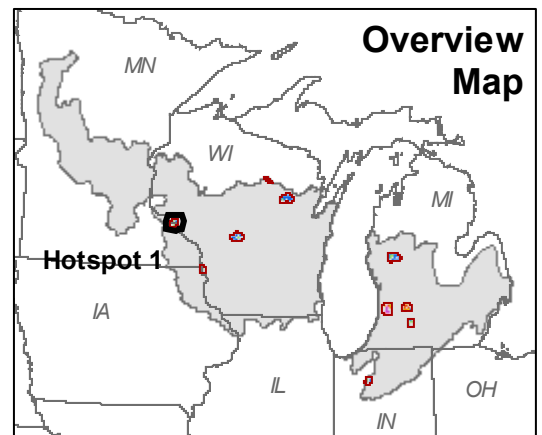
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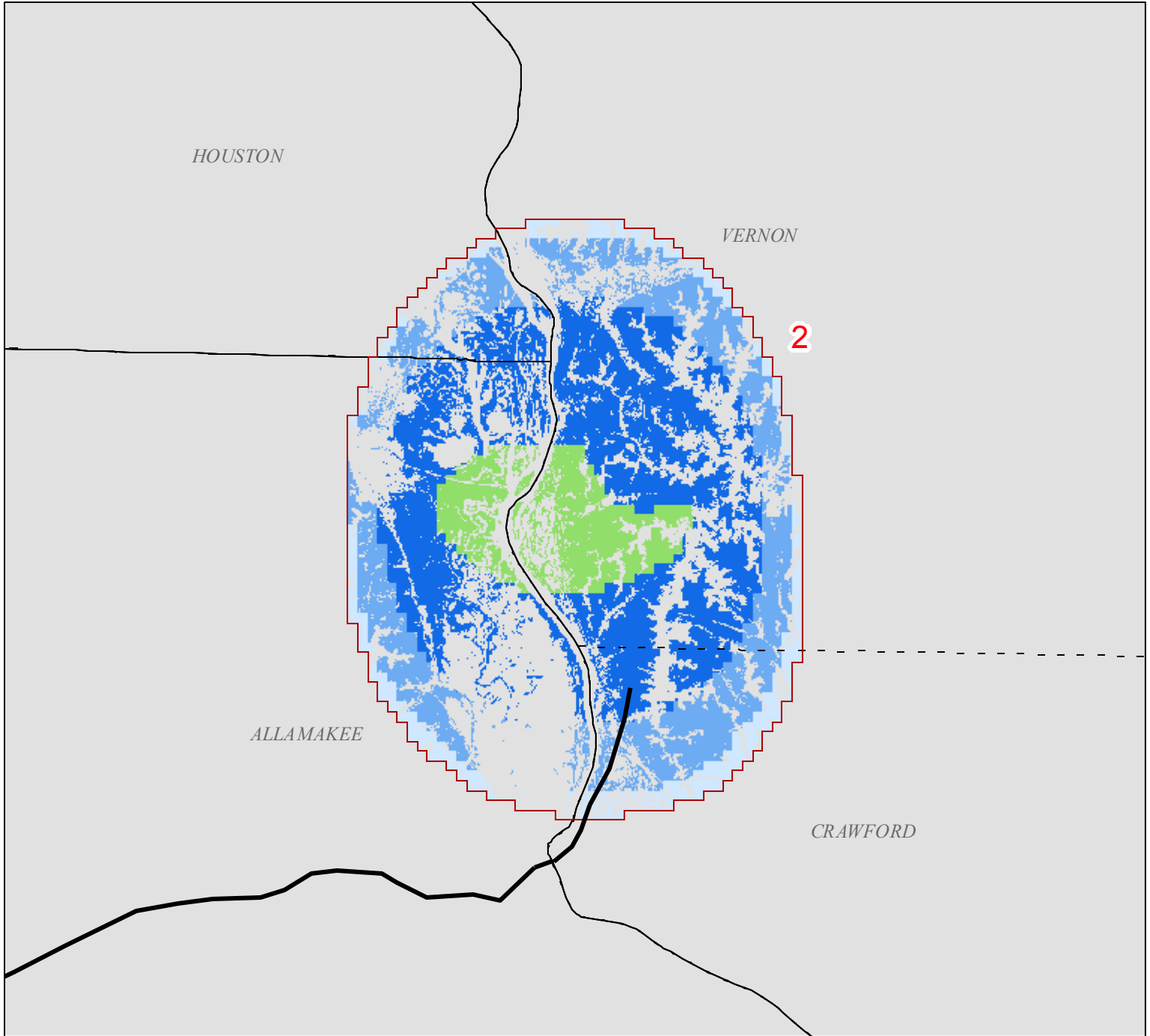
Miles

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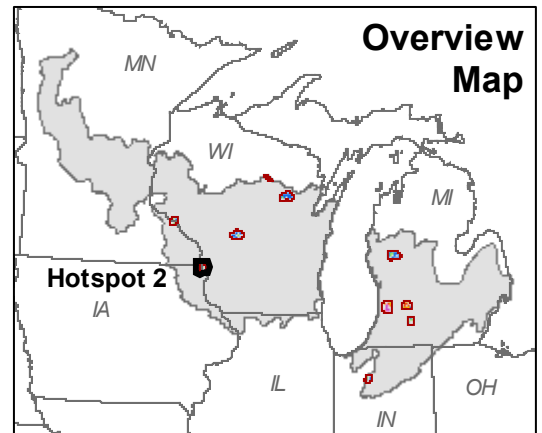
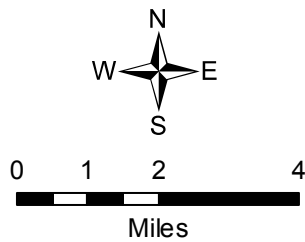
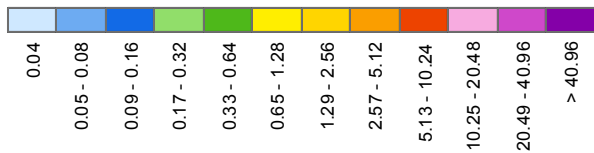
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspot 2



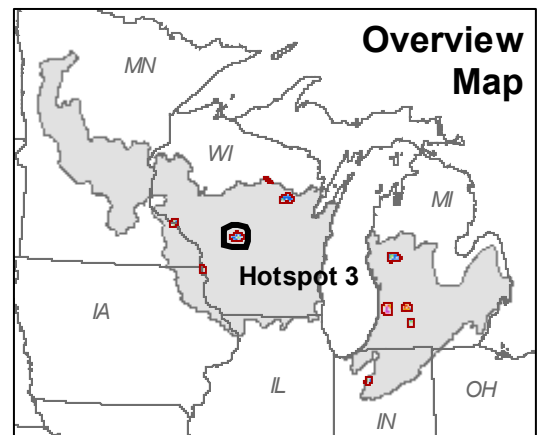
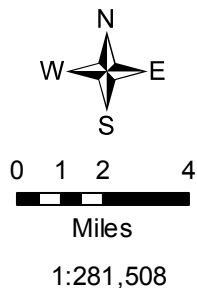
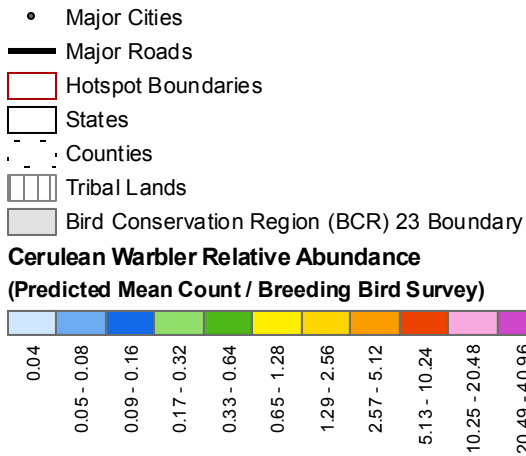
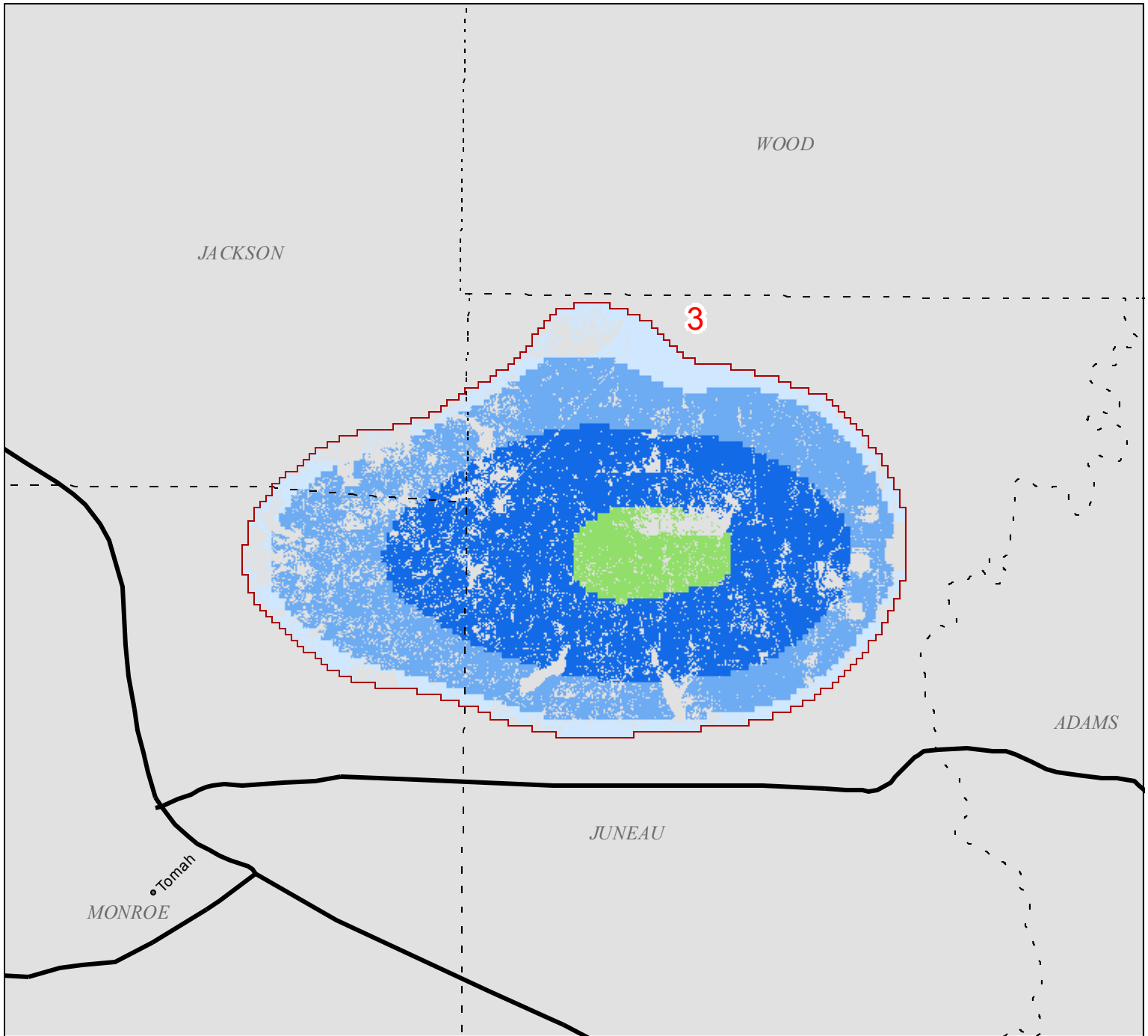
- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)



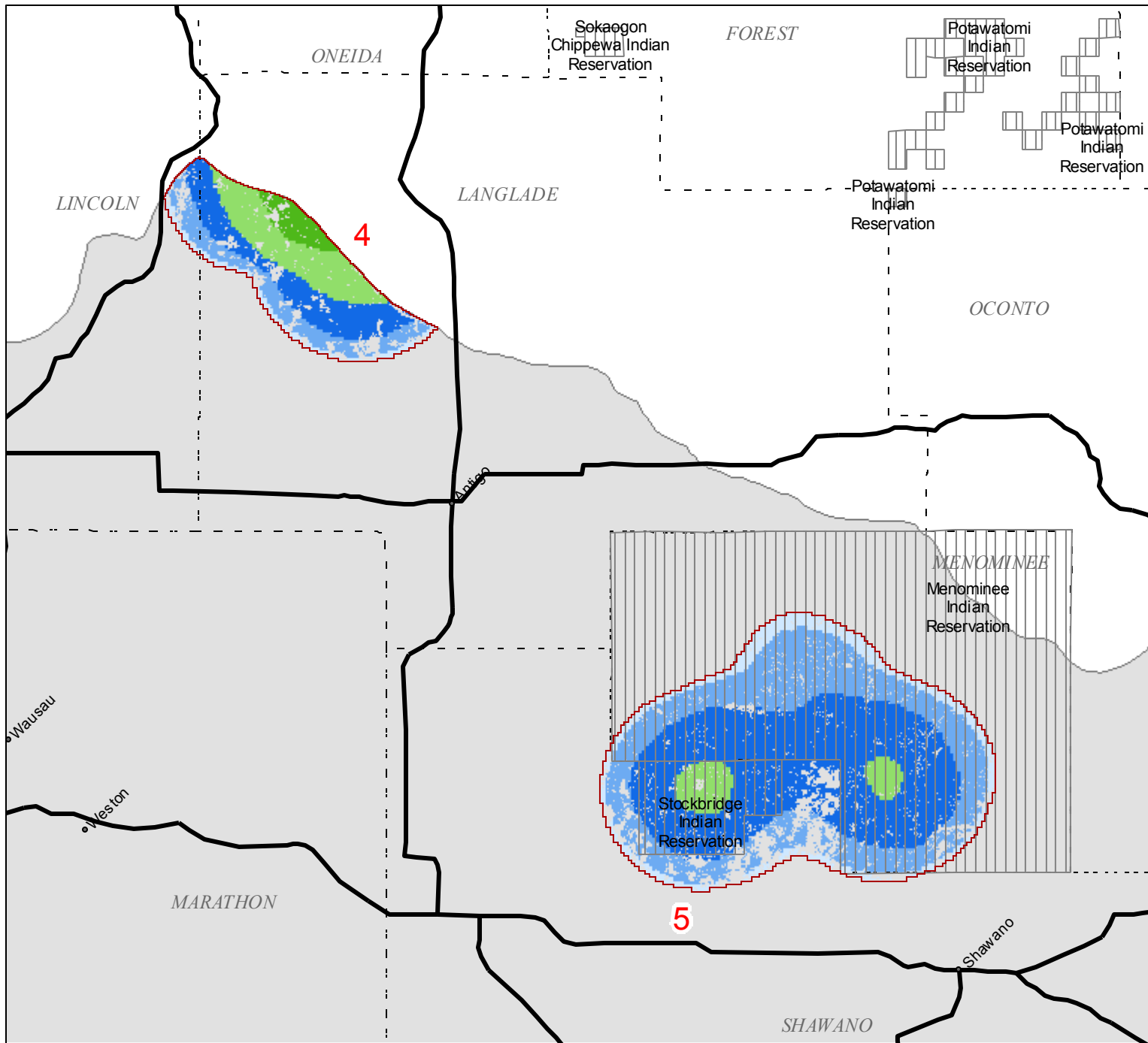
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspot 3



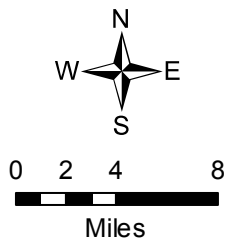
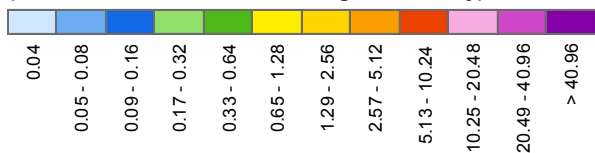
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspots 4 and 5

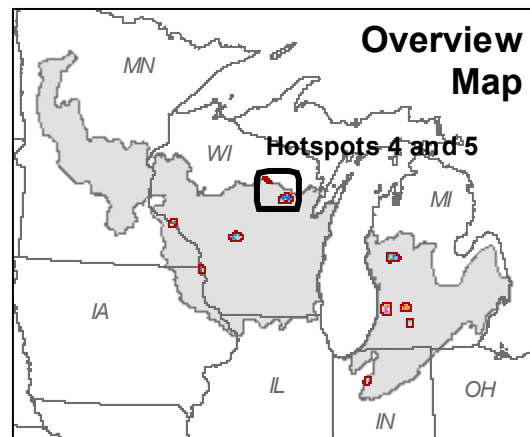


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

Cerulean Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

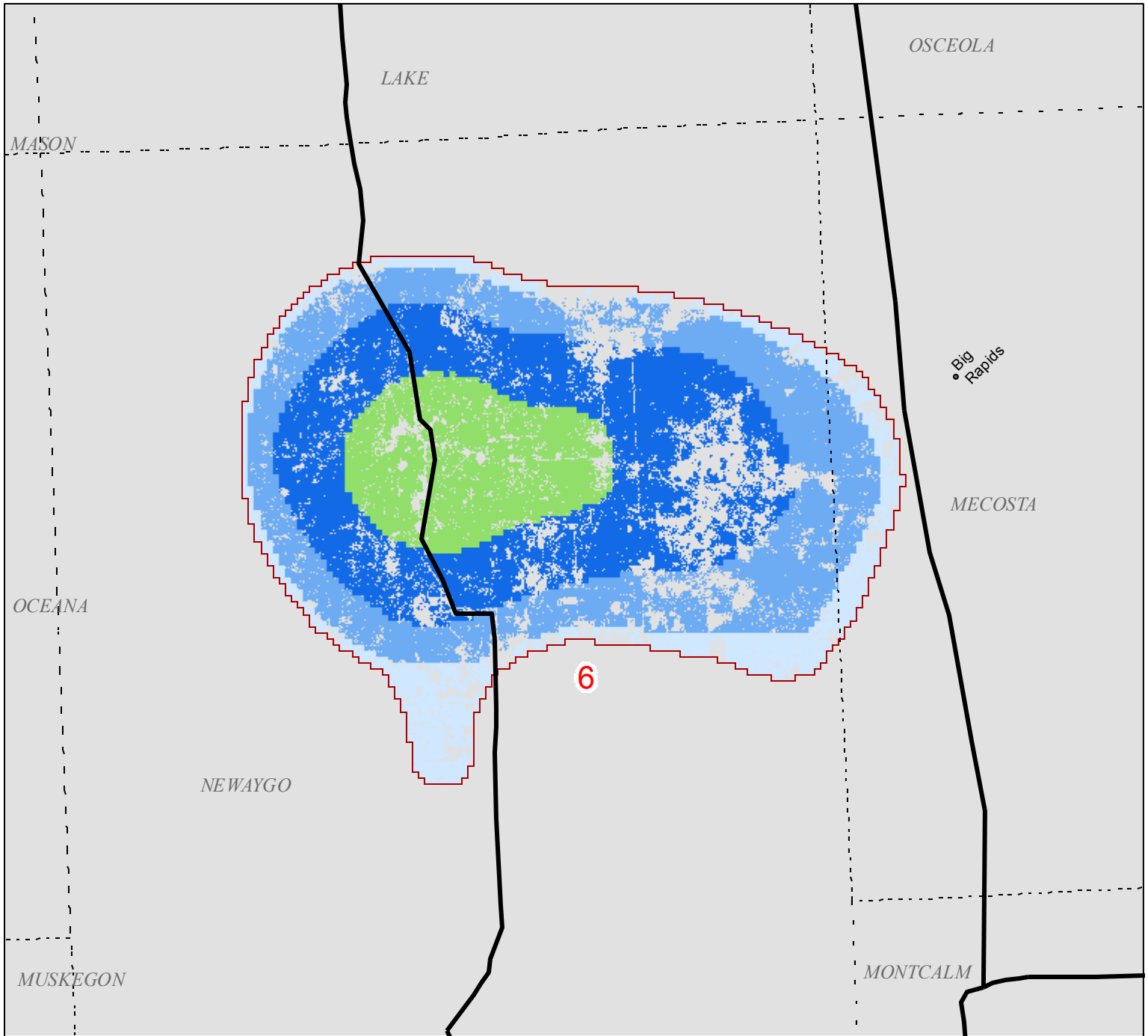


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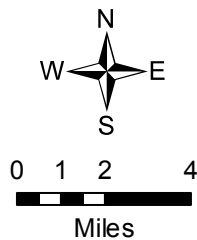
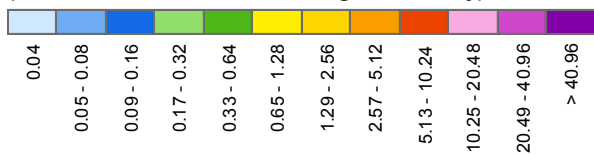
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspot 6

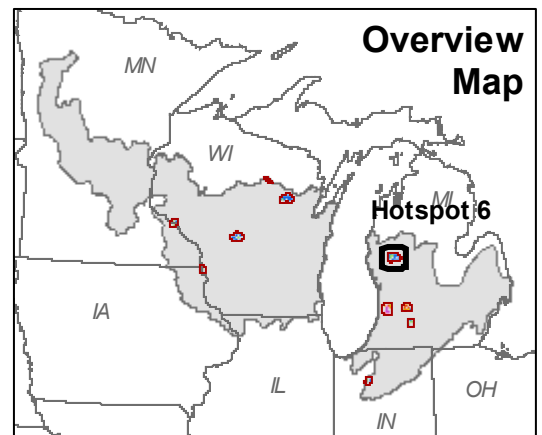


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- ▭ Counties
- ▭ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)

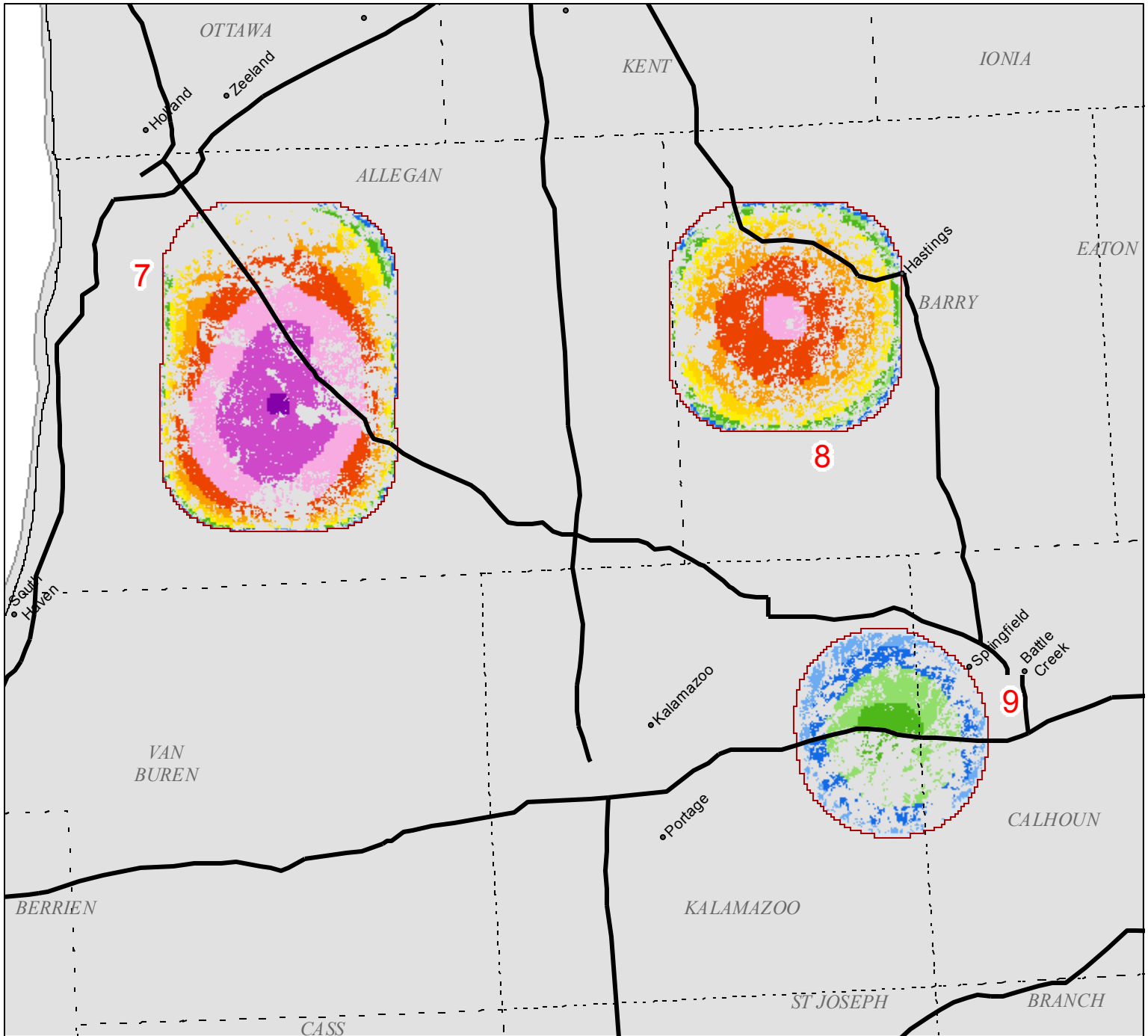


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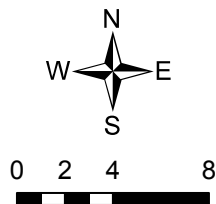
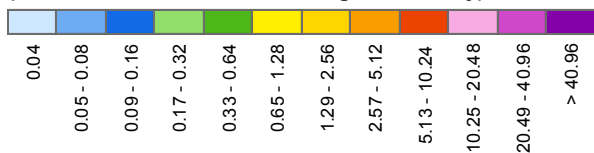
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspots 7, 8, and 9

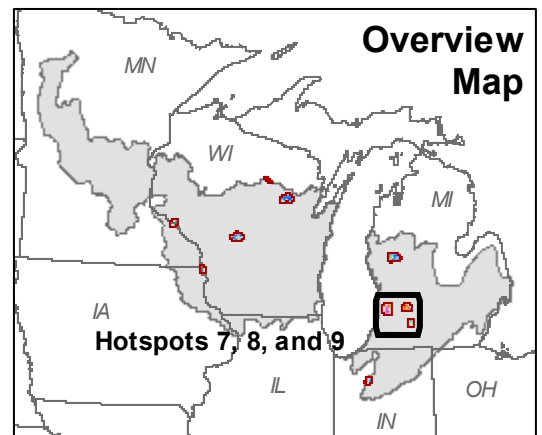


- Major Cities
- Major Roads
- ▭ Hotspot Boundaries
- ▭ States
- - - Counties
- ▨ Tribal Lands
- ▭ Bird Conservation Region (BCR) 23 Boundary

Cerulean Warbler Relative Abundance (Predicted Mean Count / Breeding Bird Survey)

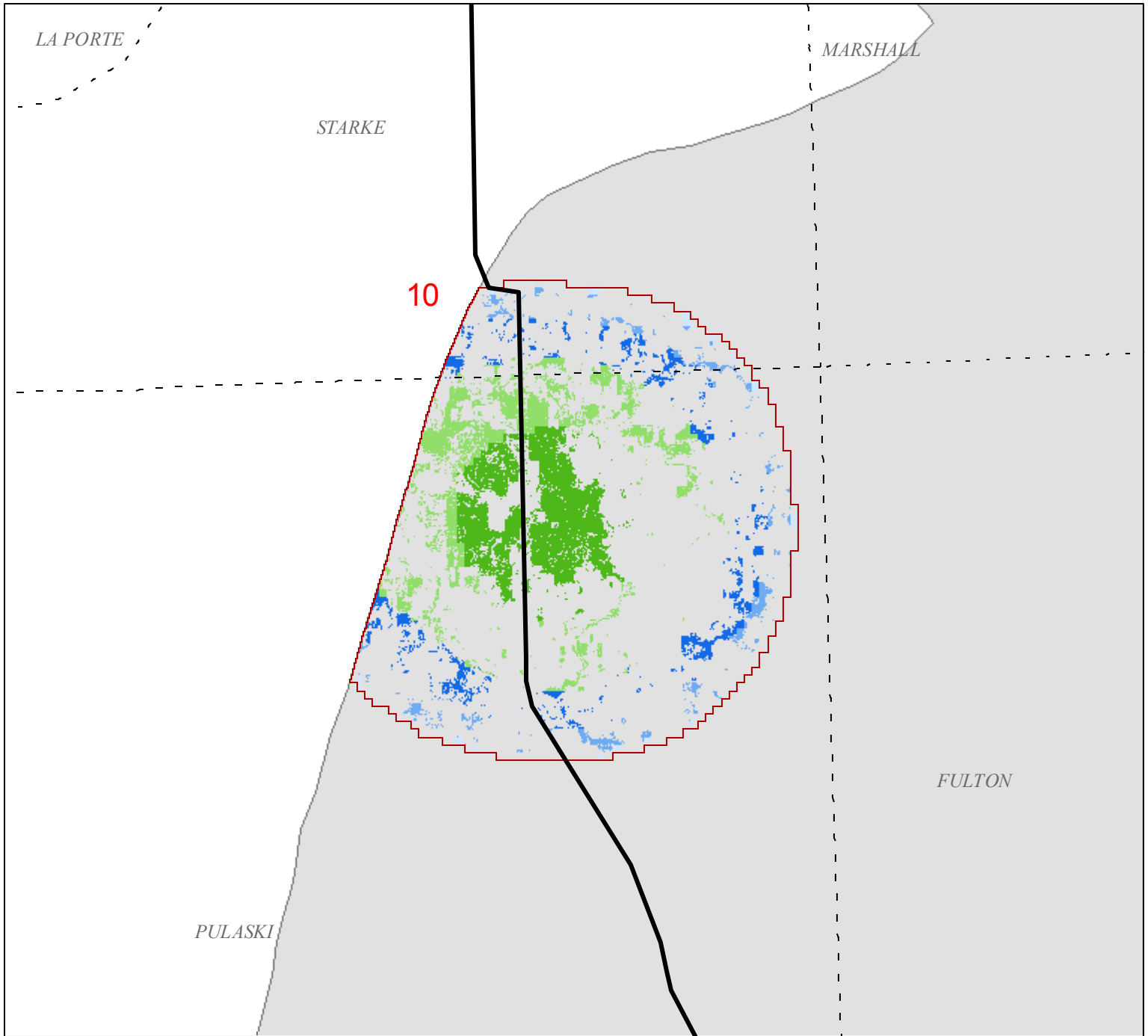


1:505,691



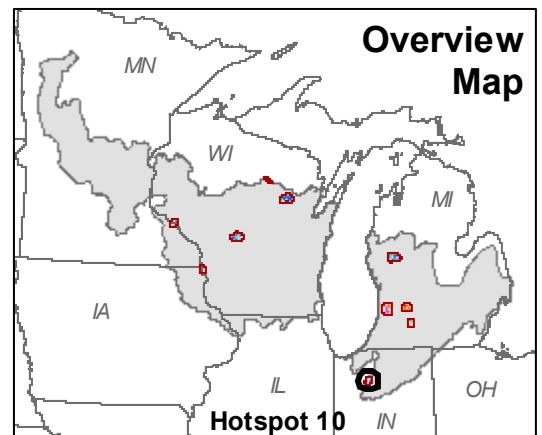
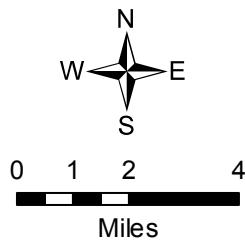
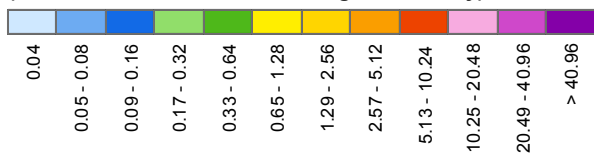
Cerulean Warbler (CERW) Predicted Relative Abundance Overlaid with Tribal Lands

Hotspot 10



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

Cerulean Warbler Relative Abundance
(Predicted Mean Count / Breeding Bird Survey)



**Cerulean Warbler 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	251.11	0.00	0.10	0.53	0.53	0.14	28,542	88.52	75.41
Hotspot 1 - Managed by Federal	32.57	0.00	0.26	0.53	0.53	0.23	9,306	11.48	24.59
Hotspot 2 - Unmanaged by Federal	135.18	0.00	0.06	0.18	0.18	0.06	9,615	64.91	70.70
Hotspot 2 - Managed by Federal	73.08	0.00	0.05	0.18	0.18	0.06	3,986	35.09	29.30
Hotspot 3 - Unmanaged by Federal	351.51	0.00	0.06	0.17	0.17	0.05	24,722	70.78	61.59
Hotspot 3 - Managed by Federal	145.11	0.00	0.10	0.18	0.18	0.06	15,416	29.22	38.41
Hotspot 4 - Unmanaged by Federal	170.32	0.00	0.14	0.43	0.43	0.11	25,868	100.00	100.00
Hotspot 4 - Managed by Federal	0.00								
Hotspot 5 - Unmanaged by Federal	559.26	0.00	0.08	0.18	0.18	0.05	50,825	100.00	100.00
Hotspot 5 - Managed by Federal	0.00								
Hotspot 6 - Unmanaged by Federal	362.33	0.00	0.07	0.24	0.24	0.07	29,316	64.09	57.32
Hotspot 6 - Managed by Federal	203.05	0.00	0.10	0.24	0.24	0.06	21,833	35.91	42.68
Hotspot 7 - Unmanaged by Federal	580.68	0.00	8.16	42.23	42.23	10.86	5,265,470	100.00	100.00
Hotspot 7 - Managed by Federal	0.00								
Hotspot 8 - Unmanaged by Federal	387.18	0.00	2.25	10.89	10.89	3.20	969,685	100.00	100.00
Hotspot 8 - Managed by Federal	0.00								
Hotspot 9 - Unmanaged by Federal	258.30	0.00	0.07	0.36	0.36	0.11	21,012	100.00	100.00
Hotspot 9 - Managed by Federal	0.00								
Hotspot 10 - Unmanaged by Federal	243.85	0.00	0.05	0.42	0.42	0.12	14,892	100.00	100.00
Hotspot 10 - Managed by Federal	0.00								

SUMMARY

Total Area Unmanaged (sq km)	3,299.72	Sum* Total Unmanaged	6,439,946
Total Area Managed (sq km)	453.81	Sum* Total Managed	50,540
Total Area (sq km)	3,753.53	Total Sum*	6,490,486

Total Area Unmanaged %	87.91	Sum* Total Unmanaged %	99.22
Total Area Managed %	12.09	Sum* Total Managed %	0.78

* 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.

**Cerulean Warbler 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	234.93	0.00	0.11	0.53	0.53	0.16	27,480	82.82	72.61
Hotspot 1 - Managed by State	48.75	0.00	0.19	0.52	0.52	0.14	10,368	17.18	27.39
Hotspot 2 - Unmanaged by State	195.91	0.00	0.06	0.18	0.18	0.06	13,149	94.07	96.68
Hotspot 2 - Managed by State	12.35	0.00	0.03	0.16	0.16	0.04	452	5.93	3.32
Hotspot 3 - Unmanaged by State	318.47	0.00	0.07	0.18	0.18	0.05	25,548	64.13	63.65
Hotspot 3 - Managed by State	178.15	0.00	0.07	0.17	0.17	0.05	14,590	35.87	36.35
Hotspot 4 - Unmanaged by State	169.38	0.00	0.14	0.43	0.43	0.11	25,843	99.45	99.90
Hotspot 4 - Managed by State	0.95	0.00	0.02	0.05	0.05	0.02	25	0.55	0.10
Hotspot 5 - Unmanaged by State	559.26	0.00	0.08	0.18	0.18	0.05	50,825	100.00	100.00
Hotspot 5 - Managed by State	0.00								
Hotspot 6 - Unmanaged by State	561.38	0.00	0.08	0.24	0.24	0.06	50,761	99.29	99.24
Hotspot 6 - Managed by State	4.00	0.00	0.09	0.23	0.23	0.08	388	0.71	0.76
Hotspot 7 - Unmanaged by State	387.24	0.00	3.89	41.62	41.62	7.29	1,672,110	66.69	31.76
Hotspot 7 - Managed by State	193.44	0.00	16.72	42.23	42.23	11.73	3,593,360	33.31	68.24
Hotspot 8 - Unmanaged by State	297.43	0.00	1.24	10.89	10.89	2.17	408,981	76.82	42.18
Hotspot 8 - Managed by State	89.75	0.00	5.62	10.89	10.89	3.71	560,704	23.18	57.82
Hotspot 9 - Unmanaged by State	243.47	0.00	0.07	0.36	0.36	0.11	18,602	94.26	88.53
Hotspot 9 - Managed by State	14.83	0.00	0.15	0.32	0.32	0.11	2,410	5.74	11.47
Hotspot 10 - Unmanaged by State	213.24	0.00	0.02	0.42	0.42	0.07	5,739	87.45	38.54
Hotspot 10 - Managed by State	30.61	0.00	0.27	0.42	0.42	0.16	9,153	12.55	61.46

SUMMARY

Total Area Unmanaged (sq km)	3,180.71	Sum* Total Unmanaged	2,299,036
Total Area Managed (sq km)	572.82	Sum* Total Managed	4,191,450
Total Area (sq km)	3,753.53	Total Sum*	6,490,486

Total Area Unmanaged %	84.74	Sum* Total Unmanaged %	35.42
Total Area Managed %	15.26	Sum* Total Managed %	64.58

* 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.

**Cerulean Warbler 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	283.68	0.00	0.12	0.53	0.53	0.16	37,847	100.00	100.00
Hotspot 1 - Managed by Tribal	0.00								
Hotspot 2 - Unmanaged by Tribal	208.26	0.00	0.06	0.18	0.18	0.06	13,601	100.00	100.00
Hotspot 2 - Managed by Tribal	0.00								
Hotspot 3 - Unmanaged by Tribal	496.62	0.00	0.07	0.18	0.18	0.05	40,138	100.00	100.00
Hotspot 3 - Managed by Tribal	0.00								
Hotspot 4 - Unmanaged by Tribal	170.32	0.00	0.14	0.43	0.43	0.11	25,868	100.00	100.00
Hotspot 4 - Managed by Tribal	0.00								
Hotspot 5 - Unmanaged by Tribal	108.21	0.00	0.04	0.14	0.14	0.04	5,335	19.35	10.50
Hotspot 5 - Managed by Tribal	451.05	0.00	0.09	0.18	0.18	0.05	45,490	80.65	89.50
Hotspot 6 - Unmanaged by Tribal	565.38	0.00	0.08	0.24	0.24	0.06	51,148	100.00	100.00
Hotspot 6 - Managed by Tribal	0.00								
Hotspot 7 - Unmanaged by Tribal	580.68	0.00	8.16	42.23	42.23	10.86	5,265,470	100.00	100.00
Hotspot 7 - Managed by Tribal	0.00								
Hotspot 8 - Unmanaged by Tribal	387.18	0.00	2.25	10.89	10.89	3.20	969,685	100.00	100.00
Hotspot 8 - Managed by Tribal	0.00								
Hotspot 9 - Unmanaged by Tribal	258.30	0.00	0.07	0.36	0.36	0.11	21,012	100.00	100.00
Hotspot 9 - Managed by Tribal	0.00								
Hotspot 10 - Unmanaged by Tribal	243.85	0.00	0.05	0.42	0.42	0.12	14,892	100.00	100.00
Hotspot 10 - Managed by Tribal	0.00								

SUMMARY

Total Area Unmanaged (sq km)	3,302.48	Sum* Total Unmanaged	6,444,996
Total Area Managed (sq km)	451.05	Sum* Total Managed	45,490
Total Area (sq km)	3,753.53	Total Sum*	6,490,486

Total Area Unmanaged %	87.98	Sum* Total Unmanaged %	99.30
Total Area Managed %	12.02	Sum* Total Managed %	0.70

* 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.

**Cerulean Warbler 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	0.00	0.16	0.16	0.01	9,171	96.80	71.25
IA - Managed by Federal	230.67	0.00	0.01	0.17	0.17	0.04	3,701	3.20	28.75
IL - Unmanaged by Federal	3,208.05	0.00	0.00	0.02	0.02	0.00	1,061	96.68	94.46
IL - Managed by Federal	110.30	0.00	0.00	0.01	0.01	0.00	62	3.32	5.54
IN - Unmanaged by Federal	13,070.80	0.00	0.00	0.42	0.42	0.02	15,658	99.68	98.15
IN - Managed by Federal	41.35	0.00	0.01	0.02	0.02	0.01	295	0.32	1.85
MI - Unmanaged by Federal	57,537.80	0.00	0.10	42.23	42.23	1.40	6,351,750	98.06	99.39
MI - Managed by Federal	1,139.19	0.00	0.03	0.24	0.24	0.05	38,918	1.94	0.61
MN - Unmanaged by Federal	49,220.50	0.00	0.00	0.53	0.53	0.01	25,401	98.73	95.65
MN - Managed by Federal	635.37	0.00	0.00	0.53	0.53	0.02	1,156	1.27	4.35
OH - Unmanaged by Federal	110.41	0.00	0.00	0.00	0.00	0.00	0	100.00	
OH - Managed by Federal	0.00								
WI - Unmanaged by Federal	96,519.50	0.00	0.00	0.53	0.53	0.01	213,129	99.00	87.86
WI - Managed by Federal	976.24	0.00	0.03	0.53	0.53	0.07	29,446	1.00	12.14

SUMMARY

Total Area Unmanaged (sq km)	226,649.24	Sum* Total Unmanaged	6,616,169
Total Area Managed (sq km)	3,133.12	Sum* Total Managed	73,579
Total Area (sq km)	229,782.36	Total Sum*	6,689,747

Total Area Unmanaged %	98.64	Sum* Total Unmanaged %	98.90
Total Area Managed %	1.36	Sum* Total Managed %	1.10

* 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.

**Cerulean Warbler 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	0.00	0.17	0.17	0.01	11,377	97.69	88.39
IA - Managed by State	166.51	0.00	0.01	0.16	0.16	0.02	1,495	2.31	11.61
IL - Unmanaged by State	3,278.40	0.00	0.00	0.02	0.02	0.00	1,081	98.80	96.28
IL - Managed by State	39.95	0.00	0.00	0.02	0.02	0.00	42	1.20	3.72
IN - Unmanaged by State	12,948.40	0.00	0.00	0.42	0.42	0.01	6,716	98.75	42.10
IN - Managed by State	163.72	0.00	0.05	0.42	0.42	0.13	9,236	1.25	57.90
MI - Unmanaged by State	56,466.40	0.00	0.04	41.62	41.62	0.71	2,219,610	96.23	34.73
MI - Managed by State	2,210.56	0.00	1.70	42.23	42.23	5.95	4,171,060	3.77	65.27
MN - Unmanaged by State	48,427.60	0.00	0.00	0.53	0.53	0.01	23,424	97.14	88.20
MN - Managed by State	1,428.22	0.00	0.00	0.50	0.50	0.02	3,134	2.86	11.80
OH - Unmanaged by State	101.07	0.00	0.00	0.00	0.00	0.00	0	91.54	
OH - Managed by State	9.34	0.00	0.00	0.00	0.00	0.00	0	8.46	
WI - Unmanaged by State	94,536.00	0.00	0.00	0.53	0.53	0.01	210,091	96.96	86.61
WI - Managed by State	2,959.68	0.00	0.01	0.52	0.52	0.04	32,484	3.04	13.39

SUMMARY

Total Area Unmanaged (sq km)	222,804.21	Sum* Total Unmanaged	2,472,299
Total Area Managed (sq km)	6,977.98	Sum* Total Managed	4,217,450
Total Area (sq km)	229,782.19	Total Sum*	6,689,749

Total Area Unmanaged %	96.96	Sum* Total Unmanaged %	36.96
Total Area Managed %	3.04	Sum* Total Managed %	63.04

* 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.

**Cerulean Warbler 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	0.00	0.17	0.17	0.01	12,871	100.00	100.00
IA - Managed by Tribal	0.00								
IL - Unmanaged by Tribal	3,318.35	0.00	0.00	0.02	0.02	0.00	1,123	100.00	100.00
IL - Managed by Tribal	0.00								
IN - Unmanaged by Tribal	13,112.10	0.00	0.00	0.42	0.42	0.02	15,953	100.00	100.00
IN - Managed by Tribal	0.00								
MI - Unmanaged by Tribal	58,154.70	0.00	0.10	42.23	42.23	1.39	6,390,670	99.11	100.00
MI - Managed by Tribal	522.27	0.00	0.00	0.00	0.00	0.00	0	0.89	0.00
MN - Unmanaged by Tribal	47,959.20	0.00	0.00	0.53	0.53	0.01	26,558	96.20	100.00
MN - Managed by Tribal	1,896.59	0.00	0.00	0.00	0.00	0.00	0	3.80	0.00
OH - Unmanaged by Tribal	110.41	0.00	0.00	0.00	0.00	0.00	0	100.00	
OH - Managed by Tribal	0.00								
WI - Unmanaged by Tribal	96,268.00	0.00	0.00	0.53	0.53	0.01	190,443	98.74	78.51
WI - Managed by Tribal	1,227.65	0.00	0.04	0.18	0.18	0.05	52,132	1.26	21.49

SUMMARY

Total Area Unmanaged (sq km)	226,135.61	Sum* Total Unmanaged	6,637,617
Total Area Managed (sq km)	3,646.51	Sum* Total Managed	52,132
Total Area (sq km)	229,782.12	Total Sum*	6,689,749

Total Area Unmanaged %	98.41	Sum* Total Unmanaged %	99.22
Total Area Managed %	1.59	Sum* Total Managed %	0.78

* 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.