

EASTERN BEWICK'S WREN

RELATIONSHIP BETWEEN EBIRD CHECKLISTS AND LANDCOVER

ARE EASTERN BEWR ASSOCIATED WITH A PARTICULAR HABITAT WE CAN MANAGE FOR?

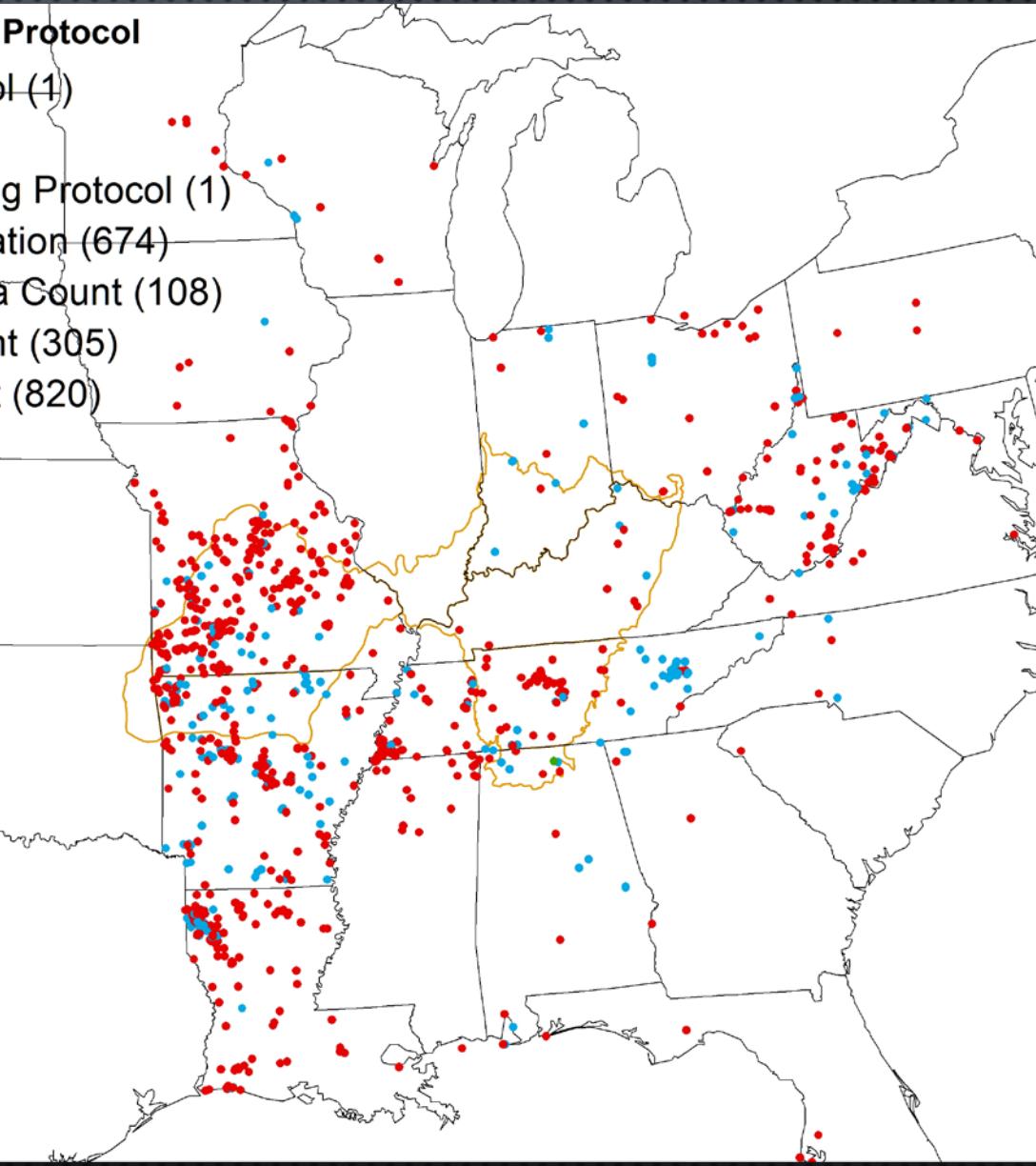
- BUICK'S FOR BEWICKS?
- GLADES?

EBIRD DATA

- 1124 CHECKLISTS
- HISTORICAL RECORDS 1890-2012
- NO CHECKLISTS IN MO UNTIL 1958
- BIAS IN HISTORICAL OBSERVATIONS DUE TO WHICH REGIONS ENTERED DATA
- LIKELY IN MO PRIOR TO 1958 BUT WE LACK DATA
- EBIRD PROTOCOL WELL DISTRIBUTED GEOGRAPHICALLY AND TEMPORALLY

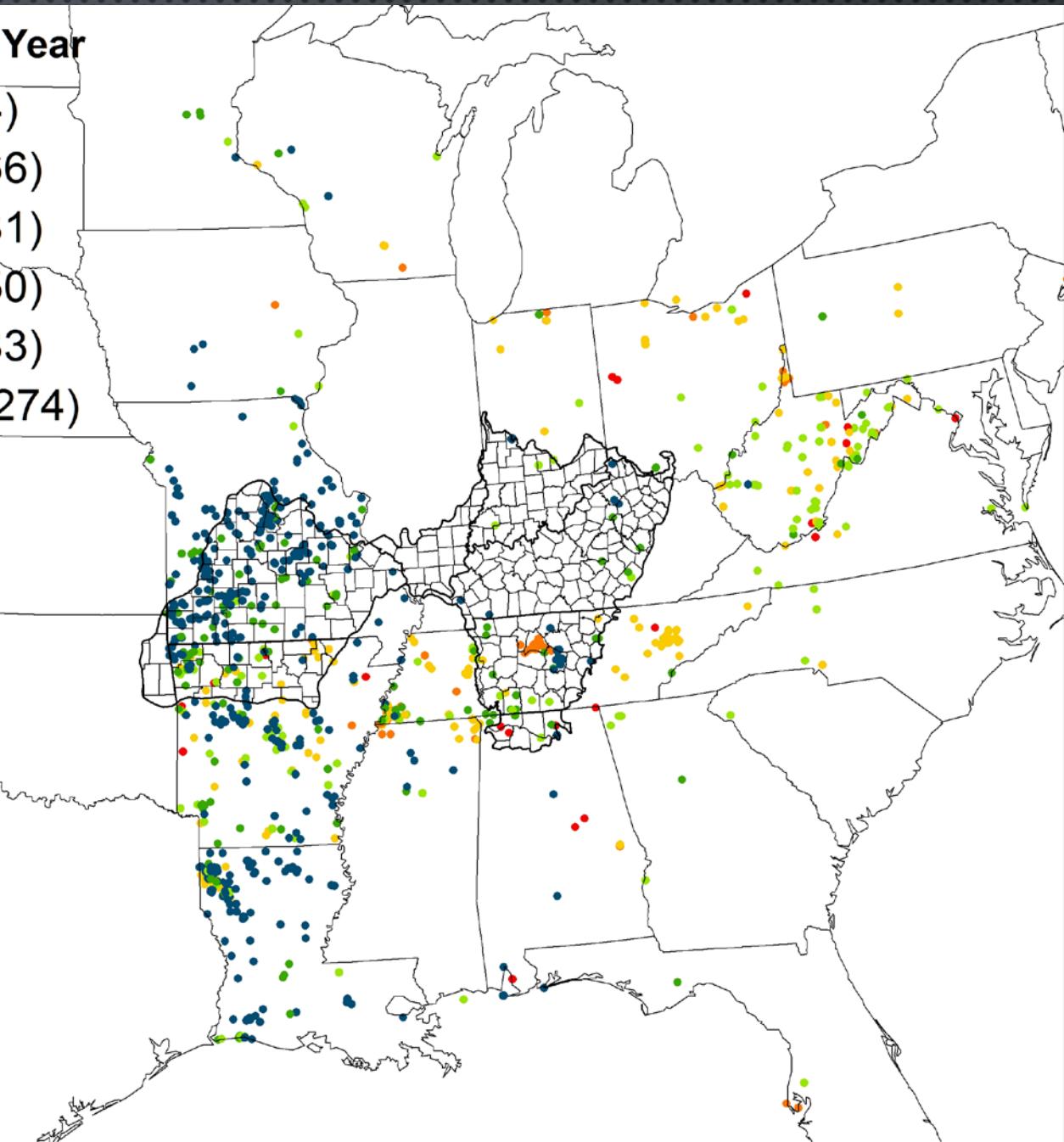
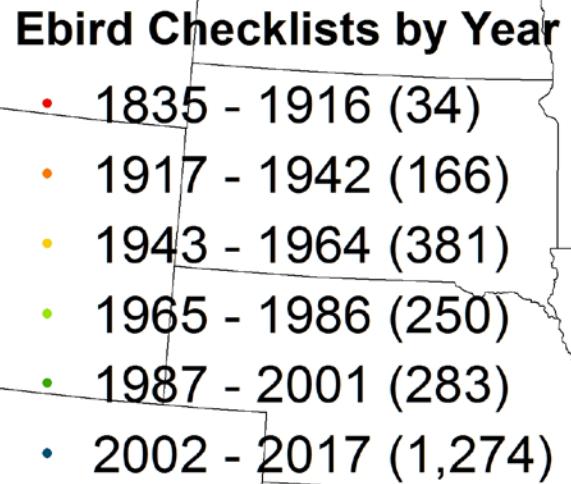
Ebird Checklists by Survey Protocol

- Audubon NWR Protocol (1)
- Historical (472)
- PriMig - Pri Mig Banding Protocol (1)
- eBird - Casual Observation (674)
- eBird - Exhaustive Area Count (108)
- eBird - Stationary Count (305)
- eBird - Traveling Count (820)



EBIRD DATA

- SEEM TO START TO DROP OUT IN EAST AND NORTH EAST
- BIASED BY WHO ENTERED HISTORICAL DATA
- LACK OF OBSERVATIONS IN EAST IN LAST 12 YEARS IS LESS BIASED BY SAMPLING
- FEW BEWR RECORDED EAST OF MISSISSIPPI SINCE 2006

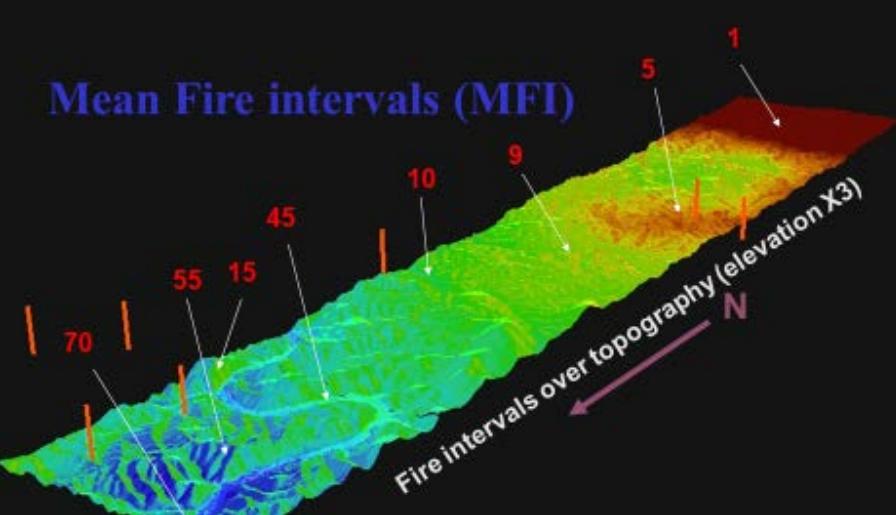
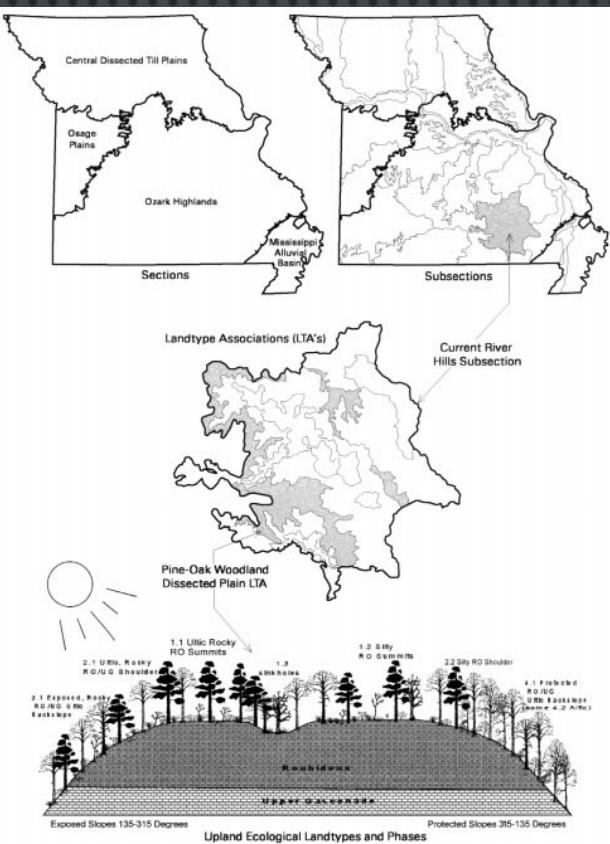
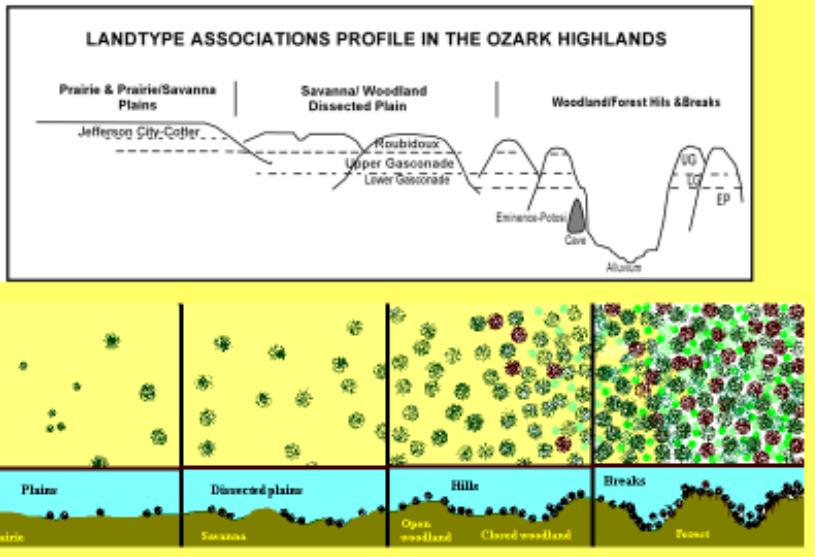


CAN HABITAT EXPLAIN WHERE?

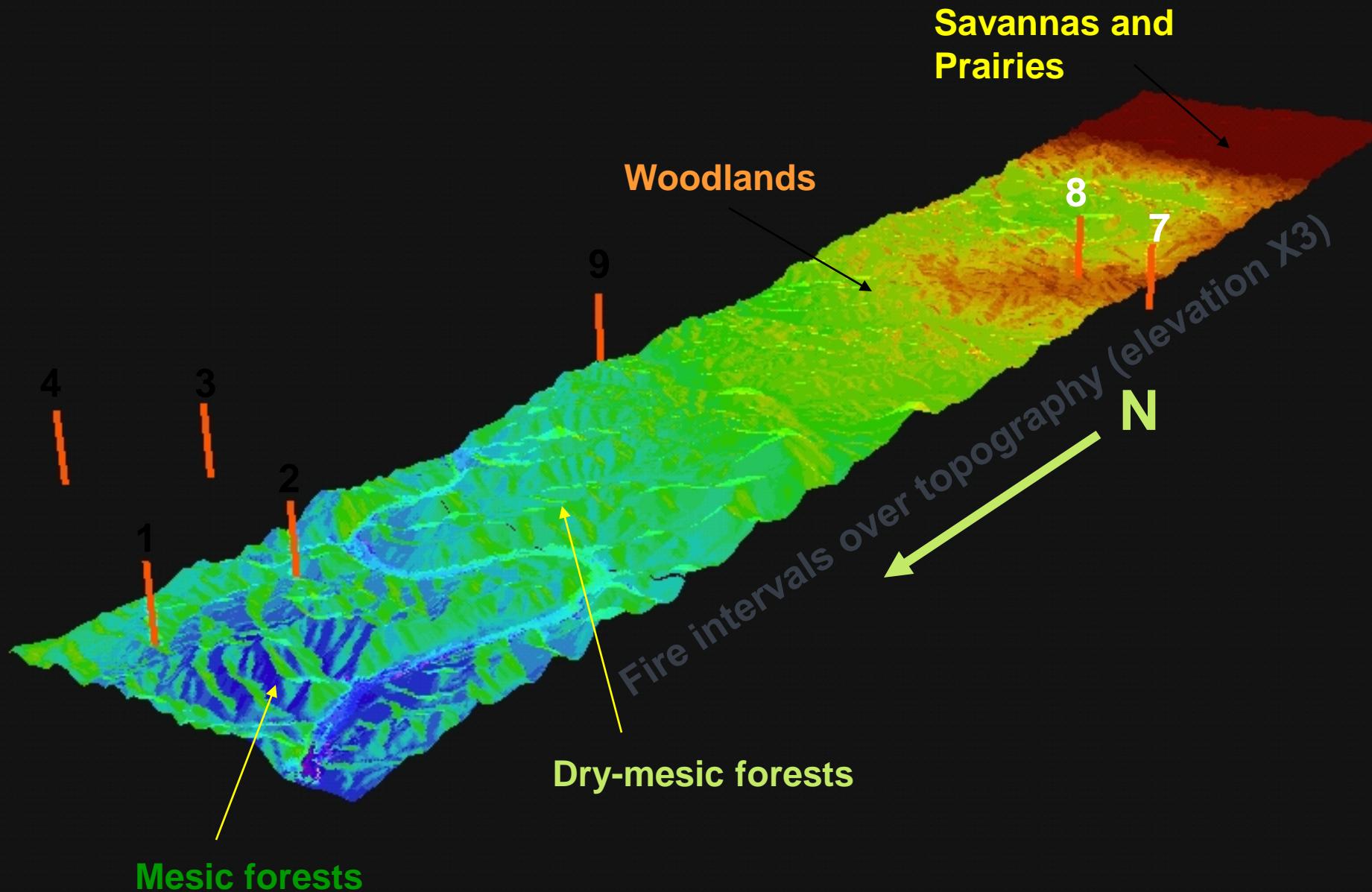
LAND TYPE ASSOCIATIONS AND ECOLOGICAL POTENTIAL VEGETATION

- DEPICTION OF HOW LANDSCAPES TYPES ARE ASSOCIATED WITH GENERALIZED NATURAL COMMUNITIES
- FOLLOWED BY EXPLANATION OF HOW TOPOGRAPHY AFFECTS FIRE INTERVALS
- FIRE INTERVALS AFFECT DISTRIBUTION OF COMMUNITY TYPES

Landscapes and associated habitat types are largely a function of sun exposure, water accumulation and fire breaks and shadowing...

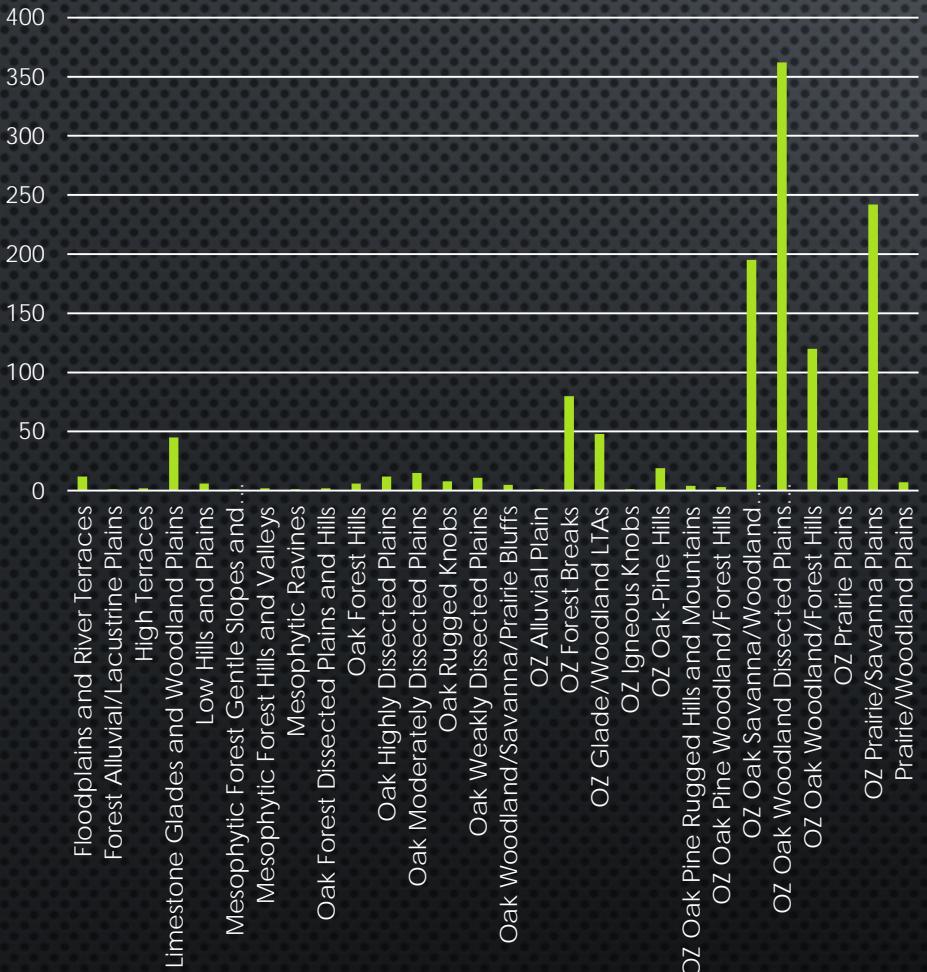


General natural community distributions

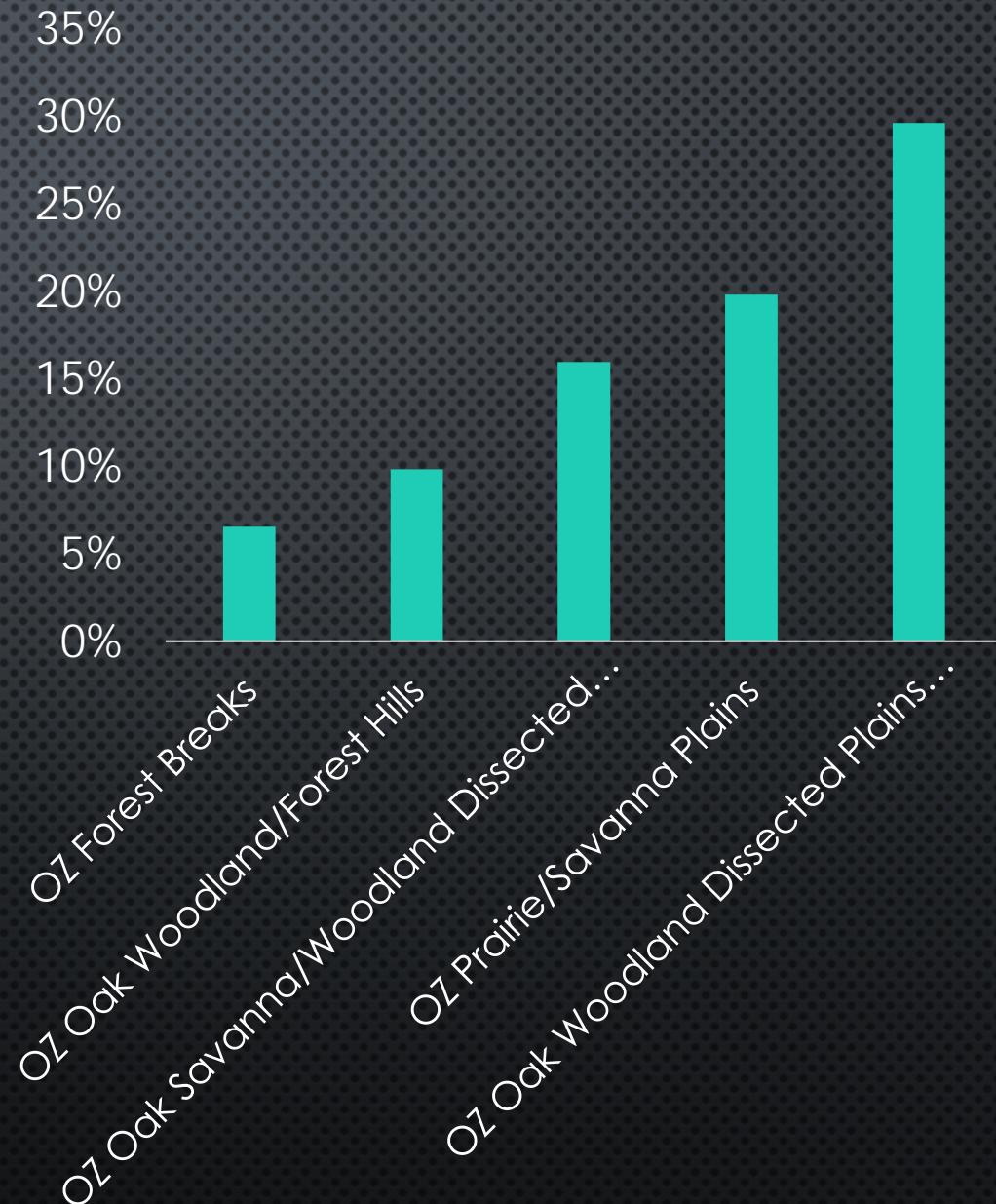


- 52 LTA CATEGORIES BUT ONLY 28 HAD CHECKLISTS WITH BEWR

Number of ebird checklists with Eastern Bewick's Wren by Land Type Association



Proportion of checklists in LTAs with > 5% of total (= 89% of all checklists)

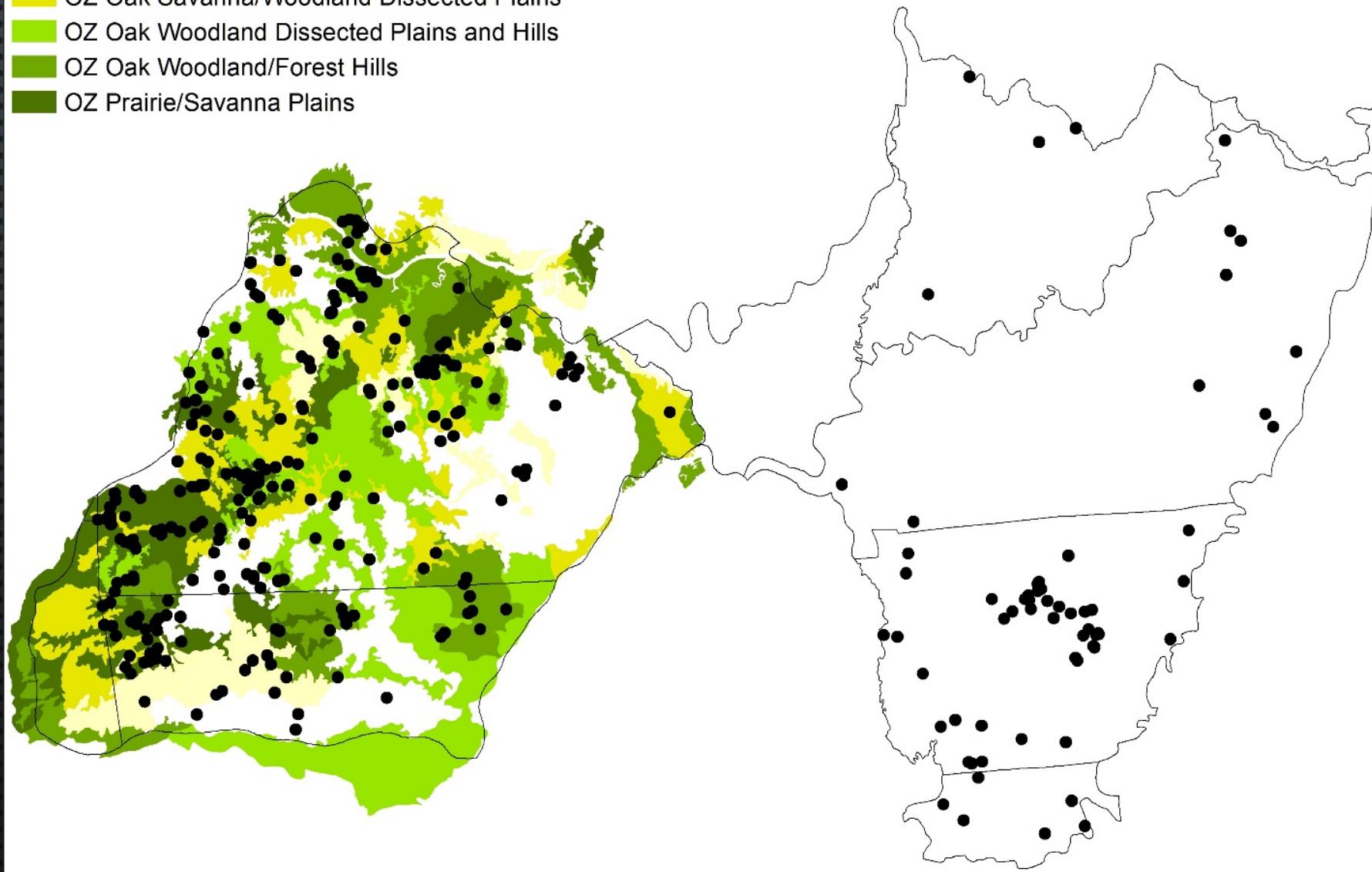


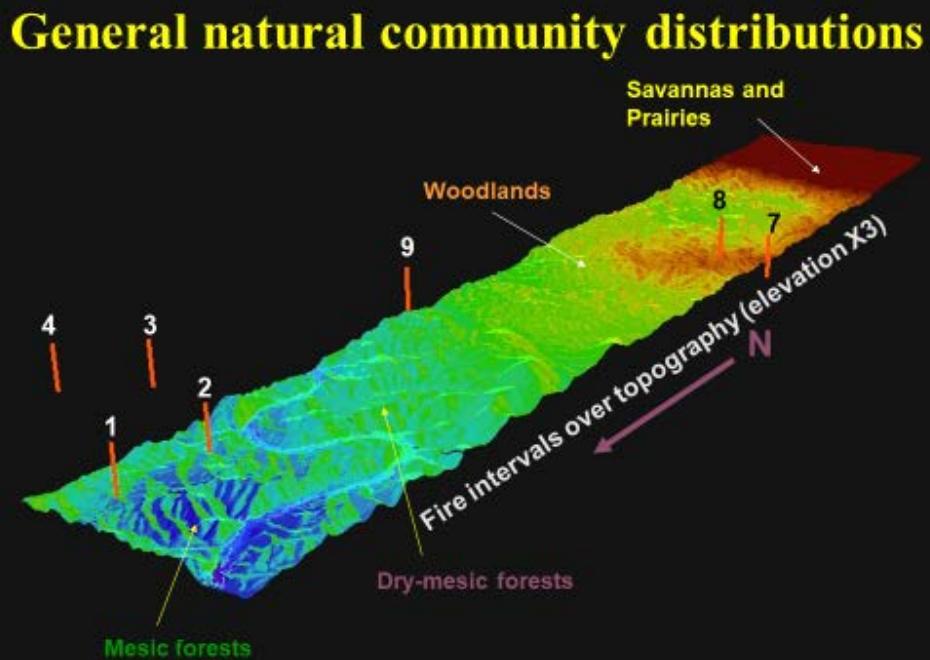
Ebird checklists since 1890 overlaid EPV Open and Closed Oak Woodlands

- BEWR ebird checklists CHBCR

Land Type Associations

- OZ Forest Breaks
- OZ Oak Savanna/Woodland Dissected Plains
- OZ Oak Woodland/Forest Dissected Plains and Hills
- OZ Oak Woodland/Forest Hills
- OZ Prairie/Savanna Plains



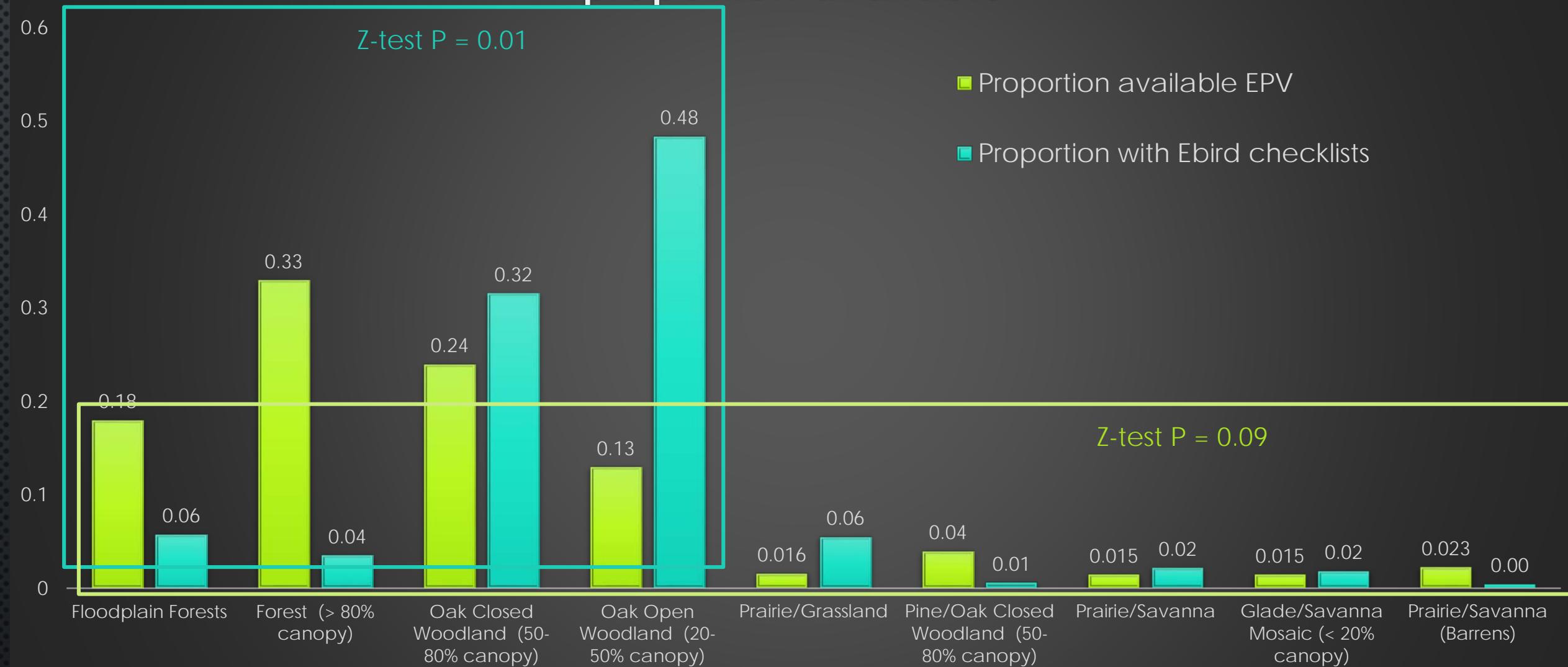


- Potential Vegetation Types**
- 1) Prairie/Grassland
 - 2) Glade/Savanna (< 20% canopy)
 - 3) Oak Open Woodland (20-50% canopy)
 - 4) Oak Closed Woodland (50-80% canopy)
 - 5) Pine/Oak Closed Woodland (50-80% canopy)
 - 6) Forest (> 80% canopy)
 - 7) Pine/Bluestem Open Woodland (20-50% canopy)
 - 8) Prairie/Savanna (Barrens)

LTA Types										
OZ Alluvial Plains										
OZ Prairie Plains										
OZ Prairie/Savanna Plains										
TP Loess Prairie Hills and Blufflands										
OZ Oak Savanna/Woodland Dissected Plains										
OZ Pine-Oak Woodland Dissected Plains										
OZ Oak Woodland Dissected Plains and Hills										
OZ Glades/Woodlands										
OZ Igneous Knobs										
OZ Oak Woodland/Forest Hills										
OZ Forest Breaks										
OZ Oak Pine Hills										

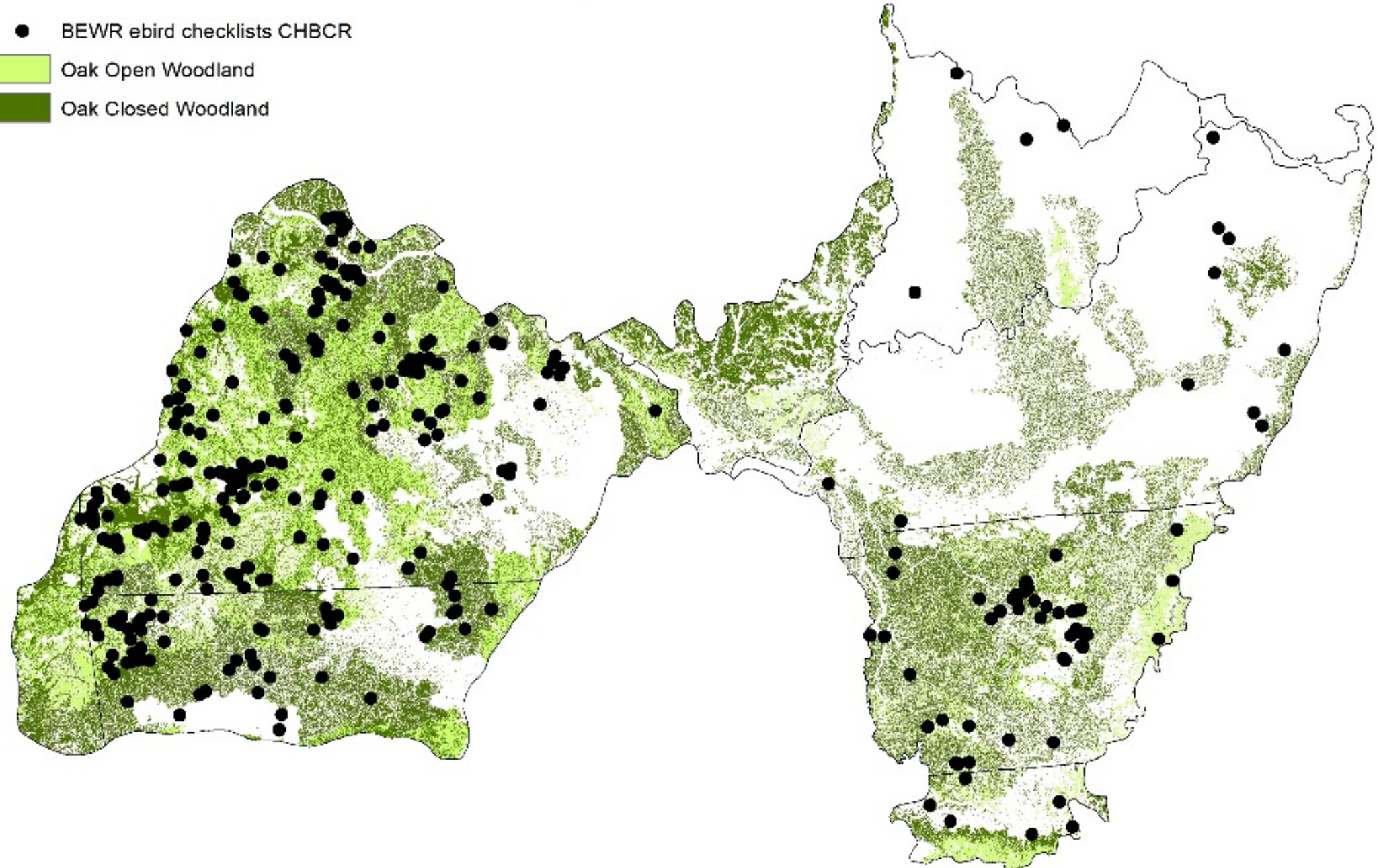
Land Type Associations										
Floodplains	Valleys	Low wet slopes	High wet slopes	Low dry slopes	High dry slopes	Gentle uplands	Flat uplands	Ridges		
Tipton Upland Prairie Plain	6	4	4	4	3	3	8	1	3	
Southeastern Oak Savanna/Woodland Plain	6	6	6	4	4	4	4	4	4	4
Wappapello Oak-Pine Woodland/Forest Hills	6	6	6	5	5	7	7	8	5	
West Bollinger Oak-Pine Woodland/Forest Hills	6	6	6	5	5	7	7	8	5	
Grandin Pine-Oak Woodland Dissected Plain	6	5	5	5	5	7	7	8	5	
Lake Ozark Oak Woodland/Forest Breaks	6	6	6	4	4	4	4	4	6	4
Niangua R. Oak Woodland/Forest Breaks	6	6	6	4	4	4	4	4	6	4
Lower Sac River Oak Woodland Hills	6	4	4	4	4	3	3	3	8	4
Middle Osage River Oak Woodland Hills	6	4	4	4	4	3	3	3	8	4
Truman Lake Oak Woodland Hills	6	4	4	4	4	3	3	3	8	4
Lower Osage R. Oak Woodland/Forest Hills	6	6	6	4	4	3	4	6	3	
Middle Gasconade River Oak Woodland/Forest Breaks	6	6	6	6	4	4	4	6	4	
Fl. Wood Oak Savanna/Woodland Plain	6	4	4	4	4	4	4	3	8	4
Middle Gasconade River Oak Woodland Benchland	6	4	4	4	4	4	3	8	4	
Big Piney Hills Oak Woodland Dissected Plain	6	4	4	4	4	3	3	3	8	3
Upper Gasconade Hills Oak Woodland Dissected Plain	6	4	4	4	4	3	3	3	8	3
Upper Gasconade Oak Woodland Hills	6	6	6	4	4	3	4	6	3	
Lower Gasconade River Oak Woodland/Forest Hills	6	6	6	4	4	3	4	6	3	
Roubidoux Creek Oak Woodland/Forest Hills	6	6	6	4	4	3	4	6	3	
Big Piney River Oak-Pine Woodland/Forest Hills	6	6	6	5	5	7	7	8	5	
Little Piney River Oak-Pine Forest Hills	6	6	6	5	5	7	7	8	5	
Big Piney Pine-Oak Woodland Dissected Plains	6	5	4	5	5	7	7	8	7	
Meramec River Oak Forest Breaks	6	6	6	6	4	4	6	6	4	
Cherryville Oak Savanna/Woodland Plain	6	4	4	4	4	3	3	8	3	
Indian Prairie Oak Savanna/Woodland Plain	6	4	4	4	4	3	3	8	3	
Potosi Oak Savanna/Woodland Plain	6	4	4	4	4	3	3	8	3	
Huzzah-Courtois Oak Woodland Dissected Plain	6	4	4	4	3	3	8	8	3	
Big River Oak Woodland/Forest Hills	6	6	6	6	4	4	4	3	4	
East Meramec Oak Woodland/Forest Hills	6	6	6	6	4	4	4	3	4	
Huzzah Oak Woodland/Forest Hills	6	6	6	6	4	4	4	3	4	

Proportion of Ebird checklists in each EPV compared to proportion available



Ebird checklists since 1890 overlaid EPV Open and Closed Oak Woodlands

- BEWR ebird checklists CHBCR
- Oak Open Woodland
- Oak Closed Woodland



- 3) Oak Open Woodland (20-50% canopy)
 4) Oak Closed Woodland (50-80% canopy)

LTA Types

OZ Alluvial Plains
OZ Prairie Plains
OZ Prairie/Savanna Plains
TP Loess Prairie Hills and Blufflands
OZ Oak Savanna/Woodland Dissected Plains
OZ Pine-Oak Woodland Dissected Plains
OZ Oak Woodland Dissected Plains and Hills
OZ Glades/Woodlands
OZ Igneous Knobs
OZ Oak Woodland/Forest Hills
OZ Forest Breaks
OZ Oak-Pine Hills

Landscape Positions

Land Type Associations

	Floodplains	Valleys	Low wet slopes	High wet slopes	Low dry slopes	High dry slopes	Gentle uplands	Flat uplands	Ridges
Tipton Upland Prairie Plain	6	4	4	4	3	3	8	1	3
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Middle Gasconade River Oak Woodland/Forest Breaks	6	6	6	6	4	4	4	6	4
Ft. Wood Oak Savanna/Woodland Plain	6	4	4	4	4	4	3	8	4
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- 4) Oak Closed Woodland (50-80% canopy)
 5) Pine/Oak Closed Woodland (50-80% canopy)

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Big River Oak Woodland/Forest Hills	6	6	6	6	4	4	4	3	4
East Meramec Oak Woodland/Forest Hills	6	6	6	6	4	4	4	3	4
Huzzah Oak Woodland/Forest Hills	6	6	6	6	4	4	4	3	4

Open and Oak Closed Woodland on Public Lands

- chjv bound with counties (319)
- Open Oak Woodland - 195,063 HA
- Closed Oak Woodland - 565,977 HA

