



**INDIANA AUDUBON QUARTERLY**  
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**Cover photo:** Nesting Sandhill Crane near Pike Lake, *Kosciusko County*, 29 March 2017. Photo by Karla Browning Ellis.

**Back cover photo:** Banded Pileated Woodpecker at Mounds State Park, *Hamilton Co.* on 27 March 2017. Originally banded as a third year female in 2014. This bird is now a sixth year bird (sixth calendar year of life). Photo by Pete Domery.

**CLASSES OF MEMBERSHIP IN THE INDIANA AUDUBON SOCIETY**

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## In Memory of Shirley Keller

Indiana Audubon Society lost a longtime friend and birding great this past winter. This issue is dedicated to Shirley Keller.

Shirley Ann (Golding) Keller, 86, Lincolnshire, Illinois, formerly a long-time resident of Indianapolis, passed away on Monday, February 27, 2017. Mrs. Keller was born in 1930 in Evansville, Indiana.

She met her husband Charles Keller in 1951 which led to a marriage of 64 years, during which they were apart no more than a single weekend. She and Charlie were avid bird watchers and square dancers throughout most of their adult life. As a resident of Indianapolis, she was a member of St. Mark Catholic Church.

Shirley is survived by her husband Charlie; son, Timothy (Pamela) Keller; daughter, Bernadette (Kevin) Caraher; grandchildren, Christopher (Madeleine) Keller, Corinne, Matthew, and Lauren.

The Mass of Christian Burial was celebrated at 11:30 a.m., Saturday, March 4, 2017, in St. Mark Catholic Church. Visitation was held from 4 to 8 p.m., Friday, March 3, 2017, in the Daniel F. O'Riley Funeral Home, 6107 S. East Street (US Hwy 31 South), where morning prayers were said at 11 a.m. Saturday, prior to Mass.



# A Review of Fall Sandhill Crane Migration Through Indiana

*Originally published in the Proceedings of the North American Crane Workshop 13:42-46*

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**Abstract:** The Indiana Division of Fish and Wildlife conducts surveys from October to December to collect long-term data on greater sandhill cranes (*Grus canadensis tabida*). Results from these censuses contribute to a fall index of the Eastern Population, which informs wildlife management decisions and research priorities. Recent findings from the annual U. S. Fish and Wildlife Service Fall Sandhill Crane Migration Survey demonstrate a decline in the number of cranes observed at fall staging areas throughout Indiana since 1979. However, nationwide data exhibit a trend of population increase. I provide evidence to show that the apparent decline in the number of greater sandhill cranes migrating through Indiana does not indicate an actual decline in the Eastern Population but is a consequence of poor detection due to cranes migrating later each year. As a result, I suggest that survey periods be changed to later dates in the coming years to accommodate for this shift in migration chronology.

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During the 18th and 19th centuries, loss of wetland habitat through agricultural expansion and European settlement led to the rapid decline of greater sandhill cranes (*Grus canadensis tabida*) throughout North America (Meine and Archibald 1996, Van Horn et al. 2010). These threats, in combination with unregulated hunting, nearly drove the Eastern Population (EP) to extirpation. However, conservation measures throughout the 1900s, such as the Migratory Bird Treaty Act of 1918 and various pieces of legislation to protect wetlands (e.g., Clean Water Act of 1977, North American Wetlands Conservation Act of 1989), resulted in a resurgence of the population in recent years. Between 1966 and 2007, the North American Breeding Bird Survey showed a significant expansion of the EP in the upper Midwest with an average growth of 9.6% per year (Van Horn et al. 2010). Likewise, the Ontario Breeding Bird Atlas (BBA) documented a rise in the likelihood of detecting a breeding sandhill crane from 12% in the first BBA (1981- 1985) to 33% in the second BBA (2001-2005) (Van Horn et al. 2010). The EP is now conservatively estimated at 80,000 to 100,000 cranes (Van Horn et al. 2010).

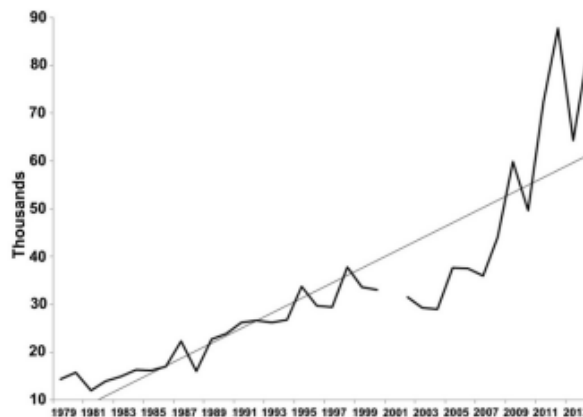
A similar history can be told of the EP sandhill cranes breeding in Indiana. Sandhill cranes were considered occasional summer residents nesting in northwest Indiana in the late 1800s (Castrale and Bergens 2000). Loss of wetlands through the early 1900s resulted in an absence of breeding cranes in Indiana for 53 years (Mumford and Keller 1984, Castrale and Bergens 2000). Not until 1982 was a nest reported again in northern Indiana and since then, the breeding population has steadily increased and expanded in range (Castrale and Bergens 2000). Records from the first Indiana BBA (1985-1990) report 7 blocks with confirmed breeding evidence in 4 counties in the northeastern corner of the state (Castrale et al. 1998). Twenty years later, the second BBA (2005-2011) lists 35 blocks with confirmed breeding evidence in 14 counties scattered throughout the north and reaching the western border in Newton County (USGS 2015). Castrale and Bergens (2000) suggest the westward expansion of nesting cranes was the result of a growing breeding population from nearby Michigan. Furthermore, recent reports suggest a southward expansion based on successful nesting at Wilbur Wright Fish and Wildlife Area (FWA) in Henry County and nesting attempts at Goose Pond FWA in Greene County (A. Kearns, Indiana Department of Natural Resources, personal communication).

It is evident that the protection of wetland habitat and the regulation of hunting have contributed to the recovery of sandhill cranes. However, as the population continues to increase and expand into areas of poor and declining habitat, human-wildlife conflicts will certainly increase. In addition, disease and other risks associated with living in a human-altered landscape will increase (Meine and Archibald 1996). Without periodic surveillance of the population, responsible management of sandhill cranes to address issues such as these would not be possible. As a commitment to the U. S. Fish and Wildlife Service (USFWS), the Indiana Division of Fish and Wildlife (DFW) conducts surveys from October to November to collect long-term data on greater sandhill cranes. Results from these censuses contribute to a fall index of the EP, which informs wildlife management decisions and research priorities. This index is by no means a statistically accurate estimate of population size, but instead measures relative abundance to detect population trends (Van Horn et al. 2010). The Indiana DFW also conducts surveys at Jasper-Pulaski FWA from October to December to provide additional support in tracking the population. A large portion of the EP rests and refuels during the fall migratory season in the Kankakee River Valley in northwest Indiana, particularly, at or near Jasper-Pulaski FWA. With peak numbers reaching greater than 30,000 cranes in the past, counts at Jasper-Pulaski FWA provide a reliable proxy that contributes to the status of the EP.

Together, these surveys fulfill state monitoring requirements that inform management needs and assist in the early detection of threats to the population. Data from the 2015 USFWS fall sandhill crane survey and the fall crane surveys at Jasper-Pulaski FWA are discussed herein. Both surveys have been conducted for many decades (USFWS since 1979, Jasper-Pulaski FWA since 1967) and provide long-term data to detect population trends.

## METHODS

**Statewide USFWS Fall Sandhill Crane Survey** The USFWS fall survey is a long-term survey established in 1979 which consists of efforts by volunteers and state and federal agencies from the Atlantic and Mississippi flyways (Wisconsin, Michigan, Indiana, Tennessee, Georgia, and Florida) (Fronczak 2014). The main goal of the survey is to provide an estimate of the size and trend of the EP cranes and is focused on counting cranes that concentrate in Indiana, Michigan, and Wisconsin during fall migration (Fronczak 2014). The survey was initially designed to begin the last week of October when cranes were concentrated in the 3 latter states (Van Horn et al. 2010). The initial survey conducted in 1979 counted 14,385 cranes and recent counts in 2014 have increased to 83,479 cranes with a 3-year average of 78,532 cranes for 2012-2014 (S. Kelly, USFWS, personal communication; Figure 1). Despite the significant rise in cranes observed during this period, the survey greatly underestimates the number of EP cranes. A study by Fronczak (2014) that tracked migrating cranes found that between 21% and 31% of tagged cranes were not in staging areas included in the USFWS survey. In an attempt to detect these cranes, a second period count in



**Figure 1. Number of sandhill cranes observed in the Eastern Population during the USFWS fall surveys from 1979 to 2014 (S. Kelly, USFWS, personal communication). No survey was conducted in 2001.**

November was initiated in 2014. A larger portion of the EP cranes is expected to be associated with staging areas at this time (Fronczak 2014).

To coincide with these changes, Indiana surveyors counted sandhill cranes during 2 survey periods (28 October-4 November and 9-13 November) in 2015. Surveyors were strongly encouraged to conduct the survey on the first day of each period, herein named target dates. If surveys were conducted on days other than the target dates, results were listed under the target date if the survey day fell within its respective survey period. Twenty-three surveyors were placed at 17 locations throughout the state; more locations concentrated in the north, thus maximizing the potential to detect most of the population as they are beginning their southward migration through Indiana. Surveyors were encouraged to conduct 1-hour long counts starting either 30 minutes before sunrise or 30 minutes before sunset in order to observe cranes leaving or entering their roosts. Surveyors then completed a standard form, indicating time, GPS location, weather conditions, number of cranes, methods, and habitat type found at the site. The length, timing, and methods used to conduct the counts were at the discretion of the surveyor, thus there was little consistency in protocol. The nature of this article is to ultimately report the number of cranes observed, without correlating count data to hours of effort, methodology, habitat type, and other variables.

### **Fall Sandhill Crane Counts at Jasper-Pulaski FWA**

Greater sandhill cranes were counted once per week from 6 October to 6 December 2015 at Jasper-Pulaski FWA. In total, 11 surveys were conducted during this period. Four to 5 observers were stationed at the observation deck (41.14036°N, 86.92343°W) and counted cranes that left the nearby roost. On average, the survey lasted 2 to 3 hours in the morning.

## **RESULTS**

### **Statewide USFWS Fall Sandhill Crane Survey**

The first day of the USFWS sandhill crane survey was overcast with occasional rain. Most of Indiana encountered rain storms throughout the day, which were associated with Hurricane Patricia. Temperatures ranged from 1.7 to 12.8°C (35 to 55°F). A total of 8,593 cranes was detected (Table 1).

Weather conditions were calm and partly cloudy to sunny on the second target date of the USFWS survey. Temperatures varied between -1.7 and 11.1°C (29 and 52°F) depending on the time of day. Notable changes in crane numbers over the past year included Pigeon River FWA, which received nearly double the amount of cranes seen the previous year on the same target date. A total of 10,920 cranes was observed (Table 1).

Overall, Pigeon River FWA, private agricultural fields south of Kingsbury FWA, and Jasper-Pulaski FWA were major sites with cranes in 2015, and 1,635, 2,700, and 14,830 individuals were counted in those areas, respectively. A new site, the Northern Indiana Public Service Company (NIPSCO) power plant, had 4,150 cranes counted there and will be considered an important survey site in future counts. The total number of observed cranes in 2015 was 19,513 (Table 1).

### **Fall Sandhill Crane Counts at Jasper-Pulaski FWA**

**Table 1. Number of cranes observed at each location during 2 survey periods (28 October and 6 November target dates), Fall Sandhill Crane Survey, U.S. Fish and Wildlife Service, 2015. Counties are listed in order from north to south. N/A = no data available for 2014.**

County	Location	28 Oct	9 Nov	Change from 2014
Elkhart	Lieber Preserve/Pipewort Pond	2	2	+4
Elkhart	Boot Lake	88	159	N/A
LaGrange/Steuben	Pigeon River FWA	287	1,348	+550
LaPorte	Kingsbury FWA	0	0 <sup>c</sup>	-8
LaPorte	Farm fields south of Kingsbury FWA	1,200	1,500	+796
Kosciusko	Tri-County FWA	0	0	N/A
Kosciusko	Pisgah Marsh/Durham Lake	34	45	N/A
Jasper/Pulaski	Jasper-Pulaski FWA	7,010 <sup>a</sup>	7,820 <sup>c</sup>	+912
Jasper	NIPSCO power plant	1,516 <sup>b</sup>	2,634 <sup>d</sup>	N/A
Newton	Willow Slough FWA	6	3	+8
Henry	Blue River/Knightstown Reservoir	0	0	0
Johnson	Atterbury FWA	0	0	0
Franklin/ Union	Brookville Reservoir	0	0	0
Monroe	Monroe Reservoir	0	0	-5
Greene	Goose Pond FWA	0	88	+88
Jackson	Muscatatuck National Wildlife Refuge	0	0	-185
Jackson	Ewing Bottoms	0	0	0
	<b>TOTAL</b>	<b>8,593</b>	<b>10,920</b>	<b>+2,297</b>

<sup>a</sup> Surveyed 29 Oct.

<sup>b</sup> Surveyed 30 Oct.

<sup>c</sup> Surveyed 10 Nov.

<sup>d</sup> Surveyed 13 Nov.

A steady rise in the number of cranes migrating through Jasper-Pulaski FWA was reported in October by property staff: 3,400 observed on 6 October, 5,000 on 13 October, 6,526 on 20 October, and 7,010 on 29 October. November censuses demonstrated alternating rise and fall of numbers with 8,890 observed on 5 November, 7,820 on 10 November, 8,282 on 17 November, and 6,000 to 8,000 on 24 November. This was atypical, as in previous years, the number of observed cranes continuously rose until the peak count was reached. An accurate count could not be determined on 24 November because of foggy conditions. Larger totals were observed in the following weeks: 16,470 on 1 December, 17,235 on 8 December, and 18,330 on 16 December (Figure 2).

The last day of the count was 16 December, so it remains uncertain whether peak numbers were reached after this date. Because of this, 16 December will be treated in the analysis as the date when peak numbers were reached.

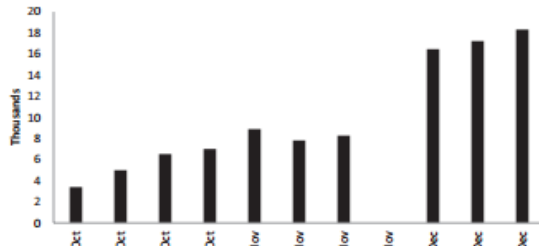
## DISCUSSION

During the 2015 USFWS fall sandhill crane survey, most cranes were counted at properties in northern Indiana, suggesting that sandhill cranes were beginning their journey through the state. Eight of 10 northern properties received cranes, whereas 1 of 7 did in central and southern Indiana. Arrivals of cranes were also expected to be delayed given an unseasonably mild fall in 2015. Thus, numbers were expected to be lower than those of the previous year. The count of 2015 instead exceeded the previous year by 2,297 individuals. Elevated numbers of cranes likely derived from a new site (i.e., NIPSCO power plant) being added to the list of survey locations (Table 1). The NIPSCO power plant has recently provided a roosting site near Jasper-Pulaski FWA (a major stopover site) that is becoming more popular among cranes. Without the addition of the NIPSCO power plant site, altogether 15,363 cranes would have been observed in 2015, 1,853 cranes below that of the Figure 3. Number of sandhill cranes migrating through Indiana from 1979 to 2015 during the fall USFWS survey. No survey was conducted in 2001. Data from

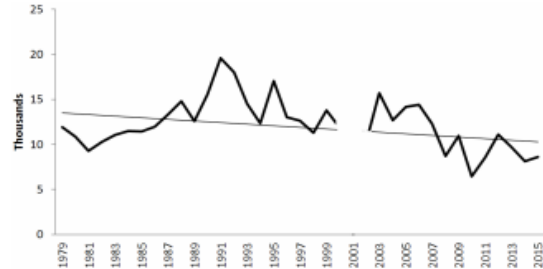


the second survey period in 2014 and 2015 are excluded. Increasing detection is a goal that is strived for each year to improve the precision of these surveys.

been observed in 2015, 1,853 cranes below that of the



**Figure 2.** Number of sandhill cranes found during surveys conducted at Jasper-Pulaski FWA, Indiana, fall 2015. Fog prevented an accurate count on 24 November 2015.

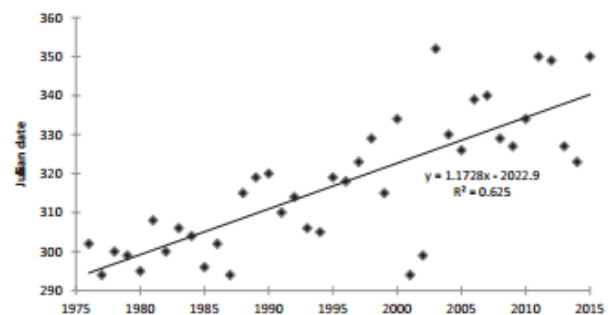


**Figure 3.** Number of sandhill cranes migrating through Indiana from 1979 to 2015 during the fall USFWS survey. No survey was conducted in 2001. Data from the second survey period in 2014 and 2015 are excluded.

A single rise in crane numbers does not imply a consistent upward trend of the population. This can be determined by long-term data, which provide patterns of population changes over time. Figure 3 demonstrates the number of cranes observed in Indiana during the fall USFWS survey since 1979. Although the trend is negative, I do not conjecture that the EP is steadily declining. An opposing trend of population expansion is apparent in the multi-state data provided by the USFWS (Figure 1). Instead, the apparent overall decline may be the result of poor detection due to cranes migrating later each year.

A delay in migration is evident in survey data from Jasper-Pulaski FWA. Peak numbers were expected to occur during November (J. Bergens, Indiana Department of Natural Resources, personal communication), but instead were reached in early December in 2015 (Figure 2). This, I conjecture, is due to a late migration caused by unseasonably mild weather. Further evidence of a delayed migration is shown in Figure 4, which demonstrates that, on average, peak numbers of migrating cranes have been delayed by 1.17 days each year since 1976 (J. Bergens, Indiana Department of Natural Resources, unpublished data).

Fall migration times are shifting to later dates. This, in turn, may prevent surveyors from detecting cranes since more cranes are remaining in the summer breeding areas for a longer period of time instead of moving to staging areas where they could be counted during the surveys. Lacy et al. (2015) suggested that, during mild winters, cranes tend to initiate migration later and stage farther north. This likely explains the apparent decline in cranes detected during the USFWS fall survey since 1979. However, the USFWS survey has not altered the dates of its first target survey period. I suggest that survey periods be changed to later dates in the coming years to accommodate this shift in migration. When data from this year are added to the historical data and long-term changes in weather patterns are considered, I suspect that the data will show that there have been no drastic changes in the status of the EP of sandhill



**Figure 4.** Julian dates of peak counts of sandhill cranes at Jasper-Pulaski FWA, Indiana, from 1976 to 2015 (J. Bergens, Indiana Department of Natural Resources, personal communication). Regression shows mean increase of 1.17 days per year since 1976. Julian dates of 290 to 360 = 17 October to 26 December in a normal calendar year.

cranes. Rather, the data will show that the EP is expanding at a steady rate.

In addition, a 3-year roadside sandhill crane productivity study was concluded in 2015 within the Kankakee River Valley. Juveniles and adults were counted throughout private agricultural fields near Jasper-Pulaski FWA. Results from these surveys show that annual sandhill crane productivity averaged 9%, comparable to levels observed in the early 1980s within the same area (D. Fronczak, USFWS, personal communication). From the annual USFWS census data and the productivity survey, the EP of greater sandhill cranes appears stable.

### **ACKNOWLEDGMENTS**

I thank all of the volunteers, DFW property managers, and USFWS staff that participated in this survey. With the coordinated efforts and dedicated hard work of our participants, these data were compiled swiftly and efficiently. Thank you J. Bergens and DFW staff who reported weekly on the status of the sandhill crane migration through Jasper-Pulaski FWA. Special thanks to D. Fronczak for inviting me to participate in the productivity survey and providing a summary of its results. Also, thanks to D. Fronczak and D. Slack for editing this report. Wildlife Diversity efforts were funded by State Wildlife Grants and the Indiana Nongame Fund through donations to the state income tax checkoff.

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# Winter Indiana Field Notes 2016-2017

By **Kenneth J. Brock**

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Despite a cooler than normal December, as a whole the winter was quite balmy. Indeed, February was incredibly warm (see table). The mild temperatures led to an interesting winter for the avifauna.

Departure from Normal: Indianapolis		
	°F	Precip. Inches
<b>Dec</b>	-1.3	-1.65
<b>Jan</b>	+6.8	+1.69
<b>Feb</b>	+11.2	-1.22

Indiana's winter birds were quite extraordinary. Across the state a plethora of semi-hardy species were recorded in record numbers. These included American Woodcock, Eastern Phoebe, Brown Creeper, Winter Wren, Ruby-crowned Kinglet, Hermit Thrush, Brown Thrasher, Orange-crowned Warbler, Palm Warbler, Pine Warbler, Yellow-rumped Warbler, and Chipping Sparrow. A word of caution, a larger than normal number of birders contributed to the above records, it is impossible to know exactly how much increased observation contributed to these high totals.

Late departing autumn birds included Common Tern, Summer Tanager, White-eyed Vireo, and Barn Swallow. Additionally, a fair number of spring migrants arrived much earlier than normal. The unusually early species logged this winter included both Yellowlegs, Least Sandpiper, Pectoral Sandpiper, Fish Crow, and House Wren.

STYM (Indiana twenty-year mean) gives the average number of birds reported in Indiana over the past 20 years.

## WATERFOWL

### GEESE AND SWANS

It was another fabulous winter for this group with record winter numbers for two species (the below species marked with "\*" had record winter totals).

Ross's Goose:- The record numbers were scattered across all three tiers; however, a majority was in the southern tier. The maximum daily tally was (30) that Brian Lowery logged at the Ewing Bottoms (Jackson Co) on 21 January.

GEESE & SWANS		
Species	Reported	STYM
GWFG	62,019	21,069
SNGO	996,738	315,435
ROGO*	222	39.3
CAGO	150,127	81,937
CKGO	111	89.8
MUSW*	1257	437.7
TRUS	900	286.6
TUSW	815	370.7

### DUCKS

It was a fine winter for ducks. Dabblers fared quite well with every species reported in above normal numbers. Among the divers only Greater Scaup appeared in below average numbers. Harlequin Duck went unreported, otherwise sea duck numbers were above normal. Hooded and Red-breasted numbers were up, but Common Mergansers were down slightly.

Blue-winged Teal:- The season total was a record 50 birds (STYM=6.1). The peak count was

(12), which Peter E. Scott logged at the Chinook Mine (Clay Co) on 27 February. The latter is also Indiana's second largest winter count.

**Cinnamon Teal**:- Two males, one rather pale, were described and photographed by Bob Huguenard at Kankakee FWA (LaPorte Co) on 22 February. This is Indiana's earliest "spring" record (by one week). One of these birds lingered until 24 February (Edward M. Hopkins).



**Cinnamon Teal (2) at Kankakee Fish and Wildlife Area, LaPorte Co., 22 February 2017. Photo by Bob Huguenard.**

**Surf Scoter**:- Garrett MacDonald found (2) at Prairie Creek Res. on 12 December for the season's only inland record.

**White-winged Scoter**:- Four singletons were reported at inland locations. A long staying bird at Heritage Lake was discovered by Carl Huffman on 28 November and last reported 19 February (Garrett MacDonald). Tom Becker also reported one at the Lake Gibson power plant on 8 December, "Ma Martin" logged one at Eagle Creek Park on 22 January, and Matt S. Kalwasinski found one in southern Lake Co on 12 February.

**Black Scoter**:- A female was found at Eagle Creek Reservoir on 2 December (Kirk Roth). There were no other reports away from Lake Michigan.

**Long-tailed Duck**:- It was an above average winter for this species with 49 reported (STYM=21.7) across the state.

**Red-throated Loon**:- The only record away from Lake Michigan involved a singleton at Lake Monroe on 18 December (James D. Hengeveld).

**Pacific Loon**:- On 1 December Eric Ripma discovered (1) at the Eagle Creek Reservoir. The following day Kirk Roth observed a total of (3) at this location. On the Lake Monroe CBC the Hengevels, Alex Tanford, Jeff & Sandy Belth, Cindy Kallet, and Jeff Riegel had (2) side-by-side Pacific Loons that were visible from Jaeger Point.

**American White Pelican**:- It was a record winter for this pelican with 904 tallied (STYM=93.8). The season's maximum count was (383), which is an record winter total. Most birds arrived in late February, but Grant Burcham had (55) at Goose Pond (unit GP-7) on 25 January, which is Indiana's largest January count.

**Great Egret**:- On 1 February Mark Arvin found (1) at Prophetstown S.P., which provided Indiana's second record for the month of February.

**American Coot**:- During a 7 December DNR weekly waterfowl survey, Bridget A. Stancombe logged (20,101) Coots, which is Indiana's all-time largest single party count.

**Killdeer**:- During the warm late February weather this plover arrived in droves with a

phenomenal 1202 reported for the month (STYM for February is 219). The season's peak tally was the (95) that Steve Lima logged on the Vigo Co bottoms 26 February.

Greater Yellowlegs:- The (3) that Amy Kearns logged in Field B (Goose Pond FWA) on 22 February constitute an all-time early arrival date for Indiana (by two days).

Lesser Yellowlegs:- Bob Huguenard found (1) at the Dick Blythe Refuge (s. LaPorte Co) on 21 February. This record ties Indiana's fourth earliest and provides the first winter record for the northern tier of counties.

Least Sandpiper:- A phenomenally early arrival date for the northern tier was set 26 February when Bob Huguenard photographed (1) at Kankakee FWA (LaPorte Co). The next earliest report for the northern tier occurred on 24 March 2012.

Pectoral Sandpiper:- The (7) that Michael R. Brown found 23 February on the Wabash River floodplain (Vigo Co) provided Indiana's first February record. The state's previous earliest spring record occurred on 4 March 1992. However, a singleton that Lynn H. Vernon found 25 February at Kankakee FWA (LaPorte Co), provided the northern tier's first winter record.

Purple Sandpiper:- Don Gorney did it again. In 2015 Don found the year's first Purple Sandpiper on 31 December and this year he nailed the season's first at the Port of Indiana on 24 December.

American Woodcock:- Record warm late February days stimulated a flood of displaying woodcocks, yielding a record 293 birds. For the entire winter 298 were logged (STYM=47.9).



**Early American Woodcock seen by Brian Lowry at Meadow Glen Farm, Scott Co., 07 February 2017.**

## **GULLS**

Interestingly, the 2016-17 season's "best" gulls occurred on rivers in St Joseph and Elkhart counties. These were apparently landfill birds that roosted at appropriate sites on nearby rivers. Winter gulls on Lake Michigan were mediocre to poor.

Black-legged Kittiwake:- This winter's only record occurred 8 December when Brendan J. Grube logged (1) at the Dunes S.P. Green Tower site (TYM=2.2).

Laughing x Ring-billed Gull:- A bird of this heritage was at Michigan City Harbor on 3 December (John K. Cassady, Ryan J. Sanderson, Lynn H. Vernon, and many others).

Thayer's Gull:- Adults, photographed on the St. Joseph River at Baugo Bay on 1 February and near Elkhart on 4 February (Eric Michael), provided the northern tier's fourth and fifth inland records. The two sites are about three miles apart. Eric also found four birds (3 adults & a 3<sup>rd</sup> cycle) near the town of Elkhart on 11 February.

Iceland Gull:- Two inland records were logged this winter. The first involved an immature bird that Eric Michael found near Bremen (Marshall Co) on 19 January. Jeffrey J. McCoy logged an adult on the St Joseph River at Baugo Bay (near Elkhart) on 3 February

Common Tern:- Stephanie Fields logged Indiana's third December record on the 14<sup>th</sup> at Paynetown on Lake Monroe.

Snowy Owl:- Two birds were reported this winter, both at inland sites. The first was found in Tipton Co on 3 December and lingered until 10 January (Amy Hodson). Jeffrey Timmons discovered the second in Madison Co on 21 January.

Prairie Falcon:- On the Gibson Co CBC Dan Collins, David Ayer, and Evan Speck logged Gibson County's fourth record. Steven Gilstrap described another at Sandborn on 4 February.

Eastern Phoebe:- For the season some (60) birds were logged (STYM=8.90). The (4) birds observed by James H. Campbell along Asbury Cemetery Road (Warrick Co) on 21 February, constituted the season's largest winter count.

Northern Shrike:- Shrikes remained exceptionally scarce on the lakefront, but the state's winter tally is slightly above average with 24 reported (STYM=21.3). Steve Lima logged the only multiple shrike tally with an adult and immature at the Universal Mine on 18 February.

White-eyed Vireo:- John Meredig found a dark-eyed first-cycle bird at Angel Mounds Historic Site on 30 December. This is Indiana's latest December record (a single January record also exists).



**Record late White-eyed Vireo by John Meredig at Angel Mounds Historic Site, Vanderburgh Co., 30 December 2016.**

Fish Crow:- A first Indiana record for February was logged at Howell Wetlands Park (Vanderburgh Co) on the 28<sup>th</sup> (Bob Meier).

Tree Swallow:- The (36) that Robert Guth logged at Muscatatuck NWR (Jennings Co) on 25 February constitutes a record winter count for Indiana. The next highest tally of 23, was logged on 23 February of last year.

Barn Swallow:- Vern Wilkins identified (1) at Lake Sullivan on 12 December, providing Indiana's third latest and third December record.

Red-breasted Nuthatch:- It was an unusually good winter for this nuthatch with 353 reported (STYM=102). The largest count of (9) was recorded at Deam Lake on New Years Day (Tom and Colleen Becker).

Brown Creeper:- For the season 512 were reported (STYM=106). The (13) that Mark Arvin tallied at the Tippecanoe Co Amphitheater on 20 December constitutes Indiana's second largest winter tally.

House Wren:- Eric Michael had a singing bird at Baugo Bay (Elkhart Co) on 18 February, which provided Indiana's second record for this month.

Sedge Wren:- Rhiannon Thunell saw and heard (1) at Goose Pond FWA on 22 January. This is Indiana's second January record and the first in exactly 50 years.

Townsend's Solitaire:- Terry Ballenger logged the first Madison Co record at the Perkinsville Cemetery on 12 January. The bird lingered through the end of the period. That species has now been recorded in six Indiana counties.



The Perkinsville Cemetery Townsend's Solitaire was a dependable sighting for most visiting birders. Amy Hodson photographed the bird on 12 January 2017.

Hermit Thrush:- A total of 84 was reported for the season (STYM=27.4). The (11) that Jim and Susan Hengeveld logged on the Patoka Lake CBC (Orange Co) constitutes Indiana's second highest winter count.

Orange-crowned Warbler:- For the second consecutive year an Orange-crowned was reported in January. This year's bird visited Katie Vitolins Hamilton Co feeder from 6 to at least 10 January. For the season 16 were reported, which is far above the STYM of 2.0.

Palm Warbler:- Record winter numbers were reported with a season total of 29 (STYM=2.95). The (5) that Stuart Tower logged at the Cane Ridge on 1 January constitute Indiana's second largest winter record.

Yellow-rumped Warbler:- A record winter total. The flock of (50) that David Carr found at the Oxbow near Lawrenceburg constituted Indiana's fifth largest winter count.

Yellow-throated Warbler:- The bird that came to Cindy Breedlove's Morgan Co yard in mid-November was still present on 1 January. This is Indiana's second January record.

Eastern Towhee:- On 20 December Jim and Susan Hengeveld logged a winter record (54) on the Patoka Lake CBC (Orange Co). This tally, along with five other counts above 20, generated a record season total of 932 (STYM=175).

Le Conte's Sparrow:- The lakefront's all-time late record was set on 12 December when Ryan J. Sanderson and Nick Kiehl photographed (1) at Michigan City Harbor (in sparse grass between the beach and the yacht basin).



Hardy Le Conte's Sparrow on the lakefront, 12 December 2016. Photo by Ryan Sanderson.

Chipping Sparrow:- It was a record winter for this summer resident with 115 reported (STYM=18.9). The season's highlight was a group of (26) observed feeding with Juncos in Orange Co on 20 December (Jim

& Susan Hengeveld). The latter is an all-time maximum winter count for Indiana.

Summer Tanager:- On 13 December John C. Kendall photographed (1) at Ogden Dunes. This is a first winter record for the lakefront and the ninth for Indiana.

Dickcissel:- Stuart Tower photographed (1) on the Tower's Crawford Co farm on 18 February, providing Indiana's fourth February record.

Yellow-headed Blackbird:- On 8 January Christopher Newman detected an adult male in a large mixed blackbird flock near Chandler, Warrick Co. Jessie Graves found likely this same individual on 23 January. This is Indiana's seventh January record, six of which were in the southern tier.



**Indiana's fourth February record of Dickcissel in Crawford Co., 18 February 2017. Photo by Stuart Tower.**

## **WINTER FINCHES**

Purple Finch:- This finch appeared in above average numbers, especially in the southern tier. Joe Bailey logged the peak count of (25) at Cedar Hill (Monroe Co) on 25 February, but John and Karen Lindsey also counted (24) at Falling Springs (Orange Co) on 21 February.

Common Redpoll:- Only (1) bird was reported for the season: John C. Kendall found the bird at Ogden Dunes on 3 December.

Pine Siskin:- Acutely scarce throughout the winter with only 26 reported (STYM=519). More than 80% were reported in December. The peak count was (10) that John C. Kendall found at Ogden Dunes on 3 December.



# 2016 INDIANA DNR WILDLIFE SCIENCE BIRD REPORT

Indiana Department of Natural Resources, Division of Fish and Wildlife

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*Editor's Note: Each year the Indiana Department of Natural Resources produces its annual wildlife science report, covering all taxa of wildlife that the department of Fish and Wildlife manages. This report is available online at <http://www.in.gov/dnr/fishwild/files/fw-2016WildlifeScienceReport.pdf>. The Indiana DNR has granted IAS permission to publish the bird portions of the annual report for IAS members here.*

## INTRODUCTION

State law (IC 14-22-2) charges the DFW with the protection, reproduction, care, management, survival and regulation of wild animal populations in Indiana in such a manner that will best serve the interests of the resource and people of the state. To better achieve this legislative mandate, professional staff in the Wildlife Diversity and Wildlife Research sections merged in 2014 to form the Wildlife Science Unit. Although their responsibilities, funding sources, focal species and user groups may differ, both share the fundamental mission to conserve and manage wild animal populations throughout Indiana.

The Wildlife Science Unit is a comprehensive, science-based, resource management program that carries out an array of activities to fulfill its statutory obligations. Population management (i.e., species restoration, regulation of take, periodic or total protection of a species), research, surveys, habitat acquisition and improvement, and education are some of the tools staff members use to meet these responsibilities.

This annual report offers a brief look at some of the notable highlights and accomplishments of the Wildlife Science Unit in 2016. We share this information to enlighten Hoosiers to the intrinsic value of Indiana's rich wildlife resources and the conservation efforts underway to ensure they persist for present and future generations to enjoy.

## BIRDS

### Bald Eagle

Each year, biologists catalog new bald eagle (*Haliaeetus leucocephalus*) nest sites throughout Indiana. Reports from property managers and the public bring to our attention newly discovered bald eagle nests, as well as recent information about known nests. This knowledge is then used to inform bald eagle conservation in the state.

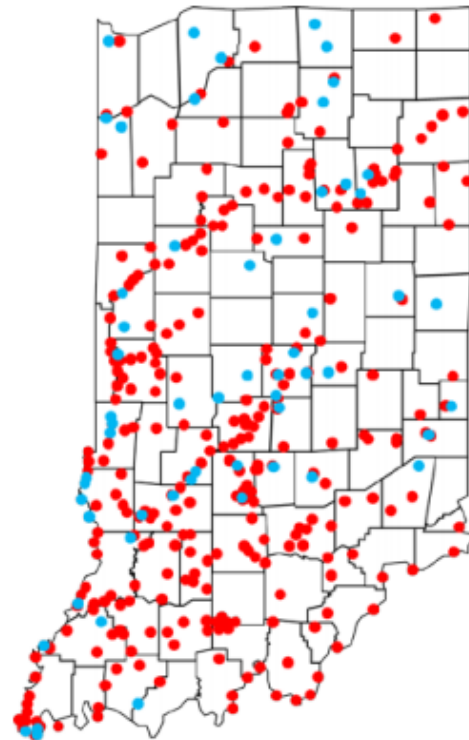
The number of bald eagle nests has grown considerably over the past several years. The last statewide bald eagle breeding survey, which was conducted by helicopter in 2010, documented 120 eagle pairs. Approximately 20 new nests were reported a year later. Thirty-five additional nests were discovered in 2012 and 2013. Twenty-eight and 24 new bald eagle nests were observed in 2014 and 2015, respectively. In 2016, 65 new nests were reported, although many were new nests in territories that previously had nests. Five of these nests represent new Indiana county records for Clinton, Elkhart and Randolph counties. Bald eagle nesting is now documented in 83 of Indiana's 92 counties. The current population is estimated at 300 breeding pairs.

In addition to nest monitoring, wintering eagles are surveyed to determine long-term bald eagle trends in the region and to form the declared statuses of bald eagle populations throughout North America. These surveys are part of the U.S. Army Corps of Engineers National Midwinter Bald Eagle Survey, which has been conducted in Indiana since 1979. In 2016, wintering eagles were counted from the ground at 11 locations that were often on DFW properties or public lakes. Monitoring was also done by helicopter at 17 routes along rivers that are typically inaccessible by foot.

Among all 28 survey sites, the greatest concentrations of eagles were found along the Wabash River between Vermillion and Parke counties (100), the Mississinewa night roost (87), Monroe Lake (37), and along the Wabash River between Warren and Fountain counties (27). A total of 388 individuals were tallied, which is more than double the previous 10-year average of 180 eagles for the state. Sampling effort was greatly increased this year, which likely contributed to the dramatic increase in the number of bald eagles counted. Only four routes were surveyed by helicopter in 2015, whereas 17 routes were surveyed in 2016.

To represent population trends more precisely, annual ground survey data are comparable because of consistency in sampling effort between years. At the 10 sites surveyed from the ground in both of the past two years, 176 bald eagles were counted compared to 155 in 2015. This represents a 14% increase. Winter bald eagle counts can vary dramatically between years depending on the severity of winter and the availability of prey (fish and waterfowl) and open water. Indiana attracts more eagles during cold winters when more northern birds are forced to venture south for food. However, long term monitoring data suggest a stable upward trend of bald eagles wintering in Indiana. A 2015 article in the *Journal of Raptor Research* analyzed data collected from the National Midwinter Bald Eagle Survey and reported a significant yearly increase of 3.6% in Indiana's wintering adult bald eagle population and 3.9% for its immature eagles from 1986–2010. Our current data support this 25-year trend. More bald eagles are observed wintering in Indiana each year. Nationwide, the population is increasing by 0.6% each year.

The growth in the bald eagle population is a major accomplishment for conservation. After World War II, the effects of DDT and other pesticides caused dramatic declines in numerous raptor species, and bald eagles were no exception. Banning of DDT in 1972 later led to some nationwide recovery. Statewide recovery was then enhanced by restoration efforts from 1985–1989. During this time, 73 eaglets from Wisconsin and Alaska Previously known bald eagle nests (red) and new nests discovered in 2016 (blue) in Indiana were raised and released at Monroe Lake to restore a breeding population in Indiana. By 2007, our national symbol was declared recovered and removed from the federal endangered species list. Indiana followed suit in 2008 after reaching a goal of 50 nesting pairs. This was a significant achievement—no eagles were known to have nested in the state from about 1900–1988. One of these 73 eaglets was rescued in April after being found emaciated and with a dislocated wing. Bald eagle C14 was recovered near Worthington and rehabilitated by the Indiana Raptor Center in



*Previously known bald eagle nests (red) and new nests discovered in 2016 (blue) in Indiana.*

Nashville. Records revealed that the eagle was 28 years old, making it arguably the oldest wild bald eagle in Indiana. Last year C43, a 27-year-old bald eagle, was found flying over Monroe Lake. At that time, she was considered the oldest wild bald eagle in Indiana. C14 and C43 are powerful reminders of the tireless and determined effort to recover this species and symbols of hope for our state's endangered species.

### **Barn Owl**

Barn owls (*Tyto alba*) are ghostly pale with whitish underparts and buffy light-brown upper parts. They have black eyes and a heart-shaped face. This feature prompts some to call them the monkey-faced owl. Barn owls feed at night, most often on voles and mice. They never hoot. Instead, they make eerie, raspy calls.

Habitat loss has caused barn owls to become rare in Indiana. Their numbers depend on the availability of grassland habitat and suitable nest sites, as well as winter severity and predation by great horned owls (*Bubo virginianus*) and raccoons (*Procyon lotor*). They need open areas of permanent grassland such as pastures, hayfields, prairies and the margins of wetlands to find food. They also need cavities in large trees and human structures like haylofts, steeples, silos and other buildings to nest and raise their young. Most of these conditions can be found in small pockets in southern Indiana. Areas like Lawrence, Orange, Daviess, Crawford and Greene counties are where they are most likely to be spotted.

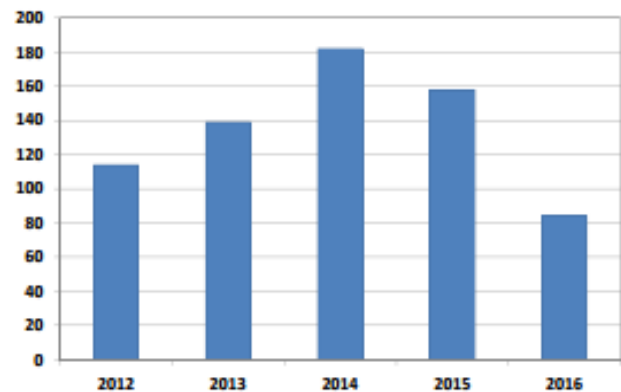
In an effort to provide barn owls with secure nesting sites that are protected from raccoons and other predators, the DNR has built more than 300 nest boxes and erected them in barns and other structures in suitable habitat statewide over the past three decades. Placing nest boxes in a barn or other building protects owls from predators so they can successfully raise more young. Although many of these structures have been destroyed, existing boxes are checked periodically, and new ones erected for this secretive and rare owl.

In 2016, 13 barn owl nests were reported and 29 new barn owl nest boxes were installed. One of these nests represents a new Indiana county record for Allen County. Wildlife Diversity biologists are seeking reports of barn owls, especially if they are nesting. Please email reports to Amy Kearns at [akearns@dnr.IN.gov](mailto:akearns@dnr.IN.gov).

### **Interior Least Tern**

The least tern (*Sternula antillarum*) is the smallest species of tern in the United States. Its black cap, white forehead and bright yellow bill distinguish it from other terns. Least terns feed on small fish and aquatic invertebrates, and nest on the ground on beaches, salt flats, sand bars or gravel islands in open areas. The current population is found along the coasts and within the interior, following major rivers like the Mississippi, Ohio and Wabash. Human use and modification of breeding habitat in these rivers have caused significant declines in the interior population and rendered it federally endangered.

As a ground-nesting bird found along major rivers, the interior least tern is greatly influenced by water. Water around islands or river bars benefits least



*Annual number of least tern fledglings produced in Indiana from 2012-2016.*

tern nesting colonies by making them less accessible to ground predators. However, when water is abundant, rivers become high and river bars become smaller, which in turn reduces suitable habitat available for nesting. Heavy rains also flood nests and cause abandonment or major losses of eggs and chicks.

In the past, high water in key nesting areas along the Mississippi River resulted in least terns venturing north to Indiana in search of nesting sites, but water levels in southwestern Indiana along the Wabash and Ohio rivers have been high in recent times due to river channelization and damming. This has reduced the amount of sandbars or islands available for nesting. Now adult least terns are being observed nesting in Indiana at human-constructed sites close to these rivers.

The first least terns sighted in Indiana in 2016 were reported on May 14 at Cane Ridge Wildlife Management Area (WMA). By early June, most of the locations where terns traditionally nested had breeding colonies. A maximum of 220 adults was recorded in the colony at Gibson Lake near the Wabash River. Sixteen miles east, at Wheeling Bottoms, a maximum of six adults was observed at one time, and the colony produced about three young. At the American Electric Power (AEP) Rockport Plant in Spencer County, 60 adults were noted. Sixteen adults returned to Goose Pond FWA in Greene County, where six nests were attempted on an island designed for them. These nests, together, successfully fledged at least one young. The last report of a

least tern in Indiana was on August 19 and was of a single molting adult adjacent to Gibson Lake.

Working closely with Duke Energy, the USFWS, and AEP, least tern nesting was diligently monitored at two main locations, and steps were taken to ensure breeding success. This occurred in Gibson County, where least terns nested on properties owned and managed by Duke Energy and the USFWS (Cane Ridge WMA), and in Spencer County at the AEP Rockport Plant.

In Gibson County, an estimated 165 nests produced a conservative estimate of 70 fledglings in 2016. A total of 105 nests were found during the early part of the breeding season. Another 60 were tallied later. More than half of all nests and young produced were on the center dike of Gibson Lake (95 nests). The remainder was at Cane Ridge WMA (70). No nesting occurred at Tern Bar Slough Wildlife Diversity Area, although least terns were seen foraging and loafing. Pump problems again limited water levels, and nesting islands at Tern Bar Slough were left without a protective moat for most of the season. At the AEP Rockport Plant, which is located along the Ohio River about 50 miles southeast of the Gibson Lake colony, an electric fence was placed around the main nesting site to reduce predation by mammals and prevent Canada Geese (*Branta canadensis*) from loafing on the dike. At least seven young were produced from 51 nests. The number of fledglings produced in 2016 was low compared to the number produced in previous years. This may suggest high levels of predation and other sources of nest failure late in the nesting cycle. This was later confirmed by photo evidence of mammals depredating nests at colonies in Gibson County in early July.

Management of interior least terns is challenging. It consists of maintaining nesting sites to keep them free of dense vegetation, using fencing and manipulating water levels to deter ground predators, and



*Two interior least tern eggs and one newly hatched chick, with its feathers still wet, in a nest at Goose Pond Fish & Wildlife Area in late June.*

employing least tern decoys to attract birds to suitable sites. These efforts have resulted in more than adequate production in four out of the last five years, and in a steadily increasing population of least terns in Indiana since their discovery in the state in 1986.

### **Loggerhead Shrike**

The loggerhead shrike (*Lanius ludovicianus*) is a songbird slightly smaller than a robin. Its striking appearance includes a broad black mask through the eyes, a gray back and breast, a white spot on black wings, and white edges on a black tail.

Despite their small, robin-like stature, shrikes have habits similar to those of a sizeable raptor. Their strong, hooked bill allows them to take prey that is comparatively large. They do not have talons like raptors to pull food apart. Instead, they hang their prey from thorns or barbed wire which provides an anchor while they tear it into bite-sized pieces.

Prey hung in this way can also be stored for later. This behavior has earned them the nickname of “butcher bird,” which is unique to North American shrikes. Shrikes have a diverse diet of prey, including beetles, grasshoppers, wasps, spiders, mice, voles, house sparrows, snakes and frogs. They hunt from perches, scanning the ground from a utility wire, post, fence or plant stalk, and pouncing on prey spied below.

Habitats for shrikes consist of grasslands, deserts, shrublands and agricultural areas. Shrikes prefer smaller fields planted to a variety of crops bordered by shrubby hedgerows and fence lines, and livestock pasture with short vegetation. Nests are substantial structures made of small twigs and grass, lined with horse hair or wool, and placed in a shrub or small tree. Eastern red cedars and rose bushes are favorite nesting sites in Indiana, especially when they are isolated within a fencerow. Shrikes sometimes nest twice in one season, especially if the first nesting attempt fails.

Loggerhead shrikes have been undergoing alarming population declines in the eastern United States. They are a state endangered bird in Indiana and many other states. Reasons for this decline are puzzling and likely include a combination of factors. The loss of quality breeding habitat, the use of pesticides, and increasing human development on its wintering grounds in the southern United States are among the many threats this species faces. Loggerhead shrikes were included on Indiana’s state endangered list when it was first developed in 1981, and they remain there today. In 1999–2000, Wildlife Diversity biologists did extensive surveying for shrikes and found 58 occupied territories. In the years since, shrikes have declined dramatically. Fewer than 10 nesting territories have been reported annually in the entire state since surveys resumed in 2010. Each spring and summer, biologists conduct surveys in areas with historical shrike nesting territories. Color bands are placed on the legs of shrikes to help identify them as individuals from a distance. Nearly all nests found in recent years have been located on or adjacent to traditional Amish farms. In 2016, three nesting territories were located in Daviess County, one in Orange County, and one in Lawrence County. Seven nests were found. Three nests successfully fledged young. Four nests were lost due to suspected predation. One nesting attempt failed after strong



*The unique combination of color bands on the legs of this loggerhead shrike in Daviess County identifies him for tracking.*

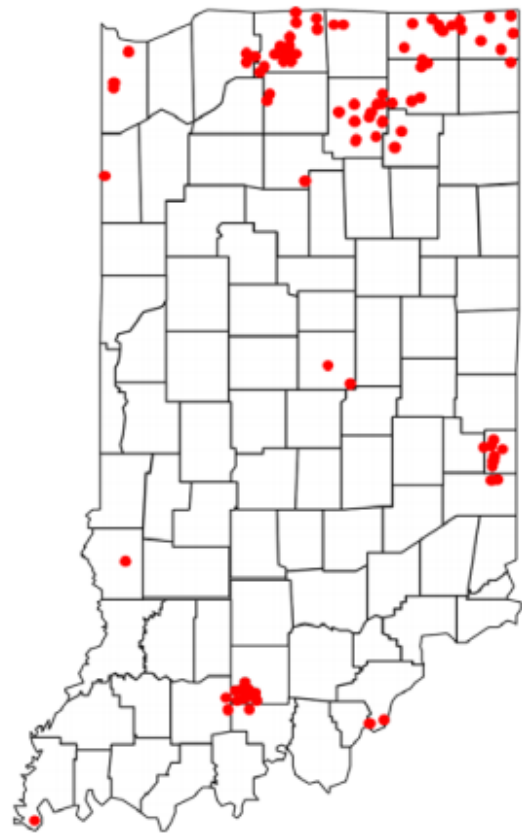
storms knocked the nest out of the tree. Color bands were placed on the legs of eight adults and three fledglings. Landowners can help shrikes and other wildlife by preserving their fencerows and the shrubs that grow along them. Because shrikes typically build their nests in isolated bushes and trees along fencerows, eliminating these linear features effectively destroys the nesting habitat for this unique species. In order to help shrikes, if fencerows need to be cleared, it is best to wait until after nesting season (late April to late August) to give young birds a better chance to survive. Fencerows provide nesting habitat for other native birds besides shrikes and food and cover for game species like deer, rabbits and bobwhite quail. In Orange County, the first loggerhead shrike nest of the year was found with three nestlings. Sheep’s wool was used to line the nest. The unique combination of color bands on the legs of this loggerhead shrike in Daviess County identifies him for tracking. 2016 Wildlife Science Report—Wildlife Diversity 17 Farms with healthy, shrubby fencerows have a greater diversity of native wildlife than those without, and many of these native species are beneficial for insect and pest control.

### Osprey

Ospreys (*Pandion haliaetus*) are large, eagle-like birds that are fascinating to watch. They are most commonly found during spring and fall migrations while hovering, diving and catching fish in the open waters of Indiana’s lakes, ponds and rivers. Historically, a few remained to nest, building large stick nests in dead trees near the shoreline or on islands in lakes, rivers or wetlands. Now osprey nests are often found on manmade structures, including cell towers, utility poles and nesting platforms built specifically for them.

From 2003–2006, a total of 96 young ospreys were collected from nests in coastal areas of Virginia and raised and released at four locations in Indiana in an attempt to restore this state-endangered bird. As a result of this effort and the erection of nesting platforms in a partnership between the Indiana DNR and private groups and individuals, the state’s osprey population has grown steadily. For the fifth consecutive year, the number of osprey pairs exceeded the state’s delisting recovery goal of 50. Ospreys are now being considered for removal from the Indiana list of endangered species. Monitoring efforts continued for ospreys in Indiana during 2016, with 78 sites checked. The sites included previous nests, nesting platforms, and locations with reports of new nests. Eleven new nests were found.

Overall, 64 sites had ospreys or osprey nests present (compared to 69 in 2015), with all 64 (62 in 2015) pairs believed to have laid eggs. Of those, 22 (59 in 2015) were reported as successful. At least 32 (102 in 2015) chicks were produced, but this is a significant underestimate because it is difficult to observe all young in the nest from the ground. The number of reports at the end of the nesting season this year was far lower than in previous years. Therefore, what may seem like a large decline in the number of successful nests and chicks produced may possibly be a reflection of reduced sampling effort during the time when adults were rearing young.

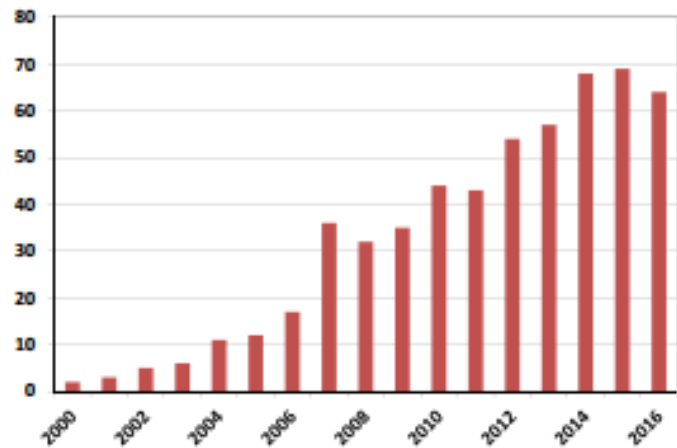


Locations of osprey pairs or nests in Indiana in 2016.

Known active osprey nests are present in 16 of Indiana's 92 counties. Of these, one represents a new Indiana county record for Fayette County. Loose colonies of osprey nests can be found in Kosciusko (15 nests or pairs), St. Joseph (14), Union (5), and LaGrange (5) counties. Public areas with the largest concentrations of osprey nests are Patoka Lake, Pigeon River FWA, Potato Creek State Park and Brookville Lake. Most of this year's nests were built on communication towers (25). However, nests also occupied nesting platforms (15), utility towers or poles (13), structures associated with grain storage (3), dead trees (2), stadium lights (2), a chimney, an abandoned crane, and a live swamp white oak (one each).

As ospreys increasingly use communication and utility towers, companies that service the equipment are encountering and recognizing osprey nests. Many companies contact the DFW for guidance. Most are willing and able to delay maintenance on the towers until after nesting season. Although vacant nests can be removed from towers without a permit, companies are encouraged to maintain at least part of the nest structure at a location on the tower where it is less likely to interfere with the tower's operation.

The outlook for ospreys in Indiana is promising. As long as unpolluted waterways, healthy fish populations, and suitable nest sites exist, Indiana's osprey population will likely thrive in coming years.



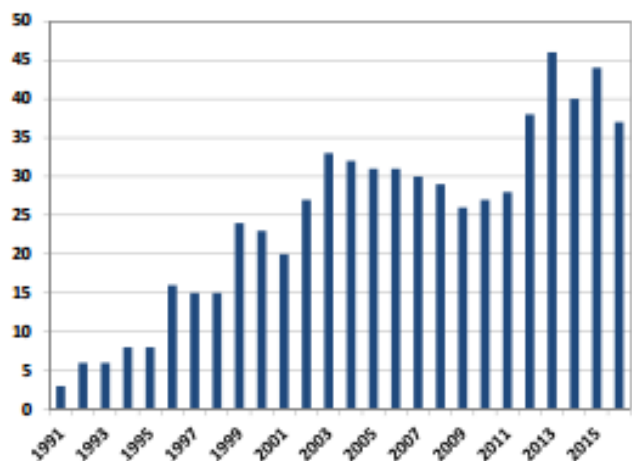
**Annual number of osprey territories in Indiana from 2000–2016.**

### Peregrine Falcon

More than 300 breeding pairs of peregrine falcons (*Falco peregrinus*) are present in the Midwest. This total is several times greater than the 60–80 pairs estimated to have been present historically. Indiana's population has also expanded. In 2013, peregrine falcons were removed from the state list of endangered species. They are now considered a species of special concern.

Falconers today are permitted to trap an unbanded juvenile peregrine in the fall to be used for falconry. Only two birds are allowed to be taken in Indiana in 2016, and only 12 falcons can be captured in the entire Mississippi Flyway. In 2014, one passage (i.e., nonlocally produced) peregrine was captured for falconry. In 2015 and 2016, permits were issued to trap but no peregrines were captured. Peregrine falcons taken by falconers are most likely migrants from populations breeding in Arctic regions.

Breeding by peregrine falcons in Indiana has remained stable and relatively unchanged for the past five years. In 2016, a total of 22



**Annual number of peregrine falcon chicks fledged in Indiana since the beginning of the reintroduction program in 1991.**

locations had peregrines present during part of the nesting season, compared to 21 locations in 2015. Fifteen nesting attempts were documented (compared with 15 in 2015), 12 were successful (14 in 2015), 32 chicks were banded (41 in 2015), and 37 young fledged (44 in 2015). Five chicks were not banded because two sites were inaccessible for banding.

Only two nests had eggs or chicks that did not survive. Another pair may have laid eggs, but chicks were not observed later. At seven sites, falcons were present but showed no evidence of nesting. Eight blood samples were taken and four unhatched eggs were collected. A new nest box was also installed at one location. Signs of trichomoniasis, sometimes called frounce in falcons, were not found in chicks this year. Trichomoniasis is an upper digestive-tract disease that is often fatal in young birds.

Because many young falcons are banded in the nest each year, much is known about them. Of the adults in the 15 territories where eggs were laid, 12 were unbanded, 12 were identified by their leg bands, and six individuals were not observed well enough for identification. Identified adults had origins in seven different states: Indiana (4), Kentucky (2), Ohio (2) and Michigan, Illinois, Wisconsin, and Missouri (1 each). All breeding adults were produced in the wild except one that was hacked in Missouri. Ages of females ranged from 3–7 years of age. Males were 5–9 years old. Reports of recovered bands have also provided updates on peregrines banded in Indiana. For example, a female banded in Gary in 2010 was found dead on the roof of the plant where she was first banded.

All 15 peregrine nest attempts in Indiana in 2016 were close to a large body of water. Indiana's nesting pairs were found near Lake Michigan (6 nests), the Ohio River (2), White River (2), Wabash River (2), and the St. Mary's, Kankakee, and St. Joseph's rivers (1 each). Three nests were in downtown urban areas on office buildings. One was on a casino. The remainder were in industrial areas on power plants, steel mills, and lime plants (11).

Data from the past five years of surveys have provided evidence that Indiana's breeding population remains productive. Despite that, we will likely continue our post-delisting monitoring efforts, with the help of volunteers, to help ensure that the population is stable.

### **Sandhill Crane**

The sandhill crane (*Antigone canadensis*) is a longlegged, long-necked waterbird that flies with its neck outstretched. It can be confused with the somewhat similar-appearing but unrelated great blue heron (*Ardea herodias*), which is sometimes inappropriately referred to as the blue crane. During fall and spring migrations, groups of 50–100 are most commonly encountered either flying in a loose V-formation, circling as they catch updrafts, or descending to a field to feed or roost for the night. An individual is almost always seen with its mate, family group, or flocks numbering from a couple of dozen to the hundreds. Their bugling calls are usually heard before the flock is seen.

Sandhill cranes can be observed foraging in agricultural fields near roosting sites during the day. They eat waste grain, as well as a variety of aquatic plants, invertebrates and small vertebrates. At night, they roost in the shallow water of marshes or in fields.



**Annual peak numbers of sandhill cranes counted during fall surveys at Jasper-Pulaski Fish & Wildlife Area from 1978–2015.**



The population in eastern North America nests in marshes in the upper Great Lakes states and southern Canada. Since the early 1980s, nesting has been noted in Indiana and now occurs in the northern quarter of the state. Cranes have also been seen in breeding pairs during the summer as far south as Wilbur Wright FWA in Henry County and Goose Pond FWA in Greene County. It is believed that sandhill cranes will expand their breeding range throughout southern Indiana as the eastern population of sandhill cranes increases in size.

To monitor annual changes in abundance and detect long-term population trends, the USFWS coordinates a fall survey of the eastern population. Much of the population stops at Jasper-Pulaski FWA and neighboring properties in northwest Indiana before venturing south to wintering areas in Tennessee, Georgia and Florida. Public properties and other areas with a history of stopovers by sandhill cranes were surveyed in 2015 during two survey periods starting on October 28 and November 9. Surveys for this year are currently underway at the time of this writing, so the following results represent data collected in 2015.

During the first survey period, Jasper-Pulaski FWA hosted the most sandhill cranes (7,010). Fewer were present at the Northern Indiana Public Service Company (NIPSCO) power plant (1,516), a private property adjacent to Kingsbury FWA (1,200), Pigeon River FWA (287), Boot Lake (88), Pisgah Marsh (34), Willow Slough FWA (6), and Lieber Preserve (2). No cranes were observed at many of the sites in southern Indiana: Kingsbury FWA, Atterbury FWA, Brookville Lake, Ewing Bottoms in Jackson County, Goose Pond FWA, Muscatatuck NWR, Tri-County FWA, Knightstown Reservoir, and Monroe Lake.

During the second survey period, Jasper-Pulaski FWA again had the most sandhill cranes, reaching 7,820. Fewer cranes were observed at the NIPSCO power plant (2,634), private property adjacent to Kingsbury FWA (1,500), Pigeon River FWA (1,348), Boot Lake (159), Goose Pond FWA (88), Willow Slough FWA (3), and Lieber Preserve (2). No cranes were found at Kingsbury FWA, Atterbury FWA, Brookville Lake, Ewing Bottoms, Monroe Lake, Muscatatuck NWR, Tri-County FWA and Knightstown Reservoir. Many sandhill cranes had not yet moved south into Indiana from Wisconsin, Michigan and other northern locales.

In addition to the USFWS fall count, weekly crane surveys were conducted at Jasper-Pulaski FWA. Counts exceeded 7,000 birds by the end of October. More than 10,000 were observed beginning in December. The survey then ended on December 16. Crane numbers peaked on that day (18,330), so it remains uncertain whether the amount of cranes exceeded this number after this date. Because surveys were not carried out afterward, December 16 was treated as the date of peak numbers. This number is below the previous 10-year average peak count of 21,260 sandhill cranes at Jasper-Pulaski FWA, but may be the result of having ended the survey before the actual peak count was reached.

### **Whooping Crane**

One of the rarest bird species in the world, whooping cranes (*Grus americana*) migrate through Indiana in spring and fall, and sometimes spend much of the winter in our state's wetlands.

Standing 5 feet tall, they can be easily identified by their size, as well as by their deep red crowns and black mustaches against an almost entirely blank canvas of snowy, white feathers. Their beautiful plumage and size often grab viewers' attention, especially when they are mixed in with a flock of their smaller, drabber cousin species, the sandhill crane.

It is crucial that humans view these endangered birds from a distance and not attempt to approach or feed them. Whooping cranes that learn to approach vehicles for food often die after being hit by cars. Illegal shooting is also a concern—several cranes were shot by poachers in the state in recent years.

In fall 2016, there were only 109 whooping cranes in the Eastern migratory flock, the population that migrates through Indiana. These birds nest in Wisconsin, where reproduction attempts have been plagued by predators, parasitic black flies, infertility and nest abandonment.

Currently, the whooping crane population is not self-sustaining, but is augmented each year by a handful of young birds that are introduced to the wild in a variety of ways. The most famous technique, when the birds are raised by humans in white crane costumes and taught to migrate by following an ultralight aircraft, was discontinued after 2015. At the time of writing, one chick that hatched in the wild during the 2016 nesting season in Wisconsin continues to survive, while 12 additional chicks are being released singly or in pairs near wild whooping cranes without chicks. This technique, termed parent-rearing, allows chicks raised by captive whooping crane parents to later be “adopted” by wild pairs. Hopes are high that parent-reared chicks will be better at raising their own chicks and avoiding predators.

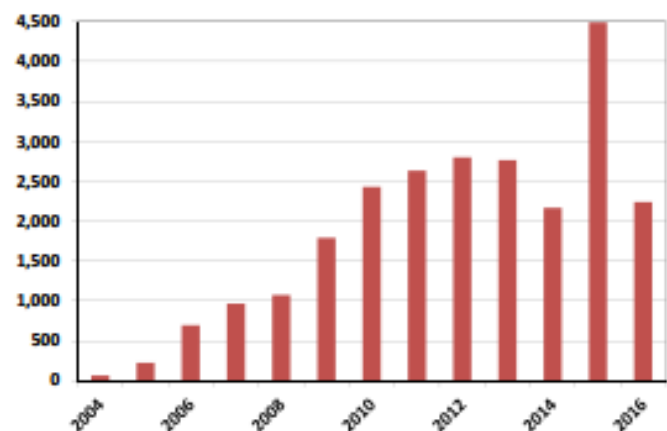
### Colonial Waterbirds

“Colonial waterbird” may refer to any aquatic birds that nest close to each other. These include herons, egrets, cormorants, terns and gulls. In Indiana, colonies of black-crowned night-herons (*Nycticorax nycticorax*), great egrets (*Ardea alba*), and double-crested cormorants (*Phalacrocorax auritus*) are counted annually along the shore of Lake Michigan. Both heron and egret species are state-listed and are monitored for the early detection of possible population declines. Double-crested cormorants are not endangered, but are viewed with concern in the Midwest because increasing populations pose a potential threat to local fisheries. In addition, they compete for nest sites with less common heron and egret species.

Indiana is also involved in the Great Lakes Colonial Waterbird Survey, which requires the periodic assessment of two large gull colonies along Lake Michigan. Nests were last counted in 2011. Tallies of 9,517 ring-billed gull (*Larus delawarensis*) and 205 herring gull (*Larus argentatus*) nests were taken at ArcelorMittal Steel West, and 23,899 ring-billed and 28 herring gull nests at ArcelorMittal Steel East. These sites represent the main waterbird survey locations.

At ArcelorMittal Steel West, black-crowned night herons had a thriving colony in the 1990s until beavers destroyed virtually all the trees the birds used for nesting. Regrowth has occurred, and night-herons and great egrets now nest at this site along the Indiana Harbor at Lake Michigan, which is adjacent to the large colony of breeding gulls. Great egret nesting was first observed at this site in 2009. Surveys of these birds were conducted on May 31, 2016. Fifteen black-crowned night-heron nests were found, a decrease from 39 nests in 2015. The number of great egret nests declined as well (73 in 2016 versus 95 nests in 2015). All nests were in trees or shrubs. Nesting cormorants have yet to be found at ArcelorMittal Steel West.

At ArcelorMittal Steel East, 2,240 double-crested cormorant nests were counted. This is nearly half the amount of nests found in 2015 (4,489), but consistent Male whooping crane #12-09 spent the winter in southern Indiana and migrated to Wisconsin for the summer breeding season. (Photo by Steve Gifford)



**Annual number of double-crested cormorant nests at the ArcelorMittal Steel plant in Lake County from 2004–2016.**

2016 Wildlife Science Report—Wildlife Diversity 21 with survey results since 2010. Great egret nests declined, with 62 recorded, compared to 91 nests found in 2015. Fifty black-crowned night-heron nests were also discovered, which represents a small rise in nests found since 2015 (29), but numbers remain low compared to overall trends. The maximum count at this site when the survey first began was 255 nests.

These three species of waterbirds tend to segregate themselves in the main nesting colony. Double-crested cormorants nest closest to the Lake Michigan shoreline on the ground. Great egrets mainly use the few remaining trees farther from the shore. Black-crowned night-herons will nest in shrubs or the lower portions of trees used by great egrets, but some nests are on rock, along the perimeter of two small impoundments at this site and adjacent to gull nests. All of the great egret nests and night-heron nests were in trees or shrubs, compared to 4% of double-crested cormorant nests. The remaining 2,153 cormorant nests were on the ground. Ground-nesting birds are relatively safe at this site because they are protected from most mammalian predators by the water of Lake Michigan and heavy industry on the remaining sides. In addition, gull and tern populations were estimated at this site. Twenty-thousand ring-billed gulls were observed occupying both ArcelorMittal Steel West and East. A colony of Caspian terns (*Hydroprogne caspia*) was found with 329 nests. This colony went unnoticed from 2012 to 2015 and was rediscovered in 2016 on the gravel roof of a building. Continued monitoring at these sites will be used to guide the management of nesting areas for priority species and controlling double-crested cormorants.

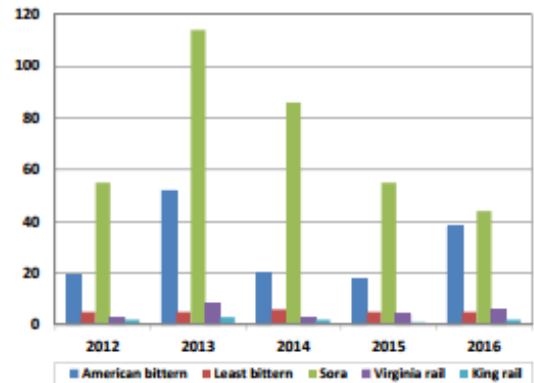
**Marshbirds**

Marshbirds are a diverse array of birds from different groups that include bitterns, rails, gallinules and grebes. These birds are difficult to survey because they reside in dense emergent vegetation and are inconsistently vocal during their breeding season. As a result, little is known about their numbers, population trends, and responses to habitat changes and land management practices.

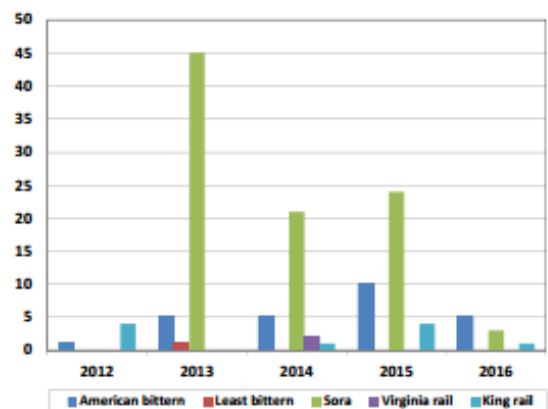
Short-term surveys employing playbacks of vocalizations have been used occasionally in the past in Indiana. The primary purpose was to learn about the distribution and relative abundance of marshbirds.

In 2010, a long-term survey was established at Goose Pond FWA in Greene County by the Indiana office of the National Audubon Society. This nearly 9,000-acre property of shallow wetlands, ditches and upland grasslands was expected to provide extensive habitat for rails and bitterns. Surveys were conducted to determine the presence and relative density of rail and bittern species at Goose Pond FWA and study how species diversity and populations change over time. In 2012, the DFW became the responsible party for this survey and established additional routes at the 840- acre Tern Bar Slough in Gibson County.

Agency staff and volunteers surveyed 26 points along eight routes at Goose Pond FWA and nine points along



*Number of marshbirds detected at 26 survey points at Goose Pond Fish & Wildlife Area from 2012-2016.*



*Number of marshbirds detected at nine survey points at Tern Bar Slough from 2012-2016.*

two routes at Tern Bar Slough in 2016. Surveys occurred during three two-week time periods from mid-April through May. Target species recorded were American bittern (*Botaurus lentiginosus*), least bittern (*Ixobrychus exilis*), king rail (*Rallus elegans*), Virginia rail (*R. limicola*) and sora (*Porzana carolina*). Nontarget species included pied-billed grebe (*Podilymbus podiceps*), common gallinule (*Gallinula galeata*), American coot (*Fulica americana*), Wilson's snipe (*Gallinago delicata*), sedge wren (*Cistothorus platensis*), marsh wren (*C. palustris*) and swamp sparrow (*Melospiza georgiana*).

A total of 104 unique detections were logged of target species in 2016, a decline from the 121 logged in 2015. Soras and American bitterns were the most common species detected at both locations. Soras and Virginia rails are mostly migrants in southern Indiana. Bittern species and king rails are regular breeders. All species except least bitterns are detected most commonly on earlier surveys due to the timing of migration and higher calling frequencies before egg-laying. All rail and bittern species except sora are on the Indiana list of endangered species. This is likely due to the destruction and degradation of marshes and other wetlands over the years. These factors make quality wetlands difficult to find. Restoration projects like Goose Pond FWA and Tern Bar Slough demonstrate that quality wetlands can be restored. Numerous detections of marshbirds at these sites further demonstrate that wetland birds will readily discover and use these habitats, and especially, that these wetland restoration projects are of value to state endangered wildlife.

### **Shorebirds**

Goose Pond FWA is one of the largest wetland restorations in the United States. It boasts a variety of habitat, from upland grasslands to shallow wetlands, and is located near the migratory pathways of the Wabash and White rivers. These characteristics make Goose Pond FWA an important stopover point for shorebirds.

As a group, shorebirds experience some of the most remarkable migrations compared to other groups of birds in North America. Species like white-rumped sandpipers (*Calidris fuscicollis*) are long-distance migrants that may venture between wintering grounds as far south as the southern tip of South America and nesting territories as far north as the Canadian Arctic. For them, the presence of suitable foraging habitat could mean the difference between life and death. Shorebirds must build adequate fuel reserves during stopovers to survive these journeys. Doing so may require individuals to increase their body size by upward of 10% of their current size per day.

To date, 35 shorebird species, including the federally endangered piping plover (*Charadrius melodus*), have been recorded at Goose Pond FWA. Eight species that are of greatest conservation need in Indiana regularly visit or breed on the property. In 2015, surveyors counted 13,192 shorebirds representing 30 different species. These findings demonstrate that Goose Pond FWA provides critical stopover habitat for migratory shorebirds.

Furthermore, at the time of writing, shorebird surveyors observed and recorded 12,146 individual shorebirds of 25 different species at Goose Pond FWA during the 2016 spring and fall survey periods. American golden-plovers (*Pluvialis dominica*; 2,058 individuals) were the most numerous, representing 16.9% of individual shorebirds surveyed. More than 1,000 individuals of three other species were recorded including lesser yellowlegs (*Tringa flavipes*; 1,602; 13.2%), pectoral sandpiper (*Calidris melanotos*; 1,259; 10.4%), and killdeer (*Charadrius vociferous*; 1,242; 10.2%). Together, these four species represent 50.72% of all observed individuals. Twenty-one species represent the remaining 49.28% of individuals recorded. Surveys will be continued in 2017 to further investigate shorebird presence and population trends at Goose Pond FWA.

## 2016 INDIANA BIRDER'S LISTS

**Chuck Mills, Newburgh, IN**  
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Many serious birders keep detailed lists of the species that they identify. They usually record the species name and the location of the observation. Many keep numerous lists. For most Indiana birders the main lists kept are for the ABA, the state of Indiana, and a county or two. Some keep life lists whereas others also complete year lists and day lists. Some lists can be as expansive as a world list or as small as a favorite park, a nearby woods, or their own backyard. This annual article is a place for Indiana birders to publicize their lists. Both life and year lists are published for World, North America, American Birding Association (ABA), Indiana, Indiana Counties, and home property. This year a new category was added, one for "Big Years" done by an Indiana birder. A big year is an attempt to identify by sight or sound a large number of birds in a calendar year within a geographic area. There have been big years done for the world, ABA, states, counties, and even home sites. One big year done several years ago was made into both a book and a movie.

This year there were sixty-two people who submitted at least one list. The most popular list was the Indiana life list with fifty-two lists submitted. The deadline for the 2017 list report will be February 1, 2018. I plan to remind all those whose emails I have and to also use INBIRD to get the word out. Good luck to all of you in your birding endeavors.

I have decided as a memorial to Jim Haw who passed away earlier this year to include in this report his submitted life lists for the 2015 report. I put an asterisk by his name. I never met Jim in person but I did carry on an email relationship with him. He always faithfully submitted lists to me for inclusion in this article and always made positive encouraging comments to me. He will be missed by all who knew him as a friend and as a mentor. Indiana birding cannot be the same without him.

### 2016 Birder's Life Lists

#### World

The World list is simply a compilation of bird species seen anywhere in the world. It represents the results of a birder's travels all over the world. Clearly the more places a person visits, the larger the list. The total possible on this list is about 10500. This number has been slowly increasing with the discovery of new species and the fact that some species are split into two or more new ones. Sometimes two or more bird species are combined into one but the splits seem to occur more often. This year, the top world lister was again Bob Walton with 8630. Bob is one of the top listers in the world. He is currently fourth in the world according to the ABA. The top list reported to the ABA was 9053. Last year Bob birded in Cuba where he added 9 birds and saw a total of 145 species. He then spent 3 weeks in SE Brazil where he added another 52 new species and saw 421 species overall. Barny Dunning benefited from several splits and discovered that he had inadvertently left some off his lists. This helped to push his world list over 1300. One of those species was the Emu. He said "How do you forget an Emu?" Bob Carper took a trip to the UK and added 55 species to his world list. Rick and Debbie Read increased their world lists with several trips in 2016. They went from Miami to Peru through the Panama Canal. They hired a guide in Lima. They also birded both Cuba and Australia. There were 26 lists submitted. This was the same number as last year.

8630	Bob Walton	805	Roger Hedge
4419	Larry Peavler	787	Rick Folkening
2355	Jim Hengeveld	781	Ed Powers
2347	Susan Hengeveld	756	Kirk Roth
2107	Marjorie Carmony	717	Carl Huffman
2072	Chuck Mills	571	Dan Collins
1939	Peter Scott	549	Bob Carper
1732	John Kendall	547	Brad Bumgardner
1352	Elvin Wilmot	473	David Ayer
1315	Barny Dunning	457	Bruce Matasick
1182	Cloyce Hedge	362	Marietta Smith
1155	Tom and Colleen Becker	350	Kim Ehn
978	Mark Rhodes	296	Ben Cvengros

### North America

This list covers the region that is north of the Columbian-Panamanian border and includes the Caribbean. It is similar to the American Ornithologists' Union (AOU) list but does not include Hawaii or Greenland. There are around 2000 possible species on this list. The top lister was Bob Walton with 1716. To get a large North American list a birder has to be serious about birding in Central America, Mexico, and the Caribbean as well as the ABA area. This year there were 23 lists reported.

Peter Scott went to Jamaica, East Mexico, the Florida Keys, and the Dry Tortugas to help boost his lists. Chuck Mills added 24 mainly during a cruise through the endemic rich Lesser Antilles. The Puerto Rican group that he was with used a regular cruise ship out of San Juan, Puerto Rico and hired local guides at each of the ports of call.

1716	Bob Walton	709	John Cassady
1472	Rick Read	684	Carl Huffman
1392	Debbie Read	598	Elvin Wilmot
1329	John Kendall	572	Steve Bell
1283	Chuck Mills	547	Brad Bumgardner
1225	Jim Hengeveld	521	Amy Kearns
1222	Susan Hengeveld	501	Bob Carper
1182	Peter Scott	473	David Ayer
876	Cloyce Hedge	456	Larry Carter
805	Roger Hedge	345	Kim Ehn
752	Ed Hopkins	260	Ben Cvengros
744	Rick Folkening		

### ABA Continental (Canada and the United States)

There is often some confusion about North American lists. The ABA list covers only the continental US, Canada and 2 French islands off the coast of Newfoundland. It includes Alaska and soon will include

Hawaii. It does not include Greenland. The old ABA list which does not include Hawaii will now be called the ABA Continental. I hope that you are not confused by all of this. Only the ABA Continental will be reported here. There were 993 species on last year's official ABA list. Hawaii had not been included yet. Soon the official ABA list total will be going up with the inclusion of bird species seen only in Hawaii. Larry Peavler with 904 is in first place for the lists reported from Indiana. He was second on the 2016 ABA report. He increased his list by seven species last year. Mark Rhodes had a strong second place with 816. There were 48 lists reported.

Roger Hedge went to New Hampshire to get the Bicknell's Thrush. He also scored a bunch of super rarities in South Texas: White-throated Thrush, Crimson-collared Grosbeak, Northern Jacana, Blue Bunting, Aplomado Falcon, and Tropical Parula. Steve Bell made trips to South Texas and SE Arizona to add 78 to his ABA list. Chris Newman reached 300 ABA with a Common Redpoll. Chuck Mills got the Brambling in Ohio on Super Bowl Sunday for his 700 ABA species. John Cassady took his first trip to Alaska. He went to Anchorage, the Pribilofs, Gambel, and Nome. He added 16 Asian strays and 38 total lifers pushing him over 700. His 700 ABA species was a White-tailed Eagle at Gambell, St. Lawrence Island, AK. A trip to Alaska helped to push Florence Sanchez to ABA 660. Kim Ehn took family vacations to California, Washington, and New York. This allowed her to add 39 ABA lifers. Her favorites were Surfbird, Yellow-billed Magpie, and Purple Sandpiper.

904	Larry Peavler	581	Evan Speck
816	Mark Rhodes	535	Tom and Colleen Becker
778	Jim Hengeveld	535	Dan Collins
766	Bob Walton	534	David Crouch
764	Susan Hengeveld	521	Amy Kearns
761	Jim Haw*	494	Ryan Slack
752	Ed Hopkins	488	Rick Folkening
731	Ken Brock	473	David Ayer
721	Peggy Harger-Allen	456	Larry Carter
709	John Cassady	451	Elvin Wilmot
707	Ed Powers	444	Bob Carper
703	Chuck Mills	432	Carl Huffman
695	Cloyce Hedge	418	Matthew Beatty
692	Marjorie Carmony	411	Gary Langell
676	Cynthia Powers	377	Leland Shaum
674	Peter Scott	357	Matt Kalwasinski
673	John Kendall	351	Thaddaeus Shaum
663	Roger Hedge	350	Neal Miller
660	Florence Sanchez	345	Kin Ehn
656	Theresa Schwinghammer	337	Perry Yoder
648	Steve Doud	315	Marietta Smith
648	Kirk Roth	314	Chris Newman
631	Lou Anne Barriger	302	Jeremy Ross
623	Barny Dunning	260	Ben Cvengros

## Indiana

Ed Hopkins added one to up his list to 390 and moved into a tie with Ken Brock for first place. There were 52 people who reported Indiana lists. It seemed that there were fewer rarities in Indiana in 2016 because most of the top listers saw their lists only going up by one or two species. Chris Newman reached 300 species when he saw the Cinnamon Teal at Monty's Station.

390	Ken Brock	311	Matt Kalwasinski
390	Ed Hopkins	311	Neal Miller
376	Larry Peavler	311	Cynthia Powers
373	John Cassady	309	David Ayer
372	Don Gorney	309	Marjorie Carmony
370	Jim Haw*	309	Peggy Harger-Allen
370	John Kendall	309	Theresa Schwinghammer
366	Michael Brown	305	Thaddaeus Shaum
364	Michael Topp	303	Barny Dunning
362	Steve Doud	302	Chris Newman
362	Jim Hengeveld	302	Bob Walton
357	Roger Hedge	300	Elvin Wilmot
353	Susan Hengeveld	299	Steve Bell
353	Chuck Mills	298	Tom and Colleen Becker
348	Ed Powers	297	Jeremy Ross
344	Cloyce Hedge	295	David Crouch
344	Kirk Roth	285	Kim Ehn
339	Amy Kearns	283	Larry Carter
335	Brad Bumgardner	268	Marietta Smith
333	Marty Jones	267	Vicky Whitaker
331	Peter Scott	257	Bob Carper
326	Bob Decker	252	Florence Sanchez
325	Leland Shaum	251	Ben Cvengros
324	Lou Anne Barriger	240	Carl Huffman
322	Gary Langell	198	Rick Read
312	Dan Collins	150	Debbie Read

## Indiana Counties

There were reports from 76 Indiana counties this year. This is up from the 66 reported last year. There are 92 counties in Indiana. There are 16 without submitted lists. If you live in or near an unreported county consider doing some birding there so that we could have reports from all 92. Twenty-five counties had only one person listing. The county with the most reported lists was Gibson with 14. Gibson was followed by Lake with 12 and Porter with 11. There were 10 reports from Greene and 9 from LaPorte. All of these counties have numerous hot spots in them and definitely draw birders. The county list is a more restricted list. The list is limited to species seen in one Indiana County. The top list



was 329 by Chuck Mills for Gibson. He added two species. The second place list was Michael Topp's 323 from Lake. There were only 7 other lists having 300 or more species. Lake had 4 lists that were over 300. Jim Hengeveld added another county to the 300 club when he reported seeing 300 in Monroe. What continues to amaze me is the number of people who have large lists from numerous counties. Bob Decker reported the most counties with 42. Amy Kearns had lists for 20 counties. Five of them were over 200 and only one was less than a 100. Jim Haw in 2015 sent reports for 18 all with at least 120 species. This was very impressive. Don Gorney submitted lists for 16 counties all over 100. Kim Ehn had lists for 16 counties. She reported that she had birded in 9 new counties this year. Ed Powers reported lists for 11 counties. Ed Hopkins reported lists for 9 counties. Tom and Colleen Becker reported lists for 7 counties that are mostly in southern Indiana. Tom and Colleen mostly bird together and their lists are combined.

<b>County</b>		<b>Birder</b>		<b>County</b>		<b>Birder</b>
Adams	192	Jim Haw*		Lawrence	208	Amy Kearns
Allen	295	Jim Haw*			137	Don Gorney
	272	Ed Powers		Marion	268	Don Gorney
	203	Don Gorney			240	Kirk Roth
	94	Bob Decker			230	Mark Rhodes
Benton	233	Ed Hopkins			172	Amy Kearns
	44	Bob Decker			110	Bob Decker
	27	Kim Ehn			94	Rick Folkening
Boone	261	Cloyce Hedge		Marshall	240	Neal Miller
	256	Roger Hedge		Martin	146	Amy Kearns
	19	Bob Decker		Miami	207	Steve Doud
	9	Kim Ehn			120	Jim Haw*
Brown	281	Jim Hengeveld			23	Kim Ehn
	139	Don Gorney			9	Bob Decker
	121	Ryan Slack		Monroe	300	Jim Hengeveld
	109	Amy Kearns			267	Gary Langell
	97	Bob Decker			208	Amy Kearns
Cass	124	Florence Sanchez			122	Bob Decker
Clark	202	Tom & Colleen Becker		Montgomery	29	Bob Decker
Clay	205	Peter Scott		Morgan	14	Bob Decker
	156	Michael Brown		Newton	271	Ed Hopkins
	29	Bob Decker			224	Jim Haw*
Clinton	3	Kim Ehn			197	Don Gorney
Crawford	85	Amy Kearns			170	Ed Powers
	79	Tom & Colleen Becker			118	Matt Kalwasinski
Daviess	171	Amy Kearns			108	Kim Ehn
	35	Bob Decker			12	Bob Decker
Dearborn	187	Bob Decker		Noble	207	Jim Haw*
Delaware	11	Bob Decker			115	Ed Powers
Dubois	146	Amy Kearns		Ohio	36	Bob Decker
	11	Kim Ehn		Orange	216	Amy Kearns
Elkhart	260	Leland Shaum			41	Kim Ehn

	242	John Cassady		Parke	195	Peter Scott
	211	Neal Miller			136	Michael Brown
	15	Bob Decker			130	Ben Cvengros
Fayette	69	Bob Decker			26	Bob Decker
	62	Kim Ehn		Perry	105	Amy Kearns
Floyd	206	Tom & Colleen Becker		Pike	252	Jeremy Ross
Fountain	149	Ed Hopkins			160	Amy Kearns
Franklin	172	Bob Decker			147	Vicky Whitaker
Gibson	329	Chuck Mills			27	Bob Decker
	289	Dan Collins		Porter	318	Ken Brock
	281	Evan Speck			306	John Kendall
	268	Marietta Smith			302	John Cassady
	259	Jeremy Ross			289	Brad Bumgardner
	254	Amy Kearns			257	Jim Haw*
	254	Chris Newman			242	Ed Hopkins
	252	Vicky Whitaker			233	Kim Ehn
	226	David Ayer			232	Ed Powers
	196	Ed Hopkins			230	Matt Kalwasinski
	194	Tom & Colleen Becker			216	Don Gorney
	166	Don Gorney			152	Bob Decker
	131	Bob Decker		Posey	134	Evan Speck
	28	Kim Ehn			109	Dan Collins
Greene	267	Jim Hengeveld			76	Vicky Whitaker
	259	Amy Kearns			52	Bob Decker
	241	Michael Brown		Pulaski	142	Don Gorney
	236	Gary Langell			3	Kim Ehn
	235	Don Gorney		Putnam	208	Rick Huffman
	204	Ed Hopkins			26	Bob Decker
	199	Evan Speck		Randolph	200	Larry Carter
	190	Bob Decker		Ripley	166	Bob Decker
	182	Peter Scott		Rush	162	Marjorie Carmony
	181	Mark Rhodes		St Joseph	236	Neal Miller
Hamilton	207	Mark Rhodes			216	John Cassady
	205	Don Gorney			36	Kim Ehn
	21	Kim Ehn		Scott	114	Tom & Colleen Becker
Hancock	186	Don Gorney			112	Amy Kearns
	158	Mark Rhodes		Spencer	255	David Ayer
	74	Rick Folkening			58	Bob Decker
	12	Bob Decker		Starke	105	Kim Ehn
Harrison	144	Tom & Colleen Becker			81	Ed Powers
	116	Amy Kearns		Steuben	243	Jim Haw*
Henry	172	Jim Haw*			174	Ed Powers
	137	Don Gorney		Sullivan	258	Michael Brown
Howard	155	Florence Sanchez			212	Peter Scott
Huntington	254	Jim Haw*			192	Amy Kearns

	184	Ed Powers		177	Don Gorney
Jackson	207	Tom & Colleen Becker		45	Bob Decker
	172	Amy Kearns	Switzerland	4	Bob Decker
	132	Bob Decker	Tippecanoe	279	Ed Hopkins
Jay	169	Jim Haw*		42	Bob Decker
Jennings	124	Amy Kearns	Tipton	164	Elvin Wilmot
Johnson	215	Bob Carper		1	Bob Decker
	40	Bob Decker	Union	130	Bob Decker
Kosciusko	241	John Kendall	Vanderburgh	231	Chris Newman
	221	Steve Doud		212	Evan Speck
	193	Jim Haw*		186	Dan Collins
LaGrange	254	Jim Haw*		147	Chuck Mills
	246	Leland Shaum		16	Bob Decker
	175	Ed Powers	Vermillion	215	Peter Scott
	13	Bob Decker		197	Michael Brown
Lake	323	Michael Topp		142	Ben Cvengros
	316	Ken Brock		100	Amy Kearns
	315	John Cassady		17	Bob Decker
	307	John Kendall	Vigo	260	Peter Scott
	293	Ed Hopkins		230	Michael Brown
	269	Matt Kalwasinski		172	Ben Cvengros
	252	Ed Powers		45	Bob Decker
	248	Jim Haw*	Wabash	265	Jim Haw*
	246	Don Gorney		220	Steve Doud
	197	Kim Ehn		213	Ed Powers
	178	Amy Kearns	Warren	191	Ed Hopkins
	177	Bob Decker	Warrick	230	Evan Speck
La Porte	303	Ken Brock		227	Chuck Mills
	288	John Cassady		202	Dan Collins
	256	Jim Haw*		145	David Ayer
	200	Ed Powers		62	Vicky Whitaker
	188	Ed Hopkins	Wells	121	Jim Haw*
	179	Don Gorney		66	Ed Powers
	166	Kim Ehn	White	153	Rich Read
	156	Matt Kalwasinski		45	Debbie Read
	86	Bob Decker	Whitley	160	Jim Haw*

## Property Lists

The property list covers all species seen while standing on the land of your homestead. This can be as small as the balcony of an apartment or as large as several hundred acres. The size of your property, the quality of the habitat, and the length of time birding your place greatly affect the possibilities. Jim and Susan Hengeveld have one of the largest property lists in the United States. Their site is located on Lake Lemon. Matt Kalwasinski was very pleased to add Common Nighthawk to his property list. There were reports from 25 counties and from 29 people. This is an increase of six locations.

Count	Birder	County	Description
259	Jim and Susan Hengeveld	Brown	About a quarter of an acre of land at the east end of Lake Lemon on the south shore. There are some tall oaks, a few ashes, a bunch of smaller trees and some brush. The shallow end of the lake is to the north, a channel to the west, a patch of cattails to the east with a wooded swampy area across the street from the house.
206	Clint Murray	Montgomery	Lye Creek Prairie Burn, 80 acres
194	Neal Miller	Marshall	80 acre dairy farm with 2 acres woods, a small pond, 9 acres native prairie, an overgrown fence row, and the farm is bordered on one side by a mature woods.
181	Leland Shaum	Elkhart	A 24 acre small farm with six acres of woods, about an acre of native prairie, a pond, hayfield, and pasture. It is surrounded mostly by open farmland and woods, with one side being a four lane highway and a five acre retention pond area of water and grass/weeds
180	Steve Doud	Wabash	160 acres- forest, creek bottom, landscape nursery, orchard, grass fields
165	Bob Walden	Allen	4 acres, old farm, a top old glacial ridge. Populated with wide variety of trees and bushes. 1/4 acre pond and drainage to marsh below. Overlooks 3 ponds and a seasonal flooded marsh.
163	Tom and Coleen Becker	Floyd	A suburban/rural 1.1 acre lot on cul-de-sac adjacent to ~15 acres of mixed hardwoods. Also, adjacent to ~7-8 acre lake
163	Jeremy Ross	Pike	6 acres, .5 acre shallow pond, 2 acres of crop, 2 acres of native pollinators, the rest being young trees and bushes bordered by deciduous hardwoods on the west, and crop fields with wide fencerows on the rest.
162	Peter Scott	Vigo	50 acres in Nevins Township, northeast Vigo County
160	Marietta Smith	Gibson	116 acre farm with 80 acres in crops. The rest is wooded with a 2 acre marsh.
159	Marjorie Carmony	Rush	Rural farm
153	Gary Langell	Monroe	1.18 rural acres
140	Amy and Noah Kearns	Lawrence	A one acre clearing surrounded by 2 acres of cedar trees
132	David Ayer	Spencer	A 60 acre tract consisting mostly of agricultural fields. The south portion of the property contains a house and barn with a yard and scattered trees. A small creek also runs through the property.
132	Tom Houghan	Johnson	2 square mile block of land with a 450 acre lake. It has a couple of CILTI preserves on its periphery

130	Chuck Mills	Warrick	A .5 acre wooded lot backing up to a 40 acre mature woods
128	Ed and Cynthia Powers	Allen	A country yard, wooded, about one acre. Residences on either side, farm field front and back.
122	Bob Decker	Dearborn	A secluded ridgetop consisting of 12.1 acres. The yard is native wildflowers. The rest is an old field with goldenrod, grasses, and other native wildflowers, several berry species, many young cedars, a small locust grove, and a 4 acre woods- primarily oak-hickory and maple. Surrounding the property is grassland on the North side, old growth woods on the east, secondary forest on the south with a large creek. The west side has three small ponds, grassland, a woodlot and a small yard.
114	Vicky Whitaker	Gibson	Mixed lot, 17 1/2 acres. Fallow fields, mature hardwood trees. Evergreens and lots of scrubby areas.
110	Terry Ballenger	Hamilton	Urban residential and approx. 40 X 80 feet. There are several different types of feeders; brush piles; and a water source.
110	Ryan Slack	Brown	7 acre forest with 2 ponds.
101	Kirk Roth	Marion	Its .3 acre of suburban lawn on the north side of Indy. Mostly mowed lawn the edges are mature trees, including maple, Black Walnut, and Northern Hackberry. There are a variety of shrubs.
97	Matt Kalwasinski	Lake	A suburban backyard – 75 ft. wide x 300 ft. long. Multiple evergreen bushes & trees along with deciduous trees and plants. A large pond in the middle of the backyard, which has a small bog connected to it.
86	Dan Collins	Vanderburgh	One acre suburban
85	Lou Anne Barriger	Marion	1.5 suburban acres close to Eagle Creek Park.
81	Cloyce Hedge	Boone	Urban yard (90 X 150 feet) in Lebanon, Indiana.
69	Carl Huffman	Putnam	A yard in the central portion of a small town. There are about 5,000 square feet. Mostly grass with some large old trees, mostly deciduous but one Norway Spruce.
52	Rick Folkening	Hancock	1/3 acre residential lot with a neighborhood pond.
25	Kim Elm	Porter	Urban 5000 square feet with two large spruce trees and a manmade 10 foot all year man made running stream.

## 2016 Birder's Year Lists

### World Year List

Fourteen people reported world year lists. A note about a record that was not submitted here but one that should be of interest to Indiana birders. Noah Stryker observed 6042 species in 2015 and set a new world big year record. This record was broken in 2016 when Arjan Dwarshvis of the Netherlands saw

6833 setting a new world big year record. The largest world year list that I know about for an Indiana birder is Chuck Mills with 1071 seen in 2007.

537	Rick Folkening
528	Steve Bell
501	John Kendall
488	Chuck Mills
455	Jim Hengeveld
453	Susan Hengeveld
380	David Ayer
351	Carl Huffman
317	Bruce Matasick
301	Bob Carper
298	Kim Ehn
273	Tom and Colleen Becker
256	Ed Powers
189	Ben Cvengros

**North America Year List**

There were 13 reported North America year lists. The top list was submitted by Mark Rhodes with 541. The top year list since I've been doing this report is 703 by John Kendall in 2015.

541	Mark Rhodes
526	Rick Folkening
501	John Kendall
488	Chuck Mills
477	Steve Bell
455	Jim Hengeveld
453	Susan Hengeveld
380	David Ayer
365	Ed Hopkins
340	Carl Huffman
298	Kim Ehn
252	Bob Carper
169	Ben Cvengros

**ABA Year Lists**

In many years the ABA reports some lists that are near or even above 700. A big ABA year for an Indiana birder involves not only birding heavy in Indiana but also going to South Texas, South Florida, Southeast Arizona, the west coast, maybe Alaska, and doing several pelagic trips. All this would have to be done in one year. The top ABA big year by an Indiana birder was Mark Rhodes with 541. To even get over 400 involves some serious birding in various parts of the ABA area. There were 24 submitted

lists by Indiana birders. The top list reported to the ABA was by John Weigel who set a new record with 780 plus 3 provisional species. A provisional species is one that will only be counted if the ABA Records committee accepts it. The previous ABA big year record was 749 set in 2013 by Neil Hayward. Four people topped that this year. The record, unless challenged, for an Indiana birder is 611 by Mark Rhodes in 2015. Mark Rhodes birded in 36 states this year in observing 541 species. Chuck Mills birded in SE Arizona, Southern California, Utah, Nevada, and Florida to record 412. David Ayer birded in Southern California in January and then Southeast Arizona in August to boost his year list to 380. Theresa Schwinghammer birded in Florida, Texas, North Carolina, Ohio, and Gambell Alaska for 402 observed species.

541	Mark Rhodes		310	Amy Kearns
501	John Kendall		307	Gary Langell
412	Chuck Mills		293	Kim Ehn
402	Theresa Schwinghammer		275	Rick Folkening
384	Evan Speck		273	Tom & Colleen Becker
380	David Ayer		272	Matt Kalwasinski
365	Ed Hopkins		272	Perry Yoder
341	Sam Plew		271	Jeremy Ross
340	Carl Huffman		264	Bruce Matasick
336	Jim Hengeveld		252	Bob Carper
334	Susan Hengeveld		248	Chris Newman
313	David Crouch		210	Ed Powers

### Indiana Year Lists

Thirty-nine Indiana year lists were submitted. To work on an Indiana Big Year a birder must bird both the Lake front and southwestern Indiana. They must spend a lot of time at Miller Beach, Kankakee Sands, Eagle Creek, Goose Pond, Cane Ridge and other bird magnet areas. They must be willing and able to drop everything and race to the location of a species that they have not seen yet this year. INBIRD is a great resource for any Big Year birders. Facebook birding groups are also providing great resources. Any list over 250 for a year in Indiana is very impressive. There were 18 such lists last year. A new year list record was established. Don Gorney who reported 315 just edging out Ryan Sanderson who had 314. Both topped last year's high of 313. Five birders reported lists that were over 300 in 2016.

315	Don Gorney		242	Peter Scott
314	Ryan Sanderson		240	Kirk Roth
310	Ed Hopkins		235	Chuck Mills
304	Bob Decker		232	Dan Collins
302	Matthew Beatty		231	Chris Newman
294	John Kendall		230	David Crouch
289	Gary Langell		228	Neal Miller
284	Amy Kearns		225	Tom & Colleen Becker
281	Brad Bumgardner		224	Bob Carper
274	John Cassady		223	Rick Huffman

271	Jeremy Ross		211	Barny Dunning
269	Evan Speck		208	David Ayer
268	Matt Kalwasinski		205	Ed Powers
267	Leland Shaun		192	Ryan Slack
262	Thaddaeus Shaum		185	Cynthia Powers
259	Kim Ehn		171	Theresa Schwinghammer
257	Neal Miller		160	Ben Cvengros
253	Michael Brown		118	Bruce Matasick
252	Sam Plew		99	Elvin Wilmot
249	Jim Hengeveld			
246	Susan Hengeveld			

### Indiana County Year List

There were 58 counties with at least one year list reported. This is an increase of 30. John Kendall had the top list with 251 for Lake County. The Big Year record for an Indiana county in the five years that I have been editing the lists is John Kendall's 259 for Lake County in 2011. Is 275 possible? Any year list over 200 for a county represents some serious birding. There were 20 such lists. There were five 200 plus lists for Gibson and four from Porter.

County		Birder		County		Birder
Allen	143	Greg Majewski		Laporte	99	Ed Hopkins
	73	Bob Decker			86	Bob Decker
Benton	138	Ed Hopkins			78	Matt Kalwasinski
	42	Bob Decker			13	Kim Ehn
	27	Kim Ehn		Lawrence	159	Amy Kearns
Boone	18	Bob Decker		Marion	212	Kirk Roth
	9	Kim Ehn			101	Bob Decker
Brown	187	Jim Hengeveld		Marshall	196	Neal Miller
	185	Susan Hengeveld			65	Rick Folkening
	75	Bob Decker		Miami	23	Kim Ehn
Dearborn	122	Bob Decker			9	Bob Decker
Clark	111	Tom & Colleen Becker		Monroe	222	Gary Langell
Clay	29	Bob Decker			207	Jim Hengeveld
Clinton	3	Kim Ehn			200	Susan Hengeveld
Davies	35	Bob Decker			88	Bob Decker
Dearborn	164	Bob Decker			80	Amy Kearns
Delaware	11	Bob Decker		Montgomery	29	Bob Decker
Dubois	11	Kim Ehn		Morgan	14	Bob Decker
Elkhart	15	Bob Decker		Newton	198	Ed Hopkins
Fayette	49	Bob Decker			81	Matt Kalwasinski
	18	Kim Ehn			23	Kim Ehn
Floyd	137	Tom & Colleen Becker			12	Bob Decker
Franklin	97	Bob Decker		Ohio	36	Bob Decker



Gibson	241	Evan Speck		Orange	138	Amy Kearns
	220	Jeremy Ross			41	Kim Ehn
	217	Dan Collins		Parke	26	Bob Decker
	208	Amy Kearns		Pike	227	Jeremy Ross
	201	Chuck Mills			8	Bob Decker
	168	Chris Newman		Porter	238	John Kendall
	150	Tom & Colleen Becker			230	Brad Bumgardner
	139	Vicky Whitaker			227	Matt Kalwasinski
	128	Ed Hopkins			213	Kim Ehn
	124	Bob Decker			149	Bob Decker
	28	Kim Ehn			117	Ed Hopkins
Greene	216	Gary Langell		Posey	52	Bob Decker
	202	Amy Kearns		Pulaski	3	Kim Ehn
	176	Jim Hengeveld		Putnam	197	Rick Huffman
	174	Susan Hengeveld			26	Bob Decker
	151	Bob Decker		Ripley	122	Bob Decker
	135	Ed Hopkins		St Joseph	9	Kim Ehn
Hamilton	21	Kim Ehn		Spencer	58	Bob Decker
Handcock	54	Rick Folkening		Starke	22	Kim Ehn
	9	Bob Decker		Steuben	102	Bruce Matasick
Harrison	115	Tom & Colleen Becker		Sullivan	30	Bob Decker
Jackson	135	Tom & Colleen Becker		Switzerland	4	Bob Decker
	87	Bob Decker		Tippecanoe	179	Ed Hopkins
Jefferson	27	Bob Decker			41	Bob Decker
Johnson	167	Bob Carper		Union	130	Bob Decker
	40	Bob Decker		Vanderburgh	154	Chris Newman
Kosciusko	208	John Kendall			135	Evan Speck
La Grange	237	Sam Plew			77	Chuck Mills
	42	Bob Decker			16	Bob Decker
Lake	251	John Kendall		Vermillion	17	Bob Decker
	175	Matt Kalwasinski		Vigo	201	Peter Scott
	173	Bob Decker			44	Bob Decker
	159	Ed Hopkins		Warren	75	Ed Hopkins
	157	Kim Ehn		Warrick	159	Evan Speck
					114	Chuck Mills

### Property Year Lists

There were 12 property year lists submitted. The Big Year record for an Indiana property list in the five years of my editing this report is 185 seen by Jim and Susan Hengeveld in 2015. Information concerning the county that the property is located in and a brief description of the property can be found in the property life list table earlier in this article

Number	Birder
167	Jim and Susan Hengeveld
145	Jeremy Ross
130	Peter Scott
111	Bob Decker
110	Tom & Colleen Becker
100	Gary Langell
92	Amy and Noah Kearns
77	Chuck Mills
67	Matt Kalwasinski
60	Kirk Roth
49	Rick Folkening
40	Carl Huffman

### Indiana Birder's Big Year Lists

These are the top big years done by an Indiana birder. The numbers were determined by looking at the list articles for the past 6 years as well as communication with several Indiana birders. I'm certain that there are big years for unreported counties and big years that are larger than the numbers that are reported here. Please let the compiler know if you wish to add to the list or challenge some of the numbers that are listed. No totals under 200 will be published in this table.

Location	Year	Number	Birder
World	2007	1071	Chuck Mills
North America	2015	703	John Kendall
ABA	2015	611	Mark Rhodes
Indiana	2016	315	Don Gorney
Cass County	2014	223	Landon Neumann
Clark County	2015	205	Brian Johnson
Gibson County	2015	257	Evan Speck
LaGrange County	2014	248	Sam Plew
Lake County	2011	259	John Kendall
Marion County	2014	212	Don Gorney
Marion County	2016	212	Kirk Roth
Pike County	2016	227	Jeremy Ross

### Other Lists

John Kendall has photographed 342 Indiana species.

Marty Jones has photographed all 333 birds on his state list.

Michael Topp has photographed 352 Indiana bird species

John Cassady has photographed 655 ABA species.

Amy Kearns reported a work property list of 128 at the Mitchell Fish and Wildlife office.

Larry Peavler has seen 2257 species in South America.

Greg Majewski saw 143 species in Allen County on a green birding big year. All were seen on foot or by bicycle. In 2014 Dorian Anderson biked 17,830 miles, visited 28 states, and saw 617 petroleum free ABA species. Both Greg and Dorian are to be praised for their efforts. If there is enough interest, I would like to start a green birding table next year.

## Thoughts

Why is listing important? I decided to include the answer to that question as it was written in last year's article. For me it has often encouraged me to go into the field. If I don't go today, I might not see that Common Loon or a Golden-winged Warbler this year. Often I might not find my target bird but see something entirely unexpected. Peter Scott indicated that the county list was causing him to bird more in nearby counties. Amy Kearns said.

*I think listing by county is important. It encourages the reporting of a full list of birds heard or seen at a location, instead of just a single species of which a photograph is taken and shared online. I also like that birders working on a county list might discover a rarity, or a previously unknown location for wintering or breeding populations of uncommon species or species of conservation concern. Birders working on a county list that get out in June and July can simultaneously conduct a Summer Bird Count, which contributes valuable information to help us understand the breeding bird population in Indiana.*

Some Indiana lists appear only in eBird and some are only located on the ABA webpage in the list section. There are some birders who do not use either service but who still send me lists. I view this article as a way to draw everybody to the same page so to speak. Several of you mentioned planned trips in 2017. I know of several big years that are in progress. May you have the best of luck in your birding adventures in 2017 and don't forget to keep your lists updated.

## Acknowledgments

I want to thank all of you who took the time to submit your lists this year. A big thanks goes to Allisyn Gillet for her time in editing this summary. The article is much better because of her efforts. Of course any mistakes present are solely my responsibility.

