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Vice President.....	Ryan Slack	vp@indianaaudubon.org
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Editor Cardinal (Director).....	John Lindsey	birdindiana@gmail.com
Webmaster.....	Amy Wilms	wilmsab@indianaaudubon.org

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Field Note Editor (Spring).....	Bob Carper	bobngc2157@yahoo.com
Field Note Editor (Summer).....	Ken Brock	kj.brock@comcast.net
Field Note Editor (Fall).....	Kim Ehn	kmehn@comcast.net
Field Note Editor (Winter).....	Open	
May Bird Count and Final Edit Editor.....	Matt Kalwasinski	mattkalwassinski@yahoo.com
Summer Bird Count Editor.....	Amy Kearns	akearns@dnr.in.gov
Winter Feeder Count Editor.....	John Castrale	jsascastrale@gmail.com
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Vol. 94, No. 4

TABLE OF CONTENTS

NOVEMBER 2016

Letter from the Editor.....4 Brad Bumgardner	4
Winter 2012-2012 Field Notes Dr. Ken Brock and Brad Bumgardner	5
The Life and Writings of Donald H. Boyd Jerry Thomas Boyd.....	12
Northern Saw-whet Owl Migration Timing in Northwest Indiana Brad Bumgardner and Randy Pals	18
2016 Summer Bird Count Results Amy Kearns.....	23

Cover photo: Northern Saw-whet Owl banding at Indiana Dunes State Park in *Porter Co.*, taken October 14, 2016. Photo by Mark Davis

Back cover photo: An unusually cooperative LeConte's Sparrow at the Hammond Bird Sanctuary, *Lake Co.*, October 1, 2016. Photo by Ryan Sanderson

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Letter from the Editor

By Brad Bumgardner

Greetings, and welcome to the last Indiana Audubon Quarterly for 2016. In the early fall of this year, I took the reins of this long-running publication from John Kendall. John served as editor for quite a few years and I now look forward to accepting the torch and providing Hoosiers (and non-Hoosiers) an opportunity to learn more about the avi-fauna that this great state provides.

As a young birder, I had the opportunity to spend my time with some of the great ornithology names in Indiana at that time. I remember fondly jumping into the old blue Cadillac owned by Alfred “Bud” Starling and traversing the countryside of Steuben Co. in search of some bird species that had been passed on to Bud. At that time, we didn’t have the internet or social media to spread bird sightings. I still baffle today how Bud would find out about these sightings. No doubt a simple phone call explained most, but likely this network and knowledge on who to contact took years to nurture and grow.



**The sought after Hoary Redpoll.
Photographed at the Indiana Dunes
State Park in 2013.**

A particular Sunday morning trip in 1994 took us along the roadside of State Road 120, between Fremont and Orland Indiana to look for redpolls. Here, this one, otherwise normal looking, field was hosting an estimated 500 redpolls. No doubt a careful examination with better optics than I had at the time would have found a Hoary Redpoll. Another trip with Bud took us near the redpoll spot to find a talking crow. Obviously less important in wild bird interest, and probably more of an escaped pet, but still an interesting bird experience no doubt.

Today’s IAQ issues find the modern bird experts and ornithologists reporting what will soon be our next ornithological history. Technology is increasing our ability to communicate the sightings, but publications like the IAQ remain our archive of what has been seen(sighted), despite the changing media in which it may be stored, whether in print, CD, or in the cloud.

Indiana birders today are big Facebook users. While basic bird sharing, ID questions, and the like can be done via the Birding in Indiana group, the state also has an Advanced Birding page for those specific field reports, tougher IDs, and deeper ornithological questions. Additionally, a rare bird only page also exists. As a society, we strive to keep up with the changing nature of ornithology communication, research, and education. I look forward to making that next step with each of our Indiana Audubon Society members. As always, if you have content that you believe would be a good fit for the IAQ, please don’t hesitate to share it with me.

Happy Birding!

Summer Indiana Field Notes 2016

By Dr. Ken Brock, Chesterton, IN
kj.brock@comcast.net

It was an unusually exciting breeding season in Indiana. Noteworthy aspects included: one Swallow-tailed Kite, a calling Black Rail, an incredible large-shorebird flight, a plethora of territorial Clay-colored Sparrows, the northward expansion of Blue Grosbeaks, record counts of numerous passerines, and Indiana's second European Tree Sparrow.

Temperature & Precipitation at Indianapolis: Departure from Normal		
	Temp (°F)	Rainfall (in.)
Jun	+2.5	+0.28
Jul	+1.1	+1.11

However, this summer's astonishingly high season totals for many species, especially passerines, likely reflects increased birder effort rather than avian population increases.

Black-bellied Whistling-Duck:- On 2 June Amy Kearns and Gary Langell observed (3) flying over Main Pool West (Goose Pond) and Michael R. Brown saw (2) flush from this site on 25 June.

Canvasback:- An adult male was seen in the Gary sewage lagoon (from I-90) on 18 June (John K. Cassady). This is Indiana's fourth June record. Shawn Pfautsch reported this individual at the same location again on 4 July.

Red-breasted Merganser:- Del Striegel reported (1) on the Ohio River at Ashland Park on 16 July, providing a rare southern tier summer record.

American White Pelican:- A 6 June count of (81) at Lake Gibson (Chuck E. Mills) constitutes a record count for the summer season (STYM=45.9).

Yellow-crowned Night-Heron:- Hoosier birders enjoyed the best summer flight in nine years with 19 reported (STYM=7.0). Typically, most appeared in the southern tier; however, on 20 July Lynn Daugherty discovered a juvenile at Bass Lake to provide Starke County's second record.



Yellow-crowned Night Heron at Bass Lake, Starke Co. on July 23, 2016 by Michael Topp

Glossy Ibis:- Bob Decker logged (2) at Cane Ridge on 1 June. One accompanied the two White-faced Ibis at Goose Pond on 16 June (Amy Kearns & Ryan Sanderson). Photos were taken.

White-faced Ibis:- Two flew into Goose Pond, along with a single Glossy, on 16 June (Amy Kearns & Ryan Sanderson).

Swallow-Tailed Kite:- Ryan Sanderson observed (1) flying in Owen Co on 26 July, providing a first county record.

Osprey:- On 3 July Rick Welton climbed into the grandstand, which allowed him to view (3) chicks in the light-pole nest at Gilroy Field in Gary.

Black Rail:- A calling bird was heard on Seven Mile Lane, Floyd Co on 7 June (Joseph & Debbie Caruso and Tommy Becker).

Sandhill Crane:- The lakefront's first breeding record for Lake Co was set 10 June when Matt S. Kalwasinski photographed a pair with a half-grown youngster near Gleason Park in Gary.



Piping Plover:- A banded adult that Beatty photographed at Michigan City Harbor on 8 July, provided the state's second earliest fall record.

Piping Plover at Michigan City Harbor, LaPorte Co. on July 8, 2016 by Matt Beatty.

Black-necked Stilt:- Two birds returned to the 129th Street wetland on 3 June (Carolyn A. Marsh). On 14 June Carolyn reported a nest and on 1 July she saw both adults and (2) downy chicks. This is the lakefront's first successful breeding. Randy Shonkwiler confirmed the presence of three downy chicks on 2 July.

American Avocet:- It was an astonishing summer, see table (season total =231; STYM=18.1). The (35) seen in four flocks at Michigan City Harbor on 8 July (John C. Kendall & Brendan J. Grube) constituted a new high count for Indiana (by 3 Avocets). This record was short-lived as Brendan J. Grube and Jeffrey J. McCoy tallied a phenomenal (65) on the Michigan City Harbor outer breakwater on 13 July. Then on 24 July this fine mark was obliterated when an astronomical (95) were counted at Michigan City Harbor (Matt Beatty, Madison Beatty, Maricela Aviles, Ricardo Escobedo, Anthony Escobedo, Jaime Golba, Jeff McCoy and Ed Hopkins). The latter almost triples the pre-2016 record count.

Summer 2016 American Avocet Records			
No	Date	Location	Observer
3	8-Jul	Michigan City Harb.	K. Stratton
2	8-Jul	Dunes S.P. beach	B. Bumgardner
35	8-Jul	Michigan City Harb.	J.C. Kendall
3	8-Jul	Dunes S.P. beach	Jacque Gates
65	13-Jul	Michigan City Harb.	B.J. Grube
10	13-Jul	Miller Beach	M.A. Topp
1	14-Jul	Goose Pond FWA	L.Sterrenburg
1	15-Jul	Eagle Marsh	R. P. Rang
1	16-Jul	Miller Beach	M.A. Topp
1	16-Jul	Brookville Res	Wm Buskirk
2	18-Jul	Michigan City Harb.	M. Beatty
95	24-Jul	Michigan City Harb.	M. Beatty
12	25-Jul	Eagle Marsh	R. P. Rang

Solitary Sandpiper:- Bob Huguenard logged two late records. The first was at Kingsbury FWA on 6 June. The following day he photographed another at the Pierce Road Wetland (St Joseph Co). The latter is Indiana's third latest spring record.

Willet:- A record summer flight occurred this season: See table (Season total=504;STYM=101). The (304) seen at Michigan City Harbor on 13 July (Brendan J. Grube and Jeffrey J. McCoy) is Indiana's third largest count and the (158) at Miller Beach on the same day (Michael A. Topp) is the state's fourth largest tally. High drama occurred on 14 July when Ryan Sanderson, Don Gorney, and Aidan Rominger observed the local Peregrines capture, kill, and consume one of the four Willets that were present at Michigan City Harbor.

Summer 2016 Willet Records			
No	Date	Location	Observer
1	4-Jun	Michigan City Harb.	J.J. McCoy
6	29-Jun	Michigan City Harb.	B.J. Grube
13	30-Jun	Michigan City Harb.	B.J. Grube
4	8-Jul	Dunes S.P.	Jacque Gates
2	13-Jul	Bev. Sh. Lakefront	Matt Beatty
164	13-Jul	Michigan City Harb.	B.J. Grube- beach
140	13-Jul	Michigan City Harb.	McCoy-breakwall
158	13-Jul	Miller Beach	M.A. Topp
4	14-Jul	Michigan City Harb.	R. Sanderson
1	15-Jul	Michigan City Harb.	B.J. Grube
1	15-Jul	Miller Beach	M.A. Topp
1	16-Jul	Michigan City Harb.	N. Kiehl
1	18-Jul	Fairfax, L. Monroe	Joe Bailey
2	24-Jul	Michigan City Harb.	E.M. Hopkins
1	25-Jul	Michigan City Harb.	R. Sanderson
5	30-Jul	Michigan City Harb.	J.K. Cassidy

Whimbrel:- This was the best summer for this large-shorebirds since 2003 (season total=11;STYM=4.75).

Hudsonian Godwit:- On 24 July Matt Beatty photographed a molting adult on the Michigan City Harbor outer breakwater. This is Indiana's sixth July record and the state's second earliest fall record.

Marbled Godwit:- Two thousand sixteen brought the best summer flight in five years. See table (season total=18;STYM=6.2). The (7) that Brendan J. Grube logged on 30 June constitutes Indiana's largest June count by more than a factor of three.

Summer 2016 Marbled Godwit Records			
No	Date	Location	Observer
7	30 Jun	Michigan City Harb.	B.J. Grube
4	13-Jul	Michigan City Harb.	B.J. Grube
3	13-Jul	Miller Beach	M.A. Topp
1	14-Jul	Michigan City Harb.	R. Sanderson
1	16-Jul	Michigan City Harb.	N. Kiehl
1	24-Jul	Michigan City Harb.	M. Beatty
1	25-Jul	Michigan City Harb.	R. Sanderson

Sanderling:- Summer numbers rebounded from last year's dismal twenty-birds, with 99 reported (TYM=165), but remained well below normal. The season's peak tally consisted of (25) adults that Edward M. Hopkins logged at Michigan City or on 24 July.

Western Sandpiper:- Five adults were photographed at Goose Pond on 12 July (Amy Kearns, Aidan Rominger, & Ryan Sanderson), providing Indiana's largest daily count since 1997.

Baird's Sandpiper:- Two un-aged birds, found in a flooded field near Eugene (Vermillion Co) on 15 July (Alan & Jackie Bruner and Peter E. Scott) tied Indiana's fourth earliest fall record.

Pectoral Sandpiper:- Jeremy Ross logged (200) at Oatsville Bottoms (Patoka River NWR) on 15 July to tie Indiana's fifth largest summer count.

Stilt Sandpiper:- An adult that Matt S. Kalwasinski found at the 129th Street wetland on 3 July, trimmed one day off Indiana's earliest fall arrival date.

Bonaparte's Gull:- An unprecedented summer flight occurred at Michigan City Harbor on the morning of 30 July. In about three hours (133) birds flew past the harbor heading eastward; all except two first-summer birds were alternate adults (John K. Cassady, Brendan J. Grube et al.). This is an Indiana record count for the summer season.

Lesser Black-backed Gull:- John K. Cassady, Lynn Vernon, and KJB observed a second-cycle bird resting on the Michigan City Harbor outer breakwater on 7 July. Likely this same individual was seen there again on 24 July (Edward M. Hopkins).

Common Tern:- A first-summer bird was perched on the Michigan City Harbor outer breakwater on 7 July (John K. Cassady, Lynn Vernon, & KJB).

Yellow-billed Cuckoo:- It was a wondrous summer for this cuckoo with an incredible 575 reported (STYM=169). The best previous summer was 2015, during which 381 were reported. This spring's highest count was (13) that John Meredig tallied at Harmonie S.P. on 1 June.



Snowy Owl:- The conservation officer's pet bird that lingered in Miami Co from early January to mid-February reappeared in Winamac (Pulaski Co) in April and was present through July 5, where it appears to have perished in the hot summer sun. Comparison of photos confirmed the bird's identification (*fide* Brad Bumgardner).

Acadian Flycatcher:- On 1 June John Meredig counted (89) in Harmonie State Park. This total ties Indiana's high-count record.

Yellow-billed Cuckoo at McCloud Nature Park, Hendricks Co. on June 9, 2016 by Mike Jones.

Alder Flycatcher:- A singing bird was still present in western Beverly Shores on 18 June (John K. Cassady). Surprisingly, (3) were heard simultaneously singing near St. Clair Street in Beverly Shores on 30 July (John K. Cassady, Randy J. Pals, Lynn Vernon, and KJB). This is the lakefront's largest July count in 16 years.

Blue-headed Vireo:- Sam Plew found (1) at Pigeon River FWA (LaGrange Co) on 23 June. Birds have been reported at this site in five of the last six summers.

Philadelphia Vireo:- One seen in the Hammond Sanctuary on 4 June (Richard & Jill Wood) tied Indiana's second latest spring date.

Red-breasted Nuthatch:- This species was quite scarce. Indeed only 29 were reported throughout the entire first half of 2016 (STYM=2.05). Consequently, the one that Sam Plew found at Pigeon River (LaGrange Co) on 23 June and again on 2 July, was totally unexpected.

Sedge Wren:- This was Indiana's best summer since 2007 with 163 reported (STYM=82.9). The peak count was (15) that Mark Arvin tallied at Prophetstown S.P. on 16 July.

Marsh Wren:- It was a record summer for this wren with 301 reported (STYM=120). Lindsey Grossman logged the peak count of (12) at the Grant Street wetland (Gary) on 10 June.

Golden-crowned Kinglet:- San Plew found one at Pigeon River FWA (LaGrange Co) on 23 June. Golden-crowned Kinglets nested at this location last year.

WARBLERS

On 1 July Todd Kresser logged an impressive July count of 13 warbler species at Crooked Creek State Recreation Area, Brown County. The 13 warblers were: Ovenbird, Worm-eating, Blue-winged, Black-and-white, Prothonotary, Kentucky, Common Yellowthroat, American Redstart, Northern Parula, Yellow Warbler, Yellow-throated Warbler, Prairie Warbler, and Yellow-breasted Chat.

Worm-eating Warbler:- It was a record summer with 158 reported (STYM=42.3). The maximum daily count was (12) that Garrett MacDonald logged in Brown Co on 13 June and again in Monroe Co on 20 June.

Prothonotary Warbler:- The summer of 2016 brought a phenomenal record of 446 for the season (STYM=129). The summer's maximum daily tally was (33) that Del Striegel logged in Harrison-Crawford S.F. (Harrison Co) on 6 June.

Nashville Warbler:- Mathew Bowman found (1) at TNC Kankakee Sands (unit B) on 2 June. This report constitutes Indiana's fourth latest spring record.

Cerulean Warbler:- Most encouragingly, Hoosier birders logged the largest summer numbers ever, with 168 reported (STYM=63.9). The season's peak daily tally was (16—Indiana's fourth largest count for this season), recorded by Garrett MacDonald in Hardwood Ecosystem Experiment (HEE) site #8 (Brown Co) on 20 June. The latter total included two fledglings.



Blackburnian Warbler with nesting material at Indiana Dunes State Park, Porter Co. on June 7, 2016 by Rita Jackson.

Blackburnian Warbler:- On 7 June Rita Jackson photographed a female carrying nesting material in Dunes S.P., providing Indiana's second confirmed nesting record.

Canada Warbler:- Most interesting was a non-singing adult male found in HEE-5 (Brown Co) on 16 June during a Ball State Cerulean Warbler survey (Garrett MacDonald). This is the second June record for the southern tier.

Yellow-breasted Chat:- A 24 June count of (48) at Warrick County's Lynnville Mine (James H. Campbell), provided Indiana's second largest daily count.

Clay-colored Sparrow:- It was an unprecedented summer for this species. At least four territorial birds were reported. The spring Clay-colored reported in Kankakee Sands Unit-D was last observed 3 June (Edward M. Hopkins). On 4 June a territorial adult was discovered at Reynolds Creek G.H.A. (Jeffrey J. McCoy et al.) and was still present on 30 July (Amy Hodson). This constitutes a first summer record for the lakefront. Also on the 4th Don Gorney photographed (1) in Steuben County's TNC Holden Tract. A fourth occurrence was reported in Pigeon River FWA (LaGrange Co) on 24 June (Tim Schrock and LeRoy Miller *vide* Sam Plew).

Henslow's Sparrow:- It was also a record season for this sparrow with 463 reported (STYM=193). Barb Lucas tallied the largest count on 2 July with (28) at TNC Kankakee Sands. This count was closely followed by the (26) that Karl Werner logged at Atterbury FWA on 11 June.

White-crowned Sparrow:- Gary Langell and Amy Kearns reported a singing bird in Orange County on 21 June, which provided Indiana's 14th summer record and the first ever for the southern tier.

Summer Tanager:- It was a record summer for this tanager with 375 tallied (STYM=84.5). The peak count was (13) at both Lincoln S.P. on 29 June (John Meredig) and on 1 July in Warrick Co (James H. Campbell).

Blue Grosbeak:- The northward surge of this colorful Cardinalid continued unabated this summer (see graph) with 429 reported (STYM=136). The season's maximum tally was (15), reported by James H. Campbell in Warrick Co on 10 July. Other noteworthy reports included (2) singing males that Don Gorney found in Steuben Co on 3 June that provided a first county record and (2) fledglings that Michael A. Topp observed at the U.S. Steel plant in Gary on 7 July. See sightings chart on next page.



Blue Grosbeak at Goose Pond FWA, Greene Co. on June 17, 2016 by Michael Brown.

Indigo Bunting:- Following two earlier practice runs, on 29 July Alan W. Bruner, Peter E. Scott, and Rusty McIntyre counted an astronomical (616) in Parke Co. This total more than doubles the previous Indiana maximum tally of 291.

Dickcissel:- This vocal species has become very well ensconced at Reynolds Creek G.H.A. On 18 June John K. Cassady, Randy J. Pals, Lynn Vernon & KJB conducted a survey from the roads and counted (55), which is a record tally for the lakefront.

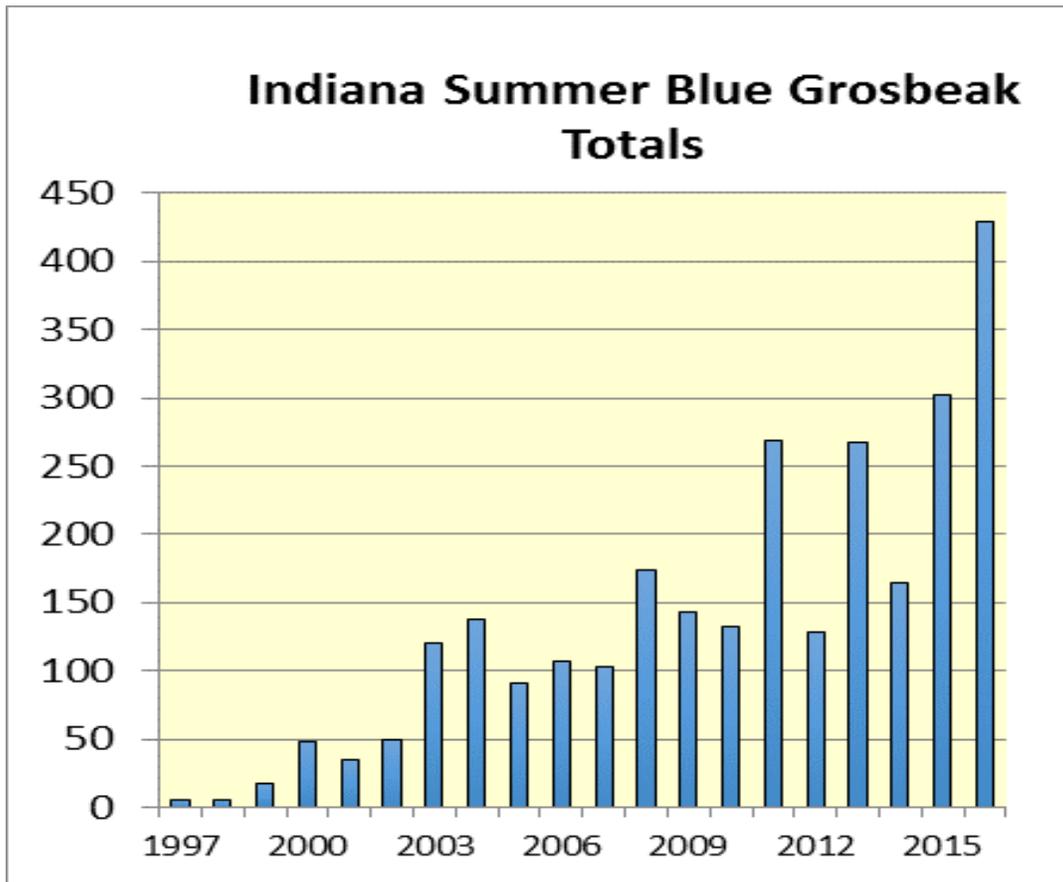
Yellow-headed Blackbird:-The adult male that arrived at the Grant Street wetland on 20 April lingered until 24 June (Matt S. Kalwasinski), but a female was never reported.

Orchard Oriole:- It was a fruitful summer for this bird with a record 438 reported (STYM=146). Mark Arvin logged the peak tally of (16) at Prophetstown S.P. on 23 July, which ties Indiana's fifth largest summer count.

Baltimore Oriole:- This colorful oriole was reported in record numbers with 461 logged (STYM=190). Kimberly Ehn logged the largest count with (12) in the Coffee Creek Watershed Preserve near Chesterton on 20 July.

Eurasian Tree Sparrow:- Kevin Arvin found Indiana's second record at his Tippecanoe Co home on 19 June. The bird was photographed but not submitted to the IBRC for record acceptance.

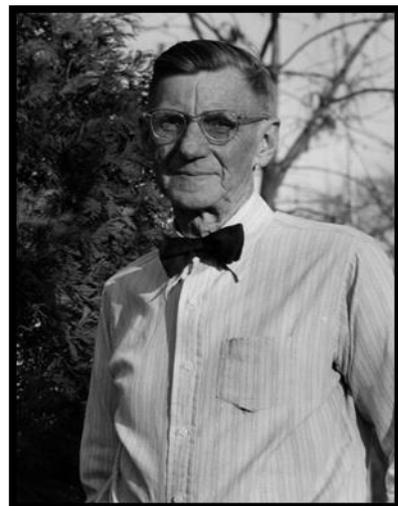
Conventions:- Summer totals are frequently compared to average seasonal counts in the "Dunes area" (Calumet Region or lakefront) over the past 20 years, including the present year. This value is abbreviated "TYM" for Twenty Year Mean. The term "STYM" refers to the twenty-year mean for the entire season.



The Life and Writings of Donald H. Boyd

By Jerry Thomas Boyd
Chesterton, IN 46304

Donald H. Boyd was my grandfather. Although he died when I was nine years old, my few memories of him are vivid and indelible. When I was six years old, I watched him band birds in his house in the Sauk Trail Boy Scout Camp. Before banding he held them gently in his hands, on their back, stroking their breast to calm them. When he asked me if I wanted to release one, I was terrified I might crush the delicate creature. But Grandpa assured me I would not. Then he took one and handed it to me to release. It was a small bird, small enough to fit nicely in my little hands. I felt its heart beating furiously or was it my own? He opened the door, I stepped to the threshold with the bird, and following Grandpa's example, with a toss into the air, watched the bird take flight. That was the biggest thrill of my young life.



Don H. Boyd

While today I can identify maybe one type of sparrow, he could identify ten. Obviously I did not become a birder myself; but I inherited his love of the natural world and hold a great admiration for his accomplishments. He was an amazing self-taught, amateur naturalist and ornithologist. His incredible patience, diligence, and dedication to keeping detailed and meticulous records of all he observed along the rivers and roadways, on the beaches, in the fields, forests, and dunes of La Porte, Porter and Lake Counties in Indiana, paints a priceless picture of the natural world of that area in the first half of the 20th Century. In addition, he is also notable for his inspiring work as a Boy Scout Leader, and for his history making work with the Standard Oil Company in Whiting, Indiana. Through the trajectory of a life well lived, my grandfather made a remarkable and esteemed place for himself in the history of Northwest Indiana.

Donald Hipkins Boyd, born August 2, 1882 in La Porte, Indiana, was the oldest of four children born to Arthur and Mary Cecilia (nee Lawrence) Boyd. His unusual middle name is his grandmother's maiden name.

Boyd came from a working class family. According to a 1951 timeline of his life written by Donald Boyd himself, he began working in 1897, at age 14 or 15. In 1900 he worked in the office of the U.S. Express Company in La Porte. He must have quit school for a year or so to hold down these jobs because he does not graduate from high school until the spring of 1902, making him 19 years of age. He did not attend college but went to work in 1903 with the Aetna Powder Company in Miller, Indiana.

In 1904 he began working for Standard Oil in the Hydroxy Stearic Acid Plant. Eventually Boyd worked under Dr. William O. Burton and Dr. Robert E. Humphreys in the lab that created the Burton Still. The invention perfected a better method for cracking crude oil to obtain higher yields of gasoline. The process revolutionized the oil industry. Boyd was to work in the laboratories at Standard Oil until 1933 when ill health forced him to retire.

In 1906, after keeping company through much of their school years, he became engaged to Oenone Ransburg, the daughter of Warren C. Ransburg, a prominent La Porte lawyer. They were married June 28, 1908 and took up housekeeping at 400 Fischrup Avenue, Whiting Indiana. It was at that address that my father, Warren Arthur Boyd, was born. In 1914 the Boyds moved to 335 Sheridan Avenue, where, in February of 1916, my aunt, Donna Cecilia Boyd, was born.

A life-long birder, as early as 1898, at 16 years of age, Boyd was corresponding with other birders and keeping records of his sightings. He kept such records all his life sending reports to the Audubon Society and other interested organizations and people. In the 1920s he corresponded with and sent bird counts to Amos Butler and Sydney Esten. Even while working at Standard Oil he came to work early to make bird observations before his shift. His Whiting homes were not only close to work, but also close to Whiting Park (now called Whiting Lakefront Park), an excellent spot for observing migrations.

According to an obituary in the Gary Post Tribune, he spent 10 years collecting butterflies and moths of Lake County, Indiana, a collection that he sold in 1933 to the Whiting school board. He continued collecting butterflies and his second collection included rare and exotic species from all over the world. He got these specimens by trading with collectors in foreign lands.

He was always most happy to be outdoors, immersed in the study of the natural world and making observations of what he saw. That interest contributed, no doubt, to his becoming Scoutmaster of Troop 2 in November of 1915, a mere two years or so after the Boy Scouts of America were formed in the United States. His Scout work afforded him not only the opportunity to spend time in the wild but to teach young boys about nature and transfer his passion to succeeding generations and earned him the coveted Silver Beaver Award. As a man of devout Christian faith, he believed strongly in that part of Scout work that encouraged youth in their own faith practice.

In 1919 the Boyds moved to Kelly Street in Hobart, Indiana. In 1926 they bought a new Essex in which the family drove around Lake Michigan that same year. He notes taking various vacations and trips to Oden, Michigan, Lake Tippecanoe, McCormick Creek, Clifty Falls, Spring Mill and Brown County State Parks, and he often returned to the lakes around La Porte, Hobart, Whiting and other sites in the three NW Indiana Counties, to continue making his bird counts and observations. Several trips to Florida and points in New Jersey and Buffalo, New York, and Ohio are also noted as vacations and to visit friends.

In 1932 the Boyds took up residence in Gary. In 1933 he was forced to retire from Standard Oil due to increasing periods of ill health. After 33 years as an employee he was let go. The rest of his life would be spent enduring flare-ups of various illnesses including asthma, jaundice and cirrhosis of the liver. But he remained active with the Boy Scouts and with his bird migration counts. In 1944 the Boyds moved to the Sauk Trail Boy Scout Camp where Oenone died in 1946. He died in the cottage at the Boy Scout Camp surrounded by his second wife, Jess and by his daughter, Donna Boyd Burnham, and his daughter-in-law, Madelyn Wagner Boyd, both Registered Nurses. He was 72 years old.

The following are a few of his notable writings and articles presented for readers of the Indiana Audubon Quarterly.

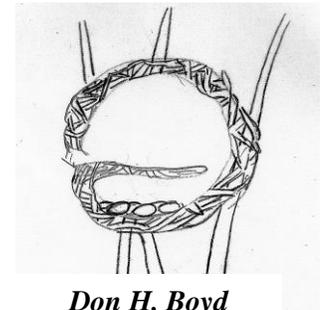
Long-Billed Marsh Wren- D.H. Boyd

During the first three weeks of June 1914 I examined twenty-three nests of the Long-Billed Marsh Wren on the east side of Wolf Lake near Whiting. All of these nests were attached to cattail and rush blades which cover this entire shore of the lake. The cattail growths seemed favored as nineteen of the twenty-three nests were found among them. There seemed to be not more than four singing males in the immediate vicinity of these nests. In fact, three males only were identified on six of the nine trips to the place. Visits were made in the early morning, at noon, and in the evening. At no time did I see any of the birds in the act of carrying material to the nests. Birds of both sexes were seen about and in some instances on top of the nests.

Upon two different occasions I found three new, partly finished nests thoroughly soaked. There had been neither rain nor enough moisture in the air to cause this. Furthermore the other older nests were quite dry. An examination of the nesting material in these three nests showed it to be identical with the water soaked, dead growth to be found all about. It is possible that this soft, pliable material is always used. This would enable the birds to neatly weave and plat it into the generally spherical form of the nest. This material, from which the softer parts have decayed, leaving the hard, rigid structure, would make a much stronger and more secure nest.

All of these soaked nests developed into "cock" nests. Among those I examined it was quite apparent in a short time which nests were "cock" nests. Invariably they were more elongated, less compact, and more poorly built, while the entrance opening was large, irregular, and easily located. These nests were all more or less conspicuous, being built where the growth was sparse. The regular nests soon took on the appearance of or approached the spheroid form. The structure was more compact, more firmly tied to the supporting rushes, and the entrance most cleverly concealed. Four of these twenty-three nests were finished and contained eggs.

In four years I have examined twenty nests containing eggs. The entrance in every one of these nests was concealed by means of loose material, which drew together each time the bird forced its way in or out. Each of these nests also contained an apron or partial false bottom, which hung down over the eggs. When the finger would be inserted into the entrance it would slide along this apron, not touching the eggs at all unless bent back toward the front.



*Don H. Boyd
illustration*

Is it possible that the eggs are intended to be concealed in this manner?

Grackles and jays, which destroy eggs and young of other birds, may be at first eluded by the large, conspicuous opening of the "cock" nests. Should a nest containing eggs or young be found, it would first be difficult to locate the entrance; however, should that secret be discovered, the contents could not be found under the concealing apron without a thorough investigation. Nor would it be an easy matter to destroy the nest made as it is, of the dried, fibrous structure of plant growth.

Birds At Sagunay Lake - D.H. Boyd

A number of the small lakes located in Northern Indiana have attracted attention because of their beautiful surroundings and have become more or less popular as summer resorts. Wild life in general is usually abundant about such places but the more timid creatures, as a rule, seek deeper solitude soon after their domain has been encroached upon. The air gun and rifle brought to these popular places by city folk, who are anxious for a little practice on the 'real thing', no matter what it may be if it possesses life, often cause tragedies among these creatures, especially the birds.

It has been my good fortune, for two seasons, to make a superficial study of the bird life at a small lake which has not become so popular and which is a paradise for the feathered tribe, on account of its many advantages. This is Sagunay Lake, named for an Indian Chief, said to be buried near its eastern shore. The lake is small, not over two hundred acres, and reminds one of a sunken gem among the rolling hills of that region. A fringe of oak, beech, maple, and sycamore follows the shoreline, and from the dead protruding branches the rattle of the Kingfisher can be heard at any time. These birds must nest some distance away, since the contour of the country is rounded or rolling (in fact it is known as rolling prairies), so there are no abrupt embankments, except along the railroad, three miles away.

Wild hardwood timberlands, within a few rods of the shore, very likely harbor all kinds of woodland birds known to occur in that latitude. The meadowlands, which roll down to the lake's edge in the eastern margin, furnish nesting places to a large number of Larks, Bobolinks, Field, Song, and White-Throated Sparrows. Along the fence-ways, the soft trill of the Chipping Sparrow is heard and, as punctuation marks to all of these, is the simple song of the Meadowlark and the whistle of the Bob-White.

It is the entire northern end of the lake however that proves to be the Mecca of bird life. This margin is an inaccessible swamp of buttonwood, willow and elder, while an occasional tamarack rears its head above this wild tangle of branches; and as if to keep them company, a few swamp elms are scattered about. It would be impossible to penetrate this thicket either with a boat or in rubber boots, without cutting a path, which, to all appearances, has never been done. Skunks and weasels, those ravagers of birds' nests, are not able to use the place as a foraging ground on account of the water, which covers the entire floor of the 'wilderness' throughout the breeding season. Hawks and owls find the place a poor one for their prey, since the view above is open to all the inhabitants and once in the thicket, the pursuer loses his quarry. What appears most significant to me, is that the whole swamp is guarded, as it were, by a score or more of pairs of King birds. Along the edge of the thicket, at almost regular intervals, these King birds have placed their nests as though forming the outer guard line for the community. And a guard they prove to be, for upon the approach of a hawk, crow or jay, a terrific assault is made by a half dozen of these frenzied warriors.

Life within the community seems ever at peace. I spent hours in my boat along this margin of the lake and saw no conflicts between the 'guards' and the smaller denizens.

Bird life in the thicket was a living panorama. Here a Green Heron would crawl stealthily through the branches, a queer combination of snake and squirrel-like activity. There an American Bittern posed as a statue, apparently all neck, and hard to distinguish from the greyish-brown, bark-covered branches. Sometimes a coot or a grebe could be seen paddling away in the water under the canopy. One or two

drake Bluebill ducks flushed out of the runways at different times as my boat passed along. I did not see the hens but I am inclined to believe that somewhere in the midst of that 'wilderness', safe from harm, were the snug nests of these ducks. This is likely true of the coots and grebes, which could be seen on the lake frequently. From among the bushes a streak of yellow or indigo gave evidence of Yellow Warbler and Indigo Birds. Among the tamarack branches, Cedar Waxwings could always be seen.

The Downy Woodpeckers and Tree Swallows were at home in the holes of the dead cottonwood stumps. Redwing Blackbirds were everywhere. From the shore side, Song and Swamp Sparrows were constantly singing. Catbirds would sneak in and out of the thickets. Hermit Thrushes would appear unexpectedly and dash away again. I missed the song of the Marsh Wren, but heard him in a neighboring marsh, where cattails were abundant. Often, in the morning and evening, Tree, Barn, and Bank Swallows swarmed over the lake by the hundreds, how far away they nested I have no idea. If I arose early enough and scanned the shoreline, I would see a Great Blue Heron or two, their morning fishing over with, lumbering off to the heronry several miles distant. Under the eaves of my cottage a Phoebe raised her brood, while along the rafters of a small boat shed a Barn Swallow had fastened her nest. Along the public highway, which skirts one shore of the lake, a Red-Headed Woodpecker had drilled out her nest in a fence post. Baltimore Orioles suspended their hammocks from trees along the shore and the call of the Yellow-Billed Cuckoo frequently be heard among the thicker branches. Each spring a pair of Great Northern Divers visited the lake and enjoy



*Northern Flicker fledglings by
Don H. Boyd*

A portion of this region is included in one of the state game preserves and since game of all kinds have been unmolested for several years, and because of this protection, the birds in general have thoroughly established themselves. This accounts, to a certain degree, for their abundance and clearly demonstrates how rapidly the different species will make themselves permanently at home, when the hand of man is raised, but slightly, in their behalf.

It is certainly a great joy to be able to spend even a short period in a place, where it is very apparent, that the birds hold sway, where they have practically none but natural enemies to deal with, and where even some of these are eliminated. These facts are exceedingly gratifying to bird lovers, since they prove conclusively the expected results of laws enacted for these purposes, and are sufficient arguments for further legislation along advanced lines. Wherever definite returns can be shown as a result of laws past, it is not nearly so hard to enlist the aid of the public and their representatives, in seeing that such ordinances are enforced and improved upon.

Contributor's notes: Unfortunately this essay, like many of Donald H. Boyd's writings, does not indicate when it was written. The amount of time he got to spend there suggests it was either early in his life before marriage and a career or later after his retirement. Sagunay Lake is located some miles northeast of La Porte, Indiana, and today is a modestly developed private lake, no longer a paradise for the multiple bird species Boyd observed in the first half of the 20th Century.

Donald H. Boyd's notebooks, which Ken Brock received from Russell Mumford, form the nucleus of the Donald H. Boyd collection in the Calumet Regional Archives located in the library of Indiana University Northwest Campus. Eventually paper copies of bird counts and correspondence from the archives of the Indiana Audubon Society (courtesy of Alan Bruner) will also be available in the Calumet Regional Archives along with what additional correspondence, poetry, notes, diaries, photographs and memorabilia is currently in the possession of Boyd's grandchildren.

Other writings also include, "*Green Herons*," a nature observation written by Donald H. Boyd. This piece appears in the book, "*Of Prairie, Woods, & Water: Two Centuries of Chicago Nature Writing*", edited by Joel Greenberg, c. 2008 by University of Chicago Press.

Northern Saw-whet Owl Migration Timing in Northwest Indiana

By **Brad Bumgardner, Valparaiso, IN**
bumgbj01@hotmail.com

Randy Pals, Chesterton, IN
rjpals@comcast.net

The Northern Saw-whet Owl (*Aegolius acadicus*) is an un-common to common, but poorly understood, owl species in the North American forest. While historical breeding evidence exists for Indiana, no summer records are known in the state in over thirty years (Brock, 2009). Even when summer records existed, fledged young were found, but never active nests. Given the large scale nomadism of immature birds, breeding evidence for the state is lacking. Most birders know of the species as a hard-to-find migrant and wintering bird in Indiana. The saw-whet owl can often be near impossible to find and most birds migrating through the state go undetected.

Ornithologists first discovered the migratory behavior of saw-whet owls in 1906, when many were killed during and after a fall storm on Lake Huron (Saunders, 1907). It is now common knowledge among bird enthusiasts and researchers that saw-whet owls move south from the summer grounds each fall in large numbers, with peak cycles that create large irruptions of owls every 4-5 years. This fall migration is likely a result of avoiding the challenges that face those birds that stay in the colder and more difficult climates of the summer breeding area.

(Cheveau, Drapeau, Imbeau, & Bergeron, 2004). The cyclical nature of the migration season observed year to year is likely due to breeding success of prey items on the nesting grounds, followed by population crashes, sending the high numbers of fledged saw-whet owls south in search of food during these abundant winters. (Brinker, Duffy, Whalen, Watts, & Dodge, 1997; Brittain, Meretsky, Gwinn, Hammond, & Riegel, 2009).

Bird banding efforts for saw-whet owls have revealed much about both the timing and nature of their migration. Project OwlNet was established in 1994 to improve the knowledge of saw-whet owl migrations throughout North America. Project OwlNet provides for a standardized and comparable netting protocol among the 75+ banding stations in the network. It also aids in communication and coordination among owl migration research stations in North America (Project OwlNet, 2016a).

Prior to 2000, there were no previously published records of fall migrating saw-whet owls in Indiana. In Indiana, saw-whet owl banding began in the Yellowwood State Forest, Brown Co. in 2002. From this original, single banding station, banding data has been collected for - 15 years. Since then, additional regularly occurring owl banding stations have opened up in eastern Indiana (Fayette Co.), Manchester



Figure 1: Winter roosting Northern Saw-whet Owl in Beverly Shores, Porter Co. Photo by Brad Bumgardner.

College (Wabash Co.), and Indiana Dunes (Porter Co.). A new banding station has opened in 2016 near Purdue University (Tippecanoe Co.).

In 2009, the Indiana Dunes banding station opened to capture and measure the migration of saw-whet owls through northwest Indiana, with emphasis along the Lake Michigan shoreline in Porter County. This area is heavily forested between the Indiana Dunes State Park and surrounding Indiana Dunes National Lakeshore. Prior to 2009, incidental owl sightings have occurred in response to the generally good citizen science presence in the region. Dr. Ken Brock has maintained a database of sightings, with some going back over 100 years. Despite its secretive nature, over thirty fall records have been recorded by bird watchers, non-banding researchers, and naturalists. At the end of 2015, over 230 banding records had been acquired, allowing for a comparison of the two data sets.

The Indiana Dunes owl banding station was initiated within the Indiana Dunes State Park and coordinated by the state park interpretive naturalist staff. Volunteers, as much as possible, followed the protocol for migratory banding stations recommended by Project OwlNet (Project OwlNet, 2016b). The banding station was operated using a range from -4 to 13 60-mm mesh mist nets, 2.6 m high and 12 m long, arrayed in cross patterns through oak (*quercus spp.*) forest with heavy spice bush (*Lindera benzoin*) understory. An audiolure was placed in the middle of the net array and used to broadcast the male solicitation “toot” call, as well as other “barks” and “wails.” Each call played at approximately 90-110 decibels from early October through late November. Nets and audiolures were activated within 30 minutes of sunset each night. Mist nets were open for a minimum of three hours, and remained open until no new saw-whet owl had been captured for more than an hour, unless poor weather (rain, winds, etc.) forced the cancellation of banding operations. Early season banding was dictated by the arrival of a cold front, and three days after the passing of a cold front with no owls determined the end of the season.



Figure 2: Example banding site in Indiana Dunes showing spicebush (*Lindera benzoin*) understory in yellow. Photo 2011.

For each banded bird, standard bird banding measurements were taken, including wing chord (natural and flattened), tail length, and culmen length. A USGS metal leg band was attached to each new bird. Birds were classified according to age and sex using the wing-mass differential function available from

Project OwlNet (Brinker, 2000). Additionally, date, time, temperature, humidity, and moon and sky conditions were all recorded. Personal weather stations available online were used in most cases.

Annual totals of owls at the Indiana Dunes station varied year to year based on weather conditions, banding effort, and total magnitude of migrating birds. Numbers ranged from as low as 16 per year to a high of 57 (2015). 226 total nights were used to band owls during the seven years of banding. The earliest capture date was October 2, after a particularly strong cold front had moved through 48 hours prior. The latest capture was November 22.



Figure 3: Saw-whet owl being banded at the Indiana Dunes banding station.

For the purpose of this short paper, the data was then used to do a basic statistical comparison with the traditional and historic citizen science owl data for the dunes area to see if owl banding data could show a shift in both the overall migration window and mean migration date for this region. Previous research has attempted to describe the overall progression of saw-whet owl migration across eastern North America using 85,000 saw-whet owl banding records. Their research also predicted fall migration timing of Northern Saw-whet Owls across eastern North America based on mean banding day at 132 stations. Their predictions put the mean banding day for the Indiana Dunes between October 27-31, with the area predicted to be November 1-6 a mere thirty kilometers south of the Lake Michigan shoreline (Beckett & Proudfoot, 2011).

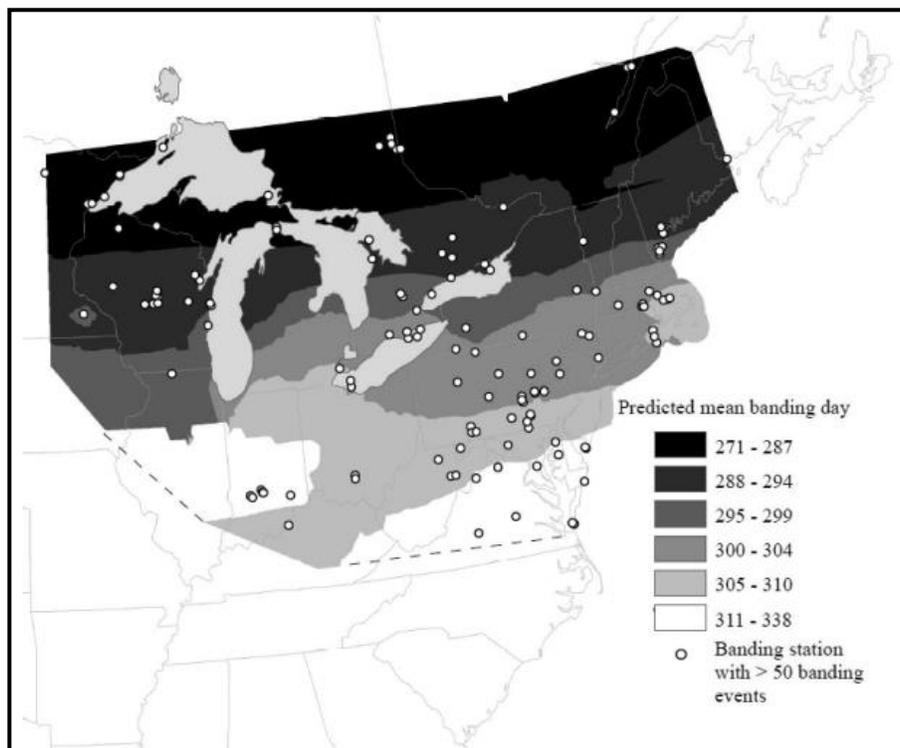


Figure 4: Predicted fall migration timing of Northern Saw-whet Owls across eastern North America based on mean banding day at 132 stations with 50 banding events, 1999–2008. Reference Julian dates: 1 October = 274; 1 November = 305. (Beckett & Proudfoot, 2011).

From 2009 through 2015, the Indiana Dunes banding station had collected data for 231 owl captures. These included both newly banded birds and birds of local and foreign (non-dunes station) origin. Of 231 banding records, 137 (59.3%) were hatch year birds. Hatch year percentages varied year to year based on summer breeding success up north. Females dominated the captures, with 175 (75.6%) of birds being female. Males made up 16 (6.9%) birds and unknown sex made up 39 (16.9%) birds. This is in line with other banding stations' ratios (Beckett & Proudfoot, 2011).

Upon basic analysis, the average mean migration date for the Indiana Dunes banding station lies between October 31 and November 1 (Julian calendar date 304.52). Rounded up, the average mean date for the migration banding is November 1. The distribution appears normal, as seen in figure 5. The standard deviation was 11.1 days. Assuming the classic three standard deviations, we can calculate the entire migration window as September 30-December 4. Assuming normal distribution, the arrival dates for the first 10% and last 10% of the migration are October 17 and November 15.

Citizen science has collected both modern day and historical saw-whet owl observations in the dunes area, with data going as far back as 1921. These reports include dead specimens, roosting birds, and calling individuals reported through various media and collected for analysis by K.J. Brock. Due to the smaller sample size, advanced analysis does not reveal statistically significant results. However, citizen science data collected has a mean date of November 4 (Julian calendar date 309.2). The standard deviation was 16.5 days. The data set was too small to calculate arrival and departure dates. As seen in Figure 6, the data does not appear to be normal distribution. Any number of factors may be playing a role here, from limited data set, shifts in migration timings due to the scale of time differences in the data set, to observational bias towards later sightings due to the ease in sightings when leaves are down.

Saw-whet owl migration timing appears to change year to year based on fall weather events, but remains predictable across years. Historical data from both non-birding and birding enthusiasts tend to focus on the physical detection of birds, which is aided by leaf drop which forces roosting birds into conifer stands. These sightings tend to happen in November. Birders wishing to find owls that are very much present in late October have a harder time locating them and would find best success using auditory lures to detect saw-whet owls. As more data is collected, both by citizens and banding, we hope to further show statistical significance that owl banding efforts in Indiana will shift the migration timing knowledge of this secretive bird and allow for both scientific use and for owl enthusiasts to better locate and enjoy this charismatic bird species.

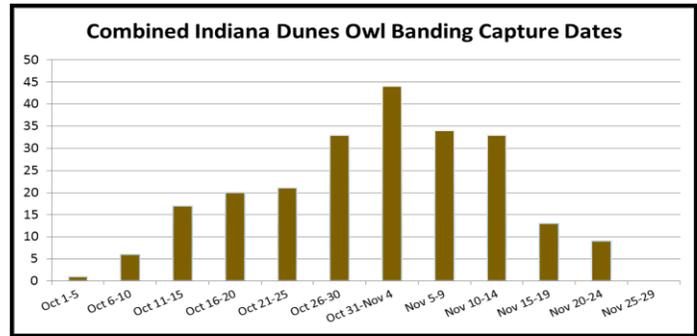


Figure 5: Dunes owl banding station capture records plotted in five day increments, 2009-2015 combined.

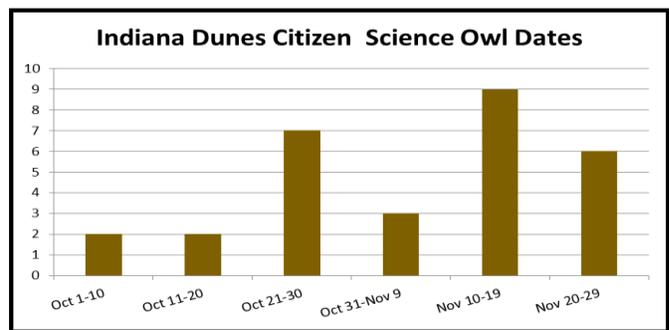


Figure 6: Citizen science and historical saw-whet owl data in NW Indiana, 1980-2015 combined.

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Indiana Audubon Society Summer Bird Count 2016

By Amy Kearns, Mitchell, IN

akearns@dnr.in.gov

The Indiana Audubon Society held its 37th annual Summer Bird Count during June and July 2016. Weather during the count period was warmer than normal (2.1°F above normal in June and 0.3°F above normal in July). Precipitation in June was normal while July recorded rain 1.11” above normal, making it the 18th wettest July on record. Severe weather was logged on 20 days during the count period, including three tornados in June (Indiana State Climate Office 2016).

Results of the Summer Bird Count were excellent this year! A total of 37 counts were submitted, which is the most participation this count has had in 11 years! Participants found 195 species, which is four above average and the second highest species total in 11 years. Although the number of observers (122) was below average, they recorded breeding evidence for 152 species (an outstanding effort that is 12 species above the mean). Individual birds and party miles were reported well below the mean, while party hours were slightly below the mean (Table 1).

Eleven counties reported 100 species or more: *Boone, Greene, Johnson, Kosciusko, Lake, Newton, Putnam, St. Joseph, Tippecanoe, Vigo, and Warrick*. *Kosciusko* had the highest diversity with a remarkable 127 species. Three counties topped their previous high count: *Bartholomew* (88/87), *Kosciusko* (127/124), and *Putnam* (115/110). Statewide, the average number of species reported per count was 79.9 (Figure 1).

Since this count is in its 37th year, new species are rarely added. This summer, however, FIVE new species were added to the count – Black-bellied Whistling-Duck and White-faced Ibis from *Greene*, Tundra Swan from *Warren*, Black Rail from *Floyd*, and Eurasian Tree Sparrow from *Tippecanoe*. This means that the all-time species total for the Summer Bird Count now stands at 298! When I started compiling this count in 2008 there were 285 species. How many more years until we reach 300? New highest breeding evidence was reported for Barn Owl (eggs in *Lawrence*). New high counts were recorded for 9 species: Gadwall (5), Sandhill Crane (103 – way up from the former high count of 40), Black-necked Stilt (158 – bested previous high count of 137 set just last year; this species continues to expand its range and nests in high numbers at Goose Pond FWA in *Greene*), Semipalmated Plover (51), Least Sandpiper (551 – bested the previous high of 363, helped by a July estimate of 300 from the Oatsville Bottoms in *Gibson*), Barn Owl (24 – a good summer for this species; the former high was 17), Prothonotary Warbler (195 – in large part thanks to an excellent tally of 103 from *Warrick*), Clay-colored Sparrow (3 – from *LaGrange* and *Newton*, the first ones reported on the SBC since 1989), and Blue Grosbeak (174 – *Warrick* contributed 102 to this new high count). The 20 most abundant species on the recent Summer Bird Count, in descending order, were: European Starling, Red-winged Blackbird, Canada Goose, American Robin, House Sparrow, Purple Martin, Common Grackle, Mourning Dove, Indigo Bunting, Killdeer, Mallard, Tree Swallow, Northern Cardinal, Barn Swallow, Song Sparrow, Wood Duck, American Goldfinch, Brown-headed Cowbird, American Crow, and Common Yellowthroat (Table 2).

Further notable species with breeding evidence on the recent count were: Blue-winged Teal (territory in *Greene*), Hooded Merganser (juveniles in *Bartholomew, Lake, and Warrick*), Least Bittern (territories in

Greene and *Warrick*), Great Egret (nest in *Vigo*, territories in *Gibson* and *Greene*), Black-crowned Night-Heron (juvenile in *Lake*), Yellow-crowned Night-Heron (territory in *Sullivan*), Mississippi Kite (nest in *Tiptecanoe* and juveniles in *Warrick*), Osprey (breeding in 5 counties), Northern Harrier (territories in *Steuben* and *Warrick*), Sharp-shinned Hawk (nestlings in *St. Joseph*), Bald Eagle (breeding in 12 counties), Broad-winged Hawk (territory in *Harrison*), Common Gallinule (juveniles in *Greene*, *Lake*, and *Steuben*, territory in *LaGrange*), Sandhill Crane (breeding in 6 counties), Black-necked Stilt (eggs in *Greene*, juveniles in *Gibson*), Wilson's Snipe (territory in *Johnson*), Least Tern (eggs in *Gibson* and *Greene*), Common Nighthawk (territories in *Elkhart*, *Kosciusko*, *Marion*, *Vigo*, and *Warrick*), Chuck-will's-widow (territories in *Harrison* and *Warrick*), Eastern Whip-poor-will (territories in *Elkhart*, *Harrison* and *Warrick*), Peregrine Falcon (eggs in *St. Joseph*, territory in *Gibson*), Monk Parakeet (nest in *Lake*), Loggerhead Shrike (eggs in *Daviess* and *Lawrence*, nestlings in *Orange*), Fish Crow (juveniles in *Marion*), Sedge Wren (territories in *Greene*, *Kosciusko*, *Newton*, *St. Joseph*, and *Vigo*), Marsh Wren (nest in *Greene*, feeding young in *Kosciusko*, territories in *LaGrange* and *Newton*), Worm-eating Warbler (territories in *Bartholomew*, *Harrison*, and *Johnson*), Black-and-white Warbler (territory in *Kosciusko*), Prothonotary Warbler (breeding in 9 counties), Hooded Warbler (breeding in 7 counties), Cerulean Warbler (territories in 6 counties), Chestnut-sided Warbler (territories in *Kosciusko* and *Steuben*), Henslow's Sparrow (breeding in 11 counties), and Western Meadowlark (carrying food in *Benton*) (Table 2).

Figure 1 gives current species totals and previous record counts by county. Table 2 details tallies and efforts for each county. Species with breeding evidence are designated in bold type. Codes for breeding evidence, in order of importance, are: **E, e** - Eggs seen; **Y, y** - Young at nest; **J, j** - Juvenile being attended by an adult; **N, n** - Nest contents empty or not seen; **M, m** - nesting Material being carried by adult; **F, f** - Food being carried by adult; **T, t** - adult showing signs of being Territorial or located through breeding period in suitable area. An upper-case letter indicates that the breeding evidence was noted during the count period (1 June - 31 July), while a lower-case letter indicates that it was noted outside the count period.

We would love to have your participation next year. If you extensively bird an area in June and July, please submit a Summer Bird Count. Compiling a Summer Bird Count should require little extra effort if a birder is already keeping track of bird numbers and observer effort. You can record birds on a paper form and mail it in, you can email an Excel file to the compiler, or you can enter your results on our website (the compiler prefers this method). The Summer Bird Count has been contributing to our knowledge of Indiana's breeding birds since 1980. We would like to see half of the counties participating each year (or 46 counts). To participate, download the data form and instructions from the Indiana Audubon Website under Activities, or email akearns@dnr.in.gov.

Acknowledgments - Thanks to all participants (Appendix 1), especially those who submitted donations to help defray costs of publishing this count.

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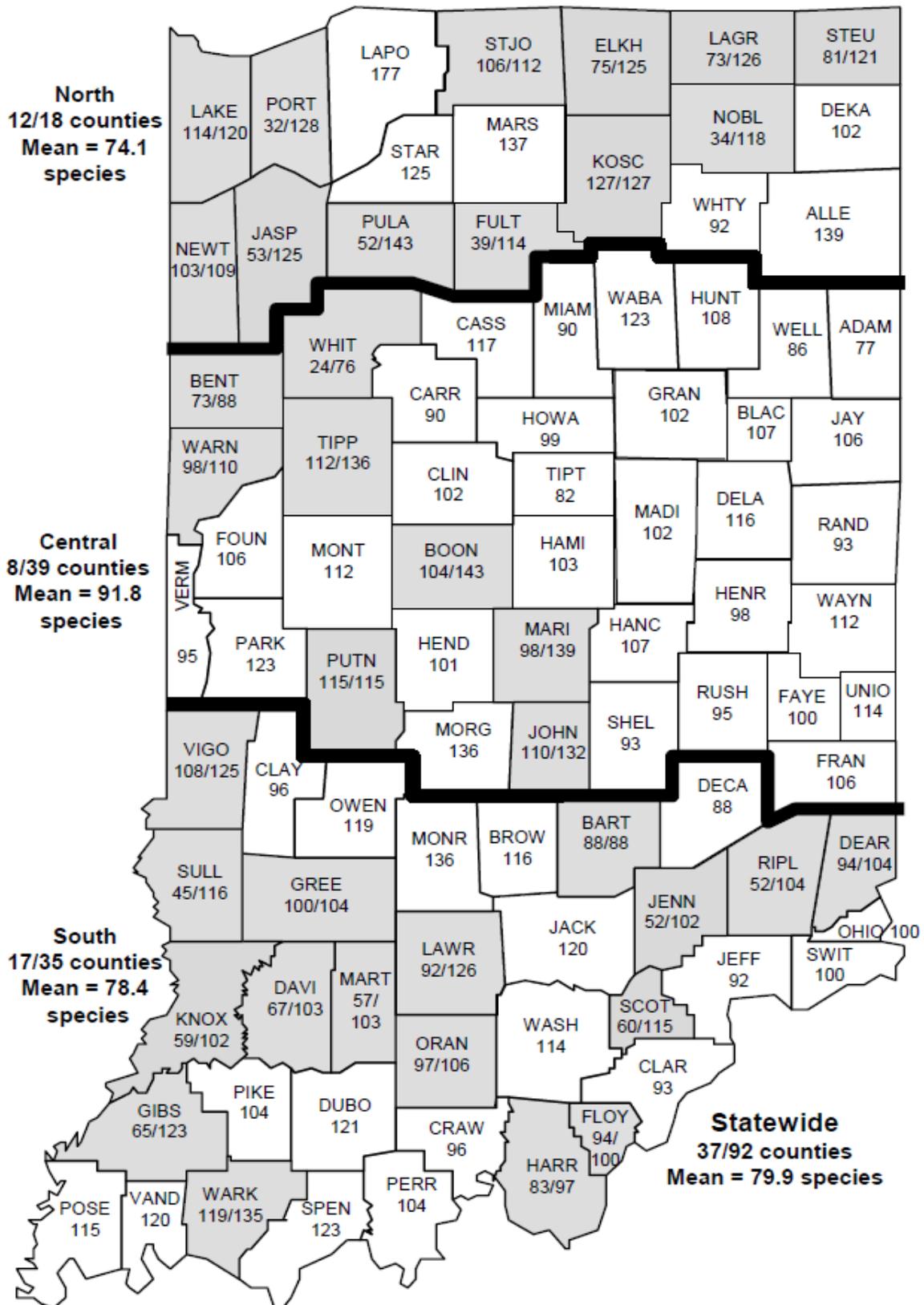


Figure 1. Current species totals and previous record counts by county.

Year	No. counts	Observers	Species	Species breeding	Individuals	Party-hours	Party-miles
1980	12	41	143	-	21,252	235	957
1981	19	83	153	-	38,342	396	1,283
1982	29	123	181	92	77,198	552	2,686
1983	35	139	191	142	77,919	867	2,941
1984	39	184	197	138	85,105	1,068	4,128
1985	57	230	199	144	111,790	1,605	4,953
1986	60	220	204	138	114,605	1,530	6,550
1987	61	238	196	143	131,189	2,011	7,495
1988	63	218	185	134	144,666	2,018	8,144
1989	62	202	193	142	150,283	2,089	8,834
1990	59	191	199	147	124,927	1,957	9,813
1991	49	159	202	141	112,838	1,831	6,959
1992	46	194	200	144	96,492	1,026	4,904
1993	43	117	205	140	95,649	1,346	5,191
1994	42	192	210	146	124,294	1,475	6,922
1995	42	216	213	146	124,464	1,800	9,885
1996	38	184	212	150	116,276	1,323	8,077
1997	41	178	225	150	147,281	1,679	10,606
1998	41	203	217	147	142,308	1,657	9,317
1999	30	154	205	141	122,377	1,118	6,276
2000	39	160	189	140	138,267	1,396	7,635
2001	43	190	200	148	159,944	1,987	10,620
2002	38	158	198	146	122,347	1,210	5,648
2003	37	161	206	152	130,985	1,263	7,534
2004	41	195	206	146	192,036	1,931	9,313
2005	48	182	196	144	125,351	1,841	8,078
2006	23	85	171	139	59,103	993	3,013
2007	24	137	165	136	54,833	892	2,944
2008	18	56	142	103	29,341	418	1,236
2009	22	91	165	129	40,395	943	3,770
2010	27	86	177	131	56,860	1,087	3,670
2011	26	78	166	129	51,217	810	2,379
2012	29	102	197	143	63,142	872	2,616
2013	30	95	188	140	62,548	691	2,203
2014	26	92	170	139	66,586	678	1,646
2015	33	137	203	149	64,490	839	2,294
2016	37	122	195	152	71,748	1,249	2,912
Total	1,409	5,593	298	193	3,648,448	46,683	203,431
Mean	38	151	191	140	98,607	1,262	5,498

Table 1. Annual summary of efforts and species tallied on the Summer Bird Count.

Appendix 1. Summer Bird Count Participants by county during 2016 with the addresses of compilers in parentheses.

- Bartholomew** – Karl Werner (209 Moccasin Court, Greenwood, IN 46142), Bob Carper, Mike Clay.
Benton - Ed Hopkins (3059 Decatur St., West Lafayette, IN 47906-1133).
Boone – Roger L. Hedge (2605 Elizaville Rd., Lebanon, IN 46052), Ed Hopkins (3059 Decatur St., West Lafayette, IN 47906-1133), Cloyce Hedge.
Daviess – Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446), Gary Langell, Lee Sterrenburg.
Dearborn – Bob Decker (22883 Mockingbird Ln., Sunman, IN 47041).
Elkhart – Robert W. Guth (406 S. 7th St., Goshen, IN 46526).
Floyd – Joe & Debbie Caruso (425 Powder House Ln., New Albany, IN 47150).
Fulton - Ed Hopkins (3059 Decatur St., West Lafayette, IN 47906-1133).
Gibson - Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446), Allisyn Gillet, Jeremy Ross.
Greene - Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446), Allisyn Gillet, Gary Langell, Aidan Rominger, Ryan Sanderson, Lee Sterrenburg.
Harrison – Del Striegel (40 Georgetown-Lanesville Rd., Georgetown, IN 47112).
Jasper - Ed Hopkins (3059 Decatur St., West Lafayette, IN 47906-1133).
Jennings - Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446).
Johnson – Karl Werner (209 Moccasin Court, Greenwood, IN 46142), Bob Carper, Mike Clay, Tom Hougham.
Knox - Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446).
Kosciusko – Robert W. Guth (406 S. 7th St., Goshen, IN 46526), John Kendall (123 EMS C17 Lane, Warsaw, IN 46582).
LaGrange – Robert W. Guth (406 S. 7th St., Goshen, IN 46526), Bruce Matasick (3099 Lakeshore Dr., Mount Dora, FL 32757).
Lake – Matt Kalwasinski (8115 Schreiber Dr., Munster, IN 46321).
Lawrence – Robert E. Barber (3322 Tunnelton Rd., Bedford, IN 47421), Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446), Allisyn Gillet, Noah Kearns.
Marion – Miles Zevin (700 N. Alabama, Apt. 1005, Indianapolis, IN 46204), Gordon Chastain, John Munshower, Spike Selig, Becky Lomax Sumner.
Martin - Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446).
Newton – Robert W. Guth (406 S. 7th St., Goshen, IN 46526), Ed Hopkins (3059 Decatur St., West Lafayette, IN 47906-1133).
Noble – Robert W. Guth (406 S. 7th St., Goshen, IN 46526).
Orange - Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446), Allisyn Gillet, Gary Langell.
Porter – Ed Hopkins (3059 Decatur St., West Lafayette, IN 47906-1133).
Pulaski – Ed Hopkins (3059 Decatur St., West Lafayette, IN 47906-1133).
Putnam – Carl Huffman (707 E. Seminary St., Greencastle, IN 46135), John Bean, John Garner, Martha Geering, Don Gorney, Harriet Moore, Whitney Morrill, Roxanne Pannell, Juli Rainbolt, Martha Rainbolt, Jerry Rud, Don Williams.
Ripley – Bob Decker (22883 Mockingbird Ln., Sunman, IN 47041).
Scott – Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446).
St. Joseph – Louise Fessenden (P.O. Box 303, Notre Dame, IN 46556), Alice Bentley, John Bentley, Trice Berkley, Susan Bertrand, Richard Fessenden, Robert Fessenden, Audry Fleming, John Fleming, Laura Fuderer, Wendy Jones, June Kohler, Ellen Lechlitner, Mike Lechlitner, Mark Mankowski, Mary Jo Mankowski, Dick Niemi, Marge Riemenschneider, Vic Riemenschneider, Nancy Shephard, Jim Spier.
Steuben – Bruce Matasick (3099 Lakeshore Dr., Mount Dora, FL 32757).
Sullivan – Amy Kearns (80 Sunset Rdg., Mitchell, IN 47446).
Tippecanoe – Barny Dunning (7509 North 75 East, West Lafayette, IN 47906), Russ Allison, Del Arvin, Kyle Arvin, Matthew Bowman, Liz Brewer, Michael Clay, Steve Lira, Parks Marion, Nelson Moore, John Skene, Tyler Stewart, Ruth Thomas, Gale Turco, Chuck Tuttle, Susan Ulrich, Karl Wood.
Vigo - Mary Beth Eberwein (6523 E. Tryon Dr., Pimento, IN 47866), Karen Henman, Kathryn Henman, Marty Jones, Brenda Milliren, Phil Milliren, Peter Scott, Denise Marie Sobieski, Margaret Tamar.
Warren – Susan H. Ulrich (11907 E. 500 N., Otterbein, IN 47970).
Warrick – Jim Campbell (Newburgh, IN), John Meredig.
Whitley – Robert W. Guth (406 S. 7th St., Goshen, IN 46526).

Table 2. 2016 Summer Bird Count Tally

ANNUAL BREEDERS	BART	BENT	BOON	DAVI	DEAR	ELKH	FLOY	FULT	GIBS	GREE	HARR	JASP	JBNJ	JOHN	KNOX	KOSC	LAGR	LAKE	LAWR
Canada Goose	9 J	14	405 J	15 T	96 Y	104 J	44		80 T	126 T	5 T	2		234 J		450 J	88 J	526 J	
Mute Swan			5 J											75 J		14 J		17 J	
Wood Duck		3 J	18 J	5	14 J	5 T	30		15 T	214 T	13 J			2		26 J	4 T	470 J	
Mallard	2	25 J	19 J	2	4	69 T	5		60 T	204 T		2		122 J	3	148 J	2 T	201 J	
Blue-winged Teal																		3	
Hooded Merganser	11 J		1															12 J	
Northern Bobwhite	7 T	6	7	10 T	4		9							3 T	6			1	18 T
Ring-necked Pheasant								5				1		1					
Wild Turkey	6 J	8	3		26 J		13 J	10		1	11 J			4 J		24 J	5 J	23 J	3 J
Pied-billed Grebe			1						1	2 T				1		2			
American Bittern										1 T									
Least Bittern										2 T									
Great Blue Heron	4	4	22	4 T	16	4	20	1	57 T	103 T	41 Y			40 J		29 J	4 T	184 Y	2
Green Heron	2		7 E	5	8	3			2 T	2 T	2			7		2 J		4	1
Black Vulture														2					
Turkey Vulture	14	9	22	58 T	41	13	41		55 T		11 T		7	45 J	4	71 J	6 T	8	67 T
Osprey			1				2									48 J	4 Y	5 Y	
Sharp-shinned Hawk																			
Cooper's Hawk	1		3 N	1	1	5 J	1			2 T				3 J		8 m		1	2 T
Bald Eagle			3						3 n	4 T	1			5 Y		2 J		4 Y	
Red-shouldered Hawk			1 T		4	1 T	6		2		5 Y			10 T	1	2 N	1 T	3 T	3 T
Broad-winged Hawk											2 T					1		1	1
Red-tailed Hawk	1	11	12 T	4 T	2	5 T	10	3	2	1	2 T			8 T		29 J	2 T	13 Y	4
Virginia Rail																2		1	
Sora										1						1		2 J	
Common Gallinule										8 J							1 T	10 J	
American Coot									2	5 T						5		5	
Sandhill Crane						5 J				2						27 J	19 T	3 J	
Killdeer	6	188 J	50 J	20 Y	6	49 J	6	14	500	206 J	3	13	6	60 J	18	29 J	1 T	94 E	18 J
Spotted Sandpiper			5 T	1	6	1	1		71 T	19 T				3		2 J		24 J	
American Woodcock																1			
Rock Pigeon		12	18	30 T		52 T	6			20	2		1	11		26	4 T	51	3 T
Eurasian Collared-Dove		3	2	2 T		6 T			1					1		1			
Mourning Dove	10	109	222 T	47 T	39	49 T	51	25	2	6 T	15 T	27	13	91 T	36	94 T	2 T	69	81 J
Yellow-billed Cuckoo	2 T	2	5 T		5	4 T	12		1	4	15 T	2		17 T		15 J	5 T	2	7 T
Black-billed Cuckoo																2 T			
Barn Owl			1				1			6 J					7 Y				7 E
Eastern Screech-Owl											1 T			3		2			
Great Horned Owl			4		1	1								1		4 n			
Barr'd Owl			2		2	2 T	3				1 T			3		3 J	1 T		1 T
Common Nighthawk																		1	
Chuck-will's-widow											1 T								
Eastern Whip-poor-will											3 T								
Chimney Swift	8	6	19	5 T	3	165 M	67	5		6 T	10	2	6	48	6	32 T	2 T	20	37 T
Ruby-throated Hummingbird	5		5	2	6	5	3				5 T			9 J		17 J		3	11 T
Belted Kingfisher	1		6		3	3	7			1	1 T			9 T	1	5 T	2 F	1	1
Red-headed Woodpecker	2	5	7	2	2	9 T	2			2	6 T	1	5	3 J	6	7 J	3 T	9 J	8 N
Red-bellied Woodpecker	6 T	3	20 N		10 Y	9 T	31	3			15 T	11	7	45 Y	9	23 J	3 T	11	34 J
Downy Woodpecker	6 T		14 T	1 T	1	16 T	9	1			3 T	3	1	50 J	4	32 J	5 T	17 J	21 Y

Table 2. (cont)	BART	BENT	BOON	DAVI	DEAR	ELKH	FLOY	FULT	GIBS	GREE	HARR	JASP	JERN	JOHN	KNOX	KOSC	LAGR	LAKE	LAWR
Hairy Woodpecker	1		4 Y	1			3			1	1 T		1	2 T		6 t		1	14 J
Northern Flicker	2	8	14	1 T	5	9 J	21			2 T	4 T		3	33 J	5	12 j	2 T	13	7 T
Pileated Woodpecker	3 T		7		6		12				8 T			26 T		11 t	1 T	1	10 T
American Kestrel	1	8	4	1 T	1	4 T							1	12 T		9 j	1 T	4	8 T
Peregrine Falcon							1		1 T									1	
Eastern Wood-Pewee	13 T	9	23 T		8	12 T	27	1		2 T	21 T	7	2	84 T	3	8 T	10 T	14	31 T
Acadian Flycatcher	20 T		10 T		5	2 T	18				44 T			112 T		10 f	6 T		21 T
Alder Flycatcher																0 t			
Willow Flycatcher	7 T	3	7 T			7 T	2	1		9 T				11 F		36 f	1 T	15	1
Least Flycatcher																			
Eastern Phoebe	9 T	2	9	2 T	10 E		26 e	2		1	6 Y		3	18 Y	1	11 f	8 T	11 N	11 T
Great Crested Flycatcher	10 T	3	9 T		1	7 T	14		1	1	22 T	2	1	64 M	1	8 T	5 T	2	11 T
Eastern Kingbird	9 T	11 F	12	20 T	5 J	15 J	27		5 T	12 T	2 T	2	1	26 M	3	32 j	6 T	8	12 T
Loggerhead Shrike				8 E															3 E
White-eyed Vireo	13 T		4 T		8		22				12 F		1	15 T		2 t			11 T
Bell's Vireo										13 T				1 T					
Yellow-throated Vireo	8 T	2	4		3	4 T	6				6 T		2	14 T		23 T	8 T		7 T
Warbling Vireo	5 T	3	21 T	1	4	11 T	13	7		8 T	3 T	5	1	22 T	4	33 T	2 T	15	22 T
Red-eyed Vireo	10 T	2	11 T		6	4 T	27	2			38 T	4	4	128 T	1	12 T	10 T	6	30 T
Blue Jay	5	6	16 T	1	8	38	39	4		1	33 T	4	8	65 J	4	9 j	5 T	21 j	28 J
American Crow	16	18	73	5 T	15 J	31	31	25	4	7 T	59 T	12	8	87 T	6	28 T	6 T	12 J	40 J
Horned Lark		25 J	27 J	4 J		29 T		13	1	1		5	6	6	21 T				2
N. Rough-winged Swallow	15		17	5 J	13 N	33	30		50	8 T	13 T			37 F	3	14 n	24 T	7	17 T
Purple Martin			16 N	162 Y	7	55	6		3 N	4	3	4	1	14 J		1500 j	2	9 N	11 T
Tree Swallow	2	8	62 N	20 J	15	7	8		100	40 T		1	1	222 J		250 j	3 T	174 J	2
Bank Swallow			7						5	25						16 j		55 N	
Barn Swallow	13	83 N	83	75 J	36	69 N	36	7	30 T	43 T	10 J	6	16	121 J	12	53 j	4 T	43 J	84 N
Ciff Swallow		49 N	75	2	10	13 N	8		1	1 T		5				12 j		9 N	6
Carolina Chickadee	5 T		16 T	1	8		40			1	12 T		3	35 Y	6	1 t			11 T
Black-capped Chickadee						14 J										18 t	3 T	10	
Tufted Titmouse	15 T		25 T		7	19 J	62	1			27 T		9	74 T	8	35 t	10 T	8	52 J
White-breasted Nuthatch	10 T	3	19 T		7	26 T	12				28 M	2	2	77 T	2	37 j	11 T	10	15 T
Brown Creeper																1 T			
House Wren	19 T	22	80 N	2 T	12 J	30 T	5	10		3 T		13		32 F	4	19 T	5 N	30 E	18 Y
Sedge Wren		2								3 T						6 T		2	
Marsh Wren										5 N						18 f	3 T	17	
Carolina Wren	6 T	1	11 T	3 T	5 J	6 T	39			3 T	6 T			22 T	4	6 t	3 T	1	28 N
Blue-gray Gnatcatcher	6 T	1	12 T	1	4		12		3		32 T			20 T	1	22 t	1	14	15 T
Eastern Bluebird	5		10	3 T	16 J	13 e	27	2			6 J	4	3	13 J		41 j	2 T	9 N	10 M
Veery																4 t	4 T		
Wood Thrush	21 T	1	17 T	1	4	6 T	17				24 T		5	119 T	4	14 J	9 T	3	19 F
American Robin	7 T	128 F	293 J	25 Y	32 J	261 Y	97 j	55	1	5 T	12 T	83	33	136 F	89	301 T	16 F	151 J	74 J
Gray Catbird	23 T	8	32 T	2 T	5	45 T	14	6		8 T	1 T	5	1	79 F	3	19 T	14 F	39	13 J
Northern Mockingbird	1		6 J	28 T	7	1 T	34					7	7	12 F	8			1	27 J
Brown Thrasher	6 T	3	14	5 T	6		7		1	4 T	1 T	2	5	18 T	8	16 f	1 T	2	23 M
European Starling	17	371 F	588 F	400 J	88 M	465 Y	267	37		50 T	18 T	40	76	165 N	161	164 j	3 F	569 J	258 J
Cedar Waxwing		2	14 T	4	5	41	6	2		5	15 T	3	2	15	6	47 f	3 T	8	27 M
Ovenbird	7 T						4				6 T			51 T					

Table 2. (cont)	BART	BENT	BOON	DAVI	DEAR	ELKH	FLOY	FULT	GIBS	GREE	HARR	JASP	JENN	JOHN	KNOX	KOSC	LAGR	LAKE	LAWR
Worm-eating Warbler	3 T										7 T			36 T					1
Louisiana Waterthrush					3 t		5				11 J			19 T	1				2
Blue-winged Warbler	3 T				2		5				5 f			1 T		4 t f	1		
Black-and-white Warbler							1									2 t			
Prothonotary Warbler	2 T				3		10		1		33 N			8 M	1	15 T	1 T		6 T
Kentucky Warbler	6 T				1		7				11 T			7 T					12 T
Common on Yellowthroat	25 T	30	64 F	4 T	18	12 T	44	7	7	25 T	14 T	10	13	40 T	15	39 t f	7 T	38	40 T
Hooded Warbler	10 T						6				4 T			18 T		10 f			3 J
American Redstart	43 T													3 J		32 f			
Cerulean Warbler	7 T										11 T			1 T		23 t			
Northern Parula	11 T		4 T		5		22				35 T			30 T		4 t			11 T
Yellow Warbler	4 T		17	1	3	13 T	1	1	1	9 T	1			18 M		70 T	12 T	32	4 T
Chestnut-sided Warbler																2 t			
Pine Warbler											7 J								
Yellow-throated Warbler	3 T		2 T		1		7				19 T			11 T		9 t			3 T
Prairie Warbler	1 T				4		3				8 T			7 T					14 T
Yellow-breasted Chat	7 T		5 T	2	6 F		28		3 T		6 T			14 T	1	1 t	5 T		13 T
Eastern Towhee	13 T		10		9		38				13 T	3	2	46 J	1	16 t	5 T	8	26 T
Chipping Sparrow	1 T	53 J	65 N	5 T	15 J	63 J	39	19	1	1	13 T	12	2	24 T	13	66 T	6 T	7	41 J
Field Sparrow	15 T	8	30	5 T	19 J	5 T	34	3	1	3 T	2 T	5	3	46 T	1	46 t	9 T	12	26 T
Vesper Sparrow		46 F	22		1	5		14				10		2 T		15 T			
Lark Sparrow												1							
Savannah Sparrow	1	7	7 T	1	2	9 T						1		6 T		15 t			12
Grasshopper Sparrow	10 T		4	3			3							6 T	2	4 t			1
Henslow's Sparrow	27 T	2			5 T					6 T				8 T		32 t			2
Song Sparrow	8 T	50	87 T	13 T	28 J	63 F	93	23	3 T	18 T	2 T	26	21	58 J	39	73 T	9 T	57	56 J
Swamp Sparrow																31 t			2
Summer Tanager	1		1		3		12 t				6 T			4 T		1			9 T
Scarlet Tanager	11 T		2 F		1		9 t				19 T			29 T		9 t	1 T		6 T
Northern Cardinal	11 T	11	72 T	6 T	22	78 J	98	11	3 T		29 T	12	10	107 F	23	69 T	11 T	36 J	80 Y
Rose-breasted Gosbeak	3 T	3	2			5 T						3		5 T		16 t	2 T	2	
Blue Grosbeak	1	2	2	8 T	2		2		1	4 T		17	2	4	3	48 T	6 J	7	12 T
Indigo Bunting	40 T	58	32 T	30 T	36 T	29 T	110	8	13 T	15 T	29 T	17	15	60 T	27	48 T	6 J	7	73 T
Dickcissel	41 T	62	78 F	50 T		3 T			7 T	14 T		7	4	22 T	13	14 t		7	10 T
Bobolink	15 T	14	2							1				12 T		34 J			8 T
Red-winged Blackbird	20 T	139	337 F	150 T	20 M	277 J	84	25	40	576 T	11 N	85	43	211 T	67	657 J	22 J	301 J	94 T
Eastern Meadowlark	20 T	36	45 T	50 T	13 J	18 T	21			3 T		10	8	26 T	9	22 t		14	37 T
Western Meadowlark			3 F																
Common Grackle	6	86	128	50 J	13	89 T	61	34	2	35 T	29 T	26	23	59 J	26	110 n	5 T	99 J	60 T
Brown-headed Cowbird	21	84	39	200 T	16	27 T	16	12			25 T	9	1	71 T	15	79 J	5 T	45 J	56 J
Orchard Oriole	2 T	3	5	1 T	3	5 J	19			2 T	3 N	3	1	6 N	1	8 t		3	21 F
Baltimore Oriole	3 T	3	8 T		1	6 T	11	2		1	6 T	4	4	13 N	2	67 T	3 J	6	5 T
House Finch		6	19	3 T	4	47 J	16	1				4	1	26 Y	6	41 T		18 J	18 J
American Goldfinch	13 T	32	52 T	10 T	21 J	45 T	62		5 T	12 T	14 T	3	4	79 T	5	151 t	13 T	37 J	40 T
House Sparrow	10	70 N	100 N	500 N	1	644 Y	10	26		1		29	11	85 T	45	106 J	1 T	64 J	51 J
INFREQUENT BREEDERS																			
Northern Shoveler									1										
Green-winged Teal										2									4
Red-breasted Merganser										1									6
Ruddy Duck										2									
Double-crested Cormorant			1		8					103 Y	12 T			1					35
Great Egret			4		9					23 T	113 T								99
Snowy Egret																			1

Table 2. (cont)	BART	BENT	BOON	DAVI	DEAR	ELKH	FLOY	FULT	GIBS	GREE	HARR	JASP	JENN	JOHN	KNOX	KOSC	LAGR	LAKE	LAWR	
Cattle Egret																				
Black-crowned Night-Heron					3		4											35 J		
Yellow-crowned Night-Heron																				
Mississippi Kite																				
Northern Harrier			1																	
Black Rail							1													
Black-necked Stilt									2 J	154 E										2
Upland Sandpiper		5																		
Wilson's Snipe																				
Ring-billed Gull						71			77					3 T				150		1
Herring Gull									2									8		317 J
Caspian Tern									1									4		6 J
Black Tern		1							5									8		57 J
Least Tern									36 E	17 E										
Monk Parakeet																				3 N
Fish Crow									1											
Clay-colored Sparrow																				
Yellow-headed Blackbird																		1		1
Pine Siskin																				
2																				
NON-BREEDERS																				
Black-bellied Whistling Duck										3										
Tundra Swan									4	1										
Gadwall									1											1
Ring-necked Duck																				
Common Loon									1											
American White Pelican									1											
Glossy Ibis										1										
White-faced Ibis										2										
Semipalmated Plover									3	48										3
Solitary Sandpiper			4		1				15	5										3
Greater Yellowlegs									10	12										3
Lesser Yellowlegs		2							50	60					1					20
Sanderling																				2
Semipalmated Sandpiper									40	90										
Western Sandpiper										5										
Least Sandpiper		3	13		1				405	78										10
Pectoral Sandpiper			7						108	33										1
Dunlin										5										1
Stilt Sandpiper									4	7										1
Short-billed Dowitcher		4							5	12										9
Franklin's Gull										2										
Bonaparte's Gull																				
Forster's Tern									1											3
Yellow-bellied Flycatcher																				
Nashville Warbler																				
White-crowned Sparrow																				
Eurasian Tree Sparrow																				
Total Species	88	73	104	67	94	75	94	39	65	100	83	53	52	110	59	127	73	114		92
Total Individuals	831	2017	3835	2091	983	3368	2287	428	2042	2629	1009	561	412	4137	770	6208	474	4517		2166

County Data	BART	BENT	BOON	DAVI	DEAR	ELKH	FLOY	FULT	GIBS	GREE	HARR	JASP	JENN	JOHN	KNDX	KOSC	LAGR	LAKE	LAWR
Total Number of Parties	2	1	3	3	1	1	1	1	3	4	1	1	1	4	1	2	2	1	4
Total Number of Observers	3	1	3	3	1	1	2	1	3	6	1	1	1	4	1	2	2	1	4
Party Miles - Foot	1.5	3.15	26.8	10	18	46.5	15.7	0.15	2.5	5	2	0.20	1	28.7	1	24	16	27.7	2.75
Party Miles - Car	21.5	31.5	21.4	11.0	4		55.8	11	4	15.8	10	17	10	28	15	284	500		43.3
Party Miles - Other (see below)			2 gpc								13 bo			2					
Party Miles - TOTAL	23	34.7	24.3	120	22	46.5	71.5	11.2	6.5	20.8	25	17.2	10	58.7	15	330	516	27.7	46
Party Hours - Foot	2.8	8.8	21.6	15	14	20.4	24	1.15	7	5	3	1.5	1	40.2	0.75	30	0.83	38.3	18.2
Party Hours - Car	6.5	3.38	16.9	16.5	3	4	9.75	0.63	1	16	3	0.19	0.75	7.3	0.5	22.6			1.5
Party Hours - Other (see below)			1.75								6			1.5					
Party Hours - TOTAL	9.3	12.2	40.2	31.5	17	24.4	33.8	1.78	8	21	12	1.69	1.75	49	1.25	52.6	37.8	38.3	18.4
PH Pasture/Grassland	0.5	2.5	6.72	22			8.25	0.21	0.5	2	0.5	0.04	0.25	1.5	0.25	4		1.75	7.75
PH Agriculture Cropland		5.56	7.73	5.5		4.25		0.89	1		0.5	1.13	1	2.3	0.25	8.2			2
PH Brushy Fields	3.8	0.8	3.66	2	7	2	4.5	0.21				0.15		7.5	0.15	3.08	5.17		1.25
PH Deciduous Woodlands	2.5	0.4	11.9	1	4	0.75	10.5	0.21	0.25		2.5	0.09	0.25	16.9	0.25	19.1	25.5	7.25	9.75
PH Coniferous Woodland							0.5									1			1
PH Marshes/Swamps	0.5	2.12	4				3		1.5	18				2.5		7	2.16	20.5	
PH Lakes/Ponds	1	0.1	1	0.5		1.25	3		4.75		0.5			4		5		6.25	
PH Rivers/Streams	1	0.3	0.1	0.5	6		4	0.06			6	0.03	0.25	3.3	0.25	1.08	5	1.25	1.25
PH Urban/Suburban/Parks		0.4	5.12			16.2		0.21			2.5	0.26		11.1	0.1	2.16		1.25	16.1

MARI	WART	NEWT	NOBL	ORAN	PORT	PULA	PUTN	RPPL	SCOT	STJO	STEU	SULL	THPP	VIGO	WARN	WARK	WHIT	Total	Areas
94	J	249	J															3906	28 ANNUAL BREEDERS
40	J	8	2	2 T		2	9 J			16 J	31 T	68 J	67 J	51 J	85 J			1273	25 Mute Swan
106	J	3					91 J			278 J	4 T	21 J	42 J	3	129 J			1545	24 Mallard
														5				17	4 Blue-winged Teal
																		26	4 Hooded Merganser
																		249	24 Northern Bobwhite
																		32	9 Ring-necked Pheasant
																		227	20 Wild Turkey
																		39	12 Pied-billed Grebe
																		2	2 American Bittern
																		5	4 Least Bittern
171		26		3 T	1		17 N	1		23 J	1 T		44 n	63 Y	7	55 Y		917	28 Great Blue Heron
9		1	2 T	1			2			7	5 T		4	10 T	2	23		109	22 Green Heron
																		77	11 Black Vulture
25		44		53 T			45	13	1	24	3	15	16	148 T	17	20		904	29 Turkey Vulture
1																		96	10 Osprey
																		7	3 Sharp-shinned Hawk
2		1					1			2	1 T		2	6 T	1	5		49	20 Cooper's Hawk
5 T							3 Y	1		8 Y	1		3 N	7 F	1 n	4 Y		56	17 Bald Eagle
13 N		1		2			1			2 Y			3	21 J	1 T	6 T		88	21 Red-shouldered Hawk
																		6	5 Broad-winged Hawk
14 T		2	1	8 T			3 J		2	13 T	1 T		6	4 T	6 T	18 n	1	188	29 Red-tailed Hawk
																		4	3 Virginia Rail
																		5	4 Sora
																		28	4 Common Gallinule
2							1				9 J			12 J		1		33	8 American Coot
																		103	10 Sandhill Crane
24		36		77 N	4	6	42 J		8	53 J	4 T	8	10	40 J	17 J	65 J		1682	34 Killdeer
3		4		3	1		2						3	4 T	2	4		158	18 Spotted Sandpiper
																		12	7 American Woodcock
26		1		29 T			23		4	6			1	60 T	4	7		397	23 Rock Pigeon
																		33	13 Eurasian Collared-Dove
92 T	4	53 T	1 T	62 T	22	16	25 J	5	30	58 T	8 T	26 T	24	145 J	11 N	148 J	1 T	1719	37 Mourning Dove
1	4	12 T	1 T	3 T	1	2	4	1		4	2 T	1	8	15 T	6 T	39 T		202	31 Yellow-billed Cuckoo
																		3	2 Black-billed Cuckoo
																		24	5 Barn Owl
																		29	10 Eastern Screech-Owl
1	2						1						2 N	11 T	1	4		23	10 Great Horned Owl
3 J	2						1						2 N	12 J	3 T	7 J		46	15 Barred Owl
18 T													2	17 T		6 T		55	8 Common Nighthawk
																		3	2 Chuck-wills-widow
																		24	4 Eastern Whip-poor-will
																		745	30 Chimney Swift
113 T	1	2		16 T		4	6		18	25	3 T		22	56 T	5	29		186	23 Ruby-throated Hummingbird
15	1	2		2			3		1	16 J	1 T		18	30 T	15 T	11		186	24 Belted Kingfisher
11	1	4					2	1	1	2	2 T		28	8 T	3	10 J		113	24 Belted Kingfisher
3 J	1	21		11 T		1	4 F		1	5	1 T	1	3	27 T	2	9 T		157	29 Red-headed Woodpecker
23 J	6	10		9	1	8	4	3	7	26 J	1 T		16	30 T	6 J	44 J	1	436	33 Red-bellied Woodpecker
39 J	3	12	4 T	3 T		2	5 J	3	4	20 T	6 T		21	35 T	7 J	38 J		383	30 Downy Woodpecker

MARI	MA RT	NEWT	NOBL	ORAN	FORT	PULA	PJTN	RIP	SCOT	STJO	STEU	SULL	THP	VGO	WARN	WARK	WHIT	Total	Areas
4		2		1	1	1	1	2	1	10 Y	2 T		5 J	7 T	4 J	9 J		84	24 Harry Woodpecker
4		7	3 T	3 T	3 T	2	4	3	3	23 F	2 T		13	20 T	3	11 T	1	243	31 Northern Flicker
7 T	3	1	1 T	4			3		1	9 T	1 T		10	16 T	2	16 T		158	22 Pileated Woodpecker
4 T				3 J			2		1	4	2 T	1	3	6 T	5	16 J		101	23 American Kestrel
1										5 e								9	5 Peregrine Falcon
15 T	7	13 T	5 T	11 T		3	6	9		17 N	3 T		15	38 J	8 T	115 T	2 T	542	32 Eastern Wood-Pewee
11 T	10		3 T	14 T			9	3		3 T	1 T		6	15 T	3 T	62 T	1 T	389	23 Acadian Flycatcher
3 T		8 T					6 J		1	16 T	1 T	1	4	5	2	22 T		2	2 Alder Flycatcher
9 J	3	1					5	5 Y	1	15 N	4 T		11	33 Y	5 n	16 T		239	28 Eastern Phoebe
11 T	4	9 T	2	5 T	1	4	3	1	3	17 T		1	9	19 T	3	46 T		297	32 Great Crested Flycatcher
23 T	1	8 F	2	19 T	2	1	3 J		3	26 J	1 T	7	11	28 J	8 T	51 J	1	403	35 Eastern Kingbird
12 T	4	2		8 Y			7											19	3 Loggerhead Shrike
		1		2			5 T		7		1 T		10	17 T	1	91 T		242	20 White-eyed Vireo
		3 T		4			3 M		1	2	1 T	1	2	5 T		135 T		163	8 Bell's Vireo
16 T	1	14 T		7 T	5	8	8		5	30 N		1	9	18 T	3	18 T		323	32 Warbling Vireo
17 T	11	12 T	2 T	19 T	2	6	9 N	17	8	15 T			5	16 T	3	55 T	1 T	479	29 Red-eyed Vireo
51	1	13	3	16 T	2	3	3	6	8	47 N	3 T		26	34 T	4	50 J	5	570	35 Blue Jay
24 J	28	7	3	27 T	4	25	68	9	18	70 m	5 T		27	128 J	8	171	1	1106	36 American Crow
1		1		3 J	8	9	7			4	2 T		1	6 T	5 J	19 J		211	24 Horned Lark
36	7	8		1			8 J		4	10	5 T	2	14	45 J	25 T	64		510	27 N. Rough-winged Swallow
2		43 N		83 Y			8 J		4	1	12 N	2	1	1	1	122 N	2	2077	26 Purple Martin
34 J		47		11 T			130 N	17	1	98 N	5 T	2	38	123 J	6	93 N		1520	29 Tree Swallow
4										5	8 T		1	2	21	1		132	12 Bank Swallow
36	4	13		44 J	7	4	19 J	7	11	49 J	8 T	20	34 N	89 N	21 N	141 J		1331	35 Barn Swallow
48 N				61 N		2	35 N				1 T		40 N	38 N	32 N	20 Y		468	21 Cliff Swallow
31 T	1			11 T			5 J	2	7			1	22 J	45 J	12 T	95 J		371	23 Carolina Chickadee
		5	11							45 Y	6 T		9				2 T	114	9 Black-capped Chickadee
15 T	15	11 T	2 T	21 T		8	8 J	6	11	28 J	4 T	3	14 J	52 J	9 J	116 J		675	30 Tufted Titmouse
20	1	8	11	2		2	5 J	7	3	37 J	5 T		13	24 J	4 J	23 J	1	427	31 White-breasted Nuthatch
		23 T	2 T	8 T	7	11	5 N			2	2 N		28 N	34 E	6 T	22 Y		4	3 Brown Creeper
27 T		19 T								57 Y			10	1 T				50	8 Sedge Wren
		9 T								7 T								52	5 Marsh Wren
28 T	2	2		9 T			7 M	3	12	8 J		2	12 J	57 E	4 M	80 J		370	25 Carolina Wren
50	8	6		5 T			5 N	4	2	6 J		1	29	41 J	3	133 T		437	27 Blue-gray Gnatcatcher
14 J	2	4		25 J		4	6 J	5	3	32 Y	5 T		10 N	40 E	6	39 J		359	29 Eastern Bluebird
		1 T								2 T	4 T							15	5 Veery
6 T	14		1 T	12		3	6	16	4	4 T	3 T		15	9 T	3 T	43 T		403	29 Wood Thrush
315 J		68 T	18	35 J	50	46	20 M	39	52	295 J	16 J	6 T	121 N	162 J	32	192 Y	7	3273	36 American Robin
81 T	1	39	4 T	6 T	2	4	8 F	19	6	55 J	7 F	1	45	45 J	8 T	25 N	1	674	36 Gray Catbird
5 T				50 T			3 F		8			1		16 T		24 T		243	20 Northern Mockingbird
6 T		2		28 T		1	10 M	6	4	7 T	1 T	5	7	20 J	5 T	42 Y		271	31 Brown Thrasher
606 N	3	34	16	153 J	18	38	163 J		70	352 J	6 J	102 T	50 J	553 J	52 J	675 J		6628	34 European Starling
66 J	3	2		2 T		7	5	9	9	53 T	5 T		31	16 N	6 M	33		443	30 Cedar Waxwing
		3		1			2 T	9			1 T		2		2 T	2 T		90	12 Ovenbird

MARI	MART	NEWT	NOBL	ORAN	PORT	PULA	PUTN	RIF	SCOT	STJO	STEU	SULL	THP	VICO	WARN	MARK	WHIT	Total	Areas	
				1			1 T	1					2	1 T	3 T	5		52	5	Worm-eating Warbler
				2											1	6 T		56	13	Louisiana Waterthrush
																		24	9	Blue-winged Warbler
																		4	3	Black-and-white Warbler
																		195	15	Prothonotary Warbler
																		147	17	Kentucky Warbler
																		1104	37	Common Yellowthroat
																		66	10	Hooded Warbler
																		90	8	American Redstart
																		54	9	Cerulean Warbler
																		231	20	Northern Parula
																		349	29	Yellow Warbler
																		5	3	Chestnut-sided Warbler
																		11	3	Pine Warbler
																		114	16	Yellow-throated Warbler
																		120	16	Prairie Warbler
																		378	22	Yellow-breasted Chat
																		503	29	Eastern Towhee
																		813	34	Chipping Sparrow
																		682	35	Field Sparrow
																		152	14	Vesper Sparrow
																		3	3	Lark Sparrow
																		81	17	Savannah Sparrow
																		116	15	Grasshopper Sparrow
																		184	15	Henslow's Sparrow
																		1323	37	Song Sparrow
																		41	5	Swamp Sparrow
																		139	17	Summer Tanager
																		134	22	Scarlet Tanager
																		1474	36	Northern Cardinal
																		96	16	Rose-breasted Grosbeak
																		174	22	Blue Grosbeak
																		1700	36	Indigo Bunting
																		746	26	Dickcissel
																		127	13	Bobolink
																		5309	35	Red-winged Blackbird
																		584	29	Eastern Meadowlark
																		4	2	Western Meadowlark
																		1779	35	Common Grackle
																		1213	33	Brow-n-headed Cowbird
																		200	30	Orchard Oriole
																		285	28	Baltimore Oriole
																		464	28	House Finch
																		1255	35	American Goldfinch
																		103	30	House Sparrow
																		1	1	Northern Shoveler
																		7	3	Green-winged Teal
																		1	1	Red-breasted Merganser
																		9	3	Ruddy Duck
																		199	11	Double-crested Cormorant
																		327	13	Great Egret
																		2	2	Snow V Egret

MARI	WART	NEWT	NOBL	ORAN	PORT	PULA	PUTN	RIFL	SCOT	STJO	STEU	SULL	TIFP	VIGO	WARN	WARK	WHTT	Total	Areas	
																		2	1	Cattle Egret
																		42	3	Black-crnd Night-Heron
												2 T						2	1	Yellow-crnd Night-Heron
													2 N					7	2	Mississippi Kite
											1 T							8	5	Northern Harrier
																		1	1	4 T
																		158	3	Black-necked Stilt
																		6	2	Upland Sandpiper
																		7	3	Wilson's Snipe
30		8																657	8	Ring-billed Gull
																		16	3	Herring Gull
5		1																68	5	Caspian Tern
																		15	4	Black Tern
																		53	2	Least Tern
																		3	1	Monk Parakeet
4 J		2																7	3	Fish Crow
																		3	2	Clay-colored Sparrow
																		1	1	Yellow-headed Blackbird
																		2	1	Pine Siskin
NON-BREEDERS																				
																		3	1	Black-bellied Whistling-Duck
																		2	1	Tundra Swan
																		5	2	Gadwall
																		2	2	Ring-necked Duck
																		1	1	Common Loon
																		71	2	American White Pelican
																		1	1	Glossy Ibis
																		2	1	White-faced Ibis
																		51	2	Semipalmated Plover
																		63	12	Solitary Sandpiper
																		29	5	Greater Yellowlegs
																		156	11	Lesser Yellowlegs
																		2	1	Sanderling
																		132	4	Semipalmated Sandpiper
																		5	1	Western Sandpiper
																		551	10	Least Sandpiper
																		156	7	Pectoral Sandpiper
																		6	2	Dunlin
																		13	4	Silt Sandpiper
																		33	6	Short-billed Dowitcher
																		2	1	Franklin's Gull
																		1	1	Bonapartes Gull
																		7	3	Forster's Tern
																		1	1	Yellow-bellied Flycatcher
																		1	1	Nashville Warbler
																		4	2	White-crowned Sparrow
																		1	1	Eurasian Tree Sparrow
																		195	24	Total Species
3470	276	1889	133	1740	295	469	1382	552	60	3619	437	371	1928	4868	837	7921	66	71748	Total Individuals	

County Data	MARI	MART	NEWT	NOBL	ORAN	FORT	PULA	PUTN	RPL	SCOT	STJO	STEU	SULL	TIPP	VIGO	WARN	WARK	WHIT
Total Number of Parties	5	1	2	1	3	1	1	9	1	1	21	1	1	17	6	1	2	1
Total Number of Observers	5	1	2	1	3	1	1	12	1	1	21	1	1	17	9	1	2	1
Party Miles - Foot	49.2		6.08	1.5		0.15	0.15	90.6	6		88	12		26.8	52.5	3.75	17	0.75
Party Miles - Car	5.6	7.5	28.8		95	7.50	13.3	183		15	40	130	5		27.5	14	247	
Party Miles - Other (see below)	0.3										28 bi				56 bi			
Party Miles - TOTAL	55.1	7.5	34.8	1.5	95	7.65	13.4	274	6	15	156	142	5	26.8	146	17.8	264	0.75
Party Hours - Foot	68.9	1	12.6	1.1	9.25	0.80	1.65	93.8	3	2	116		0.25	36.8	43.5	5.1	21	0.67
Party Hours - Car	2.8		4.89		16.5	1.58	0.38	14			20		0.75		15.5	3.25	66	
Party Hours - Other (see below)	0.1										23 bi				28 bi			
Party Hours - TOTAL	71.8	1	17.5	1.1	32.3	2.38	2.03	108	3	2	159	42	1	36.8	97	8.35	87	0.67
PH Pasture/Grassland	6		9.75		13	0.04	0.2	17.3		0.5	32		0.5	4	16.5	1.5	2	
PH Agriculture Cropland	2	0.25	0.8		12.8	1.42	0.92	15.4		1.25				0.5	3.5	1.5	1	0.16
PH Brushy Fields	2		2.3		1.25	0.08	0.34	20.4	0.5		46.5	12	0.25	3.75	15	0.75	37	0.16
PH Deciduous Woodlands	18.8	0.75	3.15	0.88	3.5	0.10	0.2	36.2	2		21	20	0.1	9	26	1.75	32	0.35
PH Coniferous Woodland															0.5			
PH Marshes/Swamps	2		1.1	0.22							10	8		13.3	2	0.5	4	
PH Lakes/Ponds	15		0.27					11.5			2	2	0.05		10	1.5	7	
PH Rivers/Streams	12				1	0.07	0.2	6.35	0.5	0.25	6			2	3.5	0.85	3	
PH Urban/Suburban/Parks	14		0.12			0.66	0.19	0.75			41		0.1	4.25	20		1	

