

5-1997

Kentucky Warbler (Vol. 73, no. 2)

Kentucky Library Research Collections
Western Kentucky University, spcol@wku.edu

Follow this and additional works at: http://digitalcommons.wku.edu/ky_warbler



Part of the [Ornithology Commons](#)

Recommended Citation

Kentucky Library Research Collections, "Kentucky Warbler (Vol. 73, no. 2)" (1997). *Kentucky Warbler*. Paper 293.
http://digitalcommons.wku.edu/ky_warbler/293

This Newsletter is brought to you for free and open access by TopSCHOLAR®. It has been accepted for inclusion in Kentucky Warbler by an authorized administrator of TopSCHOLAR®. For more information, please contact topscholar@wku.edu.

The Kentucky Warbler

(Published by the Kentucky Ornithological Society)

VOL. 73

MAY, 1997

NO. 2



IN THIS ISSUE

THE WINTER SEASON, 1996-1997, Fred M. Busroe	35
THE EFFECTS OF TRANSMITTER WEIGHT ON THE BEHAVIOR AND MOVEMENTS OF DOWNY WOODPECKERS, Gary Ritchinson ...	40
THE K.O.S. SPRING MEETING, April 25-27, Neil Eklund	45
TREASURER'S REPORT, Lee McNeely	47
NEWS AND VIEWS	48

THE KENTUCKY ORNITHOLOGICAL SOCIETY

- President Wayne M. Mason, Bowling Green
- Vice-President Wendell Kingsolver, Carlisle
- Corr. Secretary Brainard Palmer-Ball, Jr.
Old Westport Road, Louisville, KY 40222
- Treasurer Lee McNeely
P.O. Box 463, Burlington, KY 41005
- Recording Secretary Neil Eklund, Danville
- Councillors:
 - Mark Bennett, Russellville1996-1998
 - Steve Kistler, Munfordville1996-1998
 - Kathy Caminiti, Crittenden1997-1999
 - Joyce Porter, Falls of Rough1997-1999
- Retiring President Herbert Clay, Jr., Falls of Rough
- Staff Artist Ray Harm

THE KENTUCKY WARBLER

Organ of the *Kentucky Ornithological Society*, published quarterly in February, May, August and November. The *KENTUCKY WARBLER* is sent to all members not in arrears for dues. Membership dues are: Active or Regular, \$8.00; Contributing, \$15.00; Student, \$4.00; Life, \$100.00; Family, \$2.00 in addition to Regular, Contributing or Life Membership dues; Corporate. All articles and communications should be addressed to the editor. Subscriptions, memberships and request for back issues should be sent to the Treasurer.

Editor B.R. Ferrell, Biology Department, Western Kentucky Univ.
Bowling Green 42101

Editorial Advisory Board

Secretary, Kentucky Bird Records Committee Anne L. (Mrs. F.W.) Stamm
Lee McNeely
P.O. Box 463, Burlington, KY 41005

THE COVER

We thank Philippe Roca for this excellent photograph of a juvenile Eastern Bluebird, *Sialia sialis*.

THE WINTER SEASON, 1996 - 1997

FRED M. BUSROE

The weather during the winter period was unusually mild. There was nearly no snow, but rainfall was above normal. The coldest days were only near 0°F, while there were several days in February of near record highs. The absence of a "real" winter has resulted in near absence of northern species. On the other hand, this season was enhanced by the sightings of Ross' Geese, Greater White-fronted Geese, Lesser Black-backed Gulls, Iceland Gulls, Thayer's Gulls, Glaucous Gulls and Lapland Longspurs. The transient lakes, McElroy and Chaney Lakes, remained high during the season, and as a result, larger than normal numbers and species of waterfowl were present, with the numbers reaching nearly 2000 individuals representing 15 species in January.

Abbreviations - Aug = Augusta, Bracken County; LBar = Lake Barkley, Marshall County; Bel = Bellevue, Campbell County; Ber = Bernheim Forest, Nelson County; BAD = Bluegrass Army Depot, Madison County; CCSP = Carter Caves State Park, Carter County; CRL = Cave Run Lake, Rowan County; CHL = Chaney Lake, Warren County; CL#1 = City Lake #1 and CL#4 = City Lake #4, Hopkins County; Cur = Camp Curry, Marshall County; CKWA = Central Kentucky Wildlife Management Area, Madison County; DC = Drake's Creek, Warren County; Fulk = Fulkerson Road, Ohio County; GLSP = Grayson Lake State Park, Carter County; GSP = Greenbo State Park, Greenup County; Har = Harlan County; Hart = Hart County; Hic = Hickman Bottoms, Fulton County; HWMA = Homestead Wildlife Management Area, Ohio County; Jon = Jonathan Creek, Marshall County; KYL = Kentucky Lake, Marshall County; LBL = Land Between the Lakes; LPew = Lake Pewee, Hopkins County; L#9 = Lake #9, Fulton County; Lex = Lexington, Fayette County; LWC = Louisville Water Company, Jefferson County; MCo = Madison County; Mad = Madisonville, Hopkins County; MCNP = Mammoth Cave National Park, Edmonson County; McEL = McElroy Lake, Warren County; Mel = Meldahl Dam, Bracken County; MCFH = Minor Clark Fish Hatchery, Rowan County; New = Newport, Campbell County; OCP = Otter Creek Park, Meade County; OFL = Owlsey Fork Lake, Madison County; Res#2 = Reservoir #2, Lexington, Fayette County; Saw = Tom Sawyer State Park, Jefferson County; Sen = Seneca Park, Louisville, Jefferson County; Sha = Shanty Hollow, Warren County; Sil = Silver Grove, Campbell County; Ten = Ten Broeck Subdivision, Louisville, Jefferson County; Tow = Towhead Island, Jefferson County; Wil = Wilder, Campbell County; RNWR = Reelfoot National Wildlife Refuge, Fulton County; Ut = Utica, Ohio County.

RED-THROATED LOON — One observed on 2 to 4 December (JW) and on 5 December at Res#2 (MF).

COMMON LOON — Two on 12 December at CRL (FB).

PIED-BILLED GREBE — Four on 23 December at LPew (JWH); 3 on 19 January at KYL (Hap, CP); one on 5 February at Hic (CP); 2 at Fulk and 2 at HWMA on 9 February (BE, TE).

HORNED GREBE — Eight on 12 December at CRL (FB).

AMERICAN WHITE PELICAN - 35 on 28 February at LBar (DR).

DOUBLE-CRESTED CORMORANT — Two on 9 February at Fulk (BE, TE); six on 23 February at Jon (Hap, CP).

GREAT BLUE HERON — Numbers lower than normal in LBL area (CP); one on 14 December at LWC (JB, PB); one on 17 December at Wil (FR); one on 23 December at LPew (JWH); one on 10 January and one on 21 January in Hart (MS); 6 on 17 February at Aug and one on 19 January at CCSP (FR).

TUNDRA SWAN — One immature at OFL on 29 December (AR, TR). Information has been forwarded to the Kentucky Bird Records Committee.

GREATER WHITE-FRONTED GOOSE — Five from 2 to 5 January and one on 7 February at

McEL (DR); one on 9 February at McEL (JB, PB).

SNOW GOOSE — Three on 3 January and 8 on 2 February at McEL (JB, PB); 15 (10 white + 5 blue phase) on 9 February at HWMA (BE, TE); 11 on 9 February at McEL (JB, PB); 1200 (800 white + 400 blue phase) on 18 February at Hic (CP).

ROSS' GOOSE — Four from 7 to 19 February at McEL (DR); 4 on 9 February at McEL (JB, PB).

CANADA GOOSE — 14 on 23 December and 21 on 3 January at LPew (JWH); 8 on 3 February at Ten (AS).

GREEN-WINGED TEAL — One on 12 January at Mel (FR); 4 on 9 February at McEL (JB, PB); one on 28 February near Bondurant, Fulton County (CP).

AMERICAN BLACK DUCK — Two were consistent during the time at New (FR); two on 19 January at Cur (Hap, CP); 8 on 9 February at McEL (JB, PB).

MALLARD — 30 to 40 were present during the period at Wil (FR); 24 to 70 during the period at LPew (JWH); 50 on 3 January at McEL (JB, PB); 20 on 19 January at GLSP (FR); 8 arrived on 2 February at Ten (AS); 3000 on 5 February, 1500 on 18 February and 600 on 28 February at Hic (CL).

NORTHERN PINTAIL — 9 on 2 February at McEL (JB, PB); 40 on 5 February and 150 on 18 February at Hic (CP).

BLUE-WINGED TEAL — 50 on 28 February at Hic (CP).

NORTHERN SHOVELER — One in Lex on 2 January (AR, TR); 8 on 18 February and 28 on 28 February at Hic (CP); 4 on 2 February at McEL (JB, PB).

GADWALL — 8 on 18 February and 18 on 28 February at Hic (CP).

AMERICAN WIGEON — One male on 21 January at New (FR); 7 on 18 February and 25 on 28 February at Hic (CP).

REDHEAD — Three at CL#4 on 18 February, Mad (JWH); one on 23 February in MCo (AR, TR).

CANVASBACK — 20 on 17 and 23 February at Mel (FR); 4 on 23 February at Jon (Hap, CP).

RING-NECKED DUCK — 7 on 21 January at CL#1 (JWH); 3 at Fulk and one at HWMA on 9 February (BE, TE); 9 on 23 February at LBL (Hap, CP).

LESSER SCAUP — 7 on 22 February at Tow (JB, PB).

OLDSQUAW — One on 1 February at Bar (DR).

WHITE-WINGED SCOTER — Two immatures on 17 and 23 February at Mel (FR).

COMMON GOLDENEYE — 20 on 19 January at Cur (CP); 2 on 2 February at CRL (FB); 8 on 17 February at Mel (FR).

BUFFLEHEAD — One on 9 February at McEL (JB, PB); 2 on 28 February at Hic (CP); 35 to 60 at MCFH during the season (FB).

HOODED MERGANSER — 16 on 14 December at LWC (JB, PB); two males on 1 December at New (FR); two on 2 February at McEL (JB, PB); 8 on 28 February at Hic (CP).

COMMON MERGANSER — 4 at Mel and 16 at Aug on 17 February, with 2 at Mel on 23 February (FR); one at Lex Reservoir on 23 February (AR, TR).

RUDDY DUCK — 200 from 19 to 23 December at Jon (CP); 28 on 23 December at LPew and 63 on 3 January at CL#1 (JWH); one on 23 February at Lex Reservoir (AR, TR).

BLACK VULTURE — Two on 8 December at I-64, Shelby County and 2 on 21 February at Sen (JB, PB); one on 19 February in MCo (AR, TR).

TURKEY VULTURE — One on 3 January at Elizabethtown, Hardin County and one at LWC on 3 January (JB, PB); one on 23 January in Whitley County (AR, TR).

BALD EAGLE — One immature on 6 January, 3 immature + 1 adult on 12 January, one immature on 30 January, 2 immature on 10 February, 2 immature + 1 adult on 11 February and 3 immature on 16 February at MCFH (FB, LK); 2 immature on 18 February at Hic, 2 immature on 23 February at Jon, 3 adults and 1 immature on 23 February in nest region, levee area of L#9 (CP).

NORTHERN HARRIER — 3 on 5 February at Hic (CP).

SHARP-SHINNED HAWK — One in Hart on 3 and 9 February (MS); one on 9 February at Sen (JB, PB).

COOPER'S HAWK — One on 15 December at Saw and one on 21 February at Sen (JB, PB); one on 15 December at Bel feeder (FR); one on 21 December at Mad (JWH); one was observed feeding on a female Northern Cardinal on 19 January at Ten (AS); one on 17 February in MCo (AR, TR).

Red-shouldered Hawk — One on 25 December in the median of I-64, Jefferson County and one at Ber (JB, PB).

RED-TAILED HAWK — One (Harlan's morph) present in Warren County from 2 to 27 December (DR); one on 14 December at LWC and one on 26 January at McEL (JB, PB); one at CCSP and 4 at GLSP on 19 January (FR).

GOLDEN EAGLE — One on 26 January at Ber (JB, PB).

AMERICAN KESTREL — One on 19 January at CCSP (FR); 9 on 28 February in Fulton County - average daily count (CP); several single sightings in Campbell County during the period (FR); one almost daily during the period at MCFH (FB).

WILD TURKEY — Ten on 19 January at CCSP (FR); 6 on 9 February in Ohio County (BE, TE).

AMERICAN COOT — 64 on 23 December at LPew (JWH); 100 on 28 February in Fulton County (CP).

SANDHILL CRANE — At McEL sightings were: 24 on 24 December, 2 on 30 December, 7 on 3 January and 40 on 14 February; 3 on 2 December in Todd County (BS); a total of 75 in two flocks on 21 December at OCP (RM, HS); 7 on 7 January at BAD (JS); 11 on 6 January, 185 on 18 February, 45 on 24 February in Hart with 19 on 22 February in Barren County (MS).

KILLDEER — Numbers were lower in western Kentucky during the rainy weather of January (CP); 8 at McEL and 31 at CHL on 3 January (JB, PB); 15 on 10 January in Barren County (MS).

DOWITCHER, SP. — 2 on 28 February at Long Point, RNWR (CP).

COMMON SNIFE — One on 2 December in Edmonson County (MS); one on 1 January in MCo (AR, TR).

AMERICAN WOODCOCK — One on 17, 18, 27, and 28 February in Hart County (MS); one in courtship flight on 20 February at Sil (FR); one in MCo on 27 February (AR, TR).

GULLS — Large number (50,000+) of gulls in the tail waters of Kentucky and Barkley Dams, the majority of which were Ring-billed Gulls (CP); gulls were not as numerous along the Ohio River in northern Kentucky as the 1995-1996 winter (FR).

BONAPARTE'S GULL — One on 14 December at MCFH (FB); one on 11 January and 3 on 12 January at Mel (FR); 2 to 3 were at MCFH from 4 to 8 February (FB).

RING-BILLED GULL — Numbers of no more than 150 in the New area and about equal in the Mel area (FR); 45 to 250 were at MCFH and CRL during the season (FB).

HERRING GULL — One on 14 and 16 December at MCFH (FB); one on 1 January and 2 on

16 and 24 January, with 4 on 29 January in the New area (FR).

THAYER'S GULL — A first year bird was first observed on 29 January at Kentucky Dam followed by an adult being seen on 1 and 5 January at Barkley Dam. Two first year and one second year gulls were observed at Kentucky and Barkley Dams on 9 February (DR).

ICELAND GULL — An adult bird was seen at Barkley Dam on 1 and 5 February (DR); a first year gull was seen at Kentucky Dam 5 and 9 February (DR).

GLAUCOUS GULL — A first year gull and an adult were seen on 1 and 5 February with a first year bird observed at Kentucky Dam on 5 February (DR).

LESSER BLACK-BACKED GULL — One on 19 January in the tail waters of Bar (CP).

EASTERN SCREECH-OWL — One in Hart on 7 January (MS); one calling in Har on 11 January (FB); one on 26 January at Ber (JB, PB).

GREAT HORNED OWL — One on 10 December in Louisville, Jefferson County (JB, PB); one was seen on several occasions during January in an Osprey nest near Honker Lake, LBL; (Hap, CP); 2 calling on 6 February in Bel (FR); two on 7 January at BAD (JS); 2 on 19 January, 3 on 2 February and 2 from 24 to 26 February in Hart (MS); one from 1 to 28 February near Ut (BE, TE).

BARRED OWL — One on 29 December in Sil (FR).

LONG-EARED OWL — One on 27 January and two on 25 February in Muhlenberg County (DR).

BELTED KINGFISHER — One on 14 December at LWC (JB, PB); one at CCSP on 19 January (FR); on 3 January at MCNP (JB, PB); one on 9 February at HWMA (BE, TE).

RED-HEADED WOODPECKER — Three on 20 January at CCSP (FR).

YELLOW-BELLIED SAPSUCKER — One on 2 January in Louisville (JB, PB); 1 on 11 and 28 January at Sil (FR).

DOWNY WOODPECKER — Four at a Bel feeder on 7 and 11 January (FR).

HAIRY WOODPECKER — One on 11 January at Bel (FR); one on 3 February at CKWA (GR); one on 11 January in MCo (AR, TR).

PILEATED WOODPECKER — One on 1 January in MCo (AR, TR); two on 19 January at CCSP (FR).

HORNED LARK — 50 on 3 January and 35 on 2 February at McEL (JB, PB); a large flock was observed on 15 December in the fields near McEL (DR); one in MCo on 23 February (AR, TR).

EASTERN PHOEBE — Two were present all season at Sha (DR).

WHITE-BREASTED NUTHATCH — One in MCo on 1 January (AR, TR); three on 19 January and four on 20 January at CCSP (FR).

BROWN CREEPER — One on 15 December at Saw and 4 at BNP on 29 December (JB, PB); one in MCo on 28 December (AR, TR); one at CCSP on 20 January (FR).

CAROLINA WREN — 20 were seen on 29 December in the Sil area (FR).

WINTER WREN — One on 15 December at Saw and one on 3 January at MCNP (JB, PB).

GOLDEN-CROWNED KINGLET — One on 1 January in MCo (AR, TR); 9 on 3 January at MCNP (JB, PB); one on 20 January at CCSP (FR); 2 to 4 were seen in Campbell County during the season (FR).

EASTERN BLUEBIRD — Normal numbers were reported across the state during the season.

HERMIT THRUSH — One on 3 January at MCNP (JB, PB).

AMERICAN ROBIN — 50+ arrived on 22 January and fed on winter fruit for several days in Ten (AS).

BROWN THRASHER — One on 6 January at CHA (FR); one in MCo on 11 January (AR, TR); one on 21 and 31 January and one at a feeder on 6 February in Mad (JWH).

AMERICAN PIPIT — Two on 2 February at McEL (JB, PB); several were observed in the area of McEL and CHA during the period with the greatest number present during the third week of February (DR).

LOGGERHEAD SHRIKE — Two on 4 January at BAD (JS); one on 24 January in Barren County (MS); two on 18 February in Fulton County (CL).

YELLOW-RUMPED WARBLER — 9 were in the Sil area on 29 December (FR); 6 on 3 January at MCNP (JB, PB); 6 near Kentucky Dam on 19 January (Hap, CP).

PALM WARBLER — A single bird was seen on 12 December at DC (DR).

EASTERN TOWHEE — Three on 15 December at Saw (JB, PB); one on 1 January in MCo (AR, TR); only an occasional observation of a single male was seen during January at Ten (AS).

AMERICAN TREE SPARROW — 2 on 3 February at Wil and 10 on 17 February at Mel (FR).

CHIPPING SPARROW — 15 to 21 were observed during January and February near DC (DR).

SAVANNAH SPARROW — 12 on 11 January in Warren County (DR).

LARK SPARROW — 12 on 19 January were seen in a grassy area, west shore below Kentucky Dam (Hap, CP).

FOX SPARROW — One on 28 December in MCo (AR, TR); one on 16, 17, and 28 January with two on 26 January in a yard at Mad (DH, JWH).

LINCOLN'S SPARROW — One on 31 December at Barren Lake (DR).

SWAMP SPARROW — One on 29 December at Sil (FR); one on 1 January in MCo (AR, TR); 10 on 19 February at MCFH (FB).

WHITE-CROWNED SPARROW — Up to 8 during the period in Hart (MS); numbers were lower in Ten this winter, only a single immature was seen (AS).

WHITE-THROATED SPARROW — Only 4 were seen in Ten during January (AS); approximately 25 were present at a feeder during January in Mad (JWH).

DARK-EYED JUNCO — One "Oregon" race on 19 December in Warren County (DR); 20 on 7 January at feeder in Bel (FR); 8 on 19 January below Kentucky Dam (Hap, CP); 40 on 19 January at CCSP (FR); 5 to 7 at feeder in Mad during the season (JWH).

LAPLAND LONGSPUR — Up to seven birds were seen between 16 and 22 February at McEL (DR).

RED-WINGED BLACKBIRD — First returned to MCFH on 19 February (FB).

RUSTY BLACKBIRD — Three on 22 February at McEL (DR).

BROWN-HEADED COWBIRD — 55 on 9 January and approx. 150 on 15 January at a feeder in Mad (JWH); one on 11 January in MCo (AR, TR).

HOUSE FINCH — A pair was observed carrying nesting material in late February in Ten (VJ, AS).

PURPLE FINCH — 15 on 3 January at MCNP (JB, PB); four on 19 January at CCSP (FR); one on 10 February at CKWA (GR).

EVENING GROSBEAK — No reports.

Contributors - Jane Bell (JB), Pat Bell (PB), Fred Busroe (FB), Hap Chambers (Hap), Brenda Eaden (BE), Tony Eaden (TE), Mike Flynn (MF); Darrell Hancock (DH), James W. Hancock (JWH), Violet Jackson (VJ), Lewis Kornman (LK), Robert Miller (RM), Clell Peterson (CP), Frank Renfrow (FR), Art Ricketts (AR), Tina Ricketts (TR), Gary Ritchison (GR), David Roemer (DR), Helga Schutte (HS), Brent Smith (BS), Anne Stamm (AS), Mitchell Sturgeon (MS), Jim Williams (JW).

-- UPO 1353, Morehead State University, Morehead, KY 40351

THE EFFECTS OF TRANSMITTER WEIGHT ON THE BEHAVIOR AND MOVEMENTS OF DOWNY WOODPECKERS

GARY RITCHISON

DEPARTMENT OF BIOLOGICAL SCIENCES

EASTERN KENTUCKY UNIVERSITY

RICHMOND, KY 40475

INTRODUCTION

Radio tracking is a widely used technique that permits close and accurate monitoring of animal movements. Such tracking enables investigators to collect information that cannot be obtained by any other method. However, attaching transmitters to animals, particularly small, active animals like birds, may have adverse impacts. For example, transmitters may affect foraging behavior (Massey et al. 1988) and may also interfere with normal flight (Gessaman and Nagy 1988, Hooze 1991). In addition, attaching transmitters may increase mortality rates (Perry 1981, Small and Rusch 1985). These potentially detrimental effects must be weighed against the potential benefits of using radio tracking prior to initiating any study.

Previous studies have revealed a clear relationship between transmitter package weight and behavior (e.g., Warner and Etter 1983, Gessaman and Nagy 1988, Hooze 1991). Obviously, small packages are less likely to affect a bird's behavior. However, small packages must have small batteries and, therefore, shorter radio life and reduced transmission range. The best package, therefore, is the one that maximizes weight (and radio life and transmission range) yet minimizes impact. Thus, while the objective of this study was to examine the possible effects of transmitters on the behavior of Downy Woodpeckers (*Picoides pubescens*), more specifically the objective was to examine the effects of transmitters of different weights on Downy Woodpecker behavior.

METHODS

This study was conducted from 1 February through 16 June 1994 at the Central Kentucky Wildlife Management Area (CKWMA), located 17 km southeast of Richmond, Madison Co., Kentucky. Feeding stations stocked with sunflower seeds and suet were established on the CKWMA in early February. Beginning on 28 March, Downy Woodpeckers coming to feed at these stations were captured in mist nets. Captured woodpeckers were banded with a U.S. Fish and Wildlife Service aluminum band plus a unique combination of colored, plastic bands and were also weighed. Birds were assigned randomly to one of four experimental groups: (1) no transmitter, (2) a 0.9 g transmitter, (3) a 1.1 g transmitter, and (4) a 1.3 g transmitter. All transmitters (Holohil Systems Ltd., Carp, Ontario, Canada) were attached onto the backs of the birds using skin bond cement (Smith and Nephew United, Inc., Largo, Florida).

Prior to transmitter attachment, feathers along an approximately 2 cm strip of the spinal tract (that part of the tract located between the wings) were trimmed to about 2mm in length. A thin layer of skin bond cement was then placed both on the trimmed feathers and the bottom of the transmitter. After five minutes, the transmitter was firmly applied to the feathers and held in place for five minutes. Birds were then held for an additional 5 - 10 minutes before release to make sure the adhesive had set completely.

At least three times per week, an attempt was made to observe each focal bird. Observation periods were generally one to two hours in duration and during each period an attempt was made

to maintain visual contact with focal birds and describe behaviors and movements on a tape recorder. When in visual contact, the behavior of focal woodpeckers was noted at one-minute intervals. Behaviors were categorized as either "high energy" or "low energy" in a manner similar to that described by Hooge (1991). High energy behavior was characterized by actions that include flight or movements that are more energetically costly (Utter and LeFebvre 1970, Bernstein et al. 1973, Fedak et al. 1974, Hails 1979). High energy behaviors included: (1) flying, (2) moving (non-flight movements exclusive of those in other behaviors), (3) drumming, (4) pecking, and (5) calling. Woodpeckers were sometimes observed excavating nest cavities. However, such behavior was exhibited almost exclusively by males (92.4% of all observations) and, therefore, it was not included in the time budget analyses. Low energy behaviors included: (1) preening, (2) eating, (3) sitting, and (4) vigilance (sitting and move the head). For all flights where the points of take-off and landing were known, the total distance traveled was estimated.

Radio-tagged birds were tracked using receivers (Telonics, Inc., Mesa, AZ) with two-element yagi antennas (Telonics, Inc.). An attempt was made to maintain continuous visual contact with focal birds, and to remain about 25 to 30 m from the focal bird (i.e., far enough from the bird to avoid influencing their behavior).

Possible differences in the type and frequency of behaviors exhibited by woodpeckers in the four experimental groups was examined using chi-square tests and Fisher's exact tests. Possible differences in the length of flights made by birds in the four groups as well as transmission distances of the three types of transmitters were examined using non-parametric analysis of variance (ANOVA on ranked data which is equivalent to the Kruskal-Wallis test; SAS Institute 1989). All values are presented as means \pm standard errors. All analyses were made using the Statistical Analysis System (SAS Institute 1989).

RESULTS

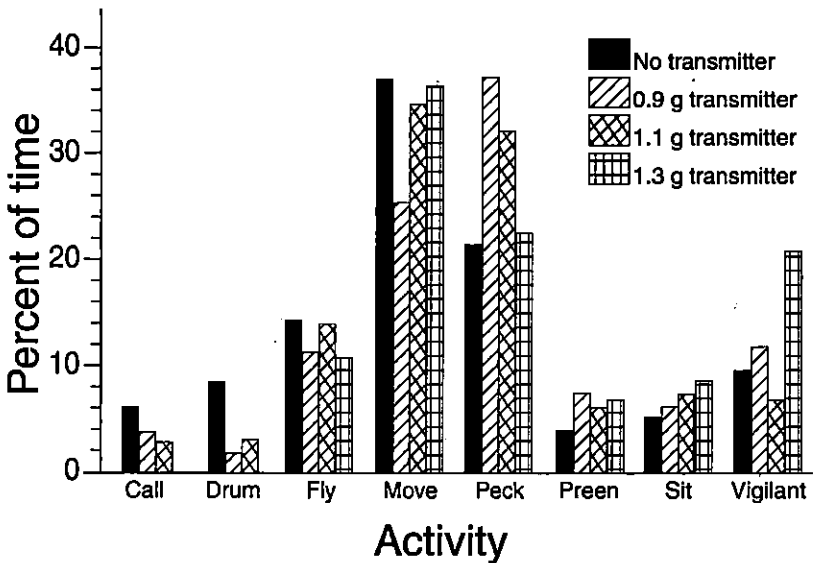
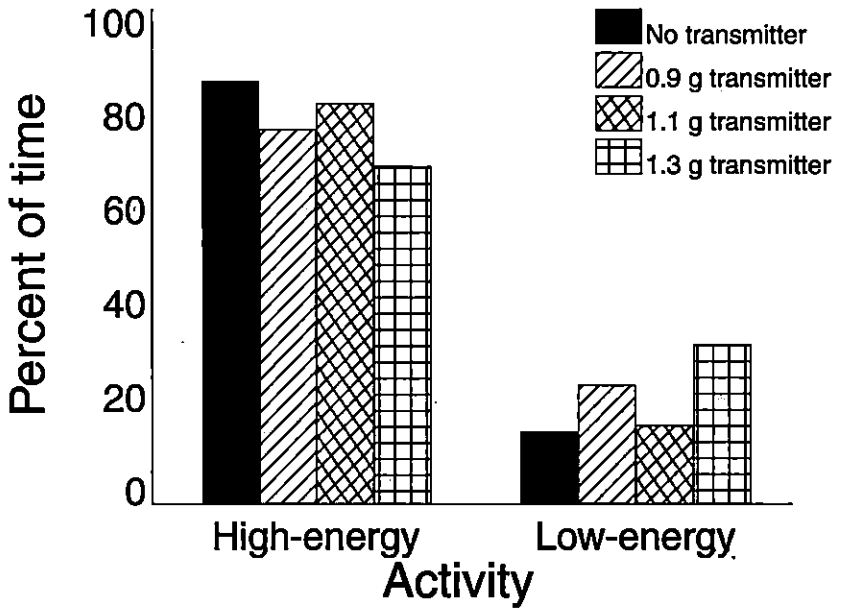
Twenty Downy Woodpeckers (10 males and 10 females) were captured during the period from 26 March through 21 May 1994. These woodpeckers were randomly divided into four groups: 1) six (3 males and 3 females) of these woodpeckers were not fitted with transmitters, 2) four (2 males and 2 females) were fitted with 0.9 g transmitters, 3) five (3 males and 2 females) with 1.1 g transmitters, and 4) five (4 females and 1 male) with 1.3 g transmitters. The mean mass of captured woodpeckers was 27.4 ± 0.6 gms ($N = 20$), with no significant difference in mass among woodpeckers in the four groups ($F = 2.17$, $P = 0.165$) or between males and females ($F = 0.17$, $P = 0.68$). The transmitter weight/woodpecker mass ratio varied significantly ($F = 19.9$, $P = 0.0003$) among the three groups with transmitters, with a mean ratio of $3.5 \pm 0.1\%$ for the woodpeckers with 0.9 g transmitters, $4.0 \pm 0.1\%$ for those with 1.1 g transmitters, and $4.5 \pm 0.2\%$ for those with 1.3 g transmitters.

Downy Woodpeckers were observed for 131 hours ($N = 86$ observation periods) over 81 days (28 March through 16 June 1994). Downies possessed relatively large ranges, made frequent and relatively long ($x = 21.2 \pm 0.9$ m; $N = 851$) flights, and typically foraged high in the canopy. Such characteristics made observations difficult and, as a result, focal birds were in sight only 27% of the time (35.3 hrs; with groups 1 through 4 listed above observed for 10.1, 7.8, 8.3, and 9.1 hrs, respectively).

ACTIVITIES

Downy Woodpeckers in the four experimental groups exhibited significant differences ($\chi^2 = 33.7$, $df = 3$, $P < 0.0001$) in the frequency of high versus low energy behaviors (Figure 1). Additional analyses revealed that birds in Group 4 (1.3 g transmitters) exhibited significantly less high energy activity than those in the other three groups (Fisher's exact tests, $P < 0.0009$). Comparison of woodpeckers in groups 1 (no transmitters), 2 (0.9 g transmitters), and 3 (1.1 g transmitters) revealed no significant differences in the frequency in high and low energy behaviors (Fisher's exact tests, $P > 0.05$).

Woodpeckers in the four groups differed significantly in the frequency with which the var-



ious behaviors were performed ($\chi^2 = 115.2$, $df = 24$, $P < 0.0001$). Specifically, birds in Group 4 (1.3 g transmitters) exhibited significantly higher rates ($\chi^2 = 29.7$, $df = 3$, $P < 0.001$) of vigilance behavior, a low energy behavior (Figure 2). In addition, woodpeckers in Group 4 performed two high energy behaviors at significantly lower rates: calling ($\chi^2 = 14.3$, $df = 3$, $P < 0.01$) and drumming ($\chi^2 = 32.6$, $df = 3$, $P < 0.001$) (Figure 2).

Woodpeckers in the four groups also differed significantly in frequency of pecking ($\chi^2 = 16.7$, $df = 3$, $P < 0.001$) (Figure 2). However, no clear relationship between frequency of pecking and transmitter weight was apparent (Figure 2). Birds in Groups 2 (0.9 g transmitters) pecked at a higher frequency than those in the other groups while birds in Groups 1 (no transmitters) and 4 (1.3 g transmitters) pecked at lower frequencies.

Birds in the four groups did not differ significantly in the frequency of flights ($\chi^2 = 2.7$, $df = 3$, $P > 0.05$) or the mean distance of flights ($F = 0.62$, $P = 0.60$). Further, no differences among the four groups were found in the frequency of moving ($\chi^2 = 5.83$, $df = 3$, $P > 0.05$), sitting ($\chi^2 = 3.2$, $df = 3$, $P < 0.05$), or preening ($\chi^2 = 4.2$, $df = 3$, $P > 0.05$). Other high energy behaviors (displaying and copulating) plus one low energy behavior (eating) were observed too infrequently for meaningful comparisons.

Transmitter - length of attachment, battery life, and fate of radio-tagged birds

Eight radio-tagged woodpeckers ($N = 4$ males and 4 females) lost their transmitters prior to battery failure, and these transmitters were lost an average of 16 ± 2.8 days (Range = 5 - 29 days) after attachment. All of these woodpeckers were observed after loss of the radios. The transmitter (a 0.9 g transmitter) on one woodpecker (female) was still attached when the battery failed (30 days) and subsequent observations of this bird indicated that the transmitter was lost about 10 days later. Overall, therefore, transmitters remained attached for an average of 18.7 ± 3.7 days for the nine woodpeckers that lost radios either before or after battery failure.

Only one transmitter remained on a bird until battery failure, and the battery on that transmitter (a 0.9 g transmitter) lasted 30 days. Three other transmitters were still functioning when lost at 20, 23, and 29 days after attachment, respectively.

Radio-contact was lost with three woodpeckers, and none of these birds was seen again. As a result, it was not known whether these transmitters failed or the radio-tagged birds moved out of the study area. Contact was lost an average of 14.3 days (Range = 7 - 19 days) after transmitters were attached.

One transmitter failed within 24 hrs. after attachment. This individual was recaptured 21 days later and the transmitter, still firmly attached, was removed. Finally, one Downy Woodpecker (female) was found dead (with the transmitter still firmly attached) 12 days after transmitter attachment. No injuries were apparent and the cause of death was unknown.

DISCUSSION

Analysis of time budgets plus observations in the field suggest that the behavior of Downy Woodpeckers fitted with transmitters weighing either 0.9 or 1.1 gs did not differ from that of woodpeckers without transmitters. Although there was some variation among these groups in the rates at which some behaviors (e.g., pecking) were performed, birds with these transmitters did perform high energy behaviors at the same rate as birds without transmitters. In contrast, woodpeckers with 1.3 g transmitters performed one low energy behavior (vigilance) at significantly higher rates and two high energy behaviors (calling and drumming) at significantly lower rates. Such results suggest that the increased energetic costs associated with carrying these heavier transmitters may have altered their behavior. Further, although the cause of death could not be attributed to the transmitter, the one woodpecker found dead during the study was carrying a 1.3 g transmitter.

Cochran (1980) suggested that transmitter packages should not weigh more than 5% of a bird's body mass. However, recent studies indicate that this "5% rule" is too liberal. For example, Gessaman and Nagy (1988) found that homing pigeons (*Columba livia*) carrying 5% transmitter

loads on a 320 km flight produced 85 - 100% more carbon dioxide. Hooge (1991) reported that Acorn Woodpeckers (*Melanerpes formicivorus*) carrying 4.5 g transmitters (5.1 - 5.9% of body mass) showed decreased rates of high energy behavior. Similarly, the results of the present study suggest that 1.3 g transmitters (4.5% of body mass) altered the behavior of Downy Woodpeckers. However, the results of this study also indicate that the behavior of birds carrying 0.9 g transmitters (3.5% of body mass) or 1.1 g transmitters (4.0% of body mass) did not differ from that of birds without transmitters.

Different species appear to differ in their abilities to carry transmitters. For example, Gessaman et al. (1991) found that the metabolic rates of Barred Owls (*Strix varia*) did not vary when carrying transmitter packages weighing 2%, 5%, or 10% of their body mass. One potentially important factor is the frequency and type of flight a species exhibits. For example, Hooge (1991) found that Acorn Woodpeckers spend large amounts of time flycatching from perches. The weight of a transmitter package may substantially increase metabolic needs for such species. Other species, such as Downy Woodpeckers, make relatively shorter flights, both in terms of distance and duration, and do not depend on flight to capture prey (i.e., flycatching). Also, flights made by woodpeckers are often in a downward direction, requiring reduced lift. Downy Woodpeckers, for example, typically climb up a tree while foraging, then, after reaching or nearing the top, fly downward (or at least horizontally) to another nearby tree (pers. observ.). As a result, the "metabolic cost" of a transmitter for Downy Woodpeckers may be lower than for other, more flight-dependent, species of birds.

ACKNOWLEDGEMENTS

I thank the Kentucky Dept. of Fish and Wildlife Resources for financial support, and Tom Mahan, Jeff Hawkins, and Carlo Abbruzzese for assisting with the field work.

LITERATURE CITED

- Bernstein, M.H., S.P. Thomas, and K. Schmidt-Nielsen. 1973. Power input during flight of the Fish Crow, *Corvus ossifragus*. *J. Exper. Biol.* 58:401-410.
- Cochran, W.W. 1980. Wildlife telemetry, Pp. 507-520 in *Wildlife Management Techniques manual*, fourth edition (S.D. Schemnitz, ed.). Wildlife Soc., Washington, D.C.
- Fedak, M.A., B. Pinshow, and K. Schmidt-Nielsen. 1974. Energy cost of bipedal running. *Amer. J. Physiol.* 277:1038-1044.
- Gessaman, J.A., M.R. Fuller, P.J. Pekins, and G.E. Duke. 1991. Resting metabolic rate of Golden Eagles, Bald Eagles, and Barred Owls with a tracking transmitter or an equivalent load. *Wilson Bull.* 103:261-265.
- Gessaman, J.A. and K.A. Nagy. 1988. Transmitter loads affect the flight speed and metabolism of homing pigeons. *Condor* 90:662-668.
- Hail, C.J. 1979. A comparison of flight energetics in hirundines and other birds. *Comp. Biochem. Physiol.* 63A:581-585.
- Hooge, P.N. 1991. The effects of radio weight and harnesses on time budgets and movements of Acorn Woodpeckers. *J. Field Ornithol.* 62:230-238.
- Massey, B.W., K. Keane, and C. Boardman. 1988. Adverse effects of radio transmitters on the behavior of nesting Least Terns. *Condor* 90:945-947.
- Perry, M.C. 1981. Abnormal behavior of Canvasbacks equipped with radio transmitters. *J. Wildl. Manage.* 45:786-789.
- SAS Institute. 1989. SAS user's guide: statistics. 1989 ed. SAS Institute, Cary, NC.
- Small, R.J. and D.H. Rusch. 1985. Backpacks vs. ponchos: survival and movements of radio-marked Ruffed Grouse. *Wildl. Soc. Bull.* 13:163-165.
- Utter, J.M. and E.A. LeFebvre. 1970. Energy expenditure for free flight by the Purple Martin (*Progne subis*). *Comp. Biochem. Physiol.* 35:713-719.
- Warner, R.E. and S.L. Etter. 1983. Reproduction and survival of radio-marked hen Ring-necked Pheasants in Illinois. *J. Wildl. Manage.* 47:369-375.

**THE KENTUCKY ORNITHOLOGICAL SOCIETY
SPRING MEETING
APRIL 25-27, 1997**

The Kentucky Ornithological Society held its spring meeting at Barren River State Resort Park April 25-27, 1997. President Wayne Mason brought the meeting to order and asked Vice-president Wendell Kingsolver to preside over Friday evening's program.

Wayne Mason showed slides of birds he had seen during a short stop at a marsh just South of Bowling Green adjacent to I-65. Then Sunni Lawless showed slides, discussed the Partners in Flight program, and told how the KOS could help. The last formal presentation Friday evening was that of Marvin Russell; he discussed different issues one should take into account when buying binoculars. Then Wendell asked whether any members had slides or stories to tell of their recent birding exploits.

The birding trips on Saturday included the Transient Lakes near Bowling Green, the Mammoth Cave National Park, and different areas around the state park. The weather was cool but sunny in the morning and warm but cloudy in the afternoon.

Saturday evening, Lee McNeely showed slides and told of his travels and travails to Attu Island in the Aleutian Islands. Special note was made of the accommodations (crowded, damp, and airy) and means of transportation (foot and bicycle). While he admitted that he would probably not go back, he was glad that he had gone. The birds he saw there were birds that migrate from the Far East to Siberia and stop over on Attu.

The Sunday morning trips were to the Transient Lakes again and the vicinity of the hotel. The weather on Sunday was rainy.

Future meetings are
 Fall, 1997: Pine Mountain State Park, Oct. 3-5
 Spring, 1998: tentatively planned for either Otter Creek State Park or General Butler State Park, April 24-26
 Fall, 1998: the board recommended Kentucky Dam Village, Sept. 25-27 or Oct. 2-4.

ATTENDANCE AT THE SPRING MEETING

BEREA: Art Ricketts and Tina Ricketts

BOWLING GREEN: Clint Blankenship, Lester Doyle, Diane Elmore, Jackie B. Elmore, Blaine Ferrell, Lawrence Finley, Wayne Mason, David Roemer, and Marvin Russell

BURLINGTON: Lee McNeely

CANEYVILLE: Mary Harrel

CARLISLE: Ginny Kingsolver and Wendell Kingsolver

COX'S CREEK: Dona Coates

DANVILLE: Ginny Eklund and Neil Eklund

FALLS OF ROUGH: Kathryn Clay and Joyce Porter

FRANKFORT: Jim Durell and Sunni Lawless

GILBERTSVILLE: Rowena Cary

GREENVILLE: Becky Keith and Willard Keith

LEXINGTON: Jim Williams

LOUISVILLE: Austin Bloch, Mary Frances Bloch, Celia Lawrence, J. David McNeely, Wanda McNeely, and Brainard Palmer-Ball, Jr.

MOREHEAD: Fred Busroe

MORGANTOWN: Carroll Tichenor and Doris Tichenor

MUNFORDVILLE: Steve Kistler

OWENSBORO: Janet Howard, Marilee Thompson, Wendell Thompson, and Bill Tyler

PADUCAH: Bernice Caddell, Bonnie McNeely, and Sam McNeely

RICHMOND: Brenda Thompson and Pete Thompson

RUSSELLVILLE: Mark Bennett

UTICA: Brenda Eaden and Tony Eaden

WINCHESTER: Lowell Strine and Susan Strine

DYERSBURG, TN: Betty Leggett and Ken Leggett

BIRDS OBSERVED AT THE SPRING MEETING, 1997

Birds observed on Friday and Saturday field trips at Barren River State Park and the Temporary Lakes, Warren County were Common Loon, Pied-billed Grebe, Horned Grebe, Eared Grebe, Great Blue Heron, Great Egret, Green Heron, Canada Goose, Wood Duck, Green-winged Teal, Mallard, Blue-winged Teal, Northern Shoveler, Gadwall, American Wigeon, Ring-necked Duck, Lesser Scaup, Common Goldeneye, Bufflehead, Hooded Merganser, Red-breasted Merganser, Ruddy Duck, Black Vulture, Turkey Vulture, Osprey, Northern Harrier, Sharp-shinned Hawk, Broad-winged Hawk, Red-tailed Hawk, American Kestrel, Peregrine Falcon, Wild Turkey, Northern Bobwhite, Sora, Common Moorhen, American Coot, Black-bellied Plover, Lesser Golden-Plover, Semipalmated Plover, Killdeer, Greater Yellowlegs, Lesser Yellowlegs, Solitary Sandpiper, Willet, Spotted Sandpiper, Upland Sandpiper, Western Sandpiper, Least Sandpiper, Pectoral Sandpiper, Common Snipe, Wilson's Phalarope, Franklin's Gull, Bonaparte's Gull, Ring-billed Gull, Herring Gull, Caspian Gull, Common Tern, Forster's Tern, Rock Dove, Mourning Dove, Eastern Screech-Owl, Chuck-will's-widow, Chimney Swift, Ruby-throated Hummingbird, Red-bellied Woodpecker, Downy Woodpecker, Hairy Woodpecker, Northern Flicker, Pileated Woodpecker, Eastern Phoebe, Eastern Kingbird, Purple Martin, Tree Swallow, Northern Rough-winged Swallow, Bank Swallow, Cliff Swallow, Barn Swallow, Blue Jay, American Crow, Carolina Chickadee, Tufted Titmouse, White-breasted Nuthatch, Carolina Wren, House Wren, Marsh Wren, Blue-gray Gnatcatcher, Eastern Bluebird, Wood Thrush, American Robin, Gray Catbird, Northern Mockingbird, Brown Thrasher, American Pipit, European Starling, White-eyed Vireo, Solitary Vireo, Yellow-throated Vireo, Red-eyed Vireo, Blue-winged Warbler, Nashville Warbler, Yellow Warbler, Yellow-rumped Warbler, Black-throated Green Warbler, Yellow-throated Warbler, Pine Warbler, Prairie Warbler, Palm Warbler, Ovenbird, Kentucky Warbler, Common Yellowthroat, Summer Tanager, Scarlet Tanager, Northern Cardinal, Indigo Bunting, Eastern Towhee, Chipping Sparrow, Field Sparrow, Savannah Sparrow, Song Sparrow, White-throated Sparrow, White-crowned Sparrow, Red-winged Blackbird, Eastern Meadowlark, Brewer's Blackbird, Common Grackle, Brown-headed Cowbird, House Finch, American Goldfinch, and House Sparrow for a total of 131 species. Virginia Rail, Western Sandpiper, White-rumped Sandpiper, Yellow-bellied Sapsucker, Ruby-crowned Kinglet, Blue Grosbeak, Grasshopper Sparrow, Swamp Sparrow, and Bobolink were added from Sunday morning field trips bringing the total to 140 species for the weekend.

KENTUCKY ORNITHOLOGICAL SOCIETY

TREASURER'S REPORT

September 6, 1996 - April 24, 1997

	Beginning Balance	\$2,735.64
<u>Receipts</u>		
Membership Dues	\$ 3,166.00	
Life Memberships	500.00	
Gordon Wilson Fund	33.00	
Sale of Annotated Checklists	44.76	
Sale of <i>Warbler</i> back issues	6.00	
Sale of Field Checklists	31.11	
Fall Meeting Registration	126.00	
	<u>\$ 3,906.87</u>	<u>\$ 3,906.87</u>
		<u>\$ 6,642.51</u>
<u>Disbursements</u>		
United Graphics (3 <i>Warblers</i>)	\$ 3,684.66	
United Graphics (Checklists)	313.60	
United Graphics (Envelopes)	90.00	
Postage	285.00	
Bell South	135.02	
Ky. State Treasurer (Sales Tax)	29.52	
Great Impressions (Bank Stamp)	13.50	
Kay Mudd (Misc. reimbursement)	178.66	
Pat Bell (Phone tapes)	8.47	
Anne Stamm (reimbursement)	10.38	
Michael Hamm (life member refund)	100.00	
	<u>\$ 4,848.75</u>	<u>\$ 4,848.75</u>
	Ending Balance	
	April 24, 1997	\$ 1,793.76

Lee McNeely, Treasurer

NEWS AND VIEWS

Reminder of the Kentucky Rare Bird Alert Hotline

Remember, the Kentucky Rare Bird Alert hotline is in service at (502) 894-9538. Brainard Palmer-Ball, Jr. regularly updates the tapes with your reports of unusual bird sightings from around the state. Help support this service with your reports.

K.O.S. Avian Research Grant Fund

The Kentucky Ornithological Society has initiated an Avian Research Grant Fund. Persons that need money (*i.e.*, up to \$500.00) to assist them in conducting research on birds in Kentucky should contact the K.O.S. Burt L. Monroe, Jr. Avian Research Grant Fund Committee c/o Blaine Ferrell, Department of Biology, Western Kentucky University, Bowling Green, Kentucky 42101 for a set of guidelines and an application form.

Kentucky Bird Records Committee

Rare bird sightings should be well documented and the documentation should be sent to Lee McNeely, Secretary of the KBRC, for consideration by the committee. (Lee McNeely, P.O. Box 463, Burlington, KY 41005.)

K.O.S. Fall Meeting

The fall meeting of the Kentucky Ornithological Society will meet October 3 through 5 at Pine Mountain State Park, Please make plans to attend and make your reservations early. The K.O.S. group rate for lodge rooms will be \$50.96/single and 60.23/double (tentative figures). Rooms will be held until August 3, so call 1-800-325-1712 and make your reservations early. The meeting will feature a hawk watch at the Cumberland Gap as part of the Saturday morning field trips. If you plan on presenting information at the Friday evening meeting, please contact Wendell Kingsolver, Shepherd Hill, Carlisle, KY.

K.O.S. Field Trip

FALLS OF THE OHIO

Saturday 9 August, 8 a.m. EDT to 12:00 noon at the Falls of the Ohio for shorebirds, herons, and other wading birds. Meet at the Pennsylvania Railroad bridge in Clarksville, Indiana. Wear footwear for shallow wading. The leader is Jim Pasikoski (502-897-2925).

WESTERN KENTUCKY

Saturday through Sunday August 30-31 in western Kentucky for shorebirds and western Kentucky specialties. Meet at the parking lot below Barkley Dam on the east side off highway 62 on Saturday at 8:00 a.m. CDT. The leader is Brainard Palmer-Ball, Jr. (502-426-8549).

MAMMOTH CAVE NATIONAL PARK

September 27 at 7:00 a.m. at noon at Mammoth Cave for fall migrants. Meet at the visitor's center of Mammoth Cave National Park at 7:00 a.m. CDT. The leader is Steve Kistler (502-524-1095).

SLOUGHS WILDLIFE MANAGEMENT AREA

Sunday, October 12 at the Sloughs Wildlife Management Area, Henderson County for water birds and fall migrants. Meet at the Holiday Inn off I-65 in Clarksville, Indiana at 7:00 a.m. EDT for carpooling or meet at McDonald's in Henderson at 9:00 a.m. EDT. Bring a lunch and shoes for wading. The leader is Brainard Palmer-Ball, Jr. (502-426-8549).