

# *Inland Regional News*

---

## *Inland Bird Banding Association*

---

### **President's Message**

The IBBA meeting was held jointly with Association of Field Ornithologists, North American Banders' Council, and Iowa Ornithologists' Union on 8-10 Sep at Ottumwa, Iowa. Local arrangements were chaired by Darlene Ayres and Nelson Hoskins, who deserve more thanks than we can possibly give them for all they did to make this such a success. Meeting site, banding site, birds, and weather could not have been better!

This meeting was the first of its kind. Most of the time was devoted to improving banding methods and learning techniques to age and sex birds. It did more to improve banding quality than any other recent IBBA meeting. Plans for future meetings will be to continue this hands-on kind of training.

For the first time, we now have certified banders and trainers. Several banders arrived a day early to take the tests for certification or for trainers. These new trainers join the original trainers, who have served on NABC committees to set certification standards. We are building the pool of certified trainers. IBBA is proud to be a leader in this effort,

Jerome Jackson has decided to step down as president of IBBA because he has moved to Florida to take a position at Florida Gulf Coast University in Ft. Myers. The organization has been strengthened by his expert leadership and he will be missed in this position. However, he is a life member of IBBA and continues to serve in the role

of Past President. Jerry also became the Chairman of NABC, replacing Stephen Russell of Tucson, Arizona.

As the new president of IBBA, I hope to continue many of the goals that Jerry has started. My first goal is to assure that IBBA continues to play a leading role in NABC, and to be sure that IBBA meetings have round-table discussions where any bander can bring banding problems for help.

***Ruth C. Green***

506 West 31st Ave.

Bellevue, NE 68005

e-mail: rncgreen@aol.com

---

### **IBBA BUSINESS MEETING**

**11 September 1999**

**FOREST LAKE CAMP, IOWA**

The business meeting was called to order by President Jerry Jackson at 14:25. The Secretary determined that a quorum was present. The minutes from the previous business meeting were approved.

**SECRETARY:** Secretary's notes from the board meeting of 10 Sep 99 were read. The Secretary reported that correspondence received since the last meeting included three information requests concerning membership, and an inquiry from NISC (World Wildlife Abstracts).

**TREASURER:** Tom Bartlett presented the Treasurer's Report for Tom Kashmer. Account balances as of 1 Aug 1999, are as follows: Operations Account balance, \$22,470.17; Paul Stewart Research Fund balance, \$16,367.46; Life Membership Fund balance, \$11,842.83; Annual Receipts \$5,354.37; Annual Disbursements, \$4,597.02. Total assets, \$50,680.46. Interest earned on the Research Fund was \$434.97 The Treasurer's report was accepted as read.

**PRESIDENT:** Jerry Jackson discussed what IBBA has and has not done as an organization since the last meeting. Currently the board is working on a revision of the organization's bylaws and development of IBBA officer handbooks. Work continues on the local coordinator handbook for use in annual meeting preparation by local committee organizers. Jerry also shared his comments on the successful joint meeting with the Association of Field Ornithologists (AFO), as well as completion of the first North American Banding Council (NABC) Bander Certification Program. He expressed his personal thanks to both the coordinators and participants of the initial certification session.

**ENDOWMENT COMMITTEE:** Past President Forest Strnad indicated that two requests for information were received, but that no applications for grant money were filed since the last meeting.

**EDITOR:** Peter Lowther reported that four issues of *North American Bird Bander* have been published and distributed to the membership since the last meeting. Papers by four members of IBBA appeared in these issues. Peter solicited the membership for submission of manuscripts and again offered to assist any member with manuscript preparation.

**MEMBERSHIP SECRETARY:** Tom Bartlett reported a current membership total of 358, a small increase from 1998.

**MIST-NET COMMITTEE:** Terrence Ingram presented a summary of the Mist-Net Account to the membership.

**NOMINATING COMMITTEE:** The Nominating Committee submitted the slate of officers for 1999-

2000. No nominations were presented by the general membership. A motion to accept the recommendation of the Nominating Committee was seconded by the membership. The following officers were elected for the period 1999-2000: **President Ruth Green; First Vice President Mark Shieldcastle; Second Vice President Ray Korpi; Secretary Keith Kimmerle; Treasurer Tom Kashmer; Director (1997-2000) Nelson Hoskins; Director (1998-2001) James Ingold; Director (1999-2002) Nedra Klein.**

**NEW BUSINESS:** President Jackson announced that he had located a considerable amount of IBBA archive material during a recent visit to the University of Nebraska. The information was copied for inclusion in the IBBA archives. Keith Kimmerle reported on the board's decision to begin publishing meeting abstracts beginning with the 1999 meeting.

The meeting was adjourned at 14:55.

Respectfully submitted,  
**Keith Kimmerle**, Secretary  
Inland Bird Banding Association

---

### **Mist-nets from the Inland Bird Banding Association**

The Inland Bird Banding Association currently has a limited number of 12-m Polish mist-nets available for donation to banding stations in need of nets. Interested stations should submit a brief summary of their banding operation and justification for the requested donation. Information provided should include a copy of required permits, number of nets currently in use, as well as average net-hours per net, and age of current nets, if known. Preference will be given to Central American banding stations or those showing a demonstrated need. Applications should be submitted to Keith Kimmerle, Secretary, Inland Bird Banding Association, 128 North Chestnut, Columbus, MS 39705; e-mail: [progne@ebicom.net](mailto:progne@ebicom.net)

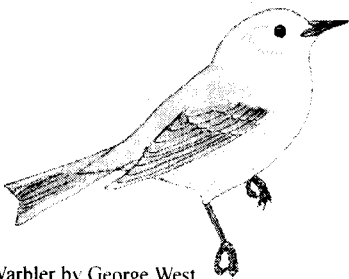
## Research Grants for Projects Involving Bird Banding

The Inland Bird Banding Association currently has several endowed research funds for projects involving bird banding, each with differing restrictions. The Paul Stewart Fund was established in 1985 to foster research on bird movement (*NABB* 13:64-65). Annual grants of up to \$300 are currently available. The Willetta Lueshen Student Membership Award annually provides one free student membership to IBBA for a one-year period and includes a subscription to *North American Bird Bander*. A Research Endowment Fund is also available to individuals with research projects that involve bird banding. Interested individuals should contact the Endowment Fund Committee chairperson for details and required forms: Jerome A. Jackson, Whitaker Center, College of Arts and Sciences, Florida Gulf Coast University, 10501 FGCU Boulevard South, Ft. Myers, FL 33965-6565; e-mail: [picus@fgcu.edu](mailto:picus@fgcu.edu)

---

## Request for Archival IBBA Information

The Inland Bird Banding Association is seeking archival records and historic information about the organization. Assistance in determining the existence or location of any archival material will be greatly appreciated. Information on past member correspondence, published historical information, or even unwanted back issues of IBBA publications are also requested. Please contact the secretary if you can help.



Yellow Warbler by George West

**Abstracts of papers and posters presented at the joint annual meetings of the Association of Field Ornithologists, Inland Bird Banding Association, and Iowa Ornithologists' Union, held 10 - 12 Sep 1999 at Ottumwa, Iowa:**

***Numbers of fall migrant songbirds declining in coastal Rhode Island: A 30-year banding analysis.*** Steven E. Reinert, Barrington, RI; Kim Gaffett and Elise Lapham, Block Island Banding Station, Block Island, RI.

Spring and fall migrant songbirds were captured in mist nets on Block Island, RI, 16 km off the southern New England coast, from 1968 to the present. Between 5 and 10 12-m mist-nets were run during most days of each migration period resulting in over 155,000 net-hr of effort in the 29-yr span through 1995, and the capture of over 70,000 songbirds (16,716 spring migrants, 57,632 fall migrants) of over 110 species. We used data provided by the USGS Bird Banding Laboratory to analyze population trends of fall migrants for the years 1968-1995. Ninety-three percent of autumn migrants were HY birds. Although US-wintering migrants comprised 63% of the total number of captured birds, those wintering in Central and South America, and the islands of the Caribbean (the Neotropical migrants) comprised over 65% of the 108 fall migrant species. We analyzed population trends of fall migrants by comparing the mean number of birds captured per year for 1968-1979 vs 1980-1995. The mean capture numbers for 15 of the 35 most abundant species in the more recent period reached only half, or less, of the numbers from 1968-1979 despite fewer mean total net-hr/yr in the earlier period (mean = 4,163) than in the later years (mean = 6,489). A statistical analysis of the differences reveals that 22 of the 40 most abundant fall migrant species are significantly ( $P < 0.05$ ) less abundant in the more recent period vs the 12 yrs from 1968-1979, while no species were significantly more abundant in the latter years.

***Interspecific occurrence relationships of forest birds from the Missouri Ozarks to the Kansas tallgrass prairie.*** John M. Schukman, Leavenworth, KS.

Using breeding bird atlas data from Missouri and Kansas, spatial occurrence relation-

ships of 23 forest birds are compared along a forest to prairie/farmland gradient. Studies from Missouri provide evidence for area sensitivity for many of these birds; however, few data are available from Kansas. In this study, where the western part of the study area in Kansas is dominated by tall grass prairie with only ribbons or islands of forest, the way these birds adapt to a near naturally fragmented landscape could add to knowledge of species' tolerances. A Habitat-Based Model shows clusters of species at distinct levels; conservation plans for those sharing similar ecological, life history, and distribution features could be formulated even without detailed autecological studies. Results from this study are compared with conservation recommendations from Illinois.

***Simultaneous use of mark-recapture and radio telemetry to estimate survival, movement, and capture rates.*** Larken A. Powell, Dept Biol. & Environ. Sci., Univ. Dubuque, Dubuque, IA; Michael J. Conroy, USGS Georgia Coop. Fish & Wildl. Res. Unit. Univ. Georgia, Athens, GA; James E. Hines and James D. Nichols, USGS-Patuxent Wildl. Res. Center, Laurel, MD; and David G. Krementz, Univ. Georgia, Athens, GA.

Biologists often estimate separate survival and movement rates from radio-telemetry and mark-recapture data from the same study population. We describe a method for combining these data types in a single model to obtain joint, potentially less biased estimates of survival and movement that use all available data. We furnish an example using Wood Thrushes captured at the Piedmont National Wildlife Refuge in central Georgia in 1996. The model structure allows estimation of survival and capture probabilities, as well as estimation of movements away from and into the study area. In addition, the model structure provides many possibilities for hypothesis testing. Using the combined model structure, we estimate that Wood Thrush weekly survival was 0.989 (SE = 0.007). Survival rates of banded and radio-marked individuals were not different. Fidelity rates (weekly probability of remaining in a stratum) did not differ between geographic strata (0.911, SE = 0.020), and recapture rates (0.097, SE = 0.016) of banded and radio-marked individuals were not different. Combining these data types in a common model resulted in more precise estimates of

movement and recapture rates than separate estimation, but ability to detect stratum or mark-specific differences in parameters was weak. We conducted simulation trials to investigate the effects of varying study designs on statistical power to detect important differences. To provide adequate data for useful inference from this model, study designs should seek a minimum of 25 animals of each marking type observed (marked or observed via telemetry) in each time period and geographic stratum.

***Assessment of human activity impacts on Bald Eagle reproductive success along the Upper Mississippi River.*** Kelly J. McKay, Jon W. Stravers, Ben R. Conklin, Ulf Konig, and Shawn Hawks, Midwest Raptor Research Fund, Hampton, IL.

During 1994 and 1995, we assessed the effects of human activity on Bald Eagle reproductive success along the Upper Mississippi River. All human activity units (HAU) occurring within 1.6 km of eagle nests were recorded. Bald Eagle productivity was compared between low and high traffic nests. In 1994, total HAU ranged from 9 - 125 at low traffic nests (average of 2.15/hr). These sites fledged 10 young. By comparison, total HAU at high traffic nests ranged from 143 - 364 (average 7.68/hr). These sites fledged only 5 birds. In contrast, the 1995 total HAU at low traffic nests ranged from 24 - 111 (averaged of 1.50/hr). However, these sites fledged only 6 birds. The total HAU at high traffic nests ranged from 130 - 260 (average 3.88/hr). These sites produced 11 fledglings. The contradictory results between the two years may have been due to the much stronger dichotomy which distinguished high from low traffic sites to 1994. Based on these results, human activity did seem to negatively impact Bald Eagle productivity.

***Role of banding in forest conservation strategy in eastern Guatemala.*** Chandler S. Robbins and Barbara A. Dowell, USGS Patuxent Wildlife Research Center, Laurel, MD; Ingrid Arias and Alexis Cerezo B., FUNDAECO, Guatemala City.

In response to a request from FUNDAECO, a Guatemalan non-government organization, we worked with them to develop a conservation strategy for the Cerro San Gil Protected Area and surrounding private lands. Volunteer banders from

a dozen states and Canadian provinces assisted in long-term monitoring of populations of resident and migratory species through banding and point counts. Guatemalan students were trained to continue the research and initiate other conservation projects. Banding data helped demonstrate habitat and elevational affiliations, effects of habitat fragmentation, site fidelity, survival rates, local movements, and presence of rare species not otherwise detected. Banding was also an excellent teaching tool and provided videos for conservation programs on Guatemala national television. Roadside and off-road Breeding Bird Survey transects were used to map distribution of breeding species on habitat maps derived from satellite imagery, and point count surveys on private lands were used to identify prime habitats that warrant protection through conservation easements—a new concept for Central America.

***The use of Monte Carlo simulation to detect spatial patterns in breeding birds.*** Matthew A. Etterson, Univ. Minnesota, St. Paul, MN.

Eighty-eight Loggerhead Shrike nests were located in Comanche Co., sw. Oklahoma, during the breeding seasons of 1998 and 1999. Monte Carlo simulation shows that nests were significantly aggregated within the study area. However, nests were not aggregated with respect to available nest trees. Monte Carlo results are shown to be sensitive both to choice of re-sampling techniques and to choice of null hypothesis against which the actual data are tested.

***Effects of investigator activities on the reproductive behavior and success of Black Terns.*** Jeffrey A. Haverland and David A. Shealer, Dept Biol. Loras Coll., Dubuque, IA.

We subjected nesting Black Terns to one of four protocols (including repeated nest visitation, weighing eggs, and trapping adults) varying in intensity of disturbance at Horicon National Wildlife Refuge, Wisconsin, in 1999. We also evaluated the use of nest enclosures for obtaining reproductive success estimates for this population. We found no differences in either hatching success or fledging success among the four treatment groups. No permanent nest desertion resulted from trapping adults, but adults trapped before 10 d of incubation took longer to return to the vicinity of the nest site than did adults trapped

during the latter part of incubation. The estimated range of productivity for nests enclosed with fencing (1.56 - 2.25 fledglings/nest) fell within the range for nests not enclosed (1.30 - 2.45). Our results indicate that intensive studies of Black Terns involving trapping and banding, and repeated nest visitation, can be conducted without detrimental impacts on reproductive success. We provide some recommendations for future work with this species.

***Spring bird migration on the weather radar located at Buffalo, New York.*** John Earle Black, Physics & Biol. Sci. Dept, Brock Univ., St Catharines, ON.

For the last three years, I have been operating a 3-cm conical radar at Brock University at night during the spring passerine migration. The 3-cm radar is attached to a computer which automatically determines bird densities and bird migration traffic rates, at 50 m intervals, from 250 - 1000 m above ground. I have also examined the Buffalo weather radar images on nights when the 3-cm radar was in operation. Brock lies 47 km nw. of Buffalo, and at this location the center of the Buffalo weather radar beam is 600 m above the university. I have compared densities of birds at 600 m above the university on the 3-cm radar with the level of base reflectivity on the weather radar above the university. In my presentation, I will explore the link between weather radar strength and bird numbers. I will also present some simple guidelines on how to interpret bird movements on weather radars.

***Avian monitoring and spring migration response to the 1993 flood on Mark Twain National Wildlife Refuge.*** Kelly J. McKay, Midwest Raptor Res. Fund, Hampton, IL; Peter C. Petersen, Quad City Audubon Soc., Davenport, IA; James P. Quinlivan and Michael Bornstein, USF&WS, Mark Twain Nat. Wildl. Refuge, Wapello, IA.

We conducted avian count surveys for several years during the spring, summer, and fall to monitor species composition and relative abundance at the Big Timber and Keithsburg Divisions of the Mark Twain National Wildlife Refuge. In three yrs (1992 - 1994), 113 species were recorded at Big Timber including 53 species of Neotropical migrants. After two yrs at Keithsburg

(1993-1994), 124 species were observed including 48 Neotropical migrants. The record flood of 1993 provided an opportunity to examine the immediate response of the avian community to a major flood event. Initially, we analyzed spring migration data from Big Timber during the pre-flood (1992), flood (1993), and post-flood (1994) years. Preliminary results indicated a slightly greater number of individuals were observed following the flood, while species diversity declined. Additionally, habitat generalists and edge species seemed to increase, while habitat specialists and interior species either maintained stable populations or decreased. Although not statistically significant, we suggested these differences may be biologically important. Our results indicate a possibly substantial and dynamic response by the avian community to major flooding events.

**Midwestern raptor population trends as determined by forty years of Christmas Bird Count data.** Kelly J. McKay, Midwest Raptor Res. Fund, Hampton, IL; and Peter C. Petersen, Quad City Audubon Soc., Davenport, IA.

Long-term information concerning regional raptor population trends is minimal. The Quad City Audubon Society conducted five Christmas Bird Counts (CBC) in e.-central Iowa and nw. Illinois since the mid-1950s. These CBC data were used to examine midwestern raptor populations from a more local perspective. Seven species were characterized by populations which were stable until the mid-1970s to mid-1980s, after which they increased. These species include the Sharp-shinned Hawk, Cooper's Hawk, Red-tailed Hawk, American Kestrel, Bald Eagle, Barred Owl, and Eastern Screech-Owl. The Red-shouldered Hawk, Long-eared Owl, and Short-eared Owl were characterized by populations which declined severely and have never recovered. Populations of the Northern Harrier and Rough-legged Hawk have fluctuated since the mid-1950s, while the Great Horned Owl has steadily increased. We believe the CBC program can be used to monitor regional raptor population trends over time.

**Banding studies at the Delta Marsh Bird Observatory: Sexing HY Yellow Warblers using plumage characteristics; and anti-amphibian devices.** Keith A. Hobson, Canadian

Wildl. Service, Saskatoon, SK; H. Lisle Gibbs, Robert J. G. Dawson, Dept. Biol., McMaster Univ., Hamilton, ON; and Heidi E. den Haan, Delta Marsh Bird Observ., Portage la Prairie, MB.

We have been able to demonstrate that overall brightness of the yellow body plumage of HY Yellow Warblers is a useful sexing criterion. Yellow Warblers exhibit a wide array of yellow color variation, and one would expect the very bright birds to be male and the very pale birds to be female. There are, however, a large percentage of birds that display intermediate shades. During July 1996 and 1998, a sample of HY Yellow Warblers were classified as "bright," "intermediate bright," "intermediate pale," and "pale," based on the relative brightness of their yellow body plumage. All bright-plumaged HY birds ( $n = 21$ ) were males and all dull-plumaged HY birds ( $n = 24$ ) were females. All birds of intermediate bright plumage were male ( $n = 11$ ) and all but 3 (or 14) intermediate pale birds were female. Anti-amphibian Devices are described; these have been constructed to eliminate increasing incidences of leopard frog predation on birds caught in nets at Delta Marsh.

**Broadening the spectrum of avian species captured by use of a mist net apparatus capable of sampling vegetation strata up to 10 m in height.** Gene Albanese and Victoria D. Piaskowski, Zool. Soc. Milwaukee, Milwaukee, Wi.

Different species of birds use a wide range of vertical vegetation strata for foraging and breeding, and display spatial differences in their use of these strata. Integrating mist-netting techniques that sample the entire vegetation height of a habitat into avian monitoring projects (e.g., migration), may attain results that more accurately describe the bird species present. The typical, standardized vertical placement of mist nests (a 30 mm mist net operated at ground level to a height of 21.5 m) excludes bird species that prefer higher vegetation strata. Sampling all of the vertical vegetation strata in a habitat may result in precise determinations of spatial habitat use, demographic parameters, and species composition. We describe the design and use of a mist net apparatus capable of sampling vegetation strata from ground level to a 10 m height and compare the bird species captured at various height during

migration monitoring. The device is inexpensive to produce (about \$30 [US] for a 10 m device, not including the mist net) and, once erected, safe to captured birds, simple to use, and versatile.

***An indirect estimate of mass loss between capture and weighting.*** Erica H. Dunn, Canadian Wildl. Serv., Hull, QC.

Mass loss between capture and weighing was estimated from multiple regression analysis of nearly 183,000 weights of 48 species of small birds banded during migration. In effect, the analysis compared mass of birds weighed immediately after capture to mass of birds captured at the same time but not weighed until later. No individual had to be recaptured or weighed more than once. Significant mass loss occurred in 36 of the 38 species, at a median rate of 1.18% of lean body mass/hr; a rate of loss considerably less than from direct measures involving repeated weighing of the same individuals. Excretion and water loss comprises most of the decline in mass, but banders should take extra steps to minimize holding time in arid regions, in hot weather, or when feeding conditions are poor.

***An analysis of 30 years of banding data from Manomet.*** Trevor L. Lloyd-Evans, Manomet Center for Conserv. Sci., Manomet, MA; and Jonathan L. Atwood, Manomet and Antioch New England, Keene, NH.

Manomet Bird Observatory at Manomet Center for Conservation Sciences has collected spring and fall migration data on landbirds for more than 30 yr. We present selected species accounts for the years 1966 - 1996 from the over 3,000,000 birds banded. For each migration period, an individual temporal window was calculated for each species. We eliminated repeat captures and locally breeding species. For each day within a species' migration window, the number of captures was corrected for effort (net hours for nests which remained in standard locations over the 30 yr). A yearly spring or fall migration measure was thus the mean of the logged daily indices. These 30-yr spring or fall population graphs are presented with interpretation aimed at a general "conservation aware" audience. Manomet trends are compared with relevant Breeding Bird Survey trends, and a paragraph presents "Conservation Considerations" for each species.

***Dispersal, survival, and habitat use of juvenile Peregrine Falcons during a restoration project.***

Irene M. Barry, Dan J. Calvert and Larken A. Powell, Dept Biol. & Environ. Sci., Univ. Dubuque, Dubuque, IA.

In the largest single restoration effort in Iowa to date, 20 juvenile Peregrine Falcons were released by the Iowa Department of Natural Resources from a natural cliff near Eagle Point Park in Dubuque, Iowa, during summer 1999. We used radio-telemetry and observations of color-marked birds at the hack site to estimate daily survival rates, dispersal dates, and habitat use. Aerial telemetry was used to track radio-marked falcons after they left the hack site. Although falcons released at power plants and urban buildings throughout Iowa have not used cliff habitat during the juvenile year, the Dubuque falcons perched and fed on the cliffs, in addition to interacting with siblings and other members of the released cohort. Falcons were released in a staggered manner from mid-Jun until late-Jul. Older falcons remained at the site longer than at previous urban releases and interacted with the younger falcons. Community interest in the project was high; the three mortalities confirmed during the summer were discovered and reported by citizens near the release site. Prior concerns about Great Horned Owl predation were unfounded at this release site, as no mortality was attributed to these predators.

***Using Christmas Bird Count data to monitor populations of icterids and species associated with humans.***

Kelly J. McKay, Midwest Raptor Res. Fund, Hampton, IL; and Peter C. Petersen, Quad City Audubon Soc., Davenport, IA.

Since the mid-1950s, the Quad City Audubon Society has conducted five Christmas Bird Counts (CBC) each year in east-central Iowa and northwest Illinois. These long-term data were used to examine the population trends of several bird species associated with humans, as well as various blackbird species. The population trends of the European Starling, House Sparrow, Red-winged Blackbird, and Brown-headed Cowbird have been characterized by substantial fluctuations. The Common Grackle maintained a fairly stable population, with a brief period of increase. The American Crow has increased steadily since the mid-1950s, while meadowlark species have

declined substantially since the late 1970s. Rock Doves, not counted until the mid-1970s, increased gradually through the 1980s and have since stabilized. The House Finch, which expanded into the Midwest during the mid-1980s, continues to increase rapidly. We believe the CBC program can assist in monitoring avian population trends and responses to broad-scale as well as local environmental conditions.

***Influence of foraging perch habitat on Bald Eagles in west-central Illinois.*** Kelly J. McKay, Midwest Raptor Res. Fund, Hampton, IL; and Gregory M. Quartucci, Northern Indiana Pub. Serv. Co., Merrillville, IN.

We documented Bald Eagle population size, age ratios, and seasonal fluctuations along the Upper Mississippi River during two winters (1988-1989 and 1989-1990). Additionally, the influence of foraging perch habitat (FPH) on Bald Eagle distribution was examined. Each year, the total number of eagles censused was nearly identical (1214 and 1216, respectively). Adults were slightly more numerous both years and the populations experienced bimodal seasonal peaks. Throughout the study area, Bald Eagle distribution was "clumped" into two distinct sections (upriver and downriver) based on eagle numbers present, as well as the amount and quality of available FPH. Tree-based FPH was classified as "minimally adequate," "adequate," or "more than adequate," depending on the number and arrangement of trees along the river and the distance from established human activity. Compared to the downriver portion of the study area, the upriver section possessed more abundant and higher quality FPH along with greater eagle numbers. This research indicated that FPH quality and abundance with greater eagle numbers. This research indicated that FPH quality and abundance indeed influenced wintering Bald Eagle distribution along the Upper Mississippi River.

***Influence of ice cover on Bald Eagle distribution within the Upper Mississippi River region.*** Kelly J. McKay, Midwest Raptor Res. Fund, Hampton, IL; and Gregory M. Quartucci, Northern Indiana Pub. Serv. Co., Merrillville, IN.

Our objective in this project was to examine the influence of ice cover on wintering Bald Eagle distribution along the Upper Mississippi River via

weekly surveys, during winters 1988-1998 and 1989-1990. Ice cover was estimated over the entire study area during each survey. In 1988-1989, 53% of the surveys experienced significant amounts of ice cover (at least 25%). This cover averaged 46.4% over the entire study area. These particular surveys accounted for 79.3% of all eagle observations. In 1989-1990, only 25% of the surveys had significant amounts of ice cover present. This cover averaged 72.0% throughout the study area. Among these surveys, 69.3% of all eagle observations occurred. Consequently, eagle numbers appeared to increase when a substantial amount of ice cover was present. We believe that the ice cover factor was directly related to the distribution patterns exhibited by Bald Eagles through the Upper Mississippi. However, more research is needed in order to understand better why and to what extent ice cover influences wintering Bald Eagle distribution along the Upper Mississippi.

***A comparison of avifaunal monitoring using point count and random area search methods.***

Kelly J. McKay, Midwest Raptor Res. Fund, Hampton, IL; Michael S. Bornstein and James P. Quinlivan, USF&WS, Mark Twain Nat. Wildl. Refuge, Wapello, IA.

During 1994, we compared two avifaunal survey methods (point counts and random area search) by monitoring avian diversity at the Big Timber and Keithsburg Divisions of the Mark Twain National Wildlife Refuge. Both sites were surveyed twice during each sampling period. One survey used a 10-min point count at 10 points (100 survey min). The other survey used a 4-hr random area search technique (380 survey min). In order to compare methods, we needed comparable amounts of search effort. Therefore, we compared data between the 100 min of point counts and the first 100 min of area search. All three survey methods yielded slightly higher diversities at Keithsburg than at Big Timber. The 380-min area search survey always resulted in the greatest diversity. However, comparing point counts and 100-min area searches resulted in a higher diversity on 15 of the 16 point count surveys. Consequently, point counts appear to be the preferred method for sampling avifaunal diversity



since they produce similar results per search effort and are repeatable. Additionally, point counts permit examination of habitat influence on avian diversity over time.

**Summary of Red-shouldered Hawk reproductive success along the Upper Mississippi River Valley, 1983-1997.** Kelly J. McKay, Midwest Raptor Res. Fund, Hampton, IL; and Gary V. Swenson and Casey J. Kohrt, US Army Corps of Engineers, Pleasant Valley, IA.

In 1983, little information was available regarding the number and density of active Red-shouldered Hawk nesting territories along the Upper Mississippi River Valley. Only six active territories were confirmed along the Mississippi River between Wabasha, MN, and Burlington, IA. We documented Red-shouldered Hawk presence or nesting activity at 37 sites along this 650 km stretch of river between 1983 and 1997. During these 15 yrs, results from 80 separate nesting attempts were determined. Of these, 54 (67.5%) were successful and a total of 117 fledglings were produced (2.17 young/successful nest; 1.46 young/nesting attempt). Red-shouldered Hawk reproductive success has varied substantially, ranging from a low of 38% (1993) to a high of 88% (1984). Low rates of reproductive success appear to be directly linked to persistent adverse weather and/or extended periods of high water, as well as human activity and extensive alternation of mature floodplain forest habitat. Our results have indicated that the number of Red-shouldered Hawks nesting along the Upper Mississippi River is indeed relatively low. Additionally, their reproductive success is quite variable.

**Avian survey of the Savanna Ordnance Depot bottomlands, an Upper Mississippi River floodplain site.** Kelly J. McKay, Midwest Raptor Res. Fund, Hampton, IL; and Peter C. Petersen and Brian L. Blevins, Quad City Audubon Soc., Davenport, IA

We conducted a point count survey project in the floodplain forest of the Savanna Ordnance Depot during fall migration (1993) and during spring migration and summer breeding season (1994). A total of 112 species were identified, including 16 permanent residents (RES), 38 North American migrants (NAM), and 58 Neotropical migrants (NTM). During the migrational periods,

105 species were recorded (16 RES, 35 NAM, and 54 NTM). Most of these species (54%) exhibited a preference for using the study area during migration. In comparison, we observed 71 species during the breeding season (112 RES, 28 NAM and 31 NTM). Only 38% of these species preferred using the study area during the breeding season. Eighty-three species were encountered at forest edge points (112 RES, 31 NAM and 40 NTM). Of these, only 26% exhibited a preference for the edge. In contrast, 102 species were recorded at forest interior points (15 RES, 34 NAM and 53 NTM). Among these species, 52% appeared to prefer the interior. Overall, the primary importance of this floodplain forest appears to be as a migration corridor.

**Is tail feather shape a reliable indicator of age in warblers and thrushes?** Maria T. Bradley and Sara R. Morris, Canisius Coll., Buffalo, NY

Knowing the age of a bird is important for a variety of reasons including investigating differences among age groups in survivorship, migration patterns, foraging efficiency, and reproductive rates. Traditionally, the age of perching birds has been determined by the degree of skull pneumaticization or in a few special cases by differences in overall plumage. Pneumaticization is the development of bone columns between the two skull layers in a passerine. Birds in the fall of their hatch year (HY) have mostly unpneumaticized skulls, while after-hatch-year (AHY) birds have completely pneumaticized skulls. In some species, first year birds can retain small unpneumaticized windows until spring or early summer, making, skulling less reliable in the spring. Current age keys recommend using tail feather shape to age many species of passerines. The keys suggest that AHY generally have a truncate rectrix shape while HY birds have pointed rectrices. We examined the tail feather shape and degree of skull pneumaticization of 2,282 birds during a four-yr period at Appledore Island, Maine. To investigate the accuracy of tail feather shape in aging passerines, the age was first determined using tail feather shape and then by traditional means of skulling on four species of thrushes and 19 species of warblers. When results of the two techniques were compared, 98.3% of HY birds and 85.8% of AHY birds exhibited correspondence between the two methods. Our results indicate that determining

age by tail feather shape is a good method but should be used with caution. This technique is best used in conjunction with other age determining techniques including skull pneumaticization, molt limits, and overall plumage.

---

### The Spring Migration 1999 at Last Mountain Bird Observatory

We have some good news and some bad news... First the bad news: This spring's catch rate was the second lowest ever at Last Mountain Bird Observatory (LMBO), Saskatchewan. Most of this was due to the poor showing of migrants. For example, no Palm Warblers were captured for the first spring ever, and only one, yes only one, Yellow-rumped Warbler was captured.

One of the few bright spots was the Cedar Waxwing. The 32 waxwings captured this spring almost equaled the total of 34 birds captured in all the previous springs combined. Six Rose-breasted Grosbeaks in one flock on 22 May was also encouraging. Another pleasant surprise was the number of banded birds from previous years that returned to nest at LMBO. Thirty-nine birds of 11 species returned for our second-best return rate ever. At the ripe old age of seven, a Least Flycatcher banded in 1992 is nearing the species' longevity record of eight years. Other interesting returns were our first for Tree Swallow and Orchard Oriole.

In spite of the low catch rate, it was a good spring of rarities. The first Eastern Towhee was recorded at the Observatory on 13 May and captured the same day. It was probably the first of its kind banded in Saskatchewan and brings the total number of species captured at LMBO to 108. Our second Rock Wren ever was captured on 19 May.

Interesting observations from LMBO included a pair of Northern Rough-winged Swallows on 23 May (R. Wapple), three Field Sparrows (only our

second record) by J. McKay on 25 May, and a pair of Eastern Bluebirds prospecting for a nest site in the park on 4 June (D. Weidl and A. Smith). A Cattle Egret was seen at the north end of the lake on 6 May (A. Smith).

**TREND ANALYSIS:** For those interested in statistics, an analysis of trend data for the period 1992-1999 was no less discouraging (see Table). Except for Orange-crowned Warbler, all species with adequate sample sizes showed declines over this period. The declines were, however, statistically significant for only four species: Least Flycatcher, Chipping Sparrow, Lincoln's Sparrow and Baltimore Oriole.

**Trends (percent change/year) in numbers of birds captured in the spring at LMBO, 1992-1999. An asterisk (\*) indicates that the change is statistically significant.**

| Species                | % Change/Year |
|------------------------|---------------|
| Least Flycatcher       | -8.2*         |
| House Wren             | -5.4          |
| Swainson's Thrush      | -6.9          |
| Tennessee Warbler      | -10.1         |
| Orange-crowned Warbler | 4.6           |
| Yellow Warbler         | -3.2          |
| Yellow-rumped Warbler  | -8.6          |
| Blackpoll Warbler      | -12.1         |
| Chipping Sparrow       | -12.6*        |
| Clay-colored Sparrow   | -4.6          |
| Lincoln's Sparrow      | -9.8*         |
| White-throated Sparrow | -7.0          |
| Baltimore Oriole       | -8.8*         |
| American Goldfinch     | -5.2          |

From *The Black-and-white Warbler* - The Newsletter of Last Mountain Bird Observatory, Vol. 3, No. 2. Spring 1999.

**A.R. Smith, Ed.**  
 115 Perimeter Road  
 Saskatoon, SK S7N 0X4  
 alan.smith@ec.gc.ca

