

only concern as more and more of the region's native species are becoming vulnerable. Since 1984, the Long Point Bird Observatory (LPBO), now Bird Studies Canada (BSC), has been involved in international efforts to foster homegrown ornithological research in Latin America and the Caribbean. The fundamental principle behind this effort is to provide the tools and training for grass-roots research from within the local communities, departing from the typical route of sending North American field biologists into other countries, which effectively excludes local biologists from achieving any sense of heritage and proprietorship. A homegrown ornithological knowledge and skill base is essential for making progress in these regions. LPBO/BSC has orchestrated a number of different approaches to this training by facilitating workshops in Cuba, Jamaica, and Mexico, through the auspices of BirdLife International, as well as bringing many Latin Americans to Long Point for one month of advanced field training. With continued investment in initiatives such as BSC's Latin American Training Program and others like it around the world, hopefully, we will continue to hear the call, have the ability to identify it, and respond with appropriate action.

**POSTER ABSTRACTS**  
**82<sup>nd</sup> Meeting of the Eastern Bird**  
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**Project Owlnet: Coordinated monitoring of Northern Saw-whet Owl populations using migration data - David F. Brinker, Maryland Department of Natural Resources, 1200 Frederick Rd., Catonsville, MD 21228 and J. Steve Huy, 3405 Sumantown Rd., Middletown, MD 21769**

Trends in Northern Saw-whet Owl (*Aegolius acadicus*) populations are not monitored well by national or continental monitoring schemes, such as the Breeding Bird Survey. Project Owlnet was started in 1995 to expand the network of banding stations focused on netting migrant owls. Project Owlnet has grown from roughly a dozen unorganized and loosely communicating stations in 1995 to over 80 stations with a much improved communication network. Project Owlnet provides a web site, list server, access to migration moni-

toring protocols, references pertinent to Northern Saw-whet Owls, aging and sexing information, lure vocalizations, and audiolure design details.

**Central Appalachian Goshawk Project: The first 10 years - David F. Brinker, Maryland Department of Natural Resources, 1200 Frederick Rd., Catonsville, MD 21228 and J. Steve Huy, 3405 Sumantown Rd., Middletown, MD 21769**

The Central Appalachian Goshawk Project (CAGP) was initiated in 1994 to increase the available information on the demographics and life history of Northern Goshawks (*Accipiter gentilis atricapillus*) in the east. The CAGP is a long-term effort designed to document basic breeding parameters of Northern Goshawks in Maryland, Pennsylvania, Virginia, and West Virginia. Through 2004 there have been 20 documented Northern Goshawk territories south of Pennsylvania. Four of these are historical (pre-1980) observations. Through 2004, a total of 75 goshawks have been banded as part of the CAGP. Adults originally banded by CAGP have been retrapped at nest sites in subsequent years. One male was recaptured a total of three times between 1997 and 2001 and was at least seven years old when last captured. No adults have been recovered away from the territory where they were originally banded. Juvenile dispersal has been recorded for three chicks that were recovered or recaptured within the first twelve months of life. Since 2001, three pairs of nesting adult goshawks have been fitted with satellite radio transmitters. Movements of these three pairs are summarized.

**Stopover rates and durations of migrant Northern Saw-whet Owls in southern Pennsylvania - Michael S. Hurban<sup>\*1</sup>, Emily A. Caruana<sup>1</sup>, Sarah M. Musilli<sup>1</sup>, Scott Weidensaul<sup>2</sup>, H. David Sheets<sup>1</sup>, and Sara R. Morris<sup>1</sup>, <sup>1</sup>Departments of Biology and Physics, Canisius College, 2001 Main St., Buffalo, NY 14208; <sup>2</sup>Ned Smith Center for Nature and Art, P.O. Box 33, Millersburg, PA 17061**

Although Northern Saw-whet Owls are common migrants, little is known about the stopover ecology of this species. Using banding data collected on 2,374 Northern Saw-whet Owls from southern

Pennsylvania, we investigated factors potentially affecting stopover rate and minimum stopover length. The likelihood of recapture was affected by date of capture, mass, and condition index in a logistic regression, although fat and keel scores were not significant factors in the model. Owls captured early in the season and owls with higher mass and condition index were more likely to be recaptured than later migrants and migrants with lower mass and condition index. Additionally, we found a significant difference in recapture rates among the six locations in this study. In contrast, we did not find any significant effects of date of capture, mass, condition index, fat score, or keel score on the length of minimum stopover, either treated independently or as part of a general linear model. The effect of mass and condition index on recapture rate contrasts with previous studies on migrant passerines that generally exhibit the opposite pattern. Sexual dimorphism and differential response to audio lures may be factors contributing to the effects of date and condition.

**Comparison of stopover at two sites - Kathryn E. Mattern, Canisius College, Buffalo, NY, Rebecca W. Suomala, University of New Hampshire, Durham, NH, and Melissa S. Mustillo, Peggy E. Buckley, Sara R. Morris, H. David Sheets, Canisius College, Buffalo, NY 14208**

Migratory passerines utilize stopover sites to refuel fat stores, rest, and avoid predation. During fall migration, birds traveling from breeding to wintering grounds may stop at the Isles of Shoals in the Gulf of Maine. Because of differences in vegetation, migrants may be using individual islands differently. The goal of this project was to compare recapture rates and stopover lengths of migratory passerines on two islands, Appledore Island and Star Island, in the Isles of Shoals during fall migration during 1999 and 2000. Five species had adequate banding records for comparison. Magnolia Warblers (*Dendroica magnolia*) had a greater recapture rate on Star Island during 2000, and Red-eyed Vireos (*Vireo olivaceus*) had a greater rate on Appledore Island during both 1999 and 2000. Stopover length was significantly longer on Appledore for both Northern Waterthrushes (*Seiurus noveboracensis*) during 1999 and Red-eyed Vireos during 2000. Only Red-eyed Vireos during 2000 could be compared using CMR

models. They tended to stay on Appledore longer than Star Island. These results indicate that migrants are using these two sites differently, despite the proximity of the sites. Further study is needed to establish the factors affecting stopover decisions of migrants and how best to determine the importance of individual sites.

**Timing is everything: seasonal comparison of migratory stopover - Melissa S. Mustillo, Elizabeth H. Lewis, Kathryn E. Mattern, Sara R. Morris, and H. David Sheets, Departments of Biology and Physics, Canisius College, Buffalo, NY 14208.**

Although migration is relatively widespread in birds, few studies have compared the two migratory seasons. Knowing that seasonal priorities of migrants may differ, the migration and stopover ecology of birds are also likely to differ between spring and fall. The goals of our project were to compare stopover ecology between spring and fall migration and to investigate possible annual variations. Using data from five species banded on Appledore Island, Maine, we compared recapture rates and stopover lengths (both minimum and SODA) between the seasons. The recapture rate for most species analyzed was significantly higher during fall. The minimum stopover was also longer during fall. When each year's record of Red-eyed Vireo (*Vireo olivaceus*) data was analyzed, there was a general pattern showing minimum stopover and SODA stopover to be longer during fall. Annual recapture rates for this species were also significantly higher during fall. It appears that there are seasonal differences in the stopover ecology of migrating birds. Birds have longer stopovers and higher rates of recapture during fall compared to spring. Our results are consistent with the hypothesis that avian behavior during spring migration is influenced by the need to arrive early on breeding grounds, while fall migrants are not time limited at this northern stopover site.

**Nocturnal activity of migratory songbirds during spring stopover at Braddock Bay, Lake Ontario - Susan B. Smith, University of Rhode Island, Kingston, RI, and Christopher J. Norment, SUNY Brockport, Brockport, NY 14420**

Migratory restlessness in captive songbirds may reflect daily patterns of nocturnal migratory behavior. We investigated the relationship between migratory restlessness and stored energy reserves of two species of landbird migrants during spring stopover at Braddock Bay, Lake Ontario. There were no significant differences in activity levels between lean and fat Swainson's Thrushes (*Catharus ustulatus*) or White-throated Sparrows (*Zonotrichia albicollis*) held overnight in activity cages. We found no significant relationships between nocturnal activity and energetic condition (mass/wing chord) or date of capture. In addition, there was no significant difference in activity between Swainson's Thrush age classes. These results suggest that nocturnal activity of migrants stopping at this site was not influenced strongly by their energy reserves upon arrival, and birds near the end of their spring migration may display decreased levels of migratory restlessness. Stopover behavior and requirements of migrants approaching their breeding grounds may, therefore, differ from those of birds arriving at more southerly sites earlier along the spring migratory route.

**Age-related differences in the fall migration of Northern Saw-whet Owls - Emily A. Caruana\*, Sarah M. Musilli, Michael S. Hurban, Canisius College; Scott Weidensaul, Ned Smith Center for Nature and Art, P.O. Box 33, Millersburg, PA 17061; H. David Sheets, and Sara R. Morris, Departments of Biology and Physics, Canisius College, 2001 Main St., Buffalo, NY 14208**

Age-related differences in the fall migration of Northern Saw-whet Owls (*Aegolius acadicus*) in Pennsylvania were investigated during 1998-2003. Overall, 55.5% ( $n = 2,369$ ) of owls captured during mist netting were hatch-year (young). During the six years of the study, the average date of arrival was significantly earlier for young owls than adult owls at these sites. Similar analyses of the annual timing of migration revealed significant differences in 1998, 1999, and 2001, but no significant difference in timing of migration for 2000, 2002, and 2003. Adult owls had significantly higher mass and longer wing chords, but also had lower keel score (indicating a lower condition) than young owls. Analyses of fat scores and condition indices did not reveal any significant differences between the age groups. A significantly higher percentage of adult owls was recaptured than young owls.

Additionally, minimum stopover was longer for adult owls at 5.6 days than for young owls at 3.5 days. Both adult and young owls lost mass between captures, although this was only significant among adult owls; and the difference between the age groups was not significant. Our results indicate that there are substantial differences in some aspects of migration and stopover ecology between age groups, but reasons for these differences are unclear.

**Sex-related differences in the migration of Northern Saw-whet Owls - Sarah M. Musilli\*, Michael S. Hurban, Emily A. Caruana, Canisius College, 2001 Main St., Buffalo, NY, 14208; Scott Weidensaul, Ned Smith Center for Nature and Art, P.O. Box 33, Millersburg, PA 17061; H. David Sheets, and Sara R. Morris, Canisius College, 2001 Main St., Buffalo, NY, 14208**

Northern Saw-whet Owls (*Aegolius acadicus*) are small, nocturnal, migratory owls that show reverse sexual size dimorphism, in which the females are larger than the males. Although little is known about their migratory patterns, they are believed to show differential migration, in which one sex migrates before the other. The analysis of 2,374 Northern Saw-whet Owls, banded in Pennsylvania during the fall migration seasons of 1998-2003, documented several sex-related differences in migration. Females were significantly larger than males, with higher masses and longer wing-chords. Females were in better body condition, having significantly higher condition indices (mass\*100/wing chord) and keel scores. Although there were no differences found between the sexes in the date of arrival or the diel time of capture, males were captured at rates significantly lower than females, accounting for only 10% of the captures. Furthermore, males were recaptured significantly less frequently than females. The lack of male recaptures precluded additional comparisons of males and females with respect to stopover ecology. Additional study, particularly from other locations, is needed to determine whether the high capture rates of females is due to differential migration, differential capture probability, or both.

**Influence of foraging-perch habitat on Bald Eagles in westcentral Illinois - K.J. McKay, 420 First Ave. PO Box 452, Hampton, IL 61256, G.M. Quartucci, T.W. McClenahan, and R.T. Schmitz**

This project examined population characteristics and distributional patterns of Bald Eagles (*Haliaeetus leucocephalus*) wintering along the Upper Mississippi River. We documented Bald Eagle population size, age ratios, and seasonal population fluctuations along the Upper Mississippi River in westcentral Illinois and eastcentral Iowa during two winters (1988-1989 and 1989-1990). Additionally, the influence of foraging-perch habitat (FPH) on Bald Eagle distribution was examined. Tree-based FPH is extremely important to Bald Eagles as foraging flight initiation and termination points. Also, these same trees are often used as feeding perches. The total number of eagles censused was nearly identical each year (1,214 and 1,216, respectively). Adults were more numerous both years, with age ratios of 1.32 (1988-1989) and 1.26 (1989-1990). The population experienced bimodal seasonal peaks each year. The major peak (middle December through early January) was followed by a smaller peak (middle February through early March). Throughout the study area, the observed Bald Eagle distribution was "clumped" into two sections (upriver and downriver) based on eagle numbers present and the amount and quality of FPH available. Areas of tree-based FPH were identified and classified as minimally adequate, adequate, or more than adequate, depending on the number and arrangement of large trees along the shoreline and the distance from established human activity. More abundant and higher quality FPH along with greater eagle numbers were located in the upriver section, as compared to the downriver portion of the study area. The influence of FPH on distribution was examined as the relationship between tree-perched eagles and use of areas containing at least minimally adequate habitat. In 1988-1989, 93% of all tree-perched eagles were in "more than adequate" or "adequate" habitat types. However, these habitats accounted for only 54% of the available locations. Likewise, in 1989-1990, 94% of the total tree-perched eagles were in these higher quality sites. This research indicated that FPH quality and abundance did indeed influence Bald Eagle distribution along the Upper Mississippi River.

**Influence of ice cover on Bald Eagle distribution within the upper Mississippi River region - K.J. McKay, 420 First Ave. PO Box 452, Hampton, IL 61256, G.M. Quartucci, T.W. McClenahan, and R.T. Schmitz**

Bald Eagles (*Haliaeetus leucocephalus*) winter sporadically along the Upper Mississippi River (UMR). The objective of this project was to examine the influence of ice cover on Bald Eagle distribution along the UMR in northwest Illinois and eastcentral Iowa, via weekly surveys, during the winters of 1988-1989 and 1989-1990. Ice cover was estimated over the entire study area during each survey. We approximated ice cover to be either 0, 25, 50, 75, or 100% over each four- to five-mile section of the river. 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 that year. 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 significant amounts of ice cover were present. However, we found that the river miles themselves, more than the amount of ice cover, influenced Bald Eagle distribution. This suggested that other environmental factors, present at the various locations, were also influencing the observed distribution pattern. Nevertheless, a large proportion of the total number of eagles encountered throughout the study area was during surveys when significant amounts of ice cover existed. Therefore, we believe that the ice cover factor is related directly to the distribution of Bald Eagles throughout the UMR region. However, more research is needed in order to better understand why and to what extent ice cover influences Bald Eagle distribution along the UMR.

**Avian monitoring and spring migration response to the 1993 flood on Mark Twain National Wildlife Refuge - K.J. McKay, 420 First Ave. PO Box 452, Hampton, IL 61256, J.P. Quinlivan, M.S. Bornstein, T.W. McClenahan, and R.T. Schmitz**

We have conducted avian point count surveys for several years at two Upper Mississippi River floodplain forest sites: the Big Timber (Pool 17) and Keithsburg (Pool 18) Divisions of the Port Louisa National Wildlife Refuge. The purpose of this project was to establish long-term monitoring of species composition and relative abundance of the

avian community using the refuge. These surveys were conducted during spring and fall migration, as well as during the breeding season. In three years (1992-1994) we have identified 113 species at Big Timber, including 53 species of Neotropical Migrants (NTM). After two years at Keithsburg (1993-1994), we had observed 124 species, including 48 NTM. The record flood of 1993 provided an opportunity to examine the immediate response of the avian community to a major flood event. Initially, we have analyzed only spring migration data from Big Timber during the pre-flood (1992), flood (1993), and post-flood (1994) years. Preliminary results have indicated that a slightly greater number of individuals were encountered at the study sites following the flood, while species diversity declined. Additionally, habitat generalists and edge species seemed to increase, while habitat specialists and interior species were either maintaining stable populations or were decreasing. Although not statistically significant, we believe these differences may be biologically important. Our initial results and analyses are extremely limited and preliminary. However, they do suggest a possibly substantial and dynamic response by the avian community to major flooding events along the Upper Mississippi River.

**Avian survey of the Savanna Ordnance Depot Bottomlands, an Upper Mississippi River floodplain site - K.J. McKay, 420 First Ave. PO Box 452, Hampton, IL 61256, P.C. Petersen, B.L. Blevins, T.W. McClenahan, and R.T. Schmitz**

In order to assess avian diversity and relative abundance on the Savanna Ordnance Depot floodplain forest, we conducted a point count survey project here during the fall migration of 1993 and the spring migration and summer breeding seasons of 1994. During this project, we identified 112 species, including 16 Permanent Residents (RES), 38 North American Migrants (NAM), and 58 Neotropical Migrants (NTM). We identified 5,995 individual birds to species. Of these, 931 were RES, 3,160 were NAM, and 1,904 were NTM. During the migrational periods, 105 species were encountered, including 16 RES, 35 NAM, and 54 NTM. Most of these species (54%) exhibited a preference for utilizing the area during migration. In comparison, we observed 71 species during the breeding season which included 12

RES, 28 NAM, and 31 NTM. Only 38% of these species actually preferred using the study area during the breeding season. Among survey points located in forest edge habitat, we encountered 83 species (12 RES, 31 NAM, and 40 NTM). Of these, only 26% exhibited a preference for the forest edge. In contrast, 102 species were observed at points located within forest interior habitat (15 RES, 34 NAM, and 53 NTM). Among these species, 52% appeared to prefer the forest interior. During this project, we were especially interested in the diversity and abundance of NTM species. A total of 25 species of higher management concern were observed (572 individuals), while 30 species of lesser concern were identified (1,303 individuals). We encountered three species (29 individuals) which were not classified in this system of management concern. These results demonstrate the importance of Upper Mississippi River floodplain forests to NTM species. Overall, the primary importance of this floodplain forest appears to be as a migration corridor.

**House Wren begging calls: are individuals or broods distinct? - Kristina Hannam and Kana Teratani, SUNY- College at Geneseo, Department of Biology, Geneseo, NY 14414**

Individual differences in species, sex, age, and condition can often be recognized through vocal differences in birds. Vocal differences among offspring in a nest or during the post-fledging period could be an important cue used by parent birds to determine how to allocate limited resources. It may be important, for example, for parents to be able to distinguish between related and unrelated nestlings or fledglings when allocating food resources. The begging calls of individual House Wren nestlings on nestling day 10 were recorded and examined for differences. Begging calls were analyzed using the Canary sound analysis program. We measured the duration of each call, range of frequencies, the average intensity, and the peak frequency on sonograms of 6-10 calls from each individual. Preliminary data from 2003 and 2004 suggest both individuals and broods may differ in measures of duration, high frequency, and peak frequency by nestling day 10 in a western New York population of House Wrens.

**Are elevated mist nets required to adequately sample the avian community at Braddock Bay?**  
- David Bonter and Elizabeth W. Brooks,  
Braddock Bay Bird Observatory, Rochester,  
NY 14612

We analyzed the height of capture for birds trapped in six elevated mist-net rigs located at a stopover site on the south shore of Lake Ontario in an effort to assess the utility of standard ground-level mist nets for sampling the avian community. Each net rig consisted of two 12-m mist nets (one above another) with the lower net sampling from approximately 0.5-2.5 m above the ground and the upper net from 2.5-5.0 m. Capture height was recorded for 14,083 birds banded during eight migration seasons (fall migration 1999-spring migration 2003). Capture rates were significantly

greater in the lower mist nets for 26 species with  $N \geq 30$  captures. Two species, Blue Jay and American Robin, were significantly more likely to be captured in the top nets of the rigs (paired t-test,  $p < 0.05$ ).

**Birds on the move: Encounters of birds banded at Braddock Bay** - David Bonter and Elizabeth W. Brooks, Braddock Bay Bird Observatory, Rochester, NY 14612

Approximately 8000 birds are banded at Braddock Bay each year. Although the percentage of re-encountered birds is small, these records provide important information that helps to identify migration routes and link the breeding and wintering areas of bird populations.

## **ATLANTIC FLYWAY REVIEW: Region IV Piedmont—Coastal Plain, Fall 2004**

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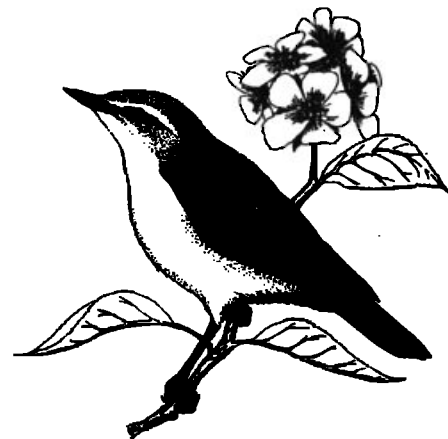
July, August, and September were cool and wet in the Southeast, with multiple hurricanes threatening the banding stations. Banding results ranged from poor in Laurel and Chincoteague to excellent at Chino Farms, Kiptopeke, Jekyll Island, and the Florida stations. There was little agreement on peak migration days, which ranged from 11 Oct to 6 Nov. Likewise, the date for maximum species ranged from 19 Sep to 9 Oct in Maryland and from 11 Sep to 15 Oct in states farther south.

Myrtle Warbler numbers are still below normal, and warblers in general seemed scarcer except at Bill Baggs Cape Florida where warbler numbers approached those at Appalachian stations. Jekyll Island had an extraordinary total of 69 Tennessee Warblers in October, possibly pushed off course by the remnants of Hurricane Matthew in the lower Mississippi valley.

Vireos are seldom mentioned in Region IV reports, but this year Blue-headed Vireo was a first for Eden

Mill and was a highlight at Jug Bay. Chino Farms banded a record eight Warbling Vireos, Kiptopeke banded a Yellow-throated Vireo and the first Warbling Vireo in at least 11 years. Jekyll Island banders had two Philadelphia Vireos.

Finally, Michelle Davis's report from Bill Baggs Cape Florida State Park concludes with the mention of *three* West Indian vagrants.



**Tennessee Warbler**  
by George West