Recent Literature

Compiled by C. John Ralph
(If you would like to help review articles of interest to banders, please contact cjr2 "at" humboldt.edu, and feel free to mention if you have a particular journal or geographic area of interest).
Contributors to this issue:
ATC = Allen T. Chartier; CJR = C. John Ralph; WS = Walter Sakai

ANALYTICAL METHODS

The EURING Data Bank – a critical tool for continental-scale studies of marked birds. C.R. du Feu,. J.A. Clark, S.R. Baillie, M. Schaub, and W. Fiedler. 2016. Ringing and Migration, 31 (1), 1-18

The availability of the wealth of data that typical banding operations provide has been quite limited. In the Americas only a small portion of the data taken have all the fields recorded in a permanent archive, most notable among these are data under the protective shield of the Institute for Bird Populations for breeding birds and some Latin American wintering stations, those in the Landbird Monitoring Network of the Americas (LaMNA). The Federal Banding Lab and office in the U.S. and Canada have also very recently indicated that they will accept such data. Now, the European Union for Bird Ringing (EURING), will also do so. EURING coordinates bird ringing at a continental scale and operates the EURING Data Bank (EDB) to facilitate large-scale analyses of movements and demography. The EDB contains over 10 million individual encounter records summarized on a publicly available website, the EDB index. EURING welcomes applications to analyze these data.The authors tell how band recovery data from the EDB contribute to research on many ecological issues, particularly migration and movements, hunting, mortality causes, disease transmission, population dynamics, and dispersal. Recent developments will facilitate the incorporation of local recaptures that are essential for robust quantitative studies of population dynamics and movements. In the Americas, the banding office and lab are again accepting these important data. Most recently, the EDB inclusion of fields for molt, measurements and weights within the EURING code will facilitate research on a European scale.They mention that, wherever possible, this research should also incorporate complementary ecological information. EURING's immediate priority is the production of a European Migration Atlas that would provide an up-to-date synthesis of the movements of European bird populations, with many direct implications for their conservation. CJR

NORTH AMERICAN BANDING RESULTS

Captures of Northern Saw-whet Owls (*Aegolius acadicus*) correlate with the lunar cycle during fall migration. L. Leann Kanda, J. L. Confer, and R.L. Kellogg. 2016. *The Wilson Journal of Ornithology* 128(3):535-542. Department of Biology, Ithaca College, Ithaca, NY, USA. lkanda@ithaca.edu.

With an unique approach to banding data, the authors used the entire Bird Banding Laboratory data set of captured saw-whets to find unexpected insights into capture rates. Previous small-scale studies have given mixed results on whether there is a relationship between capture rate of the species and the lunar cycle. They used a logistic regression on 50 yrs of capture rates throughout North America involving an astounding 156,794 fall captures. Comparing these to random dates in the fall, showed that captures are significantly less likely as lunar illumination increases. Captures at high illumination were 22% less likely than captures on moonless nights during the waning half of the lunar cycle and 41% less likely during the waxing half of the lunar cycle. Modification of the lunar illumination index to correct for the time that the moon is in the sky gave similar results. Owls were also most likely to be captured on a Sunday or Monday, perhaps reflecting higher weekend capture effort. The relationship of captures to lunar illumination and wax/wane phase is consistent with an ultimate explanation of migration occurring more during low levels of moonlight to avoid risk of predation, but a proximate mechanism of altered owl movement is not demonstrated and alternative explanations such as variable human capture effort and changes in owls' ability to deta nanotag bect and

avoid nets, may also be responsible. The authors felt that the results of their logistic models had relatively little power, probably because local habitat and weather are strong modifiers of the lunar cycle effect on capture probability. They also felt that the average reductions calculated here may still underestimate the decrease in owl captures under local conditions of bright moonlight. CJR

Post-breeding population dynamics indicate upslope molt-migration by Wilson's Warblers. Andrew K. Wiegardt, D.C. Barton, and J. D. Wolfe. 2017. *Journal of Field Ornithology* 88:47–52. Klamath Bird Observatory, Ashland, OR, USA. akw@klamathbird.org

The authors used 27 yrs of banding data from an intensive network of station, across an elevational gradient to determine if Wilson's Warblers (*Cardellina pusilla*) molt and breed at the same or different locations in northern California and southern Oregon. Nearctic-Neotropic migrants in western North America have three choices of timing of the annual post-breeding molt (i.e., definitive prebasic molt): (1) remain in breeding areas to molt, (2) migrate long distances to a stopover molt location before continuing to wintering areas, or (3) migrate to wintering areas and then molt. The warbler apparently uses the first strategy, employing small-scale movements (post-breeding dispersal), which is largely undocumented. They found that adults were more likely to breed at lower elevations and more likely to molt at higher elevations, suggesting that some individuals move altitudinally after breeding to complete the molt. This study indicates that short-distance altitudinal movements may be more common among Nearctic-Neotropic migrants in western North America than previously thought. The Motus "nano-tag" tracking devices could help augment this insight to more clearly understand how species strategize this virtually unknown period of their life cycle. CJR

Reoccurrence of avian influenza A(H5N2) virus clade 2.3.4.4 in wild birds, Alaska, USA, 2016. Lee, Dong-Hun, Mia K. Torchetti, Mary Lea Killian, Thomas J. DeLiberto, and David E. Swayne. 2017. Emerging Infectious Disease 23:365-267.

After disappearing off the news for some time, the virus was detected in 48 of 188 wild mallards sampled during a bird banding effort near Fairbanks, during August 2016. A low frequency of this virus thus persists in North America and potential redissemination is a concern. The particular virus 8887/2016(H5N2) is linked to the virus initially detected in the midwestern U.S., and thus wild waterfowl is the likely source of infection. Birds from six continents fly to Alaska to breed, so Alaska is a potential location for intercontinental virus transmission. WS

Migratory status, winter subspecies interactions, and habitat segregation of Atlantic Song Sparrows (Melospiza melodia atlantica). Danner, Raymond M., Brian J. Olsen, and David Luther. 2016. *Wilson Journal of Ornithology* 128(2):434-437. 2016. Smithsonian Migratory Bird Center, Smithsonian Conservation Biology Institute, Washington, DC 20008, USA. dannerR@uncw.edu.

The authors used mist netting for the first winter surveys of the Atlantic Song Sparrow (*Melospiza melodia atlantica*), a lesser known subspecies endemic to sand dunes of the mid-Atlantic coast. They banded, color-marked, and determined sex by checking cloacal protuberances and brood patches. Interestingly, they aged by not only skull, but using wing growth bar alignment, not a typical method. Novel findings include that the race is a year-round resident or partial migrant, primarily flocking with its own subspecies, despite occurring in sympatry with the eastern Song Sparrow (*M. m. melodia*) in winter, and exhibits age-specific habitat use in winter, with immatures greatly outnumbering adults in saltmarshes adjacent to the dunes. These results are important for conservation planning and understanding the ecology and evolution of this unique subspecies across the annual cycle. ATC.

Trumpeter Swan Banding in Ontario. H.G. Lumsden. 2017. *Ontario Bird Banding Association Newsletter* 62(1): 2-3.

Between 1983-2006, the Trumpeter Swan Restoration Group released 584 captive-bred yearlings totaling 584 birds into Ontario, all were banded and color marked with yellow patagial tags with a

black three-digit inscription. To date, more than 2000 trumpeters (*Cygnus buccinator*) have been marked. Mortality of young is very high, with almost half of all cygnets surviving less than a year. Two females were still reproducing at an age of 22 years. The 2016 Ontario population estimate, based largely on CWS aerial surveys, was about 1000 in southern Ontario and 1200 in northern Ontario, which has been colonized by birds released in Wisconsin, Minnesota, and Iowa. Reports of wing-tagged birds' wide dispersal and an extensive history for some individuals is presented. Most Ontario breeding trumpeters remain in the province during winter, but some have been reported in New York, Pennsylvania, Maryland, Delaware, Tennessee, North Carolina, and Nova Scotia. Future research directions hope to study details of swans wintering on the St. Lawrence River. ATC

Long Point Bird Observatory: 2016 Program Summary. Mark Conboy. 2017. *Ontario Bird Banding Association Newsletter* 62(1): 4-13.

This extensive annual report from the oldest bird observatory in the Western Hemisphere, now part of Bird Studies Canada, included a summary of their Migration Monitoring Program, with 24,612 birds of 141 species and forms banded in 2016, and recaptures of 5,419 previously banded birds. This was the lowest number banded here since 2004. Highlights included the station's first Barred Owl, their eighth Broad-winged Hawk, and fourth Painted Bunting, as well as record high totals for Cliff Swallow (22), the Oregon race of the Dark-eyed Junco (3), Red-eyed Vireo (496), Summer Tanager (4), Tufted Titmouse (5), Warbling Vireo (162), and Yellow Palm Warbler (6). Fifteen birds banded at LPBO were encountered elsewhere during 2016. Most interesting was a Northern Saw-whet Owl banded at LPBO on 26 Oct 2016 that was recaptured at Kelley's Island, Ohio, about 200 km away, only 19.5 hours later! Ten birds captured in 2016 at LPBO had been banded elsewhere. Additional projects summarized included the Tree Swallow project, Breeding Bird Census, NABC bander certification session, their Latin American Training Program, and a listing of LPBO publications from 2013-2016. ATC

Banding Bank Swallows. Myles Falconer. 2017. *Ontario Bird Banding Association Newsletter* 62(1): 14-15.

From 1955-1985, a total of 37,382 Bank Swallows (*Riparia riparia*) were banded in Canada, but from 1986-2015 only 6,838 were banded. Decline of the species, as well as more restricted access to nesting sites in aggregate pits due to liability issues, are the main reasons for this reduction in number banded. In 2016, a study was initiated at six sites on Lake Erie and six sites at inland aggregate pits. A hinged-frame mist net that could be dropped below the edge of the nesting bank was devised to capture larger numbers of birds and was very successful. A total of 2,215 Bank Swallows were banded in 2016. Efforts will continue in 2017. ATC

Canadian Snow Bunting Research Update. 2017. Emily McKinnon. *Ontario Bird Banding Association Newsletter* 62(1): 15-17.

Banders participating in the Canadian Snow Bunting Network (*Plectrophenax nivalis*) are contributing critical information to understanding how climate change is affecting these extreme-cold specialists. Winter movements are being tracked using the Motus automated wildlife telemetry system, and 40 "nanotag" backpacks have been deployed on buntings during winter. Preliminary results show that they cover a lot of ground within a single winter season, with one female covering more than 400 km in just one month! A male originating in Ontario and detected in Quebec had traveled a minimum of 300 km per day, over the course of three days of migration in early April. Banders working during the winter are encouraged to participate in the Network <http://ontbanding.org/snow_bunting.php> and anyone capturing a bunting wearing nanotag backpack is encouraged to leave it on the bird unless there is an obvious problem. ATC

McKellar Island Bird Observatory: Fall 2016 Report. J. Woodcock. 2017. *Ontario Bird Banding Association Newsletter* 62(1): 18-19.

Located within the city of Thunder Bay, Ontario, this station operates daily from early Aug to late Oct, and first opened in spring 2014. In fall 2016, the station was open on 66 days between 6 Aug and 26 Oct, with 16 days cancelled due to inclement weather. Total effort included 5,887 mist net hours, 549 hawk net hours, and 284 ground trap hours. A total of 1,555 birds of 68 species was banded, with highlights including station firsts for Belted Kingfisher, Eastern Phoebe, and House Wren, bringing the cumulative total to 96 species. A total of 37 birds that were banded here in previous seasons were captured. Four birds banded at this site were captured elsewhere, including a Dark-eyed (Slate-colored) Junco recovered in Arkansas, an American Redstart recovered in Daytona Beach, Florida, a Purple Finch recovered in Thunder Bay, Ontario, and a Magnolia Warbler recovered in Chicago, Illinois. ATC

EQUIPMENT AND TECHNIQUES

Mixed effects of geolocators on reproduction and survival of Cerulean Warblers, a canopy-dwelling, long-distance migrant. Douglas W. Raybuck, J. L. Larkin, S. H. Stoleson, and T. J. Boves. 2017. *The Condor: Ornithological Applications* 119(2):289-297. Arkansas State University, Jonesboro, Arkansas, USA. dwraybuck@gmail.com

The fantastic new tools being used to track movements are providing invaluable insights that can help halt the declines of vulnerable species. However, these data can come at a cost, possibly reducing the chances that the birds will survive to return to breed. The researchers captured ceruleans (*Setophaga cerulean*) in Pennsylvania, Missouri, and Arkansas by luring them into nets using call recordings and wooden decoys. Outfitting some with geolocators but others with only identifying color bands, they monitored the birds' nests and then searched for them the following year to determine whether they had returned. The authors found that while geolocators had no effect on the birds' nesting success in the same season following their capture, birds with geolocators were less likely to reappear on their territories after migration the next year—16% of geolocator-tagged birds returned from migration, versus 35% of the birds in the control group. Of course, the data gained from geolocator studies are enormously useful for bird conservation, and on a global scale those benefits are far more likely to outweigh the potential costs. CJR

'Tele-anaesthesia': a new approach to wild bird capture under field conditions. D. Chevallier, O. Dehorter, C. Brossard, and J.-P. Larvol. 2016. *Ringing and Migration*, 2016, 31 (1), 77-80. French National Centre for Scientific Research, Paris.

It is always a challenge to capture large birds under any circumstances, but away from the nest or baited areas, with free-flying birds, one can only imagine how difficult it is. The authors tested a new technique for the capture of birds for tagging with transmitters or loggers. This technique, that they term as 'tele-anaesthesia', was the most appropriate tool to obtain the data needed for their studies. Seven wild White Storks (*Ciconia ciconia*) were captured using a hypodermic CO2 gas injection rifle, projecting syringes containing Xylazine. The authors note that, although the method will require appropriate licensing and veterinary supervision, it facilitates the safe and efficient capture of targeted individuals. CJR

Re-evaluation of Band-Tailed Pigeon: Age Classification Criteria Using Wing Attributes. T.A. Sanders and C.E. Braun. 2014. *Wildlife Society Bulletin* 38(2):273-278. Division of Migratory Bird Management, US Fish and Wildlife Service, Portland, Oregon.

The FWS has been collecting a wing from hunter-harvested birds (n ~500/year) since 1994, in order to estimate productivity for management purposes. Keys were used to age the birds with these wings by two examiners familiar with the species (*Patagioenas fasciata*). These keys are now 30-40 years old. Here the authors present an updated key, using the greater understanding of the bird's molt sequence. While the older keys separated juvenile and adult age classes, the Sanders-Braun key micro-ages birds to identify second-year birds, providing a more accurate estimate of productivity. Although the key is not presented here, the same basic wing characteristics as described in Pyle (1997) are used: buffy edging of the coverts and alula, length and shape of the tips of the secondaries, edging on the outer primaries as well as the color, width and shape, and molt limits on the primaries. WS

Band-related foot loss does not prevent successful return and reproduction in the Ovenbird (*Seiurus aurocapilla*). S. Haché, E.M Bayne, M.-A Villard, P. Bertrand, M.-L. Fiola, and S. Thériault. 2016. *The Wilson Journal of Ornithology* 128(4):913-918. University of Alberta, Edmonton, AB T6G 2E9, Canada. samuel.hache@canada.ca.

In spite of recent developments in tracking technology, leg bands are still the main marking method in songbird population studies. Yet, band-related injury rates and the effects of such injuries on survival and reproductive success have rarely been documented in songbirds. Over a nine-year period, the authors banded 525 male Ovenbirds using an aluminum band and three celluloid color bands. Of these, 322 individuals were recaptured or seen in their study area in at least one of the subsequent years, including four (1.2%) missing a foot. In all cases, foot loss occurred 2-3 years after banding, suggesting indirect effects of bands rather than injuries sustained at the time of capture or banding. Among returning 322 males, 91 were recaptured and handled, and only one had noticeable leg injuries that did not result in foot loss. Three of the four males missing a foot were able to fledge young, one of which produced young during two successive breeding seasons. The fact that injured males could hold territories overlapping their previous one, and produce young suggests that they could forage efficiently. Although leg injuries may carry a cost over the longer term, two of the four injured males were resighted in their study area the year following the first observation of foot loss. Their results, along with those of other studies, suggest that the benefits of bird banding greatly outweigh the costs associated with potential injuries, at least in this ground-foraging forest songbird. CJR