

## Recent Literature

Compiled by C. John Ralph (If you would like to help review articles of interest to banders, please contact [cjr2@humboldt.edu](mailto:cjr2@humboldt.edu), and feel free to mention if you have a particular journal or geographic area of interest).

### Contributors to this issue:

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### ANALYTICAL METHODS

**Overwintering strategies of migratory birds: a novel approach for estimating seasonal movement patterns of residents and transients.** Viviana Ruiz-Gutierrez, W.L. Kendall, J.F. Saracco, and G.C. White. 2016. *The Journal of Applied Ecology* 53:1035–1045. Department of Fish, Wildlife, and Conservation Biology, Colorado State University, Fort Collins, CO, [vr45@cornell.edu](mailto:vr45@cornell.edu).

Banding is the primary method of determining seasonal movements. The authors used a powerful analytical method and a network of banding stations to estimate how long birds in the New World Tropics stay in place. They studied eight species of overwintering Neotropical birds captured at many stations in 14 countries from 2002–2011, largely part of the MoSI network of the Institute for Bird Populations. They challenged previous understandings of wintering territoriality by identifying overwintering movement patterns and residence times. Captures of most species showed evidence of residents entering study areas several times during the year. Their results suggested that migratory songbirds commonly move among habitats during the overwintering period and were not always site-stable, as our usual model would have us believe, based on temperate wintering species. Substantial proportions of populations appeared to be comprised of transient individuals, and tended to persist at specific sites for relatively short periods of time. This is important information to understand the habitat configurations optimal for conservation on the wintering grounds to accommodate the diverse overwintering strategies of species in order to secure full life cycle conservation. CJR

**Banding data reveal bias in age-class sampling of songbirds during spring migration.** Alexander M. Mills. 2016. *Journal Field Ornithology* 87(3):323–336. Department of Biology, York University, Toronto Ontario ([ammills@yorku.ca](mailto:ammills@yorku.ca)).

This paper addresses some questions about the importance of banding data, as taken by constant-effort stations, like most Bird Observatories and MAPS stations. Mills points out that demographic metrics from banding operations, such as survival rates based on mark-recapture methods, are conservative because many birds move constantly and are not stable populations, and a netting operation can miss them. He used data from spring and fall migrations over six years at Long Point Bird Observatory in Ontario and at the Powdermill Avian Research Center in Pennsylvania. The proportion of juveniles captured during both spring and fall migration was unrealistically high to be representative of true reproduction, especially at Long Point. The related estimates of longevity and generation time were implausibly low, and of fecundity implausibly high. Based on apparent adult survival estimates from the literature that suggest an average age structure for songbirds of >55% adults and <45% juveniles, he found that capture rates for juveniles during spring migration were at least twice as high as for adults. A slower pace of spring migration by juveniles likely accounts for some of this bias. The author says that “Because the data cannot be assumed to represent unbiased samples with respect to the age structure of populations, my results indicate that banding data collected at bird-banding stations during migration are not suitable for use in demographic studies”. Although this paper shows that age structure of populations cannot be reliably determined from banding station datasets, the importance of such data as an index to compare the same station between years or between stations remains extremely valuable, and really the only sensible way to use such data. CJR

### EQUIPMENT AND TECHNIQUES

**Retention, effect, and utility of tail-mounted satellite-tracked transmitters on Golden Eagles.** Alan R. Harmata. 2016. *Journal of Raptor Research*

50(3):265–275. Ecology Dept. Montana State Univ. Bozeman, MT [alan.harmata@montana.edu](mailto:alan.harmata@montana.edu)

Studies deploying transmitters on Golden Eagles have typically used backpack harnesses for attachment despite some evidence indicating potential negative effects on reproduction and survival. In southwestern Montana, transmitters were attached to the central rectrices of 27 birds. Of these, 16 were molted or removed by the eagle and 13 recovered. The duration of retention was adequate for analysis of survival and yielded an adult annual survival rate (86%) almost identical with recent U.S. Fish and Wildlife Service estimates (87%). The birds apparently behaved normally, with 8 of 13 (62%) territorial adults attempted breeding in the first year, with six (46%) producing young, rates that did not differ ( $P > 0.23$ ) from those of a larger sample of the population surveyed during the same period. This is an encouraging study for the use of transmitters. CJR

**Field techniques in the study of Australian pigeons and doves.** Andrew Peters, Shane R. Raidal, David A. Roshier. 2016. *Australian Field Ornithology*, 33: 187–197. Charles Sturt University, Wagga Wagga, Australia. [apeters@csu.edu.au](mailto:apeters@csu.edu.au).

This paper describes the development of standardized research methods such as effective and humane capture and collection of biological samples. They present techniques, including novel mist-net setups that they trialed for the capture of Australian pigeons and doves. These were successful in 12 out of 14 species tried, including the arboreal Brown Cuckoo-Dove *Macropygia amboinensis*, Rose-crowned Fruit-Dove *Ptilinopus regina* and Torresian Imperial-Pigeon *Ducula spilorrhoa*, as well as both escarpment-dwelling rock-pigeons *Petrophassa* spp. Methods for the collection of biological samples are also presented. CJR

### NON-NORTH AMERICAN BANDING RESULTS

**The importance of reedbeds and riparian areas for Cetti's Warbler *Cettia cetti* throughout its annual cycles.**

Pedro M. Araújo, Pedro B. Lopes, Luís P. da Silva, Jaime A. Ramos. 2016. *Wetlands* (2016) 36: 875. Marine and Environmental Sciences Centre, Department of Life Sciences, University of Coimbra Portugal. [mmiguelinhu@gmail.com](mailto:mmiguelinhu@gmail.com).

From an excellent long-term banding study in Europe, the authors are able to describe well the importance of reedbed and riparian habitats for the species' annual cycle. The authors examined the seasonal variation in population structure and body condition from 11 years of study. Because seasonal variations in the differential use of each wetland type should be influenced by food resources and shelter conditions for roosting, a one year study was performed to assess the diet, trophic niche and health condition, and to examine differences in the abundance of food resources and temperature between the two habitats. They found that reedbeds are very important for the warbler, supporting large numbers of (mainly) juvenile females during the late summer and autumn periods. Fecal analysis, an important adjunct to banding studies, showed that during late summer predator insects (mostly Coleoptera) were more important for the warblers on the reedbed, while phytophagous insects (Hemiptera) were more important for them on the riparian habitat. Stable isotope mixing models from blood and feather samples corroborated these results and revealed their opportunistic foraging behavior. The isotope levels of juvenile secondary feathers were higher for the reedbed birds, indicating that they move here in late summer/early autumn from over a wider area. The values for the riparian area had a smaller variation suggesting that these birds were less dispersive. Overall, the higher abundance of higher trophic level food resources, and higher minimum temperatures for roosting on the reedbed, makes this habitat particularly attractive for the warbler after the breeding season. CJR

### NORTH AMERICAN BANDING RESULTS

**New North American Herring Gull longevity record set in Michigan.** A. Ayyash. 2016. *Michigan Birds and Natural History* 23(1&2): 7–8.

Found alive and well on the beach at New Buffalo, Berrien County, MI, on 20 Sept 2015, this bird was originally banded on 28 June 1986 as a chick too young to fly at Egg Harbor, Door County, WI, by Dr. Raymond Faber, whose banding permit is still active. The bird's age of 29 years 3 months was confirmed as a record for the species by the Bird Banding Lab, thanks to the observer's photos of the band. This was the first time this individual had been reported since it was banded. The previous record was 28 years 1 month, a bird found dead in Illinois in 2012. The majority of the nearly 40 banded gulls this observer has reported have also been banded in Door County, ranging in age from hatch-year to 12 years old. ATC

**Piping Plovers in Ontario: A decade of recovery on the Great Lakes.** J. Brett. 2016. *Ontario Birds* 34(3): 210-227.

The 2016 season marked the 10<sup>th</sup> year since the return of nesting Piping Plovers to the Ontario shores of the Great Lakes, and this article is a summary of annual breeding effort and recovery in the Canadian Great Lakes population from 2007 to 2016. Extensive color banding allowed data to be collected on survival of chicks, as well as recruitment of individuals from nearby nesting locations in Michigan, movement of Ontario-hatched birds breeding in Michigan, and the first documentation of a Great Lakes hatchling from 2009 breeding in North Carolina in 2011. The Ontario population increased from one breeding pair in 2007 to 15 in 2016, one breeding location in 2007 to six in 2016, one nest in 2007 to 16 in 2016, and three fledglings in 2007 to 27 in 2016. The number of Ontario breeding pairs was 20% of the Great Lakes breeding population in 2016. ATC

**The return of breeding Piping Plovers to the Ontario shores of Lake Ontario.** G. Coady. 2016. *Ontario Birds* 34(3): 228-241.

Prior to 2015, all breeding pairs of the small Ontario population of Piping Plover nested on the shores of Lake Huron. In 2015, the first nest on the Canadian shore of Lake Ontario since 1934 was found at Toronto Islands. The male of this pair had been color banded as a chick in Michigan in 2014, and the female

was unbanded. Four eggs were laid, but the nest was destroyed by storm waves before they hatched. This same male was subsequently seen with two unbanded Piping Plovers on the Lake Ontario shore of Oswego County, New York. A different pair nested in 2015 on the Lake Ontario shore of nearby Jefferson County, New York. In 2016, two successful nests were documented at Darlington Provincial Park, with all five adults involved being originally color banded in Michigan. Also, one successful nest at Presque Isle Provincial Park, Ontario, was documented. ATC

**Migratory connectivity of Golden-crowned Sparrows from two wintering regions in California.** Renée L Cormier, Diana L Humple, Thomas Gardali, Nathaniel E Seavy. 2016. *Animal Migration* 3: 48–56. Point Blue Conservation Science, Petaluma, California.

The authors used light-level geolocators to determine breeding locations and migratory routes of wintering Golden-crowned Sparrows (*Zonotrichia atricapilla*) in two regions of California. Eight out of nine birds tagged at coastal-wintering sites in Marin County went to breeding sites along the Gulf Coast of Alaska, while seven out of eight inland-wintering birds in Placer County migrated to interior sites in the Yukon, Northwest Territories, and British Columbia. Their estimate of the strength of migratory connectivity was relatively high. The coastal-wintering birds followed a coastal migration route while inland-wintering birds migrated inland. Coastal wintering birds migrated significantly farther and faster in the spring than inland birds. Dates of arrival and departure, and duration of spring and fall migration, did not differ between groups, nor did return rates. Rates of return also did not differ between tagged and control birds. The distinct migration routes and breeding areas suggest that there may be more structure in the migratory geography of the Golden-crowned Sparrow than in a simple panmictic population. Even though this is a small study, it gives us important insight into migration strategies.

