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Scientific Program Abstracts

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The 2013 meeting is currently being planned and will be held 12-14 Sep in southeast Arizona.

SCIENTIFIC PROGRAM ABSTRACTS

(Listed alphabetically by last name of lead author.)

Wild bird Monitoring and Surveillance for Avian Influenza in the United Arab Emirates
Ahmed, Shakeel, Shahid. B. Khan, Junid. N. Shah, Eissa Ali Al Hammadi, Abdullah Ali Al Hammadi and Sàlim Javed. Environment Agency – Abu Dhabi, Abu Dhabi, United Arab Emirates.

Surveillance of wild birds was carried out to determine highly pathogenic (HP) and low pathogenic (LP) avian influenza viruses (AIVs) in the United Arab Emirates (UAE) during 2005 – 2010 as part of the national avian influenza action plan. Weekly and fortnightly monitoring were conducted at selected sites along the coast, islands, lagoons, inland wetlands, and other known waterbirds congregatory sites. Apart from recording the numbers of all the species, any sick or fresh dead birds were recorded, collected and sent to designated laboratories across the country to be tested for AIV. Diagnostic investigations were conducted using RT- PCR and ELISA techniques. Specimens were collected from 44 survey sites. Of these, 63.6% were coastal/creeks and inland wetlands and 36.4% were islands. Of 44 sites, 75% (n=33) were monitored in Abu Dhabi Emirate, 9% (n=4) in Fujairah, and 5% (n=2) each in Dubai and Ras Al Khaimah. A total of the 452 individuals, 81% (367) were collected from Abu Dhabi Emirate followed by 10% (47) from Ras Al Khaimah nearly 4% (17) while the rest of the emirates accounted for the remaining 4.6% (21). Virological studies were performed on 144 out of a total of 452 bird samples collected, which represented 39 different species. We determined the cause of death in 57% (19) of the collected specimens from *Escherichia coli (E. coli)* and 27% (9) with other commonly occurring bacterial infections such as coligranuloma, *Salmonella Pullorum*, proteus infection, entritus, and Proteus mirabilis. None of the samples were diagnosed with AIV. Although not a single wild bird was detected with AI viruses, it is important to undertake regular monitoring at key congregatory sites of birds for an early detection and mitigation in case of any incidence of an outbreak.

Song Sparrows that breed in low and high elevations: Some stay and some go, but where?
Alexander, John D. and Barbara W. Massey, Klamath Bird Observatory, Ashland, Oregon

Song Sparrows can be found throughout the year in low elevations of the Rogue Valley, Oregon, but the assumption that they are residents is not necessarily correct. Song Sparrows also breed in the mountains surrounding the Rogue Valley; these birds leave their high-elevation breeding grounds during the winter. We used banding data and isotopic markers to gain a better understanding of seasonal movements of Song Sparrows that breed at both low and high elevations in the Rogue Valley and surrounding mountains. Recapture data from a low elevation banding station operated year-round include individuals captured during both the breeding and wintering seasons, an indication that at least some of the low elevation breeders are year-round residents. With this baseline understanding, the relative difference between Deuterium (δ D) ratios in feather and toe nail samples collected during the early breeding season at both low and high elevations were used to better predict where high-elevation breeders winter. Preliminary results suggest that high-elevation breeders might winter towards the north or east of their breeding grounds.

Report from the Point (PRBO): Banding and Research at the Palomarin Field Station
Dybala, Kristine and Geoffrey Geupel, PRBO Conservation Science, Petaluma, California

Using long-term nest and banding data, we investigated factors influencing the survival of juvenile Song Sparrows *(Melospiza melodia)*. Since 1980 we found 1,866 nests that fledged 1,795 color-banded individuals. Of these juvenile Song

Sparrows: 28% were recaptured within 13 weeks of fledging and 38% were re-sighted at least once. Environmental conditions, including rainfall, density, body condition, and fledging date, have a stronger effect on the survival of independent young than they do on dependent young. These results emphasize the need to monitor independent juveniles in order to better understand when populations' limitations may occur.

Contributions of two decades of bird banding and monitoring to the science and conservation of birds in Costa Rica. Elizondo, Pablo Instituto Nacional de Biodiversidad, Santo de Heredia, Domingo, Costa Rica and C. John Ralph, US Forest Service, Arcata, California

Since 1994, the Costa Rica Bird Observatories (CRBO) have established bird monitoring efforts in Costa Rica, based primarily in Tortuguero until 2008, when the observatories took a nationwide approach, starting operations in the highlands of the Cerro de la Muerte and urban ecosystems at INBioparque. Since 1994, more than 400 biologists have been part of their internship program. A series of partnerships have been established to ensure that data becomes part of the conservation efforts of Costa Rica. Working in close partnership with land owners, government, NGOs, the media, and private industry, we gather, preserve, analyze bird monitoring data and generate tools that enhance and promote bird conservation, serving as a model to be implemented across the Americas. CRBO has become an example of a successful model of partnerships that allow scientists and conservationists to deliver science-based results and to ensure a sustainable approach for conservation. The core of understanding the life history and demography of birds with banding data, relies on the ability of banding stations to generate an adequate sample size for the most possible species. At most places, around 90% of the captured individuals encompasses ~ 15-20% of the species. Thus, the need to identify mechanisms to increase capture rate becomes an important issue to be addressed.

Looking at Climate Change with Banding Data: A Primer on Quantile Regression and an Example Analysis. Leitner, Wade, Sky Islands Bird Observatory, Tucson, Arizona

Current understanding of avian responses to climate change predicts shifts in distribution and phenology. Long-term banding data can be used to look for correlated changes in phenology and may provide an indirect measure of climate change. Environmental variables can be added readily to the analysis in order to investigate the response to climate change. The key to the analysis is an extension of regression analysis known as quantile regression. This talk will provide a brief introduction to quantile regression and provide an analysis of a 15-year constant-effort banding study conducted at Tumacacori National Historical Monument on the Santa Cruz River in Arizona.

Banding American Dippers on Ashland Creek, Ashland Oregon. Massey, Barbara[1,2], Eric Setterberg[1], Bob Quaccia[1], Frank Lospalluto[2], Gwyneth Ragosine[1], Jeff Tufts[1,2], and John D, Alexander[2]

[1.] Rogue Valley Audubon Society, Medford, Oregon

[2.] Klamath Bird Observatory, Ashland, Oregon

The American Dipper is a denizen of fast, clear-running streams in the western United States and is usually observable only at high altitudes and in summer. But in the Rogue Valley, Oregon, there is such habitat in the lowlands along Ashland Creek, which has its source on Mt. Ashland and runs down through the town of Ashland and into Bear Creek, a major tributary of the Rogue River. A two-mile portion of the lower creek is in Lithia Park and is accessible all year. It has long been known that dippers were to be found there, and there has been an annual count each January for 12 years. But the accessibility of the creek led us to attempt a year-round study of the dipper population, begun in the spring of 2010. In that year, two pairs were found breeding and three pairs in 2011. We realized that there were few acceptable nest sites along the creek and this could be a limiting factor. In the early spring of 2012, nest boxes and platforms were placed under seven footbridges along the creek and

a pair began building a nest on one within two weeks. This pair and their two broods were color-banded and their progress followed from nest building to post-fledging. Three eggs hatched in mid-April and the chicks were color banded at 11 days of age, and fledged at about 21 days. A week before they fledged, a second nest was built on top of the nest box and by the time the first chicks fledged there was a second brood of four eggs in the new nest. The male parent then took entire charge of feeding the fledglings while his mate incubated the second batch of eggs. The second brood was banded at 10 days of age and should fledge by June 20. We have been able to follow the first set of chicks as they learned to fend for themselves and we have many observations and photographs of behavior. Observation of the second cycle is ongoing.

American White Pelican banding on Klamath Basin National Wildlife Refuges. Mauser, Dave, U.S. Fish and Wildlife Service, Klamath Basin National Wildlife Refuges, Tule Lake, California

The Klamath Basin of northern California and southern Oregon supports one of the more important breeding areas for American White Pelicans (*Pelecanus erythrorhynchos*) in the western US. Pelican banding by U.S. Fish and Wildlife Service biologists began in the early 1960s in response to concerns over the effects of pesticides (principally chlorinated hydrocarbons) on fish-eating birds. Banding has continued on a sporadic basis ever since, with banding occurring in years in which sufficient young are produced and impacts to other colonial nesting species can be minimized. Over the decades, thousands of pelicans have been banded, with band recoveries received from throughout the western US and Mexico. The purpose of this presentation is to summarize banding efforts, purposes and objectives, recovery information, and techniques utilized.

San Pancho Bird Observatory: developing a collaborative strategy for landbird conservation between Western Mexico and United States. Morales, Luis and John D. Alexander, Klamath Bird Observatory, Ashland, Oregon

Many of the bird species that breed in North America's western forests winter in Mexico's pine-oak and tropical cloud forests. Bird conservation efforts for both the migratory and tropical species that are associated with these habitats require solid, long-term, international partnerships between organizations with the common vision of conserving both migratory and resident bird species. Effective bird conservation efforts must include a sustainability approach that involves ecological, social and economic aspects. The San Pancho Bird Observatory (SPBO) is a grass-roots organization located in San Francisco, Nayarit along the central Pacific coast of Mexico. SPBO's team uses a sustainability approach to bird conservation with programs based on bird population monitoring, public education and ecotourism. SPBO has gained support and endorsement from multiple organizations and members of Partners in Flight's Western Working Group. For example, the Klamath Bird Observatory is currently supporting SPBO with a capacity-building program that emphasizes the importance of bird banding. Bird banding has proven to be a critical component of the bird observatory model. Constant-effort banding serves as a tool for understanding long-term population trends, thus enhancing and helping to focus-applied conservation science efforts.

Apparent survival and reproduction of captive-reared Snowy Plovers. Nueman, Kriss and Ryan DiGuadio, PRBO Conservation Science, Petaluma, California

We compared the survival and reproductive rates of captive-reared and wild-reared Snowy Plovers *(Charadrius alexandrines)* using banding and resighting information over 10 years, in order to examine the contribution of captive-rearing to the conservation of the Snowy Plover populations. Captive- and wild-reared Snowy Plovers had similar survival and reproductive rates and there was no effect of age on reproductive success. This supports ongoing efforts to conserve Snowy Plover populations and may help protect populations from catastrophic events, such as oil spills.

Recoding Subspecies: a finer tuning of data. Ralph, C. John and Pablo Elizondo, US Forest Service, Costa Rica and Klamath Bird Observatories. Arcata, California, San Jose, Costa Rica, and Ashland, Oregon.

We propose using a taxonomic unit (the "Group") for banding to help separate the breeding origins of various individuals. We all monitor birds to determine life history strategies. In this process, we need to separate genetic from cultural differences and understand the ebb and flow of segments of populations, such as subspecies. Many such separate genetic population units (usually, but not always, subspecies) we already distinguish by coding them separately because of substantial and consistent plumage differences and taxonomic precedent, such as the Winter and Pacific wrens, and the Pacific and Taiga races of White-crowned Sparrow. Other groups are separable by range (e.g., titmouse), plumage, and measurements. Some, like the Pacific-Slope and Cordillera flycatchers, are largely separable mainly by vocalizations, and thus are usually most accurately designated Western Flycatchers, and some are lumped even if good plumage criteria are usually applicable, such as Alder and Willow flycatcher, that are sometimes termed Traill's Flycatcher. We feel that we have a need for consistent and more detailed criteria for recording such groups, and suggest that, to be effective, we should combine similar subspecies and populations into "Groups" as Sibley and others have done. Some of these we propose are well-recognized and easily separable. These include the western and eastern populations of the Marsh Wren and Blue-gray Gnatcatcher, the russet-backed and olive-backed groups of Swainson's Thrush, the Pacific and Taiga Orange-crowned warblers, various subspecies of the Song Sparrow, and the thick-billed, sooty, red, and slate-colored fox sparrows. These groups should have a substantial fraction of population separable by morphology (e.g. >75%), noting that some clines are complex (e.g., Song Sparrow) and will include several recognized subspecies. We would suggest that with the new codes necessary (e.g. Red Fox Sparrow [RFSP]), there should also be a method for noting intermediates.

Using capture to determine the effects of El Niño on resident and migrant birds in northeastern Costa Rica. Ralph, C. John, U.S. Forest Service, Arcata, California, Jared D. Wolfe, Louisiana State University, Baton Rouge, Louisiana, and Pablo Elizondo, Instituto Nacional de Biodiversidad, Santo Domingo de Heredia, Costa Rica

Tropical bird demographics may be influenced by the synergistic effects of forest structure and the El Niño Southern Oscillation (ENSO). Here, we used mark-recapture models to examine the influence of ENSO on annual survival and population growth change of White-collared Manakin (*Manacus candei*) populations residing in young and mature forest near Tortuguero. Our study revealed that in young forests, manakin populations had significantly variable survival and growth: lower in dry El Niño years, and higher in wetter La Nina years. While in mature forests, populations were consistent and unchanging. More specifically, the top model contained an ENSO metric associated with mature forest sites that yielded stable demographic estimates with small overlapping standard errors indicating that, despite being in the top model, ENSO had little effect on manakin demographics in mature forest. Conversely, El Niño events negatively influenced manikin demographics in young forest as indicated by non-overlapping standard errors, high demographic variance and positive correlations between ENSO and young forest survival and growth. We believe mature forests could serve as climatic refugia for this species during dry periods associated with El Niño at our study site. The birds could also have alternate strategies, staying in mature forests where demographic factors are consistent, but somewhat low, or being in a young forest where in some years there is a good chance for higher-than-average survivorship and population growth. Interactions between climate, forest structure and avian demographics, coupled with the increased loss of mature forest necessitate a deeper understanding of community persistence across a heterogeneous landscape.

Some results from cooperative feather sampling through the MAPS program. Ruegg, Kristen, David F. DeSante, Ivan de la Hera, and Borja Mila, The Institute for Bird Populations, Point Reyes

Station, California. Presented by Danielle Kaschube, The Institute for Bird Populations, Point Reyes Station, California

The Monitoring Avian Productivity and Survivorship (MAPS) and Monitoreo de Sobrevivencia Invernal (MoSI) programs, created and coordinated by The Institute for Bird Populations (IBP), are long-term, broad-scale banding programs made possible by the cooperative efforts of many bird-banders. Banders participating in these programs are encouraged by IBP to also participate, when possible, in additional cooperative efforts so that information from each bird capture can be maximally utilized. For many years, UCLA's Center for Tropical Research has directed a cooperative effort that asks banders to collect two rectrices from each individual each year from a suite of target species. Cooperating banders send the feather samples they have collected to UCLA, where they are cataloged, curated, and preserved. The primary research goal of this project has been to establish migratory connectivity between breeding and wintering sites for populations of target songbirds; the ultimate goal is to provide conservation biologists and habitat managers with critical information regarding the geographical areas and crucial habitats that must be preserved or enhanced to reverse declining population of the target species. Researchers from other institutions may also request use of the UCLA-curated feather samples for their own research efforts.

Results from one such project by Hera, DeSante and Mila (*Auk* 129:222-230, 2012) were recently published. Using feather samples collected by MAPS cooperators, Hera et al. showed that the duration of the pre-basic molt could be estimated in passerines from measurements of the growth rate of their tail feathers. Hera et al. examined 98 Nearctic species and explored how molt duration varied among species with different migratory strategies and molt patterns. Sedentary species that molted during summer on their breeding range had the longest molt duration (slowest feather growth rate), while partial and complete migratory species had successively shorter molt durations, apparently a result of time constraints set by their migratory needs. Molts of winter-molting migratory species, however, were as long as those of summer-molting sedentary species, suggesting that winter molt is a strategy that allows Nearctic migrants to avoid the temporal constraints experienced during summer. Migratory species that undergo a stopover molt within the Mexican monsoon region had the shortest molt duration among all Nearctic passerines. Interestingly, and contrary to expectations from a potential trade-off between molt duration and feather quality, observed variation in feather growth rate was positively correlated with variation in tail feather mass, which may be caused by differences among groups in the availability of resources for molting.

Hard-to-identify species: how do eBird and banding data compare? Rousseau, Josée S., Humboldt Bay and Klamath Bird Observatories, Arcata, California and Ashland, Oregon; C. John Ralph and Lisa Ollivier, US Forest Service, Arcata, California.

eBird and banding data provide complementary information about bird populations. eBird data can be used to assess distribution of species over time and space. When survey effort is recorded, they also can be used to identify abundance and, ultimately, trends in bird populations. Banding data can be used to determine the causes behind population trends. Through ageing, sexing, and measuring body condition for each species, one can determine if a population is reproducing at an appropriate rate, if individuals are surviving well, and the health of the population. Banding also offers the opportunity to identify all species accurately through assessment of plumage and various measurements. As the temporal and spatial sample size of the eBird and banding datasets are getting larger and more available, it becomes important to assess the relationships between both datasets.

The sampling efforts of each combination of station and month were compared between banding stations and nearby eBird surveys. The Klamath Bird Monitoring Network banding dataset has 9,569 sampling efforts (i.e., days of survey) between May and September, consisting of 107 stations representing 325 station months. Buffers of 1, 2, 5, 10 and 25 kilometers were created around

each banding station and the number of eBird sampling events was tallied with each increasing distance. Buffers of 25 km were needed to obtain comparable station*month sampling efforts from eBird data (107 stations and 321 station*months). This provided for a large number of eBird sampling events to be used (n = 73,907); however, higher habitat and associated bird species variability resulted from the wide buffer. We also compared the presence or absence of various species of *Empidonax* between both datasets for each location*month. We found similar numbers of station*month presences in both banding and eBird data in the Gray Flycatcher (banding = 36; eBird = 37), Dusky Flycatcher (banding = 112; eBird = 128), and "Western" (largely Pacific-slope) Flycatcher (banding = 213; eBird = 202). Banding data reflected better than eBird the presence of Willow Flycatcher (banding = 173; eBird = 136), and Least Flycatcher (banding = 8; eBird = 0). Surprisingly, the Hammond's Flycatcher were observed more often in eBird than banding (banding = 90; eBird = 118).

Klamath Bird Observatory Banding in 2011

Klamath Bird Observatory (KBO) continued its comprehensive, long-term, bird monitoring program in the Klamath-Siskiyou Bioregion of northern California and southern Oregon in 2011 in pursuit of our mission to advance bird and habitat conservation through science, education, and partnerships. This report provides a brief summary of 2011 banding efforts which included tissue sampling, technical training, and banding-associated outreach and education efforts.

KBO operated 11 constant-effort banding stations from May to October, one of these year-round; a single station during spring migration only, two one-day banding public demonstrations, and two one-day target-species netting sites. We continued banding efforts at 10 constant-effort stations that have been operated for 10 or more years and one now operated for five years. Combined capture totals from 248 banding efforts at the 15 locations totaled 7,155 birds of 90 species captured during 10,992 net hours.

The ten most numerous captured species were Song Sparrow (734 total captures, 417 newly banded), Dark-eyed (Oregon) Junco (655 total, 468 banded), Wilson's Warbler (375 total, 336 banded), Purple Finch (294 total, 246 banded), Yellow Warbler (285 total, 209 banded), White-crowned Sparrow (269 total, 249 banded), Orange-crowned Warbler (265 total, 241 banded), Spotted Towhee (248 total, 164 banded), Fox Sparrow (225 total, 179 banded), and Hermit Thrush (223 total, 198 banded).

Our bird banding training program is an integral part of our monitoring program. During 2011, 11 student volunteer interns received experiential instruction in advanced bird banding and survey techniques. The instruction is supplemented with study materials, published by the North American Banding Council, pertinent scientific literature, and regular seminars presented by KBO staff. Our international internship program is made possible through our partnerships with the Ashland Rotary Club, the Southern Oregon University International Studies Program and the US Forest Service International Programs' Wings Across the Americas.

Two banding techniques workshops were presented, one in May and another in August, at our Upper Klamath Lake Field Station. Participants received instruction in advanced landbird ageing and sexing techniques, standard biometrics, mist net use and maintenance, outreach and education communication skills, and general field safety principles. The workshops were attended by 33 individuals.

Toward the fulfillment of the North American Banding Council (NABC) mission of promoting sound and ethical banding principles and techniques, KBO coordinated a NABC Bander and Bander Trainer group certification session in partnership with the U.S. Forest Service Pacific Southwest Research Station at KBO's Humboldt Bay Bird Observatory, in Arcata, CA. From these evaluations, five of our interns were certified at the Bander level and four were certified at the Bander Trainer level.