

43rd Annual Conference of Western Field Ornithologists

Ventura, California • September 26-30, 2018

Science Program

September 28 and 29, 2018

San Buenaventura Ballroom, Four Points by Sheraton Ventura Harbor Resort–Ventura

Schedule of Presentations and Identification Challenges

Friday, September 28, 2018

- 12:15–12:20 Welcoming remarks by WFO President TOM BLACKMAN.
- 12:20–12:50 Plenary presentation by PAUL W. COLLINS. **Avifauna of the California Channel Islands from the Pleistocene to the present: changing baselines from human transformations of island ecosystems.**
- 12:50–1:05 JUSTYN STAHL, NICOLE DESNOYERS, ANDREW BRIDGES, MELISSA BOOKER, and DAVID GARCELON. **Sex-specific natal dispersal of the endangered San Clemente Loggerhead Shrike: implications for population recovery.**
- 1:05–1:20 DAVID PEREKSTA. **Birds and offshore wind energy development: status and distribution, potential effects, mitigations, and assessment.**
- 1:20–1:35 LESLEY HANDA. **The wild parrots of San Diego County.**
- 1:35–1:50 JAMES M. MALEY, MARGARET E. SCHEDL, ROWDY J. FREELAND, AMANDA J. ZELLMER, BROOKE DURHAM, WHITNEY L. E. TSAI, RYAN S. TERRILL, KIMBALL L. GARRETT, and JOHN E. MCCORMACK. **Genomic admixture of *Amazona* parrots in southern California.**
- 1:50–2:05 FLOYD E. HAYES, DYLAN G. TURNER, BRYAN J. MCINTOSH, DOUGLAS E. WEIDEMANN, NATHAN D. ZIMMERLY, MANUEL B. PERALTA, DANIEL B. STOPPELMOOR, and MYCHAL E. HELLIE*. **Grebes as allogenic ecosystem engineers: use of floating *Aechmophorus* grebe nests by 47 species of vertebrates at Clear Lake, California.**
- 2:05–2:15 **Break.**
- 2:15–2:30 SARAH E. FISCHER, KATHY GRANILLO, and HENRY M. STREBY. **Inter-annual variability in the post-fledging period of Gray Vireos in New Mexico.**
- 2:30–2:45 THOMAS RYAN, CARLOS JAUREGUI, and JOYCE REALEGENO. **A study of the age structure, survival, and movement of the California Least Tern.**
- 2:45–3:00 MARISSA HEYNE and THOMAS RYAN. **Use of field readable alphanumeric bands on California Least Terns to study age structure, survival, and movement.**
- 3:00–3:15 BENJAMIN PEARL. **Breeding success of Western Snowy Plovers and California Least Terns nesting in close proximity at an enhanced San Francisco Bay pond.**
- 3:15–3:30 STACY M. MOSKAL, SUSAN E. W. DE LA CRUZ, LAURIE A. HALL, JOHN Y. TAKEKAWA, LACY M. SMITH, CHERYL STRONG, and SCOTT A. SHAFFER. **Waterbird response to restoration within San Francisco Bay estuary.**
- 3:30–4:00 **Break.**
- 4:00–5:30 **Bird Sound Identification: Team Challenge**, moderator NATHAN PIEPLOW.

Saturday, September 29, 2018

- 12:15–12:20 Welcoming remarks by WFO President TOM BLACKMAN.
- 12:20–12:35 DANIEL A. AIROLA. **Tricolored Blackbird breeding status, ecology, and conservation in the foothills of the Sierra Nevada.**
- 12:35–12:50 JENNIFER BALLARD and DAVID SYZDEK. **Birds of Warm Springs Natural Area, Nevada, and their response to changes in management.**
- 12:50–1:05 LANCE A. M. BENNER. **Distribution of Red Crossbill flight call types in southern California.**
- 1:05–1:20 JOHANNA BEAM. **Townsend’s Solitaire song use and phrase structure.**
- 1:20–1:35 LAUREN B. HARTER, DAWN FLETCHER, and ELISABETH AMMON. **Region-wide desert thrasher surveys: an example of a collaborative conservation effort.**
- 1:35–1:50 DESMOND SIEBURTH and PETER PYLE. **Evidence for a prealternate molt-migration in the Rufous Hummingbird and its implications for the evolution of molts in hummingbirds.**
- 1:50–2:00 **Break.**
- 2:00–2:15 PETER PYLE and RODNEY B. SIEGEL. **Molt patterns provide insight into dispersal and distribution of two priority bird species in California.**
- 2:15–2:30 ANDREW FLOYD and TED FLOYD. **Just meme it! Cultural evolution in a rapidly expanding population of the Bushtit.**
- 2:30–2:45 DAVID VANDER PLUYM and LAUREN HARTER. **The Mexican Duck in the Lower Colorado River Valley and California: status and notes on identification and taxonomy.**
- 2:45–3:00 GARRETT, KIMBALL. **Is eBird killing natural history?**
- 3:00–3:15 STEVE ROTTENBORN and THOMAS A. BENSON. **2018 update from the California Bird Records Committee.**
- 3:15–3:45 **Break.**
- 3:45–5:15 **Photo Identification: Expert Panel**, moderator ED HARPER.

Banquet and Evening Program –San Buenaventura Ballroom

- 6:45–9:30 Keynote Address by DAVID G. AINLEY. **Recent population dynamics of seabirds, in response to their prey, in the Gulf of the Farallones.**

* presenting (when not lead author)

Featured Speakers

Science Sessions Day 1– Opening Presentation
Friday, September 28. 12:20 p.m. San Buenaventura Ballroom

COLLINS, PAUL W. **Avifauna of the California Channel Islands from the Pleistocene to the present: changing baselines from human transformations of island ecosystems.***Santa Barbara Museum of Natural History, 2559 Puesta Del Sol, Santa Barbara, CA 93105; pcollins@sbnature2.org.*

The eight islands known as the California Channel Islands, located off the coast of southern California, vary in size, topography, habitats, and degree of isolation from the mainland and from one another. These factors have contributed to the endemism seen in this avifauna and to the overall diversity and abundance of birds found on each of the islands. However, with the arrival of humans around 13,000 years ago, this avifauna has been changing as a result of purposeful and accidental introductions of non-native mammals first by Native Americans and more recently by European ranchers. These introductions transformed island ecosystems, resulting in changes to the avifauna between the grazing and post-grazing eras. Intensive conservation efforts during the past 40 years to remove feral herbivores and nonnative predators such as rats and cats, and to reintroduce avian predators such as Peregrine Falcons (*Falco peregrinus*) and Bald Eagles (*Haliaeetus leucocephalus*) that were impacted by DDT contamination, have helped to facilitate a recovery of native habitats adversely affected by overgrazing and to recover breeding populations of species affected by pesticide contamination. As a result of these conservation efforts and the subsequent natural recovery of native habitats following the removal of grazing animals, the distribution and abundance of birds that nest on each of the islands today is changing. Owl-generated cave deposits on several of the islands provide data on how this avifauna has changed following the arrival of humans and the introduction and subsequent removal of grazing mammals. Observational data from the past 170 years, along with 25 years of point count monitoring surveys, are used to document changes seen both prehistorically and recently in the avifauna of the Channel Islands. A total of 433 species of birds have been recorded on the Channel Islands, with 108 of these having nested on one of more of the islands.

Paul W. Collins is currently the Curator of Vertebrate Zoology at the Santa Barbara Museum of Natural History, where he has worked for the past 45 years. During his tenure at the Museum he has conducted research and published on a wide variety of topics related to the biota of the Channel Islands, including studies on the origin and evolution of the Island Fox (*Urocyon littoralis*), nesting season diet of Bald Eagles and Golden Eagles (*Aquila chrysaetos*) and Peregrine Falcons on the islands, paleoecology of the Island Scrub-Jay (*Aphelocoma insularis*), conservation of declining endemic Channel Island landbirds, fossil and subfossil record of avian remains recovered from owl-generated cave deposits on the islands, and a checklist to birds of the Channel Islands. He is currently working on a book about the birds of the Channel Islands, along with research papers dealing with breeding avifaunal change on the Channel Islands, and environmental change on Santa Barbara Island during the past 1500 years based on faunal remains excavated from the floor of Barn Owl Cave.

Keynote Address
Saturday, September 29. 6:45 p.m. San Buenaventura Ballroom

AINLEY, DAVID G. **Recent population dynamics of seabirds, in response to their prey, in the Gulf of the Farallones.***H.T. Harvey & Associates Ecological Consultants, 983 University Ave, Bldg D, Los Gatos CA 95032; dainley@penguinscience.com.*

Current harvest rules employed in fishery management plans of the California Current System (CCS) are based, in part, on preserving a portion of stock biomass for predators. While that strategy is commendable, considerations of

prey availability within the ambits of various key predators might better inform ecosystem-based fishery management (EBFM). Therefore, we analyzed multiple physical and biological samples – prey availability, predator population size, and predator foraging area – gathered 1985-2015 to quantify thresholds of prey availability at which predators switch diet or location, or incur negative demographic rates. In the process we identified “tipping points” at predator-defined spatial scales within the central CCS study area. Analyses included: 1) role of Common Murre (*Uriaaalge*) predation on annual survival of California Central Valley juvenile salmon when alternate prey are not available; 2) role of forage species management and breeding colony protection in affecting population change, including location, in Brandt’s Cormorants (*Phalacrocorax penicillatus*); and 3) energetic constraints involved in prey switching among murre, cormorants, and Rhinoceros Auklets (*Cerorhincamonocerata*).

David Ainley received his B.S. degree from Dickinson College and Ph.D. from Johns Hopkins University. He has made ~30 trips to Antarctica and the Southern Ocean, about half on oceanographic research vessels. Currently, he is involved in research on penguin demography, as well as studying the effects of penguin and cetacean foraging on penguin prey availability around Ross Island using an ocean glider and Remotely Operated Vehicles. He’s also worked extensively in the California Current, including many research cruises, and he founded and then worked for the PRBO marine research program on the Farallon Islands; he led the restoration of the islands, removing 100 years’ debris as well as feral animals. He initiated efforts to designate the Ross Sea Marine Protected Area, then followed up justifying its existence through papers, presentations, and film; in part the effort was successful (www.lastocean.org). He’s written four books, 12 monographs and ~230 papers about the ecology of marine top predators: seabirds, mammals, and sharks.

Abstracts of Scientific Presentations

AIROLA, DANIEL A. **Tricolored Blackbird breeding status, ecology, and conservation in the foothills of the Sierra Nevada.** *Northwest Hydraulic Consultants, 2600 Capitol Ave Suite 140, Sacramento, CA 95816;* d.airola@sbcglobal.net.

During 2014-2018, I and volunteers surveyed for breeding Tricolored Blackbirds (*Agelaius tricolor*) and characterized habitat and conservation threats in the grassland-dominated regions of the eastern Central Valley and Sierra Nevada foothills of California. We mapped suitable foraging habitat (grassland, irrigated pasture, and grain fields) and surveyed for colonies from public-accessible roads and lands. During five years of variable survey effort, we identified 26-50 nesting colonies supporting 43,000 -78,000 breeders annually. Colony locations moved frequently between years, likely reflecting variability in insect food abundance. The central foothills, where surveys were most consistent annually, supported the highest and most consistent numbers of breeders, 43,000 to 57,000 birds, comprising 25-33% of the known California population. This constancy likely resulted from the prevalence of irrigated pasture that buffered effects of variable rainfall. The central foothills also may serve as a breeding reservoir in dry years that are less favorable in other foothill regions. In the southern foothills, few birds bred during the dry years of 2014 and 2015, presumably due to lack of nesting habitat. In the wetter year of 2016, >17,000 blackbirds bred in non-native milk thistle (*Silybum marianum*), but then declined in the very wet year of 2017 when thistle was rare. Most birds regionwide nested in non-native Himalayan blackberry (*Rubus armeniacus*). Emergent wetlands and milk thistle were used less frequently, except in the southern foothills. Most colonies breed in habitat created by cattle ranching, including irrigated pastures, ditches, and stock ponds. Nesting habitat was seldom disturbed during the nesting season, but continued development, conversion to woody crops, and aggregate mining pose long-term threats, particularly in Sacramento and Placer counties where the largest foothill nesting populations occur. Results demonstrate the importance of the foothill grassland region to the species and the need for greater conservation emphasis, including landscape-level protection that maintains existing grazing land uses.

BALLARD, JENNIFER¹ and DAVID SYZDEK². **Birds of Warm Springs Natural Area, Nevada, and their response to changes in management.** ¹*Great Basin Bird Observatory, 1755 E. Plumb Lane #256, Reno, NV 89510; ballard@gbbo.org.* ²*Southern Nevada Water Authority, P.O. Box 99956, Las Vegas, NV 89193.*

Warm Springs Natural Area (WSNA) in Clark County, Nevada, was acquired by Southern Nevada Water Authority in 2007 to protect an endangered endemic fish, the Moapa dace (*Moapa coriacea*). Cattle grazing ceased in 2008, a wildfire burned much of the property in 2010, and habitat restoration is ongoing. Bird surveys of WSNA began in 2004 (point counts) and have occurred each year since 2008 (point counts and area searches), documenting changes in the bird community over time and the importance of this site to the conservation of birds within Nevada. Between 2004 and 2015, 175 species have been recorded on WSNA, 56 of which have been documented as either probable or confirmed breeders, and 36 of which are conservation priorities. While many species initially responded negatively to the fire, increasing numbers of species are responding positively as shrubby riparian habitat recovers. Comparisons of this Mojave Desert lowland riparian bird community to those elsewhere in Nevada show WSNA appears particularly important to a number of conservation priority species, including Abert's Towhee (*Melospiza aberti*), Gambel's Quail (*Callipepla gambelii*), Phainopepla (*Phainopepla nitens*), and Vermilion Flycatcher (*Pyrocephalus rubinus*).

BEAM, JOHANNA. **Townsend's Solitaire song use and phrase structure.** *St. Olaf College, 1500 St. Olaf Ave., Northfield, MN 55057; jobe0768@colorado.edu.*

Townsend's Solitaires (*Myadestes townsendi*) are known for their long complex song and clear flute-like call notes and can be heard vocalizing from late October into late March. These birds hold winter territories for foraging and maintain them by vocalizing and chasing other conspecifics out of their territory. This study was completed during January 2018, in the foothills of Colorado in Larimer and Boulder counties. Townsend's Solitaires responded aggressively to all conspecific calls, and were not more responsive to songs from conspecifics from the same elevation or geographic area. A potentially new song type for Townsend's Solitaires, called the phrase song, was discovered. This song type has a much shorter mean length (1.84 seconds) than the complex song mean bout length (14.61 seconds). When this phrase song is vocalized, it is repeated identically, in contrast with the complex song bouts which varies between instances. The number of unique phrases varies per bird, and unique phrases could be repeated up to six times per observation period.

BENNER, LANCE A. M. **Distribution of Red Crossbill flight call types in southern California.** *1465 E Loma Alta Dr, Altadena, CA 91001; lbenner@charter.net.*

Groth (1993) discovered that Red Crossbills (*Loxia curvirostra*) in North America can be classified into different populations based on patterns in their flight calls, and at least 10 call types have been identified. Red Crossbills have been documented in southern California for decades, but until recently the flight call types in southern California were unknown. Szeliga, Benner, Garrett, and Ellsworth (2014) obtained dozens of Red Crossbill recordings from 2011 to 2013 and reported the first records of types 2 and 3 in the transverse and peninsular ranges, deserts, and coastal slopes. Here I report results from more than 100 new recordings obtained in the eastern and southern Sierra Nevada, transverse and peninsular ranges, western Mojave Desert, and coastal slope. To date, all the Red Crossbills that have been recorded in the transverse and peninsular ranges of Ventura, Kern, Los Angeles, San Bernardino, and Riverside Counties since 2011 have been flight call type 2. In the western Mojave Desert and in the coastal lowlands, both types 2 and 3 have been present during recent irruptions. All the Red Crossbills recorded in the eastern Sierra Nevada in Mono County have been type 2. In the southern Sierra Nevada, surveys since 2015 yielded types 2 and 5 at Horseshoe Meadows in western Inyo County at high-altitude areas with extensive lodgepole and foxtail pines. The type 5 at Horseshoe Meadows are the southernmost currently known in California. In 2017 and 2018, audio recordings I obtained provided the first records of type 2 in southern Tulare County at Horse Meadow on the Kern Plateau and at Trail of 100 Giants. This talk will present audio spectrograms for each type and maps of call type geographic distributions, and discuss prospects for finding flight call types in southern California that have not yet been documented.

FISCHER, SARAH E.¹, KATHY GRANILLO², and HENRY M. STREBY¹. **Inter-annual variability in the post-fledging period of Gray Vireos in New Mexico.** ¹*University of Toledo, Department of Environmental Sciences, 2801 W Bancroft St., Toledo, OH 43606; sarahefisc@gmail.com, henry.streby@gmail.com.* ²*United States Fish and Wildlife Service: Sevilleta National Wildlife Refuge, La Joya, NM 87028; kathy_granillo@fws.gov.*

Gray Vireos (*Vireo vicinior*) are short-distance migratory songbirds that breed primarily in piñon (*Pinus* spp.) – juniper (*Juniperus* spp.) systems in the southwestern United States and northwestern Mexico. These systems are generally well studied and are often heavily managed for game species and agriculture. Gray Vireos, and other songbirds that rely on these systems, are relatively understudied, presenting challenges to informing and implementing habitat management plans. Additionally, most studies of Gray Vireo demography focus on the nesting stage (i.e., nesting success as a measure of productivity). However, incorporating data from the post-fledging period and other stages of the annual cycle is essential to determine full-season productivity and habitat associations, as well as potential limiting factors to population growth. We monitored nests from 2016-2018 at Sevilleta National Wildlife Refuge in central New Mexico, USA. Apparent nest success ranged from 24-26% and all nests were in one-seed juniper (*Juniperus monosperma*). Brown-headed Cowbirds (*Molothrus ater*) parasitized 38-45% of Gray Vireo nests in those years. In 2017 and 2018, we used radio telemetry to track the daily movements of Gray Vireo fledglings to determine post-fledging space use, survival, and habitat features associated with those parameters. Fledgling survival varied greatly among years (~66% in 2017; ~30% in 2018) during the dependent stage (i.e., between nest departure and independence from adult care). The mean distance between daily movements was 241 m (\pm 235 SD), and the maximum observed daily distance was 1.4 km; these daily distances increased with fledgling age. Gray Vireo fledglings used one-seed juniper during 85% of observations ($n=504$), which may have implications for management. Like other fledgling studies, the majority of mortality occurred during the first week post-fledging. Our study highlights the importance of monitoring fledgling songbirds over multiple years when considering full-season productivity and management decisions.

FLOYD, ANDREW¹ and TED FLOYD². **Just meme it! Cultural evolution in a rapidly expanding population of the Bushtit.** ¹*The CHOICE Program at Platt Middle School, 6096 Baseline Road, Boulder, CO 80303; andrewfloyd729@gmail.com.* ²*American Birding Association, 2009 South Fork Drive, Lafayette, CO, 80026; tfloyd@aba.org.*

The range of the Bushtit (*Psaltriparus minimus*) has recently expanded northward into northeastern Colorado and eastern Wyoming. In this presentation, we briefly document the regional range expansion and then present a detailed case study of a newly established Bushtit population in eastern Boulder County, Colorado. Although we do not discount a role for climate change as the ultimate driver of the regional range shift, our focus here is on the proximate role of resource availability, especially suet feeders, in the population expansion. It's not just that there are vastly more bird feeders than there used to be; we also conjecture that suet is a novel food resource for Colorado Bushtits—and that feeding Bushtits is a novel behavior for birders. Colorado humans and Bushtits thus appear to be engaged in cultural coevolution. We also present evidence that Boulder County Bushtits sing, contrary to the generally accepted view that the species does not exhibit song. In light of biologists' current emphasis on phenotypic plasticity as an agent of avian population change, we wonder whether song in Boulder County Bushtits is a recently acquired adaptive trait. Both song and suet feeding might be examples of culturally transmitted characters, or "memes," especially in view of the extreme sociableness of Bushtits. While we are quick to caution that our observations, largely anecdotal, refer to a limited portion of the species' dynamic range, we also invite others to test our hypotheses elsewhere in the West. Finally, we reflect on the intertwined roles of changing attitudes and emerging technologies in promoting awareness of and interest in phenomena such as behavioral changes in rapidly expanding bird populations.

GARRETT, KIMBALL. **Is eBird killing natural history?** *Natural History Museum of Los Angeles County, 900 Exposition Blvd. Los Angeles, CA 90007; kgarrett@nhm.org.*

The answer, of course, is “no” but... with birders and field ornithologists throughout the West increasingly using eBird to record their observations, there has not been a concomitant increase in the recording of natural history details accompanying these observations. In fact, the great majority of eBird checklists lack any information on weather conditions, details of coverage (beyond time and distance), habitat descriptions, disturbance factors, detectability issues, and other information valuable or even mandatory for the proper interpretation of the checklists. Detailed field notes, the “first rough draft of natural history,” have formed a key basis for important resurvey efforts in California, Mexico, and elsewhere, yet the largest database on current bird distribution (eBird) consists of little but bare-boned species checklists. I offer some specific suggestions for increasing the scientific value of eBird checklists – in essence suggestions for taking field notes in the age of eBird – and conclude with some musings on the more general role of social media and community science in recording natural history.

HANDA, LESLEY. **The wild parrots of San Diego County.** *Handa Ornithology Lab, P.O. Box 19492, San Diego, CA 92159; HandaOrnithologyLab@gmail.com.*

Wild parrots adapted to urban areas across Southern California are species of concern recognized by the IUCN including the Red-crowned Amazon (*Amazonaviridigenalis*; Endangered), Lilac-crowned Amazon (*Amazonafinschi*; Vulnerable), Yellow-headed Amazon (*Amazonaoratrix*; Endangered), and Red-masked Parakeet (*Psittacaraerythrogenys*; Near Threatened). It has been speculated that the populations of some of these species in urban areas in the United States may rival numbers across native ranges; however, with large gaps in research, including a decade or more since previous research has been performed and areas without any investigative studies, there are many questions that remain. The intent of this study is to contribute an overview of the status of the wild parrots across San Diego County and contribute information toward the assessment of the world population for the species of special concern. Little research has been performed across San Diego County, and this investigative study from 2016 to 2018 presents initial findings regarding populations, geographical extent, and biodiversity of parrot species. Findings will be presented from monthly roost counts, field observations, and citizen science data to provide a picture of wild parrot activity across the county.

HARTER, LAUREN B., DAWN FLETCHER, and ELISABETH AMMON. **Region-wide desert thrasher surveys: an example of a collaborative conservation effort.** *Great Basin Bird Observatory, 1755 Plumb Lane #256, Reno, NV 89502; harter@gbbo.org, dawnmariefletcher@gmail.com, ammon@gbbo.org.*

Trends from recent Partners in Flight data show that populations of LeConte’s Thrashers (*Toxostomalecontei*) and Bendire’s Thrashers (*Toxostomabendirei*) have declined by 64% and 78%, respectively, in the past 10 years. Both species are recognized as sensitive by wildlife agencies, demonstrating the need for additional research and monitoring. LeConte’s and Bendire’s thrashers are traditionally under-sampled in bird monitoring programs because they are relatively rare and cryptic in their behavior. The Desert Thrasher Working Group (DTWG) was formed in 2011 to raise awareness, conduct habitat suitability modeling, and enhance monitoring strategies for these thrashers. Fifteen government agencies and partners that span the species’ ranges collaborated to develop best thrasher monitoring and management practices. The DTWG has established a standardized field protocol for inventory and monitoring, developed species distribution models to guide random sampling, and is conducting initial surveys with the short-term objective of developing regional habitat suitability models. Secondary short-term survey goals include testing the DTWG field protocol and generating accurate species distributions on a fine scale. Longer-term goals include determining population sizes, monitoring trends, and refining existing habitat models that can lead to best habitat management practices. Over 2017 and 2018, DTWG partners sampled approximately 825 random plots in Arizona, California, Nevada, New Mexico, and Utah. In this presentation, we discuss sampling design, survey results, future plans, and how collaboration among states and federal partners may successfully apply the best available science toward thrasher conservation on a regional scale.

HAYES, FLOYD E.¹, DYLAN G. TURNER¹, BRYAN J. MCINTOSH², DOUGLAS E. WEIDEMANN¹, NATHAN D. ZIMMERLY¹, MANUEL B. PERALTA¹, DANIEL B. STOPPELMOOR¹, and MYCHAL E. HELLIE¹. **Grebes as allogenic ecosystem engineers: use of floating *Aechmophorus* grebe nests by 47 species of vertebrates at Clear Lake, California.** ¹*Department of Biology, Pacific Union College, 1 Angwin Ave., Angwin, CA 94508; floyd_hayes@yahoo.com.* ²*5226 4th St. #35, Kelseyville, CA 95451.*

Floating bird nests occur ephemerally in many wetlands, providing resources for wildlife, but the species using such nests and their ecological roles are poorly studied. Grebes (Podicipedidae) construct floating nests anchored to emergent vegetation along the shore or submergent vegetation in open water. During 2010–2017 we studied the vertebrates using nests of the colonially-nesting western grebe (*Aechmophorus occidentalis*) and Clark’s grebe (*Aechmophorus clarkii*) at Clear Lake, California. In addition to both grebe species using each other’s nests for copulation and egg dumping, we identified 47 other species of vertebrates using *Aechmophorus* grebe nests, including one fish, one amphibian, two turtles, one snake, 39 birds, and three mammals. Ecological roles of vertebrates using grebe nests included: egg dumping (one bird); predation on grebe eggs (four birds and three mammals), chicks (possibly one bird), and adults (one unidentified species); scavenging on broken grebe eggs (five birds); resting (one amphibian, three reptiles, and 15 birds); foraging for non-avian prey on nests (13 birds) or in adjacent water (five birds); and incidental destruction of grebe eggs (one fish and two reptiles) and nests (many species). Elsewhere an additional five species of vertebrates have been reported using *Aechmophorus* grebe nests and an additional role, appropriating nests for incubating one’s own eggs, has been reported. Floating grebe nests undergo a process of ecological succession. Egg dumping, predation, and scavenging occur during early stages of nest development and maintenance. Once abandoned, older nests are used for resting or foraging for prey in nearby water. Decomposing nests are colonized by arthropods which are preyed upon by birds. Because floating bird nests increase food web complexity by attracting aquatic, semiaquatic, and terrestrial organisms at all trophic levels, protecting the engineers and their nests should be considered a conservation priority by wetland managers.

HEYNE, MARISSA¹ and THOMAS RYAN². **Use of field readable alphanumeric bands on California Least Terns to study age structure, survival, and movement.** ¹*California State University, Fullerton, CA 92831; marissanheyne@gmail.com.* ²*Ryan Ecological Consulting, 526 West Colorado Blvd., Monrovia, CA 91016; tryanbio@gmail.com.*

U.S. Geological Survey (USGS) records indicate only 3.4% of California Least Terns (*Sternula antillarum browni*) banded between 1988 and 2016 were re-sighted and reported (recaptures). This low rate of recaptures, combined with uneven effort in banding by year and nest colony, have resulted in studies unable to provide key population parameters. Here we 1) propose the use of field-readable alphanumeric bands, 2) provide observations on the detectability of bands using different methods, and 3) recommend a protocol to be used at each colony to sample the overall population each year. We recommend using superzoom cameras, as opposed to 10x binoculars or spotting scopes, to read the bands in the field because cameras were able to provide clear images of the bands at a greater distance and provide a permanent record of the sighting. Alternatively, we recommend using small “action cameras” rather than “game cameras” near nests because they are smaller and provide greater resolution. We propose capturing 30% of the population of fledging chicks at the three most productive sites among each breeding cluster, then implementing one of two techniques for reading the band status of 30% of adults nesting at each of these colonies in subsequent years. Initial capture would be of USGS banded chicks that are a minimum of 7 days old with a minimum body weight of 35 grams and wing length of 100 mm. Adults would then be re-sighted by A) colony monitors using super-zoom (80x or greater) cameras, or B) motion-activated sport video cameras deployed by monitors at multiple nests.

JAMES M. MALEY¹, MARGARET E. SCHEDL, ROWDY J. FREELAND, AMANDA J. ZELLMER, BROOKE DURHAM, WHITNEY L. E. TSAI, RYAN S. TERRILL, KIMBALL L. GARRETT, and JOHN E. MCCORMACK. **Genomic admixture of *Amazona* parrots in Southern California.**¹*Moore Laboratory of Zoology, Occidental College, 1600 Campus Road, Los Angeles, CA 90041; jmaley@oxy.edu.*

Southern California is home to a large population of naturalized parrots, all former pets or descendants of pets. There are at least six species of *Amazona* parrots that are known to breed or suspected of breeding in Los Angeles County. The most abundant species is Red-crowned Parrot (*Amazona viridigenalis*), numbering in the thousands, followed by Lilac-crowned Parrot (*Amazona finschi*). These two close relatives are allopatric in their native ranges but breed in the same areas of Los Angeles. Lilac-crowned Parrots are often found at higher elevations in their native range and have been found breeding in the mountains above Los Angeles. Phenotypic hybrids have been suspected to occur, but we wanted to determine if the two species are hybridizing based on genomic data. To determine the level of genetic admixture we sequenced ultraconserved elements (UCEs) for six Lilac-crowned and seven Red-crowned parrots collected between 1934 and 1955 from their native ranges. We also sequenced UCEs for 22 *Amazona* parrots salvaged in Los Angeles and San Diego. Based on almost 22,000 single nucleotide polymorphisms we found evidence of an F1 hybrid between the two species, a Red-crowned Parrot backcross, and four Red-crowned Parrot individuals with some Lilac-crowned Parrot ancestry. It remains to be seen if species boundaries will remain, or if the parrot flock of Southern California will become a huge hybrid swarm.

MOSKAL, STACY M.¹, SUSAN E.W. DE LA CRUZ¹, LAURIE A. HALL¹, JOHN Y. TAKEKAWA², LACY M. SMITH³, CHERYL STRONG⁴, and SCOTT A. SHAFFER⁵. **Waterbird response to restoration within San Francisco Bay estuary.**¹*USGS Western Ecological Research Center San Francisco Bay Estuary Field Station, 505 Azuar Drive, Vallejo, CA 94592; smoskal@usgs.gov.*²*Suisun Resource Conservation District, 2544 Grizzly Island Rd., Suisun City, CA 94585; jtakekawa@suisunrcd.org.*³*Utah State University, Department of Wildland Resources, 5230 Old Main Hill, Logan, UT 84322; lacymsmith@aggiemail.usu.edu.*⁴*Don Edwards San Francisco Bay National Wildlife Refuge, 1 Marshlands Road, Fremont, CA 94555; cheryl_strong@fws.gov.*⁵*San Jose State University, One Washington Square, San Jose, CA 95192; Scott.Shaffer@sjsu.edu.*

Thousands of migratory and wintering waterbirds in San Francisco Bay Estuary rely on habitat in former salt production ponds. In particular, shorebirds tend to use these ponds for roosting and additional foraging opportunities at high tide when adjacent mudflats are inundated. The South Bay Salt Pond Restoration Project plans to restore 50-90% of ponds to tidal marsh while maintaining waterbirds in a smaller footprint of managed ponds. Thus, in 2009-2010, the restoration project constructed 30 islands in an experimental pond to increase the area of shallow foraging and roosting habitat. To assess the response of waterbirds, we examined avian abundance in relationship to physical characteristics and orientation of these newly created islands. We conducted weekly waterbird surveys from October to May 2010-2012 and used Geographic Information Systems to measure island spatial characteristics, including island elevation and area, as well as island distance to the highway, the adjacent mudflat, and the nearest levee. We modeled abundance of small shorebirds and dabblers in relation to island features, including island connectivity, using generalized linear mixed models. Islands supported the greatest abundance of both guilds at high tide and in the morning compared to low tide and afternoon, respectively. Islands closer to mudflats and farther from highways supported a greater abundance of dabbling ducks, but not small shorebirds. Elevation, distance to levee, and island area did not affect either guild's abundance. Connectivity models indicated that waterbird abundance positively influenced conspecific abundance on adjacent islands within 100 m or less. Our research demonstrated that waterbirds use islands immediately post construction and identified several island characteristics that supported higher bird abundances. This information can help guide future island construction and restoration efforts aimed at optimizing managed pond habitat for waterbirds.

PEARL, BENJAMIN. **Breeding success of Western Snowy Plovers and California Least Terns nesting in close proximity at an enhanced San Francisco Bay pond.** *San Francisco Bay Bird Observatory, 524 Valley Way, Milpitas, CA 95035; bpearl@sfbbo.org.*

Within the San Francisco Bay, federally threatened Western Snowy Plovers (*Charadrius nivosus nivosus*) breed, forage, and roost in dry former salt production ponds. Past research conducted by the San Francisco Bay Bird Observatory from 2008 to 2014 indicated that Snowy Plovers preferentially selected 1-hectare(ha) oyster shell test plots, over unshelled plots, for nesting. These shell plots provided greater crypsis and camouflage for adults and nests, resulting in increased nest success. In 2014, as part of the South Bay Salt Pond Restoration Project, Snowy Plover breeding habitat at pond E14 in Eden Landing Ecological Reserve was enhanced by applying over 20 ha of oyster shell in two plots. From 2015 to 2018, these enhancements attracted large numbers of Snowy Plovers to breed. Beginning in June 2017, these plots also attracted the endangered California Least Tern (*Sterna antillarum browni*) to breed. Past research has indicated that Snowy Plovers benefit from breeding in close proximity to Least Terns due to the terns' aggressive defense of their colony. While both species had relatively high breeding success in 2017, monitoring during the 2018 breeding season has documented drastically increased predation pressure on Least Tern. Prior to conducting similar enhancements in other areas, the cause of the increased predation and potential methods to reduce it must be investigated.

PEREKSTA, DAVID. **Birds and offshore wind energy development: status and distribution, potential effects, mitigations, and assessment.** *Bureau of Ocean Energy Management, 760 Paseo Camarillo, Suite 102, Camarillo, CA 93010; david.pereksta@boem.gov.*

The offshore waters and coastlines of the Pacific states and Hawaii provide year-round habitat for a number of bird species, at least 13 of which are federally listed as threatened or endangered, and 80 others have some level of special status designation. Previous studies and offshore exploration have provided baseline information on the distribution and abundance of bird species on the Pacific Outer Continental Shelf (OCS). Monitoring of offshore wind energy facilities in Europe has identified potential effects that the construction and operation of energy devices could have on birds, including collision, displacement, barrier effects, and attraction. The Bureau of Ocean Energy Management (BOEM) has initiated, in coordination with other agencies and partners, the collection and syntheses of existing data, identification of data gaps, development and funding of studies to fill those gaps, and creation of products for assessing risk to birds from structures at sea. With broad-scale assessment of suitable areas for wind and wave energy production offshore, the challenge has been to collect and compile information quickly and at as large a scale as possible. Assessing what we know, what we can predict, and how we can assess risk has led BOEM to develop and collaborate on a variety of studies including baseline data assessments, at-sea surveys, predictive modeling of seabird distribution and abundance, vulnerability and risk assessments, and technology testing for efficient ways to inventory birds on the OCS. These are being applied in the Pacific OCS to provide for assessments of potential effects and data needs early in the planning process at regional and local scales with the goal of designing and implementing ocean energy projects that will minimize effects to avian species to the greatest extent practicable.

PYLE, PETER and RODNEY B. SIEGEL. **Molt patterns provide insight into dispersal and distribution of two priority bird species in California.** *The Institute for Bird Populations, P.O. Box 1346, Point Reyes Station, CA 94956; ppyle@birdpop.org.*

The Institute for Bird Populations informs conservation and management of landbird species across California and North America by studying their population dynamics and demography. Black-backed Woodpecker (*Picoides arcticus*) and Great Gray Owl (*Strix nebulosa*) are species of management concern in California that we have studied intensively and for which we have published detailed conservation strategies in partnership with government agencies. As part of this research, we captured 57 adult Black-backed Woodpeckers in six burned areas in California between one and eight years after fire, and used molt patterns to assign birds to one of five age classes. Among adult birds, we found a preponderance of second-calendar-year individuals in the 1-year and 2-year postfire areas and a

preponderance of older birds in the postfire areas of >2 years, indicating that 1) post-natal dispersal is a primary means of colonizing recently burned areas, and 2) the decline of Black-backed Woodpecker populations 6–10 years after fire may reflect the lifespan of individual birds. Based on recapture data, we also were able to confirm ageing criteria of some Black-backed Woodpeckers as fourth-cycle individuals. For the Great Gray Owl, we were interested in whether two extralimital records in Humboldt County, California, during successive winters might represent a range expansion and previously undetected breeding population of this secretive species. The records occurred about 50 kilometers apart during the winters of 2015-2016 and 2016-2017. Numerous photographs taken by birders revealed patterns of retained juvenile and replaced basic wing feathers that, along with distinctive markings, confirmed both records to represent the same bird. We thus inferred that this individual was more likely a winter migrant or vagrant than part of an undetected breeding population in the area. The replacement patterns of flight feathers, furthermore, allowed us to increase our understanding of molt patterns in the Great Gray Owl.

ROTTENBORN, STEVE¹ and THOMAS A. BENSON². **2018 update from the California Bird Records Committee.**¹*H. T. Harvey & Associates, 983 University Avenue, Bldg. D, Los Gatos, CA 95032; strottenborn@harveyecology.com.*²*California State University San Bernardino, 5500 University Parkway, San Bernardino, CA 92407; secretary@californiabirds.org.*

Since August 2017, the California Bird Records Committee (CBRC) has accepted first state records of the Eurasian Wryneck (*Jynx torquilla*), Kermadec Petrel (*Pterodromaneglecta*), Jouanin's Petrel (*Bulweria fallax*), Citrine Wagtail (*Motacilla citreola*), Band-rumped Storm-Petrel (*Oceanodroma castro*), and Tropical Parula (*Setophaga pititayumi*). Oriental Greenfinch (*Chloris sinica*) was moved from the supplemental list to the main list based on reconsideration of the winter 1986-1987 record from Humboldt County. These additions bring the California list to 672 species. Potential additions to the state list currently being considered by the committee are Eastern Meadowlark (*Sturnella magna*) and European Golden-Plover (*Pluvialis apricaria*). Other interesting recent records accepted by the CBRC include the state's first photographically confirmed White-winged Crossbill (*Loxia leucoptera*) and the third records of Swallow-tailed Gull (*Creagrurus furcatus*), Great Frigatebird (*Fregata minor*), and Fork-tailed Flycatcher (*Tyrannus savana*). Potential first and second state records of Hawfinch (*Coccothraustes coccothraustes*) and Eurasian Kestrel (*Falco tinnunculus*), respectively, were not accepted on the grounds of questionable natural occurrence. Dusky-capped Flycatcher (*Myiarchus tuberculifer*) was removed from the review list on the basis of the regularity of this species' occurrence, primarily as a winter visitor.

RYAN, THOMAS, CARLOS JAUREGUI, and JOYCE REALEGENO. **A study of the age structure, survival, and movement of the California Least Tern.** *Ryan Ecological Consulting, 526 West Colorado Blvd., Monrovia, CA 91016; tryanbio@gmail.com.*

We re-captured and obtained records of 725 banded California Least Terns (*Sternula antillarum browni*) with a goal of determining the age structure, dispersal and survival rates. We found that 60,516 California Least Terns were banded between 1988 and 2016 and estimate 21,070 fledged. Of these, 725 (3.4%) were recaptured. Original bandings were mostly in San Diego County between 1991 and 2011, resulting in uneven effort between sites and years. There was higher productivity of fledglings from 1997 to 2008, resulting in a "wave" moving through the population structure. Average age of breeding has increased from 2008 to 2017 from 7.6 to 11.4 years of age. There are relatively fewer California Least Terns in the earlier years than later years of their reproductive life span. This may either be due to lower productivity of fledglings from the breeding colonies in recent years or lower survivorship in years 4-8 and higher survivorship in years 9-14 than predicted by Akcakaya et al. (2003). We detect fewer than expected 3-year birds and 19 to 24-year birds, indicating that the peak of breeding extends from 4 to 18 years of age. California Least Terns captured between 2008 and 2017 exhibited a return rate of 34% of adults returning to the natal colony, and an additional 38% were captured within 30 kilometers of the natal colony, or within the same "nest clusters." Among California Least Terns captured multiple times we found 39% returning to the natal colony in the first recapture (and 93% of those returned to the natal colony the second year as well); 61% moved to a different colony in the first

recapture, and of these, 79% were then recaptured at the same second site, and 8% dispersed to a third site. We recommend that a more regular and even effort be made to band at least 30% of fledglings annually, and we recommend a goal of re-sighting and recapturing 30% of adults.

SIEBURTH, DESMOND¹ and PETER PYLE². **Evidence for a prealternate molt-migration in the Rufous Hummingbird and its implications for the evolution of molts in hummingbirds.** ¹Moore Laboratory of Zoology, Occidental College, 1600 Campus Road, Los Angeles, CA 90041; dessisieburth@gmail.com. ²The Institute for Bird Populations, P.O. Box 1346, Point Reyes Station, CA 94956; ppyle@birdpop.org.

An inserted body feather molt has recently been documented in the Ruby-throated Hummingbird (*Archilochus colubris*) during its south-bound migration; however, it is unknown if other species of hummingbirds undergo similar inserted molts or molt-migrations. We examined 346 specimens of Rufous Hummingbird (*Selasphorus rufus*) collected throughout its range and found evidence for a previously unrecognized inserted body feather molt that appears to occur, at least partially, at stopover locations in the Mexican monsoonal region. A limited inserted replacement of body feathers occurs in most adults and all young Rufous Hummingbirds, primarily in late June through October, before the complete over-winter molt in February to March. The location, timing, and extent of this molt in the crown, back, and underpart tracts showed similar patterns among the four age/sex groups; however, patterns of inserted throat-feather molt differed, occurring in all young birds and some adult females but not in adult males. In young birds, replacement of throat feathers preceded that of other body-feather tracts, a pattern that we also found in young male Anna's Hummingbirds (*Calypte anna*). We suspect that the unusual structure of the gorget feathers in males and the importance of these feathers to territorial defense and mate selection has resulted in these sex-specific patterns. We compare the molts of Ruby-throated and Rufous hummingbirds with those of ancestral hummingbirds and swifts. Based on the most parsimonious interpretation of presumed homologies, we propose that the summer-fall body-feather molts in these hummingbirds are inserted and include a limited preformative molt in young birds and an absent-to-limited definitive prealternate molt in older birds; we consider the first complete molt on the winter grounds to be the second prebasic molt. This terminology appears to best preserve homology during the evolution of both first-cycle and definitive-cycle molts from those of ancestral Trochiliformes and Apodiformes taxa.

STAHL, JUSTYN¹, NICOLE DESNOYERS¹, ANDREW BRIDGES¹, MELISSA BOOKER², and DAVID GARCELON³. **Sex-specific natal dispersal of the endangered San Clemente Loggerhead Shrike: implications for population recovery.** ¹Institute for Wildlife Studies, 2327 Kettner Blvd., San Diego, CA, 92101; jstahl@iws.org, desnoyers@iws.org, bridges@iws.org. ²United States Navy, Environmental Division, N-45, Naval Base Coronado PWO, Bldg. #3, PO BOX 357088, San Diego, CA, 92135-7088; melissa.booker@navy.mil. ³Institute for Wildlife Studies, PO BOX 1104, Arcata, CA, 95518; garcelon@iws.org.

Natal dispersal is an essential aspect of population ecology. For endangered species recovery efforts, success of captive breeding and release strategies may hinge on dispersal dynamics; however, dispersal distance often goes unmeasured and may be underestimated in small study areas because long distance dispersal events are not recorded. We explored natal dispersal patterns in the San Clemente loggerhead shrike (*Lanius ludovicianus mearnsi*), a federally endangered subspecies endemic to San Clemente Island, California, for both wild-hatched and captive-hatched/released juveniles. As habitat on the island has recovered following feral goat removal, this intensively monitored population increased from 14 birds in 1998 to a maximum of 179 in 2009. We followed 260 color-banded shrikes (136 females, 124 males) hatched 2000–2015 and breeding 2001–2016, measuring the distance between natal sites and first breeding territories. We compared male vs. female and wild- vs. captive-hatched and investigated the relationship between dispersal distance and population size. Mean dispersal distance was 3.21 kilometers (km). Females dispersed further than males (4.03 km vs. 2.32 km, $P < 0.0001$). Male, but not female, dispersal distance showed a negative density dependence effect related to adult population size in the year following hatch (for males, $r = -0.28$; $P = 0.001$). Captive-hatched juveniles exhibited similar dispersal patterns as wild-hatched juveniles. Release sites located on the periphery of wild breeding habitat, were determined to be within mean dispersal distance (3.21

km) of less than one-third of known suitable breeding territories. As a result, we explored release site options closer to, and within, suitable breeding habitat. Furthermore, as vegetation on the island continues to recover, shrub growth between historically isolated woodland breeding sites may enable shrikes to find suitable nesting habitat without dispersing as far as they did in early stages of habitat recovery.

VANDER PLUYM, DAVID and LAUREN HARTER. **The Mexican Duck in the Lower Colorado River Valley and California: status and notes on identification and taxonomy.** 2841 McCulloch Blvd N #1, Lake Havasu City, Arizona 86403; dvanpluym@gmail.com, lbharter@gmail.com.

The Mexican Duck (*Anas platyrhynchos diazi*) has been expanding its range within the United States, including Arizona where it has been found throughout the state in recent years. The taxon has recently been found regularly along the lower Colorado River and has occurred away from the river in both California and Nevada. Identification of Mexican Ducks is complex in that intergrades with “Northern” Mallard are regularly encountered. Though the Mexican Duck is currently considered a subspecies of Mallard by the American Ornithological Society, other taxonomic committees split it as a separate species, which has renewed interest in these birds among ornithologists and birders. We will discuss identification criteria as well as the recent range expansion and its current status on the lower Colorado River and elsewhere in California.

Presenter Biographies

Daniel Airola conducts independent conservation research on California birds. He has published articles on bird populations, ecology and conservation, especially in human-modified habitats. Recent study subjects include Purple Martins (*Progne subis*), migration of Swainson’s Hawks (*Buteoswainsoni*) and Turkey Vultures (*Cathartes aura*), and long-term changes in bird populations after wildfire. He also is the editor of the *Central Valley Bird Club Bulletin*.

Jennifer Ballard graduated from Washington State University with degrees in Wildlife and Range Management. She earned an MS in Wildlife at Colorado State University, studying the impacts of understory on birds and small mammals in narrowleaf cottonwood/box-elder riparian forests along the Yampa River in Colorado. She is the monitoring coordinator for Great Basin Bird Observatory, and being able to conduct surveys at Warm Springs Natural Area in Nevada has been one of the highlights of her field season since 2008.

Johanna Beam is an undergrad at University of Colorado Boulder, studying Ecology and Evolutionary Biology and Mathematics. Johanna is interested in population genetics and conservation. She is a published bird illustrator and artist. In addition to being a part of the Champions of the Flyway team, the ABA-Leica Subadult Wheatears, Johanna is the 2017 ABA-Leica Young Birder of the Year.

Lance Benner is a scientist at NASA's Jet Propulsion Laboratory, where he specializes in radar observations of near-Earth asteroids. He received an A.B. in Physics at Cornell and a Ph.D. in Earth and Planetary Sciences at Washington University in St. Louis. Lance's principal areas of bird expertise are in owls, Red Crossbills (*Loxiacurvirostra*), montane species of southern California, and audio recordings.

Sarah Fischer is currently an M.S. student at the University of Toledo in Dr. Henry Streby’s Lab. Their current research involves investigating the full annual cycle of Gray Vireos. In addition to their research, Fischer is interested in using science-based art to promote scientific communication and to engage the public in bird conservation.

Andrew Floyd is a sixth-grader who lives in eastern Boulder County, Colorado and enjoys mountain biking in his spare time. After attending previous WFO conferences in Billings and Pueblo, Andrew is the recipient of a Mike San Miguel scholarship for travel to this year's conference.

Kimball Garrett is the Ornithology Collections Manager at the Natural History Museum of Los Angeles County; he is a director and past president of Western Field Ornithologists and spent over 25 years as a member of the California Bird Records Committee. He has long served as an eBird reviewer for California, and has entered over 10,000 of his own checklists into eBird.

Lesley Handa is an ornithologist and geographer studying parrots and waterbirds. Other research interests include climate change, urban habitats, wetlands, and Geographic Information Systems (GIS). Lesley has a B.A. in English, B.S. in Biology, and M.S. in GIScience. She serves on the San Diego Audubon Conservation Committee and is a Board Member of San Diego Audubon Society and the Friends of Famosa Slough.

Lauren Harter has been with the Great Basin Bird Observatory since 2011, where she has worked on riparian, desert, and grassland breeding birds in addition to thrashers. After completing a B.S. in Biology at Northern Arizona University, she spent several seasons as a traveling field biologist before returning to Arizona to work on research and conservation of the birds of the West. She currently serves as Co-Photo Editor for Arizona Field Ornithologists and as a member of the Arizona Bird Committee.

Mychal Hellieis is a senior Environmental Studies major at Pacific Union College in Angwin, California. Mychal has conducted research on the breeding biology of *Aechmophorus* grebes at Clear Lake, California, and on the interactions of gulls and sea otters (*Enhydra lutris*) at Seward, Alaska. Mychal plans to study for a master's degree in ecology and work as an environmental scientist.

Marissa Heyne is a student at California State University Fullerton pursuing a Bachelors of Biology with an emphasis in Ecology and Evolution. She has been with the Orange County zoo as a keeper volunteer since 2016 and currently works with Friends of the Santa Ana Zoo, the nonprofit that assists the Santa Ana Zoo. As a volunteer with field biologist Thomas Ryan since 2016, she has gone on surveys for Least Bell's Vireos (*Vireo belliipusillus*), Willow Flycatchers (*Empidonax traillii*), and California Gnatcatchers (*Polioptila californica*). She began helping Thomas Ryan with his California Least Tern (*Sternula antillarum browni*) studies in 2017 and has assisted in developing protocols for reading alpha numeric bands on these birds.

James M. Maley is from Rochester, New York. He attended the University of Alaska Fairbanks for his B.S. and M.S. He received his Ph.D. in 2012 from Louisiana State University where he worked on large rails in the genus *Rallus*, uncovering novel genetic relationships that led to the splitting of Clapper Rail into three species and King Rail (*Ralluselegans*) into two species. He is the Collections Manager of the Moore Laboratory of Zoology at Occidental College in Los Angeles.

Stacy Moskal is an ecologist working with the U.S. Geological Survey in San Francisco Bay since 2006. With expertise in salt pond ecology, she has studied interactions among waterbirds and their prey, habitats, and each other. She has an M.S. in ecology from San Jose State University and Bachelor's degrees in Environmental Studies and Ecology/Evolutionary Biology from U.C. Santa Cruz.

Benjamin Pearl is the Plover Program Director at the San Francisco Bay Bird Observatory, where he oversees research and monitoring for breeding Western Snowy Plovers (*Charadrius nivosus nivosus*) and California Least Terns (*Sternula antillarum browni*). In his free time he enjoys going on hikes, and if he's not looking up for birds,

he's likely staring at the ground looking for edible mushrooms. He completed his B.S. in Ecology and Evolutionary Biology from U.C. Santa Cruz in 2008 and M.S. in Environmental Studies from San Jose State University in 2015.

David Pereksta is an avian biologist with the Bureau of Ocean Energy Management in Camarillo, California, where he studies and analyzes the effects of offshore oil and gas and renewable energy development on birds and bats off the Pacific coast and Hawaii.

Peter Pyle is an ornithologist and marine biologist who has studied the ecology of birds, pinnipeds, and sharks in California, Hawaii, and throughout the Pacific. He specializes in bird molt and its use in ageing birds. He currently works for the Institute for Bird Populations in Point Reyes Station, California.

Steve Rottenborn is an ecologist with H. T. Harvey & Associates in Los Gatos, California. He is a member of the WFO Board of Directors, Chair of the California Bird Records Committee, and a Northern California regional editor for *North American Birds*.

Thomas Ryan has worked with terns since training with Dr. Charles Collins from 1994 to 1997 and with California Least Terns (*Sternula antillarum browni*) since 2004. He started as a colony monitor at Venice Beach, and he now focuses on studying population dynamics, movements, and migration of the California Least Tern as well as Least Tern populations on the Baja Peninsula. He collaborates with researchers in Chile studying the highly endangered Peruvian Tern (*Sternula lorata*). Tom was formerly on the Board of Directors for WFO.

Dessi Sieburth is an 11th grader at Saint Francis High School in La Canada, California. He won the WFO youth scholarship in 2014 and he is the 2015 ABA Young Birder of the Year. He is a member of the Pasadena Audubon Society and volunteers at the specimen collection at the Moore Lab of Zoology at Occidental College.

Justyn Stahl is the Project Manager for the Institute for Wildlife Studies' San Clemente Loggerhead Shrike Monitoring and Release Project. He's admittedly spread himself a little thin as a *North American Birds* regional editor, a member of the California Bird Records Committee, an eBird reviewer for California, a pelagic leader, and the compiler for the San Diego Christmas Bird Count.

David Vander Pluym lives in Lake Havasu City along the lower Colorado River where he has worked on various projects studying birds in the desert southwest. He is on the Western Field Ornithologist youth scholarship committee and with Lauren Harter is the photo editor for Arizona Field Ornithologist. He recently rotated off the Arizona Bird Committee.

Identification Challenges

Sounds: Team Challenge. *Friday, September 28. 4:00–5:30 p.m. San Buenaventura Ballroom.* **Nathan Pieplow** returns with this pub-quiz style competition to challenge participants with the varied sounds that birds make. Start forming your teams** now! The audience will have plenty of opportunity to participate, too, so come ready to use what you know about bird sounds and to learn even more. WFO logo prizes will be awarded to the winning team!

Nathan Pieplow is the author of the *Peterson Field Guide to Bird Sounds*. He has been fascinated by birds since his childhood in South Dakota and has intensively studied bird sounds since 2003. He is the founder of the bird sound blog Earbirding.com, one of the authors of the Colorado Birding Trail, and the former editor of the journal *Colorado Birds*. Nathan teaches writing at the University of Colorado in Boulder.

** Teams can include up to 6 people, but please, no more than two “experts” per team, defined as current or past members of a bird records committee, field guide authors, and/or professional bird tour leaders. Teams are encouraged to come up with their own creative team name!

Photos:Expert Panel. *Saturday, September 29. 3:45-5:15 p.m. San Buenaventura Ballroom.* Ed Harper will again moderate this ever-popular staple of WFO conferences, in which a distinguished panel of identification experts will examine and comment on photographs of "mystery" birds. Panelists will analyze photographs of birds and discuss the relevant aspects of each bird's particular characteristics that lead to an identification. The intent is to provide a real learning experience for audience and panel alike.

Ed Harper is one of the finest birders and bird photographers in the country. His lively talks and programs are always highly informative and full of humor. An educator at heart, he taught mathematics and field ornithology classes at American River College for 34 years before recently retiring to spend more time in the field. An active birder, he travels widely and he and his wife, Susan Scott, lead birding and natural history tours all over the world.