

Presentation Abstracts

Breeding Biology of Red-faced Warblers in the Santa Catalina Mountains

*Dillon, K.G., Arizona Cooperative Fish and Wildlife Research Unit, School of Natural Resources and the Environment, University of Arizona, 325 BioSciences East, Tucson, AZ 85721
kgdillon@email.arizona.edu*

Conway, C.J., U. S. Geological Survey, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho, PO Box 441141, Moscow, ID 83844

Red-faced warblers have a relatively restricted breeding range in the United States, but unusually high densities of breeding Red-faced Warblers occur in the Santa Catalina Mountains of southeastern Arizona. We have studied Red-faced Warblers breeding from 1800 meters to 2800 meters on Mount Lemmon since 2002, encompassing the entire elevational extent of the species' breeding range. Very little is known about the breeding biology of this species, and we have learned much about their breeding behavior. One of the most intriguing observations that we've made is that birds at the top of the mountain typically lay fewer eggs than birds at lower elevations. Our research suggests that differences in nest predators may explain why high-elevation birds lay fewer eggs. We were also surprised to see that nestlings grew more rapidly at high elevation. Understanding the differences in breeding biology and behaviors among warblers at different elevations will help aid efforts to predict the effects of climate change on montane birds in the southwestern United States.

Migratory and Wintering Strategies of Yellow-eyed Juncos in Southeastern Arizona

Lundblad, C.G., Arizona Cooperative Fish and Wildlife Research Unit, University of Arizona, 104 Biosciences East, Tucson, AZ 85719, carl.lundblad@gmail.com

Conway, C.J., USGS, Idaho Cooperative Fish and Wildlife Research Unit, University of Idaho, P.O. Box 441141, Moscow, ID 83844

Yellow-eyed juncos (*Junco phaeonotus*) make facultative short-distance migrations along elevational gradients in the Sky Island mountain ranges of southeastern Arizona. From 2011-2012 we color-banded 850 juncos on their breeding grounds at five sites spanning the elevational extent of the species' breeding range in the Santa Catalina Mountains. We surveyed each site for banded juncos every two weeks September-February and found evidence for female-biased migration. We found individuals moving between sites as early as the first week of September. Most movements away from breeding areas are assumed to be downslope, but we found evidence of some individuals temporarily moving upslope at the end of summer. The presence of persistent open ground was related to flock formation at some sites. Flocking behavior may represent an alternative strategy to migration and may explain uphill movements. All Juncos temporarily vacated breeding areas following extreme snow events. All major hypotheses proposed to explain partial migration predict the observed differences in migratory tendency

among sex classes. We tested explicit predictions of each hypothesis in order to gain insight into the relative importance of each mechanism that could explain why some juncos migrate downslope and why others do not. Nests of resident individuals succeeded 59% of the time while those of migrants succeeded at a rate of 44%. Residents initiated nests an average of 2.5 days earlier than migrants, but nestling growth rate was not related to migratory status. Residents and migrants did not differ in response to simulated territorial incursions intended to measure interspecific aggression.

Results from 9 Years of Winter Banding and Bird Surveys on the Lower Colorado River

Dodge, Chris, Bureau of Reclamation and LCR MSCP; Boulder City, NV, 89006

cdodge@usbr.gov 702-293-8115

For nine years, starting in the fall of 2002, the Bureau of Reclamation and the Lower Colorado River Multi-Species Conservation Program conducted a winter banding program using a mist net capture scheme at several restoration sites along the Lower Colorado River. Mist netting was conducted at two or three sites each year and was conducted from October to March. These restoration sites were comprised of dense plantings of cottonwood (*Populus fremontii*), willow (*Salix spp.*) and some mesquite (*Prosopis spp.*). Three species were captured consistently in each year at each site; these species were the Orange-crowned warbler (*Oreothlypis celata*), Ruby-crowned Kinglet (*Regulus calendula*), and the Audubon's subspecies of the Yellow-rumped Warbler (*Setophaga coronata auduboni*). Other species showed high capture rates in one year but low capture rates in most other years indicating a possible irruptive pattern to winter use by several species. Area searches were also conducted and compared to the mist-netting results. Overall the mist-netting was more effective at determining the number and abundance of species present, although both methods detected species that the other method did not.

Riparian Bird Monitoring and Population Estimates for the Lower Colorado River

Leist, A.J., Fletcher, D.M., and Ammon, E.M., Great Basin Bird Observatory, Reno, Nevada, USA; Laura Sabin U.S. Bureau of Reclamation, Boulder City, NV

The lower Colorado River is a major center of bird diversity of the American Southwest, and significant efforts are currently underway through the Lower Colorado River Multi-Species Conservation Program (USBOR) to re-establish native riparian habitats. Toward this effort our work aims to estimate current population density of breeding riparian birds as a baseline for long-term population monitoring throughout the lower Colorado River system and to identify critical habitat requirements that can serve as guidelines for restoration of riparian habitats. Our focus for this project is on six species covered by the LCR MSCP (Gilded Flicker *Colaptes chrysoides*, Gila Woodpecker *Melanerpes uropygialis*, Vermilion Flycatcher *Pyrocephalus rubinus*, Arizona Bell's Vireo *Vireo bellii arizonae*, Sonoran Yellow Warbler *Dendroica petechia sonorana*, and Summer Tanager *Piranga rubra*). To survey for riparian birds we use a double-sampling area search spot mapping method. We conducted surveys at 80 randomly selected plots and in all established habitat creation sites each spring from 2007 through 2012. Plots were surveyed twice during the breeding season using a rapid area search method, with a

sub-sample of these plots surveyed intensively (eight times during the breeding season) to determine actual numbers of breeding birds present in each plot. For this talk we will be giving an overview of our findings from the past five years and will discuss habitat requirements for species of interest.

Effects of Tamarisk Beetles on Southwestern Willow Flycatchers and Their Habitats

McLeod, M.A. and Pellegrini, A., SWCA Environmental Consultants, 114 N. San Francisco Street, Suite 100, Flagstaff, AZ 86001, Presenting author: mmcleod@swca.com 928-774-5500 x4207

The southwestern Willow Flycatcher (*Empidonax traillii extimus*) is an endangered migratory passerine that breeds in dense, mesic habitats in the southwestern U.S. Occupied areas include native (e.g., willow), non-native (tamarisk), and mixed vegetation with inundated or saturated soils. Starting in 2001, tamarisk leaf beetles (*Diorhabda* spp.) were released in the western U.S. as a biocontrol agent for tamarisk. The beetle now defoliates tamarisk annually along extensive river reaches, including areas occupied by southwestern willow flycatchers along the Virgin and Muddy rivers. The defoliation caused by tamarisk leaf beetles in areas of exotic or mixed vegetation alters flycatcher habitat in ways that are detrimental to the reproductive success of breeding flycatchers. Data from breeding flycatchers in St. George, Utah from 2008–2012 suggest that reproductive success in tamarisk stands in the presence of tamarisk leaf beetles is poor, but that flycatchers may move into nearby, suitable native vegetation in subsequent years. At the end of the flycatcher breeding season in 2011, beetles reached the largest flycatcher breeding site along the Virgin River at Mormon Mesa near Overton, Nevada, and tamarisk within this mixed site was defoliated throughout the 2012 breeding season. Flycatchers at Mormon Mesa in 2012 had lower than average clutch sizes and fecundity, a higher than average rate of nest desertion, and fewer renests following failed nests. There are no suitable stands of native vegetation in the vicinity, and studies need to continue in 2013 to determine how flycatcher site fidelity will be affected by tamarisk beetles.

Insights from Five Years of Monitoring the Return of Yellow-billed Cuckoos to Restored Riparian Forests of the Lower Colorado River

McNeil, S. E., 1708 E 9th St., Tucson, AZ 85719

Yellow-billed cuckoos (*Coccyzus americanus*) have suffered steep declines over the past century and are now rare breeding migrants to remnant riparian forests of the western United States. Following seven years of habitat restoration under the Lower Colorado River Multi-Species Conservation Program (LCR MSCP), Yellow-billed Cuckoos are colonizing new cottonwood-willow forests within the historic floodplain of the LCR. The cryptic nature of Yellow-billed Cuckoos has for decades confounded attempts at measuring their basic life-history traits; however improvements in capture techniques and the opportunity to study these elusive birds over a relatively long period have provided new insights into their ecology and response to habitat restoration. From five years of capturing, color-banding, and radio-tracking cuckoos in restored LCR riparian forest patches in Arizona and California, we have found increases in

breeding evidence each year, from just two confirmed breeding territories in 2008 to over 30 in 2012. Contrary to the idea that cuckoos require mature forest for nesting, we have found nests in new habitat patches after just two growing seasons. We also observed high site fidelity and limited between-site dispersal within the study area; of 15 confirmed resights from 2009-2012, all but two returned to the natal or previous breeding site. It remains unclear whether sufficient breeding habitat and connectivity exists in this fragmented western landscape for recovery of a viable western yellow-billed cuckoo population.

Poster Abstracts

Developing Techniques to Document Migration of Tree Swallows Along the Lower Colorado River

Piest, L.A., Arizona Game and Fish Department, 9140 E. 28th Street, Yuma, AZ 85365
lpiest@azgfd.gov
928-341-4049

The lower Colorado River is a major corridor for spring and fall migrant Tree Swallows. These birds create impressive spectacles as they congregate into swarms in the evening and descend to their roosts in marsh vegetation, and again in the morning when they depart. It is obvious that the LCR is of critical importance to western populations of Tree Swallows, and biologists have estimated migrations of several million birds, but we know little about actual numbers of roosts or individuals, their distribution along the river, or the seasonality of the migration. Difficulty of access and dim lighting have made estimates of individuals in roosting swarms difficult. Several attempts I have made to photograph swarms against the evening sky and count individuals have resulted in estimates of about 40,000 in individual swarms. This technique has involved considerable extrapolation and is generally far from rigorous. Roost flights are apparent on Doppler radar and this technology should help us fill in many of the gaps in our knowledge of Tree Swallow migration.

The Recent Movement of Crested Caracaras into Southern Pinal County

Jenness, D., 4375 E. Rollins Rd., Tucson, AZ 85739, d_jenness@hotmail.com, 520-909-1529

The only confirmed resident community of Crested Caracaras (*Caracara plancus*) in Arizona is in south-central Pima County on the Tohono O'odham Reservation. Wandering individual birds have been regularly reported throughout the lower two-thirds of the state, but there are only two breeding records away from the Tohono O'odham lands. Beginning in 1996 caracaras began to be reported in the Santa Cruz Flats area of Pinal County. At first there were winter reports of one to four individuals, but beginning in 2006 larger concentrations, as large as 40-50, began to be reported. These are bigger concentrations than any reported elsewhere in the state away from the Tohono O'odham Reservation. They have now been reported there in every month of the year. Once in May one was observed carrying food and in April a pair was engaged in mating behavior. This study pulls together data from dozens of

reported sightings to show the dynamic of this development, including the overall growth in numbers and the monthly fluctuations. Although no nests have been discovered and the data doesn't confirm nesting, the existence of such a large population with adult birds remaining year-round suggests this is likely. Moreover, there is favorable nesting habitat in the area. Hopefully this study will help inspire and aid further fieldwork to investigate why caracaras have moved into this area and the prospects of caracaras nesting in this area.

Advances in Our Knowledge of the Winter Distribution of Gray Vireo in Arizona

Arnett, J., Wildlife Biologist, 56th Range Management Office, 7101 Jerstad Lane, Bldg 500, Luke Air Force Base, AZ 85309, john.arnett.1@us.af.mil

Recent Arizona Field Ornithologists (AZFO) Field Expeditions focused on elucidating the nonbreeding season (winter) distribution and habitat affinities of Gray Vireo (*Vireo vicinior*) in Arizona. Two important sources provided the basis for these expeditions: the observations of wintering vireos reported by Gale Monson and his contemporaries, as reported in Phillips et al. (1964) and Monson and Phillips (1981); and publications by John Bates about the importance of Elephant Tree (*Bursera microphylla*) as a winter food source for the vireo. This poster illustrates how our knowledge of the Gray Vireo winter distribution in Arizona has changed in recent years, due in large part to important contributions by AZFO and its members.