Western Specialty: California Gnatcatcher

Male California Gnatcatcher (Polioptila californica) in active nest first located on 27 May 2015 in Grasshopper Canyon, just west of Castaic Lake, Los Angeles County, California. As Couffer describes in this issue, this represents the northernmost nesting of the California Gnatcatcher known to date. Though the nest was ultimately parasitized by the Brown-headed Cowbird (Molothrus ater) and deserted, gnatcatchers occupied this site in at least 2014 and 2015. The importance of sites on the periphery of a species’ range can change quickly when the core habitat is disrupted, be it by wildfire, urban development, or climate change.

Photo by © Michael C. Couffer of Corona del Mar, California:

Aleutian Cackling Goose (Branta hutchinsii leucopareia), one of two at Lake Havasu City, Mohave County, Arizona, 4 December 2013. Once on the verge of extinction, the subspecies of the Cackling Goose nesting in the Aleutian Islands has recovered spectacularly. As the population recovers, wintering birds are being found ever farther from the core winter range in northern California. Among the areas into which the winter range has expanded is Arizona. In this issue of *Western Birds*, David Vander Pluym addresses the status of the Aleutian Cackling Goose in Arizona, confirming at least 24 records, concentrated along the Colorado River but scattered as far southeast as Willcox.
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Front cover photo by © Gordon Karre of Mesa, Arizona: Wedge-rumped Storm-Petrel (Oceanodroma tethys) at Mesa, Maricopa Co., Arizona, 8 September 2016, one of seven occurrences encompassing 13 individuals scattered across central and southeastern Arizona in the wake of Hurricane Newton. The report of the Arizona Bird Committee in this issue of Western Birds details the amazing fallout of the unprecedented variety of seabirds that Newton carried inland, including two other species new to Arizona, the Juan Fernandez Petrel (Pterodroma externa) and Wedge-tailed Shearwater (Ardenna pacifica).

Back cover “Featured Photo” by © Larry Sansone of Los Angeles, California: Eastern Meadowlark (Sturnella magna) at Day, Modoc Co., California, 12 June 2018, representing the first confirmation of the species’ occurrence in California and only the third of the eastern subspecies west of the Rocky Mountains.

Western Birds solicits papers that are both useful to and understandable by amateur field ornithologists and also contribute significantly to scientific literature. Send manuscripts to Daniel D. Gibson, P. O. Box 155, Ester, AK 99725; avesalaska@gmail.com. For matters of style consult the Suggestions to Contributors to Western Birds (at westernfieldornithologists.org/docs/journal_guidelines.doc).
WINTER DISTRIBUTIONS AND HABITAT ASSOCIATIONS OF RAPTORS ACROSS NEVADA

ABSTRACT: Raptors wintering in Nevada comprise both local breeders and migrants from long distances, making winter surveys valuable for evaluating trends within multiple regional populations. We evaluated data on Nevada's wintering raptors recorded over six years from two programs—the statewide road-based surveys coordinated by the Nevada Department of Wildlife and the boat-based surveys of Lake Mead and Lake Mohave led by the National Park Service. Observations were sufficient for us to develop well-performing predictive models of the distribution and habitat use of seven species plus all species of *Accipiter* pooled. The distribution of the Bald Eagle (*Haliaeetus leucocephalus*) was stable over the six years, while the density of the Golden Eagle (*Aquila chrysaetos*) increased in 2018. Numbers of some of the other species may vary cyclically, possibly over a period three to six years, as expected for species that feed on small mammals. Patterns of the American Kestrel (*Falco sparverius*), Prairie Falcon (*F. mexicanus*), and *Accipiter* hawks were similar, possibly the result of these species focusing on the same prey in winter. Among the species whose models performed well, a positive correlation with pasture and fallow cropland was the most frequent habitat association, ranking high for all. *Accipiter* hawks and the American Kestrel were associated positively with a moderate degree of human modifications of the habitat other than agriculture, but the Northern Harrier (*Circus hudsonius*), Rough-legged Hawk (*Buteo lagopus*), Ferruginous Hawk (*B. regalis*), and Prairie Falcon showed a strong negative association with all levels of such development.

Raptors have long been used as indicators of habitat structure, quality, and health (Sergio and Newton 2003, Sergio et al. 2006, Caro and Girling 2010). The use of a species as an umbrella for ecosystem management,
however, requires a thorough analysis of its ecology and its interaction with other species (Seddon and Leech 2008, Branton and Richardson 2011). Cabeza et al. (2008) cautioned against the use of indicator species without a systematic case study of the species involved and the environment being managed, yet Sergio et al. (2008) suggested that the data available could support the umbrella-species concept at a general level, although more analyses may be required to meet specific management objectives.

Raptors are often surveyed in winter (e.g., Eakle et al. 1996, Meunier et al. 2000, Andersen 2007), yet the winter season is generally underrepresented in the literature by comparison with studies in the breeding season. Winter represents almost half of a raptor’s annual life cycle, and winter mortality rates are often similar to those at other seasons (Klaassen et al. 2014). Data from winter raptor surveys can be used to quantify the birds’ land use at multiple scales (Newton 1995, Meunier et al. 2000, Williams et al. 2000, Pandolfino et al. 2011b) and can be useful for assessing habitat degradation (Berry et al. 1998, Rodríguez-Estrella et al. 1998). They may serve in assessing biological attributes such as age and sex differences that differ from those on the breeding grounds (Olson and Arsenault 2000, Pandolfino et al. 2011a), and identifying shifts in winter distributions in response to weather and climate change (Kim et al. 2008, Pandolfino and Wells 2009, Paprocki et al. 2014, 2015).

Raptors are often surveyed from the ground, from a vehicle along roads, or from a boat (see summary by Andersen 2007). Road surveys are a common tool for monitoring winter raptor populations (e.g., Eakle et al. 1996, Rodríguez-Estrella et al. 1998, Meunier et al. 2000). Because roads are not distributed randomly, however, inferences from the results may be limited to the areas actually surveyed (Andersen 2007).

Eight species of raptors (excluding nocturnal owls) have been classified as “species of conservation priority” in the Nevada Wildlife Action Plan: the Bald Eagle (Haliaeetus leucocephalus), Northern Goshawk (Accipiter gentilis), Ferruginous Hawk (Buteo regalis), Golden Eagle (Aquila chrysaetos), Burrowing Owl (Athene cunicularia), Short-eared Owl (Asio flammeus), Peregrine Falcon (Falco peregrinus), and Prairie Falcon (Falco mexicanus; Wildlife Action Plan Team 2012). Regarding these priority species, the plan has set the objectives to “maintain statewide wintering populations of priority raptors at stable or increasing trend within natural range of annual fluctuation.” To assist with these objectives, and to gather information on the more common species, we undertook standardized road and boat surveys for wintering raptors across the state of Nevada with the hope of clarifying species’ distribution, status, and habitat associations.

METHODS

Study Area

Participants in the program surveyed raptors by motor vehicle across the broad road network of Nevada and by boat along the shorelines of Lake Mead and Lake Mohave in southern Nevada (Figure 1).
Field Methods

The surveys’ protocols were designed initially to maintain compatibility with the National Midwinter Bald Eagle Survey coordinated by the U.S. Army Corps of Engineers but subsequently evolved to cover all raptor species.

**Boat Surveys.** Boat surveys took place in January of each year. Although annual midwinter Bald Eagle surveys along the shorelines of Lake Mead and Lake Mohave began in the early 1980s, the route lengths and survey protocol were not standardized until 2009. Each boat survey involved at least three
participants: a boat operator, a lead observer, and a data recorder. Nine crews survey predefined routes concurrently, ensuring full coverage of the shorelines of each lake. The boats travel approximately 50–200 m offshore and at a speed not exceeding 24 km/hr.

For each survey, participants recorded the date, time, starting and ending locations, temperature, sky conditions, and wind conditions at the start and end of the survey. They noted the location on a map and recorded the time, age, and activity of each raptor observed. We later georeferenced the locations. Only three years of boat survey data have been fully georeferenced (2015–2017), so we limited our analyses to these years.

Road Surveys. The road surveys were originally developed in 1994 to complement the midwinter Bald Eagle boat surveys by adding routes in areas of high Bald Eagle concentrations. These routes were covered once every three years, and while observations of some other raptors were recorded in the earlier years, most surveyors limited their recorded observations to eagles. Over time, routes and protocols were added, modified, or reduced to address all raptors, and the surveys now cover most of Nevada’s road network (Figure 1). The surveys have been annual since 2013 with an emphasis on recording observations of all raptors, so we limited our analyses of road-survey data to the years 2013–2018.

We asked road-survey participants to complete each survey route at least once between December and February each year, with a preference for January if surveying only once. Participants worked solo or in pairs (preferred), driving each route at a safe speed, slow enough to detect raptors, yet not so slow as to be a hazard on the road (55–85 km/hr, and slower if possible). We attempted to keep routes consistent from year to year, but mud or deep and drifting snow compelled some variation.

For each survey, we asked participants to record the date, time, and coordinates of the starting location, and the time, coordinates, and distance traveled at the conclusion of the survey. Participants recorded temperature, sky conditions, and wind conditions at the start and end of each survey. Participants submitted Global Positioning System track logs that were converted into Geographical Information System (GIS) shapefiles for data analyses.

For each raptor detected, participants recorded the coordinates of their location, the distance and direction to the bird, the time of observation, species, activity at first observation, and age and sex (if known). If a positive identification could not be made we categorized it as unknown (e.g., unknown falcon, unknown Accipiter, unknown raptor).

Statistical Analysis

Reflecting the standardization of protocols over time, we confined our analyses to the most recent six years (2013–2018). For each type of analysis, we restricted the data used to only those portions of the dataset accompanied by appropriate and consistently collected metadata, while remaining cognizant of possible biases in data completeness. Furthermore, we restricted the data used in the analyses to only the first survey completed during January of a given year, as we assume that raptors’ use of space varies through the winter. Our intent was that the abundance estimates, habitat associations, and distributions represent the situation in January.
**Distance Sampling.** For the road-survey data, we used distance sampling to generate an estimate of population density (Buckland et al. 2001, 2004). Distance sampling accounts for a rate of detection less than 100% by modeling the probability of detection as a function of the distance to each bird observed. We chose to analyze only those species with more than 100 detections from 2013 to 2018 to ensure that the size of the sample was adequate for analysis. Once we established a detection curve for each species by pooling all observations, we used the detection curve to generate estimates of each species’ density by year (Buckland et al. 2004).

Some key data were still missing even from the 2013–2018 surveys, hindering analyses. In some cases, we made assumptions enabling us to complete necessary data when we had enough information to do so. For example, if a survey’s distance was not indicated but the start and end coordinates and the survey’s duration were roughly consistent with those in other years, we took the distance from those other years. When data on distance traveled were missing, we estimated it on the basis of the survey’s duration in previous years. These prorated estimates could introduce additional variance in the analysis, yet we believe any bias introduced via this method was overcome by the increase in sample size. If we could not estimate the necessary missing data, we eliminated that survey from the analyses.

For all analyses, we investigated each species independently, except for the hawks of the genus *Accipiter*. Because of the challenge of identifying them properly, we combined counts of reported Sharp-shinned Hawks (*A. striatus*), Cooper’s Hawks (*A. cooperii*), Northern Goshawks (*A. gentilis*), and “unknown *Accipiters*” into one category of *Accipiter* hawks.

For each species, we defined a maximum possible distance of observation through a combination of methods, starting with a visual inspection of the histogram of observation distances, looking for a logical break point, as the curve representing detections as a function of distance approaches zero asymptotically (Buckland et al. 2001). We then evaluated these subjectively selected break points and shorter distances by a goodness-of-fit analysis. For example, if visual inspection suggested that detections were truncated at a distance beyond 500 m, then we tested 500 m, 400 m, and 300 m, selecting the greatest distance that did not result in a fit significantly greater than at the next lower distance. We did not always choose the best fit, as very small truncation distances (e.g., < 100 m) may fit the best, leaving very few observations remaining for analysis (Buckland et al. 2001, 2004).

For each species, we fit both half-normal and hazard-rate detection curves of all observations, with polynomial and cosine adjustment terms (Miller and Thomas 2015). We selected the best model for each species by Akaike’s information criterion (AIC; Burnham and Anderson 2002). We present density estimates along the road network for each year with 80% confidence intervals, along with the average density for all years to help identify years with significant deviations in density numbers. We have not measured linear trends in density over time, as to do so reliably requires data beyond at least one prey cycle (Johnson et al. 2013).

**Maximum-Entropy Modeling.** For the 2013–2018 road-survey data and the 2015–2017 boat-survey data combined, we used maximum-entropy modeling (the program MaxEnt; Phillips et al. 2006, 2017) to assess the
influences of climate and habitat. We included all recorded observations of each species as positive presence points. For integration as pseudo-absence points in the analysis, we generated 5000 random points within 1 km of established road routes. Then to distinguish presence from pseudo-absence more clearly, we eliminated all pseudo-absence points located within 1 km of recorded observations, resulting in a minimum of 4074 pseudo-absence points for the Red-tailed Hawk (*Buteo jamaicensis*) and a maximum of 4909 pseudo-absence points for *Accipiter* hawks.

For predictor variables within the MaxEnt analyses, we used a digital elevation model (for elevation), the U.S. Geological Survey’s 2012 Landfire data (for coarse habitat types; [www.landfire.gov/viewer](http://www.landfire.gov/viewer)), and the 19 WorldClim variables (quantifying climate; Fick and Hijmans 2017; Table 1). We grouped similar Landfire land-cover classifications together into broad categories (e.g., all development grouped into a single variable, all grassland types grouped together, all sagebrush types grouped together). The resulting Landfire classifications were not mutually exclusive. For example, the

<table>
<thead>
<tr>
<th>Variable</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Annual mean temperature (°C)</td>
<td>worldclim.org bio_1</td>
</tr>
<tr>
<td>Mean of monthly averages of daily temperature range (max temp – min temp) (°C)</td>
<td>worldclim.org bio_2</td>
</tr>
<tr>
<td>Isothermality (BIO2/BIO7) (×100)</td>
<td>worldclim.org bio_3</td>
</tr>
<tr>
<td>Temperature seasonality (standard deviation ×100)</td>
<td>worldclim.org bio_4</td>
</tr>
<tr>
<td>Maximum temperature of warmest month (°C)</td>
<td>worldclim.org bio_5</td>
</tr>
<tr>
<td>Minimum temperature of coldest month</td>
<td>worldclim.org bio_6</td>
</tr>
<tr>
<td>Annual range of temperature</td>
<td>worldclim.org bio_7</td>
</tr>
<tr>
<td>Mean temperature of wettest quarter</td>
<td>worldclim.org bio_8</td>
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<tr>
<td>Mean temperature of driest quarter</td>
<td>worldclim.org bio_9</td>
</tr>
<tr>
<td>Mean temperature of warmest quarter</td>
<td>worldclim.org bio_10</td>
</tr>
<tr>
<td>Mean temperature of coldest quarter</td>
<td>worldclim.org bio_11</td>
</tr>
<tr>
<td>Annual precipitation (mm)</td>
<td>worldclim.org bio_12</td>
</tr>
<tr>
<td>Precipitation of wettest month (mm)</td>
<td>worldclim.org bio_13</td>
</tr>
<tr>
<td>Precipitation of driest month (mm)</td>
<td>worldclim.org bio_14</td>
</tr>
<tr>
<td>Precipitation seasonality (coefficient of variation)</td>
<td>worldclim.org bio_15</td>
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<tr>
<td>Precipitation of wettest quarter</td>
<td>worldclim.org bio_16</td>
</tr>
<tr>
<td>Precipitation of driest quarter</td>
<td>worldclim.org bio_17</td>
</tr>
<tr>
<td>Precipitation of warmest quarter</td>
<td>worldclim.org bio_18</td>
</tr>
<tr>
<td>Precipitation of coldest quarter</td>
<td>worldclim.org bio_19</td>
</tr>
<tr>
<td>Elevation (m)</td>
<td>U.S. Geological Survey digital elevation model</td>
</tr>
<tr>
<td>Proportion row and close crops within 150 m</td>
<td>Landfire</td>
</tr>
<tr>
<td>Proportion pasture, hay, and fallow cropland within 150 m</td>
<td>Landfire</td>
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<tr>
<td>Proportion marshland within 150 m</td>
<td>Landfire</td>
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<tr>
<td>Proportion grassland within 150 m</td>
<td>Landfire</td>
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<tr>
<td>Proportion shrubland within 150 m</td>
<td>Landfire</td>
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<tr>
<td>Proportion sagebrush within 150 m</td>
<td>Landfire</td>
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<tr>
<td>Proportion development within 150 m</td>
<td>Landfire</td>
</tr>
</tbody>
</table>
shrubland category includes all sagebrush and non-sagebrush shrublands, whereas the sagebrush category includes sagebrush only. We excluded roadways from the category of development as our road-based survey would naturally bias conclusions toward roadways. We excluded cropland from the development category as we expected species’ responses to cropland and other types of development to differ. For croplands, we grouped Landfire classes for row and close crops into one category (“row and close cropland”), pasture, hay, and fallow fields into a second category (“pasture/hay/fallow cropland”), and orchards, vineyards, and berry crops into a third category. We later dropped this last category as the extent of this type of agriculture in Nevada is insufficient for analysis.

We included elevation data in the analysis but acknowledge that most raptor species are not likely sensitive to elevation per se, but they may respond to conditions favored at certain elevations such as the presence or absence of snow cover, certain habitat elements, or prey. The WorldClim data are based on records from 1970 to 2000 (Fick and Hijmans 2017). We used them to represent subtle habitat differences influenced by climate, not to measure the year-to-year variation in raptor density. The evaluation of the effect of year-to-year weather variation is beyond the scope of our analyses.

From the Landfire data, we produced raster maps of our study area showing the proportion of each cover type (e.g., shrubs, sagebrush, grass) within 150 m of each 30 m × 30 m pixel. Similarly, we created study-wide maps of elevation and the 19 WorldClim variables. All values were then resampled down to 30-second blocks (~1 km; resolution of the climate data) by means of bilinear interpolation.

We used all presence and pseudo-absence points for each species in the analyses. We evaluated the feature classes in the MaxEnt model (linear, linear-quadratic, and linear-quadratic-hinge) with Akaike’s information criterion adjusted for small sample size (AICc; Shcheglovitova and Anderson 2013). We considered relationships of predictors to detected presence more complex than a simple linear one. The use of AICc as the criterion for selection of a model helps balance the goals of better fit to the data and less complexity. In assessing the fit of the resulting models, we used the area under the curve (AUC) of the receiver operating characteristic plot (ROC). The ROC represents the proportion of observed presences correctly predicted plotted against the proportion of observed absences incorrectly predicted (Pearson 2010). A perfect model has an AUC of 1.0; a random model has an AUC of 0.5. We consider any values of AUC less than 0.75 to be marginally predictive, values between 0.75 and 0.80 to be moderately predictive, and values greater than 0.80 to be strongly predictive. For all species with an AUC value of 0.75 or higher, we report the top influential variables for the species across Nevada. We selected and report the top influential variables by the “gain” or “predictive power” of the variable in a model by itself and the decrease in “gain” or “predictive power” when the variable is removed from the global model (which incorporates all variables), suggesting that the variable in question includes the most information not included in other variables. Marginally predictive models are those in which our predictor variables do not include the characteristics relevant to the birds. We present the best statewide prediction map for each species regardless of the model’s fit.
RESULTS

In our analyses, we used a total of 346 road surveys spread across 66 separate routes spanning six years (2013–2018) and 26 boat surveys across nine survey routes spanning three years (2015–2017). They yielded observations of 3281 Red-tailed Hawks, 1080 Golden Eagles, 1014 Rough-legged Hawks (*Buteo lagopus*), 731 Bald Eagles, 699 Northern Harriers (*Circus hudsonius*), 428 American Kestrels (*Falco sparverius*), 379 Prairie Falcons, 325 Ferruginous Hawks, 131 Accipiter hawks, 46 Peregrine Falcons, 32 Great Horned Owls (*Bubo virginianus*), 13 Swainson’s Hawks (*Buteo swainsoni*), 11 Merlins (*Falco columbarius*), eight Red-shouldered Hawks (*Buteo lineatus*), four Barn Owls (*Tyto alba*), four Ospreys (*Pandion haliaetus*), three Short-eared Owls, two Turkey Vultures (*Cathartes aura*), one Burrowing Owl, one Northern Pygmy-Owl (*Glaucidium gnoma*), and 451 other raptors that could not be identified to species.

Over the six-year period, we found no significant deviations in Bald Eagle density along the road network from the average density (Figure 2). For the Northern Harrier, we found density along the road network to be significantly below the six-year average in 2013 and 2014, and significantly above the six-year average in 2016 and 2017 (Figure 2). For Accipiter hawks, 2013 and 2015 were the only years with a significant deviation from the six-year average, although numbers in the later three years were significantly higher than in the earlier three (Figure 2).

For the Red-tailed Hawk, we found its density in 2013 and 2014 to be significantly below the six-year average and in 2016 to be above the six-year average (Figure 3). We found Rough-legged Hawk density along the road network to be below the six-year average in 2015 and above the six-year average in 2017 (Figure 3). For the Ferruginous Hawk, only in 2015 was density significantly below the six-year average (Figure 3).

For the Golden Eagle, we found its density in 2013 and 2014 to be significantly below and in 2018 to be significantly above the six-year average (Figure 4). We found the American Kestrel’s density to be below the six-year average in 2013 and above it in 2016 and 2018 (Figure 4). Last, the Prairie Falcon’s density was significantly below the six-year average in 2013 and significantly above it in 2016 (Figure 4). In general, 2013 and 2014 were poor for most species in comparison with later years.

For the habitat and distribution analyses (MaxEnt; based on both road- and boat-survey data), associations varied in direction of influence and by species (Table 2). The most broadly influential habitat variables were cropland (primarily pasture/hay/fallow, row and close croplands to a lesser degree) and development (Table 2). The top model for the Bald Eagle included linear and quadratic feature classes. The AUC for the model based on 239 presence and 4890 pseudo-absence records was 0.88, suggesting the model is strongly predictive (Figure 5). From the jackknife test for importance of variables, the single most important predictor variable, in terms of the gain produced by a one-variable model, was elevation (density decreasing with increasing elevation), followed by most of the temperature variables (density increasing with increases in all temperature variables). The Bald Eagle’s association with the Landfire variable representing the extent of sagebrush
Figure 2. Estimated winter density across the road network of Nevada of the Bald Eagle, Northern Harrier, and Accipiter hawks per square kilometer, with 80% confidence intervals and the mean over all six years.
Figure 3. Estimated winter density across the road network of Nevada of the Red-tailed Hawk, Rough-legged Hawk, and Ferruginous Hawk per square kilometer, with 80% confidence intervals and the mean over all six years.
Figure 4. Estimated winter density across the road network of Nevada of the Golden Eagle, American Kestrel, and Prairie Falcon per square kilometer, with 80% confidence intervals and the mean over all six years.
was negative, and omission of this variable from the full model decreased the gain, which suggests that it contained the most predictive information not present in the other variables. In summary, our model shows that Bald Eagles were more common at lower elevations, where temperatures are warmer, and where the proportion of sagebrush in the landscape is lower.

For the Northern Harrier, the top model included linear and quadratic feature classes. The AUC for the model based on 531 presence and 4654 pseudo-absence records was 0.78, suggesting the model is moderately predictive (Figure 6). The single most important predictor variable was the habitat category pasture/hay/fallow cropland (strong positive association), followed by row and close cropland (positive, but not as strong). Omission from the full model of the variable representing pasture/hay/fallow cropland

Table 2  Trends of Predictor Variables Constituting MaxEnt Models of Winter Habitat Use of Raptors in Nevada

<table>
<thead>
<tr>
<th>Variable</th>
<th>Bald Eagle</th>
<th>Northern Harrier</th>
<th>Accipiters</th>
<th>Red-tailed Hawk</th>
<th>Rough-legged Hawk</th>
<th>Ferruginous Hawk</th>
<th>American Kestrel</th>
<th>Prairie Falcon</th>
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<tbody>
<tr>
<td>Annual temperature</td>
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<tr>
<td>Mean diurnal temp. range</td>
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<td>+</td>
<td>++</td>
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<td>Isothermality</td>
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<td>Temperature seasonality</td>
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<td>Max temp. warmest month</td>
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<td>Annual temp. range</td>
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<td>Temp. wettest quarter</td>
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<td>Temp. driest quarter</td>
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<td>Temp. warmest quarter</td>
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<td>Temp. coldest quarter</td>
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<td>Precip. wettest month</td>
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*Restricted to species for which the model was moderately or strongly predictive (AUC ≥ 0.75). +, trend positive and the variable increases the probability of the species’ presence by a factor >0.25 over the range of the variable; –, trend negative and the variable increases the probability of the species’ absence by a factor >0.25; +/-, response greater than a factor 0.25 at intermediate values, lower at low or high values of the variable. The most influential variables for each species are emphasized by “++”, “––”, or “++/––.”*
also decreased the gain more than did omission of any other variable. Other variables with moderate influence include sagebrush (negative association), shrubland (positive association), elevation (negative association), and development (negative association). Thus Northern Harriers were more often found near lower-elevation cropland, in shrublands other than sagebrush, and in areas with low levels of development.
For Accipiter hawks, the top model included linear and quadratic feature classes. The AUC for the model based on 120 presence and 4909 pseudo-absence records was 0.89, suggesting a strongly predictive model (Figure 7). The single most important predictor variables were the habitat categories for development (positive association with intermediate levels of development), pasture/hay/fallow cropland, and row and close cropland. The variables

Figure 6. Predicted distribution of wintering Northern Harriers in Nevada based upon six years of road surveys (2013–2018) and three years of boat surveys data (2015–2017), shown with road network, major cities, and survey observations (+). Predicted probability of occurrence is indicated in shading graduated from a probability of 0 (white) to 1 (dark gray; scale at left).
representing development and pasture/hay/fallow cropland decreased the gain the most when they were omitted from the full model. Other influential variables represented a positive association with wider temperature ranges (higher mean diurnal temperature range and lower isothermality). Thus Accipiter hawks were more often found in areas of intermediate levels of development that include pasture/hay/fallow cropland.
Figure 8. Predicted distribution of wintering Red-tailed Hawks in Nevada based upon six years of road surveys (2013–2018) and three years of boat surveys (2015–2017), shown with the road network, major cities, and survey observations (+). Predicted probability of occurrence is indicated in shading graduated from a probability of 0 (white) to 1 (dark gray; scale at left).

For the Red-tailed Hawk, the top model included linear, quadratic, and hinge feature classes. The AUC for the model based on 2373 presence and 4074 pseudo-absence records was 0.77, suggesting the model is moderately predictive (Figure 8). The single most important predictor variable was the habitat category of development (positive association at intermediate levels). Omission from the full model of the development variable decreased the gain
more than did omission of any other variable. The next most important variable for the Red-tailed Hawk was the presence of pasture/hay/fallow cropland. Other influential variables were associations with lower elevations and areas with less precipitation in the warmest quarter. Thus Red-tailed Hawks were more often found in moderately developed areas that include pasture/hay/fallow cropland and have summers drier than in the rest of Nevada.

For the Rough-legged Hawk, the top model included linear and quadratic feature classes. The AUC for the model built with 785 presence and 4481 pseudo-absence records was 0.76, suggesting a moderately predictive model (Figure 9). The most important predictor variable was the presence of pasture/hay/fallow cropland (positive association). This was followed by three climate variables, minimum temperature in coldest month (negative), mean temperature in coldest quarter (negative), and annual range of temperature (positive), and by the habitat variable for development (negative association). The variable for pasture/hay/fallow cropland (positive association), followed by that for development (negative association), decreased the gain the most when omitted from the full model. In summary, Rough-legged Hawks were found more often in pasture/hay/fallow cropland, in the colder areas of Nevada with a wide annual range in temperature, and away from development.

The top model for Ferruginous Hawk included linear and quadratic feature classes. The AUC for the model based on 216 presence and 4865 pseudo-absence records was 0.85, suggesting the model is strongly predictive (Figure 10). The most important predictor variables were two representing habitat, first the one for cropland (positive association), followed by the one for development (positive at very low levels, but mostly negative association). The variable representing pasture/hay/fallow cropland (positive association) decreased the gain the most when it was omitted from the full model. The most important climate variable was a positive association with mean diurnal temperature range. Thus we found Ferruginous Hawks in areas with low levels of development, cropland nearby, and broad daily temperature ranges.

The top model for the Golden Eagle included linear and quadratic feature classes. The AUC for the model based on 829 presence and 4502 pseudo-absence records was only 0.71, suggesting the model is marginally predictive, so we do not discuss the results for this species (Figure 11).

For the American Kestrel, the top model included linear and quadratic feature classes. The AUC for the model based on 336 presence and 4780 pseudo-absence records was 0.83, suggesting a strongly predictive model (Figure 12). The most important predictor variables were the two Landfire classes for cropland (positive associations), followed by that for development (positive association only with intermediate levels of development). The variable for pasture/hay/fallow cropland (positive association) decreased the gain the most when it was omitted from the full model. Omission of the variable for development had the second greatest effect. Thus, overall, American Kestrels were most often found in areas of cropland and medium levels of development.

The top model for the Prairie Falcon included linear and quadratic feature classes. The AUC for the model based on 329 presence and 4737 pseudo-absence records was 0.75, suggesting a moderately predictive model (Figure
The most important predictor variables were the two representing cropland (positive associations), followed by those for sagebrush (negative association) and development (association positive with low to intermediate levels of development but negative with higher levels of development). The variable for pasture/hay/fallow cropland decreased the gain the most when
it was omitted from the full model, followed by the variable for development. Thus Prairie Falcons were most often found in areas of cropland with low to medium levels of development.

Figure 10. Predicted distribution of wintering Ferruginous Hawks in Nevada based upon six years of road surveys (2013–2018) and three years of boat surveys (2015–2017), shown with the road network, major cities, and survey observations (+). Predicted probability of occurrence is indicated in shading graduated from a probability of 0 (white) to 1 (dark gray; scale at left).
DISCUSSION

Nevada’s annual winter raptor surveys are the result of a large investment by many individuals and organizations. The project has yielded useful information on long-term trends that has improved in resolution, confidence, and application as the protocol and coordination have been refined. The result of our work is the first statewide estimate of the density of wintering
raptors in Nevada and the state’s most comprehensive assessment of winter habitat associations by species. While the inference from these surveys may technically be limited to the areas surrounding the routes (road and boat), the vast coverage of the survey suggests that the density estimates we generated should be valid throughout Nevada’s lower elevations, which are the areas we expect to be occupied by the majority of wintering raptors.
Figure 13. Predicted distribution of wintering Prairie Falcons in Nevada based upon six years of road surveys (2013–2018) and three years of boat surveys (2015–2017), shown with the road network, major cities, and survey observations (+). Predicted probability of occurrence is indicated in graduated shading from a probability of 0 (white) to 1 (dark gray; scale at left).

As with all population estimates, the interpretation of the results of winter raptor surveys is complicated by many factors including prey abundance and availability, snow cover, migration, and the annual life cycle of the species being studied. One of the more specific complicating factors is the mixing of different breeding populations into a more general wintering population. Most of the raptors that winter in Nevada are considered incomplete
migrants, suggesting that the birds being counted are a mix of resident and nomadic local birds with an influx of migrants from the north. Of the species encountered most frequently, only the Rough-legged Hawk is a complete migrant, not breeding in Nevada. In spite of this, surveying winter raptor distributions may be the most efficient way to track raptor populations of multiple species over time, which may be informative over a wide geographic region. It is possible that genetic and stable-isotope analyses of feathers sampled from raptors in their winter range may point toward the birds’ location of breeding or hatching (Rundel et al. 2013), which in turn may help clarify the value Nevada offers during the winter months to raptors breeding across western North America.

As each species occupies its own niche with respect to habitat and prey, broad generalizations about species’ abundances are difficult to make. However, we do see some patterns that appear to be shared, most notably apparent cycles in the densities of some species. The most convincing example is the Northern Harrier, a species with close relatives that are known to respond both numerically and functionally to cyclic prey species such as voles (Salamolard et al. 2000). Our results suggest that a cycle may be six years in length, whereas longer-term data have shown variations ranging over periods of from three to six years (Hoffman and Smith 2003, Lambin et al. 2006). Since we have included only six years of data in these analyses, additional years of surveys are required to confirm a six-year cycle in the Northern Harrier. Similarly, but to a slightly lesser degree, the same six-year cycle may apply to the Rough-legged Hawk and Red-tailed Hawk, though the data are less conclusive. The Ferruginous Hawk’s density may or may not be following a three-year cycle or the same six-year cycle as the other species.

The density of wintering Bald Eagles appears reasonably stable over the past six years, with no year significantly above or below the others. The wintering population of the Golden Eagle was even more stable, with the exception of 2018 being a very good year. This large increase in Golden Eagle numbers mirrors record observations of Golden Eagles on a number of winter raptor-survey routes in northwestern Utah (N. Paprocki pers. comm.). Recent increases in Black-tailed Jackrabbit (Lepus californicus) numbers in northeastern Nevada and northwestern Utah may be responsible for the robust numbers of Golden Eagles in 2018 (N. Paprocki and J. Barnes pers. comm.). An increase in jackrabbit numbers should influence Ferruginous Hawks positively (Smith et al. 1981), but that is not represented in our results. In Nevada, however, Ferruginous Hawks depend heavily upon ground squirrels when available (J. Barnes pers. obs.), so variation in ground squirrel abundance may have dampened the positive effect of a surge of jackrabbit populations on Ferruginous Hawk numbers. An examination of the numbers of the various prey species over time might help clarify these results.

The surprising result with the falcons is that the pattern of density variation from year to year in the Prairie Falcon and American Kestrel was nearly identical. Even densities of Accipiter hawks were highly correlated with the densities we detected in the Prairie Falcon and American Kestrel. We generally assume little overlap among the primary prey of these species. While the Prairie Falcon may specialize on ground squirrels during the breeding season (Steenhof et al. 1999), it may be forced into taking other prey in the winter.
(White and Roseneau 1970). Speculatively, a change in the availability of prey in winter may push both the American Kestrel and Prairie Falcon into a dietary niche more similar to that of the *Accipiter* hawks.

The MaxEnt habitat models performed well for most species. The models were strongly predictive for four of the species, moderately predictive for four, and marginally predictive for only one species, the Golden Eagle. The most notable habitat variable reflected in the results was the strong positive association of all eight species with pasture/hay/fallow cropland. Furthermore, half of the species had a positive association with row or close crops, but never was this association stronger than with the pasture/hay/fallow cropland. The associations with cropland are likely the result of prey availability, as the abundance of small mammals has been shown to be greater in cropland than in surrounding shrublands (Moulton et al. 2006). Our findings are consistent with other studies that have found a strong association of many raptor species with pastures and hay (e.g., Berry et al. 1998, Pandolfino et al. 2011b), but we also found a stronger signal for half of our species with row crops. We suspect that this may have arisen because of incorrect classification in the Landfire data, and further investigation is warranted.

Many species appear to respond to development other than that related to agriculture. The *Accipiter* hawks, Red-tailed Hawk, and American Kestrel were more often found in areas with some low levels of development but were less likely in heavily developed areas. This intermediate response was also a top predictor, suggesting these species may not just tolerate development, it may be an important winter niche for them. The Northern Harrier, Rough-legged Hawk, Ferruginous Hawk, and Prairie Falcon all had strong negative associations with development. This finding is consistent with Berry et al. (1998), who also found negative associations with development in the Rough-legged Hawk, Ferruginous Hawk, and Prairie Falcon.

We had a number of observations sufficient to analyze four species classified as species of conservation priority by the state of Nevada: the Bald Eagle, Ferruginous Hawk, Golden Eagle, and Prairie Falcon. Our density estimates for these species provide some insight into the factors that may influence their densities (e.g., jackrabbits in the case of the Golden Eagle). Furthermore, we have established habitat associations for three of these species that can be used in the prioritization of conservation actions. Most notable is the dichotomous response of the Ferruginous Hawk and Prairie Falcon to human activity—positive for cropland (both types analyzed), and negative for development.

This study has a number of limitations and potential sources of bias. The most significant bias in the program is that road-survey routes are limited to roads accessible in winter and were originally developed to survey locations of known raptor aggregations. If the routes were still so constrained, this limitation would significantly bias the results of both density and habitat associations. However, the program has evolved over time to cover more routes and more habitats. The result is that much of the road network within Nevada is now covered by road-survey routes, and we limited our analysis to those later years with more complete survey coverage. Furthermore, the road network represents most of the landscape available for raptors to occupy in the winter.
The distance-sampling approach we employed assumes that the survey path (i.e., road) should be randomly placed with respect to available habitat. We failed to meet this assumption fully, as powerlines, development, and cropland are all associated with the road network. The effect of this bias is that density estimates cannot be extrapolated to absolute numbers on a statewide basis. However, they can still be used for comparisons among years and among species. The habitat associations are valid for all habitats represented adjacent to the road network.

As noted under Methods, we did our best to fill in missing information within the dataset. We believe that this approach, while introducing bias, introduces less biased than omitting the surveys that were missing key data. However, whether the data are omitted or extrapolated, the result is sure to be of lower quality than if the data are complete. Some of the missing data could not be filled in (e.g., distance to bird). In this case, the data were dropped from the distance-sampling analyses. If this happened more often along certain routes or in certain habitats, then a bias would be injected. As with many broad-scale projects that rely on various organizations, and a large number of community-science volunteers, it is critical to ensure protocols are standardized and followed closely and that appropriate quality-control measures be taken before analysis, as we have done. Though we acknowledge these limitations, our project illustrates the value the participation of a broad front of constituents can add to a broad-scale project otherwise not possible.

The last major source of bias comes from the observers. Different levels of observer skill can have a large effect on the results (Kamp et al. 2016). Some observers work in teams (suggested but not required), but some do not. We expect a wide degree of variation in observers’ driving speed, which can affect detection rates, especially for distant or smaller birds. This is a bias that affects both professional surveyors and community-scientist volunteers. As have other successful community-science-based programs (e.g., Ries and Oberhauser 2015, Miller et al. 2016), we have structured this program to minimize, but not fully eliminate, these effects.

In conclusion, the winter raptor-survey programs within the state of Nevada provide valuable resources for evaluating raptor populations, habitat associations, and eventually trends. We were able to provide high-quality analyses of four of the eight raptors classified in Nevada as species of conservation priority. This analysis helped identify methods needing revision and refining, but even with the challenges of inconsistent or missing data, our results are informative. The long-term nature of these monitoring programs greatly enhances their value, and they should be continued. Furthermore, there is an opportunity to expand and collaborate over a larger area and across state boundaries, which would provide even further insight into the larger-scale distribution, trends, and habitat associations of the numerous raptor species wintering in North America.

ACKNOWLEDGMENTS

We thank the Nevada Department of Wildlife (NDOW) for funding this analysis and coordinating the road-based surveys each winter. Notably, Bonnie Weller, NDOW GIS analyst, spent a great deal of time building and quality-checking the large da-
tabase. We thank the National Park Service for providing the data recorded during their boat surveys on Lake Mead and Lake Mohave. We thank the more than 450 surveyors, many of whom were volunteers investing their own time and money to complete routes each winter. Furthermore, we appreciate the various agencies and organizations with which our surveyors are affiliated, including Boise State University, Bristlecone Audubon Society, U.S. Bureau of Land Management, Eastern Nevada Landscape Coalition, Lahontan Audubon Society, Mission Support and Test Services, National Park Service, National Security Technologies, Nevada Department of Forestry, Nevada Department of Transportation, Nevada Department of Wildlife, Nevada Natural Heritage Program, Nevada Outdoor School, Southern Nevada Water Authority, U.S. Fish and Wildlife Service, and U.S. Forest Service. Last, we thank the editors of Western Birds, Kenneth P. Able and Philip Unitt, and the two peer reviewers, Grainger Hunt and Ed Pandolfino, who provided excellent feedback and helped us to improve the manuscript greatly.

LITERATURE CITED


WINTER DISTRIBUTIONS AND HABITATS OF NEVADA RAPTORS


Accepted 24 May 2019
ABSTRACT: There is little published information about the occurrence of the Aleutian Cackling Goose (Branta hutchinsii leucopareia) in Arizona. Formerly listed as endangered by the U.S. Fish and Wildlife Service, this subspecies has rebounded, leading to an increase in numbers occurring outside its core range, including Arizona. Since the first in 1975, at least 24 well-founded records for Arizona have accumulated, one supported by a specimen, two by band recoveries, and 20 by diagnostic photographs. Since 2013 the Aleutian Cackling Goose has occurred in Arizona annually between November and February. It is most frequent along the Colorado River, but records extend as far east as Willcox, Cochise County.

The taxonomy of the “white-cheeked” geese is complex and debated. Currently, most treatments list 11 or 12 taxa in this group, and Banks et al. (2004) split them into two species: the Cackling Goose (Branta hutchinsii) and the Canada Goose (B. canadensis). Taxonomists generally recognize four extant subspecies of the Cackling Goose: hutchinsii, taverneri, minima, and leucopareia (Aleutian Cackling Goose). The now extinct population formerly breeding in the Commander and Kuril islands in Russia and wintering south to Japan has been considered a separate subspecies, asiatica (Banks et al. 2004), or a western population of leucopareia (e.g., Baldassarre 2014, Reeber 2015). Birds discovered breeding on the Semidi Islands in 1979 and wintering in coastal Oregon are phenotypically intermediate between other populations of leucopareia and taverneri (Hatch and Hatch 1983) and do differ genetically from other populations of leucopareia, but they likely represent distinct populations of leucopareia rather than a valid separate taxon (Pierson et al. 2000, Mlodinow et al. 2008). For a fuller discussion of this taxonomy see Banks (2007, 2009), Mlodinow et al. (2008), and Reeber (2015.) Taxonomic flux and difficulties with identification have contributed to confusion on the status of the various subspecies of the Cackling Goose in Arizona, including the Aleutian Cackling Goose.

Historically, the Aleutian Cackling Goose bred on islands south of the Alaska Peninsula (as far east as near Kodiak Island), throughout the Aleutian–Commander arc, and in the Kuril Islands south of Kamchatka in Russia (Byrd and Woolington 1983). The population breeding in Alaska probably wintered in Oregon and California, while the Asian population wintered in Japan (Byrd and Springer 1976). During the late 1800s and especially in the first half of the 1900s, the Aleutian Cackling Goose underwent a steep population decline largely due to the arctic foxes (Vulpes lagopus) introduced to the Aleutian Islands for the fur trade (Murie 1959, Bailey 1993). This goose was thought to possibly be extinct before being rediscovered in 1962 on Buldir Island in the western Aleutians (Jones 1963). Mini et al. (2011) provided an overview of the history of the recovery achieved through the removal of the introduced foxes, captive breeding and translocation of birds, and habitat protection and management in areas of migration and wintering. In response, the Aleutian Cackling Goose population, which probably comprised fewer than 1000 birds in 1967 when it was listed as endangered
(Byrd 1998), recovered to population in excess of 30,000 birds by 2001, when it was removed from the endangered species list, providing one of the success stories of the Endangered Species Act (Faust and Bailey 1999). By 2010, the population was estimated at over 100,000 birds, wintering at an increasing number of locations in the Central Valley of California and along the coast of northern California and Oregon (Mini et al. 2011).

HISTORY IN THE ARIZONA LITERATURE AND STATUS IN NEIGHBORING REGIONS

Likely because of difficulties in identification and the severe population decline, the Aleutian Cackling Goose has a checkered history in the Arizona literature. It has long been thought to occur in Arizona (Monson and Phillips 1981), and Brown (1985) stated that it is occasionally encountered, but specific published Arizona records are lacking. Byrd and Springer (1976) mentioned a band recovery from Mohave County in 1975 (see records below). After the split of *B. hutchinsii* from *B. canadensis*, the Arizona Bird Committee (ABC) placed the former on its review list in an attempt to understand its status here (Rosenberg et al. 2007). It was on the review list from 2005 to 2009, and some reports prior to the split were reviewed (Rosenberg et al. 2007, 2011). Though several reports during that period were not submitted or reviewed, the ABC accepted 13 records (Rosenberg et al. 2017) before concluding that the species occurred in Arizona regularly enough to forgo further review (Rosenberg et al. 2017). Though the committee was hesitant to identify individuals to subspecies, and considered *leucopareia* as “unconfirmed” in the state, at least one accepted record was identified as such by the observers (Table 1). Mlodinow et al. (2008) also referenced a single a band recovery in “western Arizona” (there are two band recoveries for Arizona, see below; this likely referred to the first). Using an unconventional taxonomy (see Banks 2007, 2009, 2011), Hanson (2007) and Anderson (2010) reported a specimen collected in 1994 that is referable to this subspecies.

Two published records exist for neighboring Sonora, Mexico, though one of those—in Phillips et al. (1964)—was not included by Russell and Monson (1998), who mentioned only a band recovered from three geese taken in December 1975 from the Colorado River delta. In adjacent southern California from the time of population decline to 1980 there were no reports from coastal areas (Garrett and Dunn 1981), though *leucopareia* had occurred in the Salton Sink (Patten et al. 2003). During the 1980s and 1990s, the Aleutian Cackling Goose was generally considered casual in coastal southern California (e.g., Lehman 2018). Since the population increase, this taxon is now the most regularly occurring Cackling Goose subspecies in southern California, including in the deserts and the Salton Sink, and is typically considered rare but regular (Lehman 2018). The status along the Baja California peninsula is similar to that in southern California, the subspecies becoming rarer farther south, though it has summered in Baja California Sur (Erickson et al. 2013). Southern Nevada had early records in November 1951 (Alcorn 1988) and November 1979 (Nevada Bird Record Committee data: record 2008-080) but the next not until 2009. Though few Cackling
Geese are identified to subspecies in Nevada and the current status of the Aleutian Cackling Goose is not certain, it is believed to be a rare but regular winter visitor (J. R. Tinsman, in litt., 2019), being more regular in northwest Nevada (M. Myers, in litt., 2019). As in southern Nevada, most Cackling Geese reported from southern Utah are not identified to subspecies and/or lack photos, and the Aleutian is unconfirmed there (R. Fridell, in litt., 2019).

### Table 1 Photos and sightings of the Aleutian Cackling Goose in Arizona

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*a* All records supported by photos unless noted otherwise.

*b* Sources beginning with S followed by eight numbers are web pages available through https://ebird.org; for example, S3283791 is https://ebird.org/view/checklist/S3283791. There may be more information in other checklists but these checklists represent the main documentation on ebird. Where eBird is cited the record is supported multiple checklists with documentation. AZFO seasonal reports are available at www.azfo.net/reports.html. AZFO photo pages are available at www.azfo.net/gallery/1main/photos_tax.html.

*c* Sight record only.

*d* Total on the first date; by the second date only a single individual was seen.

*e* It is unknown if this flock was new or additional birds joined the 6 November 2017 flock.
METHODS

I searched for records of the Aleutian Cackling Goose from Arizona through the spring of 2018. I searched the data of the Bird Banding Laboratory (last checked 16 Oct 2018), www.idigbio.org (accessed 21 Feb 2019), www.portal.vertnet.org (accessed 21 Feb 2019), and www.inaturalist.org (accessed 21 Feb 2019). ABC reports, *North American Birds* reports, and Arizona Field Ornithologists (AZFO) seasonal reports often did not specify the subspecies of a Cackling Goose, but where possible I examined individual records. Other than the band recoveries and one archived specimen, all other records in the state have been of birds photographed or they included descriptions identifying the bird(s) as Aleutian Cackling Goose when submitted to www.ebird.org (last checked 16 Oct 2018) or the AZFO’s photodocumentation page (www.azfo.org; last checked 16 Oct 2018). I searched all known relevant primary and secondary literature on the identification and taxonomy of *Branta* and on Arizona birds.

Identification followed criteria put forth in Mlodinow et al. (2008). Identification to subspecies is often more difficult from photos than it is in the field (Mlodinow et al. 2008), and because of confusion in birders’ subspecies identifications, I took a conservative approach and acknowledge that some records may have been overlooked.

FIRST ARIZONA RECORDS

The first record of the Aleutian Cackling Goose from Arizona was of a bird banded on Buldir Island, Alaska, 14 August 1975, and recovered at “Topock,” Mohave County, Arizona, 12 December 1975 (Bird Banding Laboratory data, Byrd and Springer 1976). This occurrence preceded the start of the population’s recovery, though there were records from the 1970s in adjacent states. It is also of interest that it was in the same year and month as the three cited above from the Colorado River delta. It is not clear why this record was not included in previous accounts of “white-cheeked” geese in Arizona, but the Sonora record and lack of a specimen might have led to confusion.

The second record is based on the only Arizona specimen (disposition of the birds responsible for other band recoveries is not known), mentioned above, a female shot at Cibola National Wildlife Refuge, La Paz County, 18 December 1994 (Field Museum 457844, Figure 1). This specimen was earlier in a private collection. At the time, the Aleutian Cackling Goose was still rare in southern California, with only four records for the Salton Sink (Patten et al. 2003).

An individual originally banded near Manteca, California (one of the subspecies’ main wintering locations), on 18 December 2003 was recovered in the Mohave Valley, Mohave County, on 17 November 2005. This was during a time when numbers in southern California were increasing. All subsequent reports for Arizona have been of individuals photographed or well described.

CURRENT STATUS

Arizona’s first sight/photographic records came in 2007 and 2011, and since 2013 the Aleutian Cackling Goose has been recorded every year
(Table 1). The ABC may review subspecies, typically those it considers field identifiable and with fewer than 30 records. At the ABC’s 2018 meeting, I led a discussion of adding the Aleutian Cackling Goose to the review list. While the committee agreed the subspecies has occurred in the state, the ABC chose not to add it to the review list, citing that there were already 24 Arizona records and that because its numbers continue to increase in adjacent southern California, a 30-record threshold would likely be reached shortly. Though the majority of records are from western Arizona, with the lower Colorado River valley accounting for half of them (six each in La Paz and Mohave counties), records are scattered east to southeast Arizona. Flocks of wintering geese around Phoenix account for five records, a fifth of the total. Though the Aleutian Cackling Goose is unconfirmed in southern Utah, there is at least one record from nearby Page, Coconino County. Most reports in Arizona are of single individuals or small groups; the high count is of a flock of 11 in Tucson, 3–8 November 2017.

The Aleutian Cackling Goose has been recorded in Arizona from 3 November through 16 February. Records are split almost evenly between late fall migrants and birds likely wintering, with two records from the Mohave Valley, Mohave County, on 3 February 2013 and 6 February 2017.
Figure 2. Aleutian Cackling Goose at Cibola National Wildlife Refuge, La Paz County, Arizona, 2 February 2015. Note the small size, dark brown chest with a contrasting dark ring between it and the white collar, as well as the head and bill shape. The apparent width of the white neck ring varies not only from individual to individual but also by how the bird is holding its neck.

Photo by David Vander Pluym

Figure 3. Aleutian Cackling Geese, the third photographed in Arizona, along the Colorado River at Lake Havasu City, Mohave County, 4 December 2013.

Photo by David Vander Pluym
representing early spring migrants. December has the most records, a mix of likely migrants and wintering birds. There is no indication that any individual has yet attempted to summer in Arizona.

Of the four subspecies of the Cackling Goose, only *minima* was known from Arizona historically (Monson and Phillips 1981). This subspecies has apparently declined here and now occurs less than annually. Currently, most reports, particularly in the eastern half of the state, are of nominate *hutchinsii*. While *taverneri* has been claimed in Arizona (AZFO photo pages at www.azfo.net/gallery/1/main/photos_tax.html; www.ebird.org), its status is uncertain. Currently it appears that *leucopareia* is the second-most regular subspecies of the Cackling Goose in Arizona.

As the population of the Aleutian Cackling Goose continues to increase, it may show up anywhere in Arizona, either in a pure flock or with Canada Geese. Though much of Arizona is in the Sonoran Desert, with extremely high temperatures, it is still likely that an individual will summer in the state, as the subspecies has summered at similar latitudes and in similar climates, as in southern Nevada and Baja California Sur.

ACKNOWLEDGMENTS

Thanks to Josh Engels (Field Museum) for providing photos of the specimen. Thanks to Danny Bystrak (Bird Banding Lab) for providing information on the two band recoveries in Arizona. Jeanne R. Tinsman and Martin Myers provided information on the status of the Aleutian Cackling Goose in Nevada, as did Rick Fridell for Utah. Lauren Harter provided many helpful comments on an early draft, on which Bruce Deuel and Troy Corman provided additional helpful comments. Thanks to Vernon Byrd and Daniel Gibson for their careful reviews.

LITERATURE CITED

THE ALEUTIAN CACKLING GOOSE IN ARIZONA


Accepted 13 June 2019
ARIZONA BIRD COMMITTEE REPORT, 2015–2017 RECORDS

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ABSTRACT: The Arizona Bird Committee reviewed 287 records and updated the Arizona bird list through 2017, adding eight species: the Common Crane (Grus grus), Lesser Sand-Plover (Charadrius mongolus), Wedge-rumped Storm-Petrel (Oceanodroma tethys), Juan Fernandez Petrel (Pterodroma externa), Wedge-tailed Shearwater (Ardena pacifica), Pine Flycatcher (Empidonax affinis), California Scrub-Jay (Aphelocoma californica), and Little Bunting (Emberiza pusilla). These bring the Arizona state list to 563 species in good standing.

This is the ninth published report of the Arizona Bird Committee (ABC; Speich and Parker 1973, Speich and Witzeman 1975, Rosenberg and Witzeman 1998, 1999, Rosenberg 2001, Rosenberg et al. 2007, 2011, 2017). This report covers records from the period between 2015 and the end of 2017, and in addition includes some recently reviewed records from prior years. The ABC reviewed a total of 287 records (some with multiple submissions from several observers), of which 238 (83%) were accepted. Eight species were added to the Arizona state list, bringing it to 563 species in good standing.

Other highlights in this report include acceptance of Arizona’s first physically documented Black Swift (Cypseloides niger), fourth through eighth Ruby-throated Hummingbirds (Archilochus colubris), doubling the previous number of state records, second Royal Tern (Thalasseus maximus), second Black Storm-Petrel (Oceanodroma melania), fourth through eighth Least Storm-Petrels (Oceanodroma microsoma), first nesting of the Rose-throated Becard (Pachyramphus aglaiae) since 2006, second and third Couch’s Kingbirds (Tyrannus couchii), first confirmed nesting of the Tufted Flycatcher (Mitrephanes phaeocercus), fifth Yellow-bellied Flycatcher (Empidonax flaviventris), fourth Carolina Wren (Thryothorus ludovicianus), fourth and fifth Blue Mockingbirds (Melanotis caerulescens), second White Wagtail (Motacilla alba), second White-winged Crossbill (Loxia leucoptera), third LeConte’s Sparrow (Ammodramus leconteii), and tenth Fan-tailed Warbler (Basileuterus lachrymosa).

The current Arizona Bird Committee (2019) consists of Chris D. Benesh, Andrew Core, Sean Fitzgerald, Lauren Harter (who serves as chair), Scott Olmstead, Gary H. Rosenberg (who also serves as secretary), David Vander Pluym, and Magill Weber. Recent committee members who also voted on records in this report include Laurens Halsey, Eric Hough, Kurt Radamaker (who also serves as web master), Dave Stejskal, and John Yerger. Janet Witzeman serves in a nonvoting capacity as assistant secretary and has done so since the inception of the committee in the early 1970s.
The ABC’s web site (http://abc.azfo.org) includes the Arizona state list, a list of species currently reviewed, the ABC’s bylaws, a list of current committee members, a brief history of the ABC, an electronic form for reporting, and all past reports of the ABC (as published in *Western Birds*).

The ABC encourages observers to submit documentation for species on the review list, as well as species new for Arizona. All material should be submitted via the electronic link above or sent to Rosenberg at the address above. The committee would like to emphasize the importance of submitting documentation of sightings directly to the ABC for review. The posting of reports, including those with written descriptions, on local “listservs” or to www.ebird.org may not be assumed to have been discovered by the ABC nor be assumed to be intended as documentation of a rarity. The ABC prefers reports submitted directly to the committee or to the regional editor for *North American Birds* (who forwards the material on review-list species to the secretary of the ABC). The ABC thanks the many observers (300+) who have submitted their documentation of sightings to the Arizona Field Ornithologists (AZFO) and ABC. Each record listed below includes a locality, county (abbreviation: see below), date (span normally as published in *North American Birds*), and initial observer if known. Additional observers who submitted written reports (as indicated by the symbol †), photographs, video recordings, and sound recordings are also listed. All records are of sight reports unless noted otherwise with a symbol for a photograph, sound recording, or specimen (abbreviation: see below). The ABC’s current policy as of 2019 is to review reports of birds recurring in successive years only if the bird has left and then returned. Reports of birds that persist for multiple years without leaving are not reviewed after the initial acceptance. In most cases, the total number of Arizona records for a species includes the number of records accepted by the ABC plus those published in *Birds of Arizona* (Phillips et al. 1964) or the *Annotated Checklist of the Birds of Arizona* (Monson and Phillips 1981). The ABC emphasizes that a report listed under “reports not accepted” does not necessarily mean that the members of the ABC “do not believe” the observer. Rather, the documentation supplied to the committee was insufficiently detailed, or may not have met the rigorous standards established individually and independently by each member of the committee in order for the sighting to be substantiated as a formal historical record. The ABC endeavors to be fair and objective in its evaluation of all reports.

The ABC’s abbreviations for counties in Arizona are APA, Apache; COS, Cochise; COC, Coconino; GIL, Gila; GRA, Graham; GRE, Greenlee; LAP, La Paz; MAR, Maricopa; MOH, Mohave; NAV, Navajo; PIM, Pima; PIN, Pinal; SCR, Santa Cruz; YAV, Yavapai; YUM, Yuma. Other nonstandard abbreviations used within this report include †, written description; ph., photograph; s.r., sound recording; v.r., video recording; N. M., national monument; NRA, national recreation area; NWR, national wildlife refuge. If the finder of a bird submitted details he or she is acknowledged first; other observers who submitted details follow alphabetically.

Of the numbers appearing in parentheses (n, n, n) after each species name, the first represents the total number of reports published by Phillips et al. (1964) and Monson and Phillips (1981), provided the species was included
on the ABC’s first checklist compiled in 1972 and the record specifies a date and location. To avoid double counting, a few pre-1972 reports from Monson and Phillips (1981) that were later reviewed and published by the ABC are not included in the pre-committee total. Additionally, a few post-1971 reports from Monson and Phillips (1981) that were not reviewed by the committee may be included in the pre-committee total. The “#” symbol in this location is used for instances in which the species was not recognized at that time or the species was not on the review list. The second number is the number of reports reviewed and accepted by the Arizona Bird Committee since its inception in 1972, excluding the records accepted in this report. Also, certain species (e.g., Red-eyed Vireo and Bobolink) were on the ABC’s original review list in 1972, removed from that list in the 1970s, and then reinstated in the 1990s. Therefore, this second number represents only those records the committee has accepted and does not include reports published while the species was not on the review list. The third number is the number of records of the species published in this report. Adding all three numbers yields the total number of records accepted by the ABC. In the case of the Red-eyed Vireo, for example, (5, 37, 6) signifies that 5 records were published in *Birds of Arizona*, 37 records were accepted and published in previous ABC reports, and 6 additional records are published in this report. All totals reflect the number of reports and not the number of individuals. For example, the report of 200 Least Storm-Petrels at Lake Havasu, MOH, after Tropical Storm Nora on 26 Sep 1997 is treated as one record.

**ACCEPTED RECORDS**

**FULVOUS WHISTLING-DUCK** *Dendrocygna bicolor* (6, 8, 3). The committee accepted the report of eight individuals at Tres Rios, MAR, 20 Dec 2014 († TC), with one still present on 22 Dec 2014, as being different from a single bird near Buckeye, MAR, 20 Dec 2014 (†, ph. SH). A report of a group of 12 in Jan 2015 was not submitted to the committee. A group of five was at the Glendale recharge ponds, MAR, 14 Aug 2017 (†, ph. SH). Formerly a regular visitor to southern Arizona and a breeding summer resident in southern California, this species has declined and is now a casual and irruptive visitor (Monson and Phillips 1981, Hamilton 2008) with most recent reports in winter. Winter 2014/2015 also brought a group of six to interior southern California (https://californiabirds.org/cbrc_book/update.pdf).

**BRANT** *Branta bernicla* (2, 14, 2). Accepted records are of one at the Amado sewage-treatment pond, PIM, 16 Nov 2015 (†, ph. LH; ph. JH) and one at the Glendale recharge ponds, MAR, 25 Nov 2017 (†, ph. MH). Both were of the Black Brant (*B. b. nigricans*), like all of Arizona’s Brant previously identified to subspecies.

**TRUMPETER SWAN** *Cygnus buccinator* (0, 5, 4). Accepted records are of two adults at the Sweetwater Wetlands, PIM, 28 Jan 2015 (†, ph. AC; †, ph. PG, BH, SO); six immatures near Palo Verde, MAR, 19–26 Dec 2015 (†, ph. MH); two adults at Pintail Slough, Havasu NWR, MOH, 13 Feb 2016 (†, ph. JP; †, ph. NW); and an adult near Goodyear, MAR, 7 Jan–13 Feb 2017 (†, ph. JR; †, ph. MH). The committee believes the unsubmitted report of an adult 29 km from Goodyear near Palo Verde during this same interval (but never on the same dates) to represent the same individual.

**BLACK SCOTER** *Melanitta nigra* (0, 28, 3). Accepted records are of one at Lake Pleasant, MAR, 22 Nov 2014 († TC), and two, a female and an immature
male, there 21 Dec 2014–7 Jan 2015, with the female continuing through 1 Feb 2015 (ph. KR; ph. CR). Several committee members raised the possibility that the bird at Lake Pleasant in November may have been one of the two found there in December. One additional record accepted, of an adult male in the Bill Williams arm of Lake Havasu, LAP/MOH, 11 Dec 2016–2 Jan 2017 (ph. R&AD; † LHa). This species has become more regular in Arizona during the past decade (see Rosenberg et al. 2017) and elsewhere in the Southwest, including Nevada (Tinsman and Meyers 2019). Although the number of accepted Black Scoter records from Arizona now exceeds 30, the ABC continues to evaluate reports.

LEAST GREBE _Tachybaptus dominicus_ (4, 18, 3). Accepted records are of single individuals at an unspecified golf course in Tucson, PIM, 28 Apr–1 May 2015 (†, ph. AC); at Bog Hole Wildlife Area, SCR, 17–21 Dec 2015 (†, ph. AS); and at Arthur Pack Regional Park in Tucson, PIM, 21–25 Nov 2017 (†, ph. JW; ph. WA; †, ph. AC).

GROOVE-BILLED ANI _Crotophaga sulcirostris_ (3, 23, 2). An older report not previously reviewed was accepted from Wenima Wildlife Area, APA, 1 Aug 2010 (ph. MC). Another Groove-billed Ani was at Veterans Oasis Park, MAR, 16–18 Nov 2016 (†, ph., RD; ph. BH, JR; † ph. BJ). Monson and Phillips (1981) described this species as casual in fall, but the ABC has reviewed few of the earlier records.

BUFF-COLLARED NIGHTJAR _Antrostomus ridgwayi_ (5, 9, 5). Accepted records include up to five individuals at California Gulch, SCR, 31 Mar–1 Oct 2015 (†, s.r. AC, LH; ph. CM); up to seven there 18 Apr–10 Sep 2016, including a pair seen copulating (†, ph. LH; † TB); and up to five there 4 Apr–5 Sep 2017, including a fresh juvenile suggesting breeding locally (‡TJ; †, ph. AC). Up to two, presumably returning individuals (see Rosenberg et al. 2017), were along Proctor Rd., Madera Canyon, PIM, 19 Apr–27 Jul 2015 (†, s.r. LH; †, ph., s.r., ML). Additionally, one was in Alamo Canyon, Organ Pipe Cactus N.M., PIM, 25 Apr 2015 (‡JT); three were along Arivaca Creek, Buenos Aires NWR, SCR, 29 May 2015 (†, s.r. DVP); and one was in Aravaipa Canyon, PIN, 26–29 May 2015 (‡DJ), where the species occurred during the 1980s. Presumably the same individual returned 27 Apr–25 May 2016 (‡DJ). Alamo Canyon represents the westernmost site for the Buff-collared Nightjar in Arizona. Reports have increased in recent years, but the ABC continues to review them and welcomes submissions.

BLACK SWIFT _Cypseloides niger_ (3, 5, 1). Arizona’s first physically documented Black Swift came in the form of juvenile found dead in Phoenix, MAR, 25 Sep 2017 (R&DC; †, ph. TC; Figure 1). The specimen was given to the Arizona Department of Game and Fish, transferred to the University of Arizona, and remains uncatalogued as of this writing (fide TC).

RUBY-THROATED HUMMINGBIRD _Archilochus colubris_ (0, 3, 4). An adult male was in East Whitetail Canyon, Chiricahua Mountains, COS, 24–27 Sep 2015 (†, ph. RT; †, ph., JL); a hatch-year male was banded in Bisbee, COS, 26–28 Oct 2015 (†, ph. SW); an adult male was in Flagstaff, COC, 2–3 Jun 2017 (†, ph. JW); and a hatch-year male was at the Santa Rita Lodge in Madera Canyon, PIM, 24 Oct 2017 (†, ph. LH). These four accepted records more than doubled Arizona’s previous total. The Flagstaff record is the first one accepted for the state outside of fall/winter.

PURPLE GALLINULE _Porphyrio martinicus_ (4, 14, 2). Accepted records are of an immature at Granite Basin Lake, YAV, 17–21 Sep 2015 (ph. CT; ph. BP, ph. DR) and an adult at Sweetwater Wetlands, PIM, 4 Jul–4 Aug 2016 (ph. LH; †, ph. AC). Most Purple Gallinules recorded in Arizona have been found between July and mid-September.

COMMON CRANE _Grus grus_ (0, 0, 1). After much discussion at its 2018 meeting, the ABC unanimously endorsed one individual that summered at Mormon Lake,
Figure 1. Arizona’s first physically documented Black Swift came in the form of a juvenile found dead in Phoenix, Maricopa Co., 25 Sep 2017.

Photo by Troy Corman

Figure 2. Arizona’s first recorded Common Crane was at Mormon Lake, Coconino Co., 4 May–6 Sep 2017.

Photo by Steve Valasek

COC, 4 May–6 Sep 2017 (ph. DC; †, ph. GHR; ph. SV, DW, MW; Figure 2). Its identification was never in question, but its origin was, as it was the first Common Crane recorded in the lower 48 states in summer (Howell et al. 2014). Mormon Lake is at a lower latitude than typical for summering of eastern Asian populations of the species, but it is resident and breeds at similar latitudes in western Asia (Archibald et
Sandhill Cranes (*Antigone canadensis*) have wandered or summered at lower latitudes away from locations of regular breeding, including in northern Arizona at Luna Lake, APA, and at Mormon Lake (http://azfo.org/gallery/2016/html05/Sandhill_Crane_MormonLk_Story_03_June_2016.html). The ABC also took into account that no Common Cranes were known to have escaped recently in Arizona and neighboring states, including California (Nelson et al. 2013, Pike et al. 2014), Nevada (Meyers 2015), New Mexico (N. Am. Birds 69:128, 2015), and Utah (www.utahbirds.org/RecCom/2017/2017_18Summary.htm). All of these states have accepted records of the Common Crane, and ABC members raised the possibility that several of them may represent the same individual.

**AMERICAN GOLDEN-PLOVER** *Pluvialis dominica* (21, 28, 7). Accepted records are of one in the Gila River valley near Tres Rios, MAR, 2–5 Apr 2015 (†, ph. LHo; ph. LB, TD); one at Chandler, MAR, 23–28 Nov 2015 (ph. BH, †, ph. TL; ph. JR); one at Wilcox, COS, 22–25 Apr 2016 (†, ph. DS; ph. CR); another at Willcox 4–15 Apr 2017 (†, ph. SO); one near Yuma, YUM, 10 Apr 2017 (†, ph. HD); one at Rimmy Jim Tank, COC, 17–22 May 2017 (†, ph. JC, JWi); and one at Gilbert Water Ranch, MAR, 5–12 Nov 2017 (ph. BG). Though the total number of Arizona records now exceeds 50 and the species is considered a rare but regular migrant, the committee continues to review it because of possible confusion with the Pacific Golden-Plover (*P. fulva*).

**LESSER SAND-PLOVER** *Charadrius mongolus* (0, 0, 1). A well-documented juvenile at Round Cedar Lake near Leupp, COC, 2–11 Oct 2016 (†, ph. JWi; ph. TB, GB, RD, GK, TL, KM, BP, DVP, DW; Figure 3), represented a first state record. From the dusky smudges on the flanks and the uppertail being darker than the back, the bird appears to be *C. m. mongolus* or *C. m. steegmanni* (Garner et al. 2003). None of the three subspecies of the *C. m. atrifrons* group is yet known from North America (Howell et al. 2014). Though the Arizona record is only the second for the interior of western North America outside of Alaska, its seasonality matches that of other records of fall juveniles reported along the Pacific coast (Hamilton et al. 2007, Howell et al. 2014).

**UPLAND SANDPIPER** *Bartramia longicauda* (3, 8, 2). One was in Franklin, GRE, 9 Jul 2016 (†, ph. AC; ph. DS), a first for Greenlee County, and one was in a colony of reintroduced Black-tailed Prairie Dogs (*Cynomys ludovicianus*) in Las Cienegas National Conservation Area, PIM, 12 Aug 2017 (†, ph. CDB; ph. CR; †, ph. GHR). Most records in Arizona are from early fall.

**HUDSONIAN GODWIT** *Limosa haemastica* (0, 7, 1). One in Arlington Valley, MAR, 15–28 Jul 2015 (†, ph. KR; †AC) represents the first record accepted for Arizona in fall. All of the state’s previous Hudsonian Godwits have been found between 13 and 26 May (Rosenberg et al. 2017).

**RUDDY TURNSTONE** *Arenaria interpres* (2, 8, 3). Accepted records are of an immature at Paloma Ranch, MAR, 19 Aug 2016 (ph. CS); an adult at the Anderson Dairy ponds near Stanfield, PIN, 9 Aug 2017 (†DJ; ph. KK, CR); and of a bird in juvenile plumage at ponds at the Caballero Dairy on the Santa Cruz Flats, PIN, 9 Aug 2017 (†DJ; ph. KK). This species was historically more regular in Arizona during fall migration (see Rosenberg and Witzeman 1998), but there have been few records since it was placed back on the review list in 2002.

**RED KNOT** *Calidris canutus* (2, 14, 4). Accepted records, all of single individuals in juvenile plumage, are from Willcox, COS, 9–13 Sep 2015 (†, ph. TD); Paloma Ranch, MAR, 2 Sep 2016, (ph. CS); the Glendale recharge ponds, MAR, 22–30 Aug 2017 (†, ph. TD); and the Goldman Dairy ponds near Coolidge, PIN, 28 Aug–11 Sep 2017 (†, ph. Dj). This species was encountered in Arizona more regularly in...
the 1970s and 1980s (see Rosenberg and Witzeman 1998), and the ABC resumed reviewing reports in 2002.

WHITE-RUMPED SANDPIPER *Calidris fuscicollis* (0, 16, 1). Three together on a pond on the Santa Cruz Flats, PIN, 13–19 May 2016 (†, ph. GHR) fit the pattern of late spring migrants.

Figure 3. This Lesser Sand-Plover at Round Cedar Lake near Leupp, Coconino Co., 2–11 October 2016 represented a first record for Arizona.

*Photo by Gordon Karre*

Figure 4. Arizona’s second Royal Tern at Sun Lakes near Chandler, Maricopa Co., 23–24 Jul 2017.

*Photo by Dale Clark*
POMARINE JAEGER *Stercorarius pomarinus* (2, 7, 1). One accepted record of a juvenile discovered at San Carlos Lake, PIN, 14 Nov 2014 (†, ph. KK). The Pomarine is the rarest of the three jaegers in Arizona, with juveniles arriving after late October accounting for most records.

LONG-TAILED JAEGER *Stercorarius longicaudus* (0, 15, 1). The committee accepted a report of one adult on Lake Havasu, MOH, 9–12 Sep 2014 (†, ph. DVP).

JAEGER sp. *Stercorarius* sp. (X, 2, 1). One jaeger, a single individual on Lake Havasu, MOH, 5 Sep 2017 (†DVP), was not submitted at the species level and was reviewed and accepted at the genus level.

BLACK-LEGGED KITTIWAKE *Rissa tridactyla* (1, 16, 2). Accepted records are of first-cycle birds at Site Six, Lake Havasu City, MOH, 1 Feb 2015 (†, ph. DVP) and 24 Dec 2016–20 Jan 2017 (†, ph. DVP). The one in 2016–2017 was found with a fishing lure in its mouth, but by the end of its stay it had lost the lure.

LAUGHING GULL *Leucophaeus atricilla* (1, 26, 2). Accepted records are of one in the Parker Valley near Poston, LAP, 3 Nov 2015 (†, ph. DVP) and another at Lakeside Park in Tucson, PIM, 14 May 2016 (†, ph. BN). Though this species remains primarily a casual visitor to Arizona in spring and summer, it is increasing as a fall visitor. At the 2018 meeting the committee voted to remove the Laughing Gull from the review list, primarily because of its relative ease of identification and the increasing number of records, especially from fall.

MEW GULL *Larus canus* (0, 24, 2). One in its first cycle was on Lake Havasu, MOH, 6 Jan 2016 (†, ph. DVP); one in its second cycle, likely a spring migrant, was at Rotary Park, Lake Havasu City, MOH, 13 Mar 2017 (†, ph. DVP). Reports of this species have increased in recent years, particularly along the lower Colorado River.

ICELAND GULL *Larus glaucoides* (3, 10, 5). Single individuals at Mustang Reservoir on the Arizona Strip, MOH, 15 Oct 2014 (†, ph. SL) and at San Carlos Lake, PIN, 8 Nov 2017 (†DJ; ph. KK) provided rare records away from the lower Colorado River valley. The one on 15 Oct was also the earliest recorded in Arizona. More typical reports of single birds came from the lower Colorado River: one that moved between Bullhead City and Katherine Landing on Lake Mohave, Lake Mead NRA, MOH, 11–27 Jan 2016 (†, ph. DVP); one at Site Six on Lake Havasu, MOH, 30 Jan 2016 (†, ph. MH); and one at Rotary Park, Lake Havasu, MOH, 17 Nov 2017 (†, ph. DVP). In 2017 the American Ornithological Society lumped Thayer’s (*L. thayeri*) with the Iceland Gull (*L. glaucoides*) into a single species (Chesser et al. 2017). All records accepted for Arizona have been of *L. g. thayeri* in its first cycle.

LESSER BLACK-BACKED GULL *Larus fuscus* (0, 8, 3). Accepted records are of an adult at Page, COC, 8 Sep 2016 (†, ph. LP); an adult at the Glendale recharge ponds, MAR, (†, ph. JRi); and a first-cycle individual also there, 29–30 Oct 2017 (ph. SB, SH). The frequency of records of species in the western U.S. has increased greatly during the last decade; the first Arizona record was in 2006 (Rosenberg et al. 2011). The California Bird Records Committee discontinued reviewing reports in 2013 (www.californiabirds.org/cbrc_book/update.pdf).

GLAUCOUS-WINGED GULL *Larus glaucescens* (1, 6, 1). One accepted record, of a first-winter bird at Katherine Landing, Lake Mohave, Lake Mead NRA, MOH, 18 Jan 2015 (†, ph. DVP; ph. BS). Though five of the previous seven Arizona records were from the lower Colorado River, this is the first record accepted from there since 1981.

ROYAL TERN *Thalasseus maximus* (0, 1, 1). The second accepted for Arizona was one in its second cycle at Sun Lakes, MAR, 23–24 Jul 2017 (†, ph. DC; †, ph. AC, LH, GHR; Figure 4). This species is casual inland in the Southwest with five
records from the Salton Sink (all in summer; Patten et al. 2003) and one in fall from New Mexico (N. Am. Birds 58:118, 174, 2004).

ELEGANT TERN *Thalasseus elegans* (0, 15, 2). Accepted records are of an adult in Tucson, PIM, 9–11 Jun 2015 (†, ph. CR; ph. DB, DBr, MMS, CTh) and an immature (first or second cycle) at Mittry Lake, YUM, 9 Aug 2016 (†, ph. HD; ph. MM). The record for Tucson, though accepted unanimously on the first round, generated some discussion as to the possibility of a hybrid with the Sandwich Tern (*T. sandvicensis*), as the bird’s bill showed dusky at the base of the culmen. The Sandwich Tern has occurred in the Elegant Tern’s main colony at Isla Rasa in the Gulf of California (Velarde and Rojo 2012), where hybridization is possible, but the committee believed the bill pattern seen at Tucson is likely within the range of variation in the Elegant (see Shoch and Howell 2013). All of Arizona’s previous Elegant Terns have been found between mid May and late July; the Mittry Lake record is the state’s first for August. Records from the Salton Sink extend from late April to the end of August (Patten et al. 2003).

BLACK SKIMMER *Rynchops niger* (0, 10, 1). One accepted record, of two birds at the ponds along Lower River Road 2 km nw. of Palo Verde, MAR, 15 Jul 2016 (ph. DM; †, ph. CF).

RED-THROATED LOON *Gavia stellata* (3, 23, 1). One was on Lake Havasu, MOH, 7 Dec 2014 (†, DVP; ph. LH). The ABC removed the Red-throated Loon from its review list at the end of 2014, as the species has become regular in Arizona, primarily on lakes along the lower Colorado River.

YELLOW-BILLED LOON *Gavia adamsii* (0, 7, 2). Amazingly, two immature birds were only about 2 km apart on Lake Mohave within the Lake Mead NРА, at Katherine Landing, MOH, 11 Jan–15 Feb 2016 (†, ph. DVP; ph. BS) and Davis Dam, MOH, 17 Jan–20 Feb 2016 (†, ph. DVP; ph. BS).

WEDGE-RUMPED STORM-PETREL *Oceanodroma tethys* (0, 0, 7). Searches for displaced seabirds after the remnants of Hurricane Newton passed into southern Arizona resulted in the exciting discovery of multiple individuals of this species at widespread locations. Four were at Lake Patagonia State Park, SCR, 7 Sep 2016 (†, ph., CMc; ph. MB); four more were at the Amado sewage-treatment pond, PIM, 7 Sep 2016 (ph. LH, LPr, CR, BL); and one was found on the ground below lights at the Canoa Ranch Rest Area, PIM, 7 Sep 2016 (†, ph., DVP; †, ph., LH). Another was found dead a day after the storm in a backyard in Rio Rico, SCR, 8 Sep 2016 (ph. MJ). Also found a day after the storm was a individual grounded but alive near Eloy, PIN, 8 Sep 2016 (ph. VM); one at the Benson sewage-treatment ponds, COS, 8 Sep 2016 (†, ph. LN); and one in Mesa, MAR, 8 Sep 2016 (ph. JMc, BB, CF, GK; †, ph., LHa; see this issue’s front cover). The birds found at Canoa Ranch and Eloy were taken to a rehabilitation facility but did not survive. The specimens (as well as that from Rio Rico) were given to the Arizona Department of Game and Fish, transferred to the University of Arizona, and remain uncatalogued as of this writing (fide TC). This species occurs regularly off the southern tip of the Baja California Peninsula and into the Gulf of California (Howell 2012). Although California has 13 accepted records, all are coastal or pelagic (www.californiabirds.org/cbrc_book/update.pdf). Measurements of the Arizona specimens identify them as *O. t. kelsalli*, which breeds in Peru. California’s two specimens, as well as two individuals captured and released on Southeast Farallon Island, have been also referred to this subspecies (Kammerichs-Berke 2018). More information on these storm-related records and Hurricane Newton can be found under the appropriate species at http://azfo.org/gallery/1main/photos_tax.html and https://ebird.org/news/newtonarizona.

BLACK STORM-PETREL *Oceanodroma melanía* (0, 1, 1). Arizona’s second
Black Storm-Petrel was found three days after the remains of Hurricane Newton had passed through the state at the Benson sewage-treatment ponds, COS, 10 Sep 2016 (†, ph. BS, CR; ph. PB, JMe, LH, AR; Figure 5). Arizona’s first record was of a flock of at least 40 individuals on Lake Havasu, MOH, 26–30 Sep 1997 after Tropical Storm Nora (Jones 1999, Rosenberg 2001). See the Wedge-rumped Storm-Petrel account for more information on Hurricane Newton.

LEAST STORM-PETREL Oceanodroma microsoma (0, 3, 3). The ABC accepted three records associated with Hurricane Newton on 7 Sep 2016: one at the Amado sewage-treatment ponds, PIM (ph. LH, BL; †, ph. CR); one at Lake Patagonia State Park, SCR, (†, ph. CMc); and one seen hit by a vehicle (specimen retained) in east Tucson, PIM, (†, ph. BGi). The specimen was given to the Arizona Department of Game and Fish, transferred to the University of Arizona, and remains uncatalogued as of this writing (fide TC). See the Wedge-rumped Storm-Petrel section for more information on Hurricane Newton. This species has previously been brought to the desert Southwest, twice in large numbers, by the remnants of hurricanes (Rosenberg 2001, Patten et. al. 2003).

JUAN FERNANDEZ PETREL Pterodroma externa (0, 0, 1). A remarkable find related to Hurricane Newton was of one that flew quickly over a yard in Tucson, PIM, 7 Sep 2016 (†, ph. BGi; Figure 6). This represents the first record for Arizona and first fully documented record for the continental United States. Oregon has accepted a sight report (https://oregonbirding.org/wp-content/uploads/2019/01/recordsjan2019.pdf). This species occurs regularly far off of southern Baja California in late summer and early fall (Howell 2012), and there is a prior hurricane-related report from the Gulf of California (Erickson et al. 2006). See the Wedge-rumped Storm-Petrel account for more information on Hurricane Newton.

WEDGE-TAILED SHEARWATER Ardenna pacifica (0, 0, 1). Representing a first record for Arizona, a light-morph individual was found during Hurricane New-
ton at the Amado sewage-treatment pond, PIM, 7 Sep 2016 (†, ph. LH; Figure 7). This species is regular around the southern tip of the Baja California Peninsula, and California has 10 accepted records, including one from the Salton Sea unrelated to a storm (www.californiabirds.org/cbrc_book/update.pdf; Patten et al. 2003). See the Wedge-rumped Storm-Petrel account for more information on Hurricane Newton.

MAGNIFICENT FRIGATEBIRD *Fregata magnificens* (4, 10, 1). Two were seen flying together over the Okie Hills within the Barry M. Goldwater Air Force Range, MAR, 19 Jul 2012 (†, ph. JV). A single briefly described frigatebird over the visitor center at Cabeza Prieta NWR, PIM, 22 Oct 2013 (†JV) was accepted at the level of the genus only. Though only the Magnificent Frigatebird has been confirmed in Arizona, the possibility of the Great Frigatebird (*F. minor*) reaching Arizona was raised by Monson and Phillips (1981). Both the Lesser (*F. ariel*) and Great Frigatebirds have been recorded in California, as well as the interior West (Sullivan et al. 2007, Howell et al. 2014), so the ABC takes a conservative stance on acceptance at the species level.

WHITE IBIS *Eudocimus albus* (2, 8, 2). Accepted records were of a briefly described adult at Alamo Lake, LAP, 5 May 2017 (†CSz), likely the same individual flying past the headquarters of Bill Williams River NWR, LAP, 8 May 2017 (†GKI), and an immature at Sweetwater Wetlands Tucson, PIM, 5 Jul 2017 (ph. DW). 2017 was a good year for the White Ibis in the interior West with accepted records of adults from northern Utah in June (www.utahbirds.org/RecCom/2017/2017_41Summary.htm), and from southern Nevada in August (Tinsman and Meyers 2019).
GLOSSY IBIS *Plegadis falcinellus* (0, 18, 1). The single accepted record is of an adult at Willcox, COS, 12 Apr 2016 (†, ph. DS).

SHORT-TAILED HAWK *Buteo brachyurus* (0, 40, 11). Accepted records are of one at Tubac, SCR, 8 Mar 2015 (ph. NH); one along Cienega Creek, PIM, 20 Mar 2015 (ph. PS); one in lower Florida Canyon, PIM, 23 Apr 2015 (ph. TH), and seen again in nearby lower Madera Canyon, PIM, 5 May 2015 (ph. LH); one at Summerhaven, Mount Lemmon, PIM, 3 Jun 2015 (†JHi); one in Sierra Vista, COS, 5 Mar 2016 (†JB); one on Mount Lemmon, PIM, 15 May 2016 (ph. BS); one in Hunter Canyon, Huachuca Mts., COS, 5 Aug 2016 (LBe; †RT); one on Aztec Peak, Pinal Mts., PIN, 13 May 2017 (GL; ph. JWe); one juvenile of the dark morph along Paige Creek near Cascabel, PIM, 5 Jun 2017 (ph. KK); one in Carr Canyon, COS, 29 Jul 2017 (ph. EH); and one on Mount Lemmon, PIM, 27 Aug 2017 (MMS; ph. CMe). Although it is difficult to determine whether some individuals are birds returning in successive years, records of the Short-tailed Hawk in Arizona have increased greatly in recent years. Migrants are now being recorded at the hawk watch along the Santa Cruz River near Tubac, and additional records come from a growing number of mountain ranges in southeastern Arizona, north to the Pinal Mountains. Given that there are now more than 50 reports from the state, the ABC removed this species from its review list at the end of 2017.

RED-HEADED WOODPECKER *Melanerpes erythrocephalus* (3, 4, 1). The committee agreed that one near Sonoita, PIM, 8 May 2016 (†, ph. KC) was the same as one along Cave Creek, Santa Rita Mountains, SCR, 11 May–11 Jun 2016 (†, ph. AC; ph. CDB; †, ph. GHR). The sightings were three days and over 15 km
apart, but the species’ scarcity in Arizona (first record since 1998) and geographic proximity (reports within the same drainage basin) led the ABC to conclude that the reports likely represent the same individual.

ROSE-THROATED BECARD *Pachyramphus aglaiae* (#, 3, 6). Single males were discovered at Chiricahua N.M., COS, 20 Jan 2015 (ph. PS); in East Whitetail Canyon, Chiricahua Mts., COS, 15 Jul 2015 (†RT); at Cluff Ranch, w. of Safford, GRA, 24 Mar–10 Apr 2016 (†, ph. PS; ph. GK, BG, GJ); and along the De Anza Trail near Tubac, SCR, 3–21 Jan 2017 (ph. KM). A pair was along the Santa Cruz River near Tumacacori, SCR, 10 Jan–6 Feb 2017 (ph. PS), then found nesting on 23 May 2017 (ph. JD) and reported through 12 Sep 2017. This represents the first confirmed nesting in Arizona since 2006 (Rosenberg et al. 2017).

NUTTING’S FLYCATCHER *Myiarchus nuttingi* (1, 6, 1). Accepted records of presumed continuing birds in the Bill Williams River NWR are of one near “Honeycomb Bend,” 2 km w. of Planet Ranch, LAP, 8–17 Jun 2015 (†, s.r. EHo); up to two at “Sandy Wash,” MOH/LAP, where they bred in 2013, through 25 Nov 2015 (†, s.r. ML, †, s.r., ph. EHo); and one near “Cougar Pt.,” LAP, through 24 Jul 2016 (†, s.r. EHo) (see Rosenberg et. al. 2017). At new locations within the Bill Williams River NWR were one at Planet Ranch, MOH, 11 Jun 2015 (†, s.r., ph. EHo), one likely different individual on the north side of the river near “Cougar Pt.,” MOH, 22 Jun 2015 (†, s.r. EHo), and one near “Cave Wash,” LAP, 10 Aug 2015 (†, s.r., ph. EHo). It is unknown if these represent dispersing young, shifts in the home ranges of previously known adults, or new individuals. The Bill Williams River has suffered from drought in recent years, and reports of Nutting’s Flycatchers have shifted toward areas that still have water. Away from the Bill Williams River NWR, one was in California Gulch, SCR, 2–29 Jan 2017 (†, ph. DS; ph. CMc).

COUCH’S KINGBIRD *Tyrannus couchii* (0, 1, 2). One was calling at the Texas Canyon Rest Area along Interstate 10 w. of Willcox, COS, 23–25 Jan 2015 (†BZ; †, ph. LH), and another was at Fort Lowell Park, Tucson, PIM, 11 Nov–21 Dec 2017 (ph. MW; †, ph. CR, SO; Figure 8). Arizona’s only previous Couch’s Kingbird wintered at Tacna, YUM, 11 Jan–7 Mar 2007 (Rosenberg et al. 2011).

TUFTED FLYCATCHER *Mitrephanes phaeocercus* (0, 3, 2). A single Tufted Flycatcher photographed in Miller Canyon, COS, 26 Apr 2015 (ph. CTr) was followed by another (or the same) in upper Ramsey Canyon, COS, 22 May 2015 (MP; ph. BBa, CM, MBa, MMe). In upper Ramsey Canyon, one individual with a nest was located 7 Jun 2015 (ph. DG, DW, WB), and two birds were present after 11 Jun 2015. In 2016, a single individual was discovered along the Bledsoe Loop in lower Ramsey Canyon 28 Mar 2016 (ph. LD), and one found near the previous year’s nest in upper Ramsey Canyon on 16 Apr 2016 was photographed on 4 May 2016 (ph. TJ). Three individuals (pair plus one juvenile) were there 24 Jul 2016 (ph. CDB) and last reported 29 Oct 2016. In 2017, one was again along the Bledsoe Loop in lower Ramsey Canyon on 12 Mar 2017 (ph. CMc); one or two were at the Reef Townsite in Carr Canyon, COS, from 20 Mar to 11 Aug 2017 (OB; ph. TBa, CDB, KM, MC); and a pair was at the previous territory in upper Ramsey Canyon 10 Mar–25 Jul 2017 (TL; www.eBird.org). Figuring out the number of unique records is difficult. Clearly, a pair nested successfully in upper Ramsey Canyon each year from 2015 to 2017. What is unclear is if the “early” records from lower Ramsey Canyon, and the record for Carr Canyon represent young dispersing from the nest or new individuals. Thus the number of unique records is approximate.

YELLOW-BELLIED FLYCATCHER *Empidonax flaviventris* (1, 3, 1). One was at Sonoita, SCR, 16 Sep 2016 (ph. KC). Two of Arizona’s previous four Yellow-bellied Flycatchers were also discovered in mid-September.
Figure 8. Arizona’s third Couch’s Kingbird at Tucson, Pima Co., 11 Nov–21 Dec 2017.

*Photo by Melissa Williams*

Figure 9. Arizona’s and the United States’ first Pine Flycatcher at Aliso Spring on the east side of the Santa Rita Mountains, Pima Co., 28 May–7 Jul 2016.

*Photo by Gary H. Rosenberg*
LEAST FLYCATCHER *Empidonax minimus* (3, 7, 1). One was along Sonoita Creek, SCR, 23 Jan 2015 (†, ph., SM).

PINE FLYCATCHER *Empidonax affinis* (0, 0, 1). Arizona’s and the United States’ first record was established by an apparent female at Aliso Spring on the east side of the Santa Rita Mountains, PIM, 28 May–7 Jul 2016 (†, ph., s.r. DS; †, ph., s.r. GHR; ph. LH; see Rosenberg and Stejskal 2018; Figure 9). It constructed and was observed sitting in a nest that apparently never held eggs, and it was never heard singing, only calling.

PHILADELPHIA VIREO *Vireo philadelphicus* (5, 15, 2). Accepted records are of one along Paige Creek on the east side of the Rincon Mts., PIM, 17 Oct 2016 (ph. PS) and one near Meteor Crater, COC, 24 Sep 2017 (ph. JWi). This species remains a casual visitor to Arizona, with most records from late fall.

RED-EYED VIREO *Vireo olivaceus* (5, 37, 6). Accepted records are of one at Cameron, COC, 17 May 2015 (ph. CBa); one in Picture Canyon, COC, 12 Sep 2015 (ph. CG); one at Box Bar Recreation Area along the lower Verde River, MAR, 6 Oct 2015 (†, ph. TD); one banded at Leslie Canyon NWR, COS, 14 Jun 2016 (ph. LN); one in Miller Canyon, COS, 8–15 Aug 2017 († JWo); and one at Gilbert Water Ranch, MAR, 29 Oct–4 Nov 2017 (CS; ph. DC). This species has become a rare but regular migrant in Arizona.

YELLOW-GREEN VIREO *Vireo flavoviridis* (1, 11, 2). One male was very well documented along the Santa Cruz River near Tumacacori, SCR, 8 Aug 2017 (†, ph., s.r., CDB), and another was seen and recorded singing at Las Cienegas National Conservation Area, PIM, 17 Sep 2017 (s.r. JMb). Virtually all of Arizona’s records are for summer, the one for September being the latest.

Figure 10. This California Scrub-Jay was seen intermittently at Yuma, Yuma Co., 22 Aug 2016–16 May 2017, establishing a first Arizona record.

*Photo by Mike Margolis*
CALIFORNIA SCRUB-JAY *Aphelocoma californica* (0, 0, 1). One was discovered in a residential yard in Yuma, YUM, 22 Aug 2016 and seen intermittently to 16 May 2017 (ph. MK; ph. MMa.CMc. DVP. LH; Figure 10). The committee decided to accept this record on the basis of the understanding that this species, while mostly sedentary, has wandered at this season to the Salton Sink (twice, Patten et al. 2003, N. Am. Birds 60:141, 2012), to the western edge of the Mojave Desert downslope from breeding areas to the west, and to Idaho and Montana. The breeding birds closest to Yuma are about 135 km to the west in the Jacumba Mountains along the border between San Diego and Imperial counties, California (Unitt 1984).

CAVE SWALLOW *Petrochelidon fulva* (0, 9, 1). One photographed on the Santa Cruz Flats, PIN, 3 Sep 2017 (ph. CTr) represents only the tenth record for Arizona.

BLACK-CAPPED CHICKADEE *Poecile atricapillus* (4, 8, 1). Two individuals were found in Colorado City, MOH, 14 Jan–9 Mar 2017 (ph. CMc; ph. DVP). This species is a casual winter visitor in northwestern Arizona and had not been found at this location since the winter of 2009–2010 (Rosenberg et al. 2011). It breeds just to the north along the Virgin River in extreme southwestern Utah.

CAROLINA WREN *Thryothorus ludovicianus* (0, 3, 1). Arizona’s fourth recorded Carolina Wren came to a feeder in Overgaard, NAV, 14 Dec 2015–18 Jan 2016 (ph. JJ; ph. EH).

SINALOA WREN *Thryophilus sinaloa* (0, 4, 0). After wintering in Huachuca Canyon, COS, during 2013–2014, and again 2014–2015 (see Rosenberg et al. 2017), a Sinaloa Wren was discovered again at this location 20 Aug 2015–6 May 2016 (ph. BM; ph. JVR, RG, CR, MC); the ABC considers it a returning individual. The location is the same as Arizona’s second record of this species in 2009.

WOOD THRUSH *Hylocichla mustelina* (0, 18, 2). Accepted records are of one at Meteor Crater, 60 km e. of Flagstaff, COC, 13–14 Oct 2016 (CL; ph. TLi, JCr) and one at Dateland, YUM, 29 Oct–4 Nov 2017 (ph. MV). This species remains a casual visitor to Arizona, mainly in fall.

AZTEC THRUSH *Ridgwayia pinicola* (0, 25, 2). Two accepted records: one at Madera Canyon, SCR, 30 May–2 Jun 2016 (ph. GJ), and one at Aliso Spring, e. side of the Santa Rita Mts., PIM, 12–13 Jun 2016 (ph. JG). Most of the Arizona records are from late summer (Jul–Sep), but there are a handful of May and June records, including Arizona’s first, of a bird discovered in Huachuca Canyon 30 May 1978 (Rosenberg and Witzeman 1999).

BLUE MOCKINGBIRD *Melanotis caerulescens* (0, 3, 2). One was photographed in Ramsey Canyon, COS, 21 May 2015 (ph. MR), and another was netted and banded at Cook’s Lake along the lower San Pedro River, PIN, 11 Jul 2015 (ph. WL). Arizona’s three previous records are for winter.

WHITE WAGTAIL *Motacilla alba* (0, 1, 1). Arizona’s second White Wagtail was at Ajo, PIM, 29 Mar–1 Apr 2017 (ph. DB; ph. LH; JY, CVC, TH, CMc; Figure 11). According to Peter Pyle (in litt.; Pyle 1997), from the white median coverts of the formative plumage, it was likely a first-spring Black-backed Wagtail (*M. a. lugens*). The date can be considered early, given that of the 37 White Wagtails known from California, eight were in spring (18 Apr–22 May), including two from inland locations (Hamilton et al. 2007; www.californiabirds.org/cbrc_book/update.pdf).

PURPLE FINCH *Haemorhous purpureus* (4, 6, 22). The status of the Purple Finch in Arizona has changed in recent years, with no fewer than 22 accepted records for this report. These are of one at Lake Havasu City, MOH, 25 Jan–29 Mar 2015 (†, ph. DVP); another there 19 Oct–1 Nov 2015 (ph. DVP); one at South Dike, Havasu NWR, MOH, 26 Oct 2015 (†LHa), one at Ajo, PIM, 25 Oct–24 Nov 2015 (†, ph. DVP); one at South Dike, Havasu NWR, MOH, 26 Oct 2015 (†LHa), one at Ajo, PIM, 25 Oct–24 Nov 2015 (†, ph. DVP).
(†, ph. CMc); one at Morgan City Wash near Lake Pleasant, MAR, 14 Nov 2015 (ph. JMo); one in Maricopa, PIN, 26 Nov 2015 (†, ph. NL), three at Gilbert Water Ranch, MAR, 30 Nov 2015–27 Jan 2016 (†, ph. TL); five to seven at Aspen Creek, YAV, 2–12 Dec 2015 (ph. BP); one along Tanque Verde Wash e. of Tucson, PIN, 15 Dec 2015 (†, ph. PS); one at Seven Springs near Cave Creek, MAR, 4 Jan 2016 (†, ph. Bl); one along Skunk Creek, Peoria, MAR, 5–10 Jan 2016 (†, ph. TD); up to five along Gillespie Wash near Safford, GRA, 9–10 Jan 2016 (†, ph. Jck); two at Arivaca Cienega, Buenos Aires NWR, PIM, 18 Jan 2016 (†DG), with another (possibly one of the same) 5 Mar 2016 (†DG); seven along Hwy. 87 ne. of Fountain Hills, MAR, 21–31 Jan 2016 (†, ph. SF); one in Ash Canyon, COS, 28–29 Feb 2016 (†, ph. J&DP); one at El Rio Open Space Preserve in Marana, PIM, 27 Apr 2016 (†, ph. AC); one at Portal, COS, 14 May 2016 (†DS); four along Aspen Creek near Prescott, YAV, 18–30 Nov 2016 (†, ph. TC); one at Pintail Slough, Havasu NWR, MOH, 30 Oct 2017 (†DVP, EH); five at Rotary Park, Lake Havasu City, MOH, 5 Nov 2017 (†LHa); and a different individual there 9–17 Nov 2017 (†, ph. DVP, LHa). All of the above records are believed to be of the western subspecies californicus. The frequency of Purple Finch reports in Arizona, as well as other states in the Southwest, including Nevada (Tinsman and Meyers 2019), has increased in recent years. At the end of 2017 the ABC discontinued reviewing reports of H. p. californicus but continues to solicit any reports of the more eastern H. p. purpureus, for which there is one accepted Arizona record (Phillips et al. 1964).

WHITE-WINGED CROSSBILL Loxia leucoptera (0, 1, 1). Arizona’s second accepted record was of two individuals in the Chuska Mts., APA, 10 Dec 2017 (ph. FG); the combination of marginal photos and recordings of the calls eliminated the Red Crossbill, which rarely shows rather bold white wing bars.

LITTLE BUNTING Emberiza pusilla (0, 0, 1). Arizona’s first record of this Asian species at Slaughter Ranch, COS, 27 May 2017 (†, ph. REW; Figure 12) was exceptional. All four Little Buntings recorded in California were discovered between 27 Sep and 12 Dec (Hamilton et al. 2007; www.californiabirds.org/cbrc_book/update.pdf). There is also an 8 Oct 2008 record from Baja California Sur, Mexico (Radamaker and Powell 2010).
AMERICAN TREE SPARROW *Spizelloides arborea* (#, 6, 1). This species remains a casual and irregular winter visitor to Arizona, with most occurrences above the Mogollon Rim in the northern portion of the state. Only one report was evaluated and accepted during this period, of one at Lee’s Ferry, COC, 10 Nov 2017 (ph. JWi).

LECONTE’S SPARROW *Ammodramus leconteii* (0, 2, 1). One at Dove Mountain 10 km ene. of Marana, PIM, 26–27 Sep 2017 (ph. JHd; ph. CMc, KM, LH, AC; Figure 13) established only the third Arizona record.

BOBOLINK *Dolichonyx oryzivorus* (#, 13, 8). Accepted records are of an adult
male at the Sweetwater Wetlands, PIM, 20 May 2015 (†MMS); one at Gilbert Water Ranch, MAR, 16 Sep 2015 (†, ph. SF); one at the village of Oak Creek, YAV, 28 Oct 2015 (†VN); one male at Page, COC, 14 May 2016 (†, ph. LP); one at Babbitt Tank, COC, 28 Sep 2016 (†, ph. JWII); one at the San Pedro River National Conservation Area, COS, 3 Oct 2016 (ph. JTh); another at Babbitt Tank, COC, 14–18 Oct 2016 (ph. VN); and one at Slaughter Ranch, COS, 28 May 2017 (†, ph. CR). The Bobolink remains a casual spring and fall visitor to Arizona.

STREAK-BACKED ORIOLE *Icterus pustulatus* (5, 18, 4). A pair was at the Nature Conservancy’s preserve along the San Pedro River in Dudleyville, PIN, 18 May–6 Jun 2015 (†, ph. DVP), where a small population persisted during the 1990s (Corman and Wise-Gervais 1990). Elsewhere, one male was at Riverside Park, Yuma, YUM, 24 Dec 2015–26 Mar 2016 (†, ph. JT; ph. HD); one male was at Portal, COS, 12 Nov 2016–2 May 2017 (ph. BR; ph. DW, RS); and a female was at Rio Rico, SCR, 16 May 2017 (†, ph. IM). This species remains a casual visitor to Arizona, although small pockets of resident birds may persist along the lower San Pedro River.

RUSTY BLACKBIRD *Euphagus carolinus* (9, 22, 4). Accepted records are of one female at Coon Bluff Campground along the Salt River, MAR, 6 Dec 2015–17 Mar 2016 (†, ph. CDB, CR, TD); one female at Willow Tank near Portal, COS, 19 Dec 2015–5 Jan 2016 (†, ph. DJ); one male at the Kachina Wetlands Preserve s. of Flagstaff, COC, 10–17 Nov 2017 (†, ph. TH); and one female at Prescott Valley, YAV, 19 Nov 2017 (†, ph. RB). Although there are more than 30 records from Arizona, the ABC has retained this species on the review list because it is still casual in the state, and it is still an identification challenge with respect to the more common Brewer’s Blackbird (*E. cyanocephalus*).

COMMON GRACKLE *Quiscalus quiscula* (0, 33, 5). Accepted records are of one at Page, COC, 29 Jan 2015 (ph. GN); one at Taylor, NAV, 30 Mar 2015 (†NW); one at Arlington, MAR, 11 Nov 2015 (ph. CS); one at Willcox, COS, 15 Apr 2016 (†, ph. M&LJ); and one at Meteor Crater 60 km e. of Flagstaff, COC, 18 Oct–2 Nov 2017 (CL, JC; ph. JWII). As with the Rusty Blackbird, there are now more than 30 records for Arizona, the minimum for removal from the ABC’s review list, but the committee still considers this species casual in Arizona and potentially confused with both Brewer’s Blackbird and the Great-tailed Grackle.

GOLDEN-WINGED WARBLER *Vermivora chrysoptera* (1, 20, 5). Five Golden-winged Warblers were accepted for this report: one in Miller Canyon, COS, 19 Aug 2015 (†JVR); one at Sheep’s Crossing in the White Mountains, APA, 3 Sep 2015 (ph. NP, PBa); one in the Bradshaw Mountains along the Hassayampa River, YAV, 23 Sep 2015 (†, ph. DM); one in Madera Canyon, SCR, 1 Jun 2016 (†, ph. KKu); and one at the Shores Recreation Site along the Gila River, GLL, 19 May 2017 (†, ph. TD). This species remains casual in Arizona in both spring and fall.

BLUE-WINGED WARBLER *Vermivora pinus* (1, 13, 3). Accepted records are of one in Whitetail Canyon, Chiricahua Mts., COS, 14 Sep 2015 (†RT); one at Prescott, YAV, 25 Sep 2015 (ph. CT); and one in Yuma, YUM, 6 Jun 2016 (†, ph. SD). The Blue-winged Warbler remains casual in Arizona, with about equal numbers of spring and fall records.

CRESCENT-CHESTED WARBLER *Oreothlypis superciliosa* (0, 14, 1). One at Granite Basin Lake, YAV, 17 May 2015 (CT; ph. C&SB) established the first Arizona record north of Madera Canyon in southeastern Arizona.

MOURNING WARBLER *Geothlypis philadelphia* (0, 8, 1). An immature at Mormon Lake, COC, 31 Aug 2017 (†, ph. JWII) represented only the ninth accepted record for Arizona.

KENTUCKY WARBLER *Geothlypis formosus* (3, 33, 1). The only accepted
record was of one at the Boyce Thompson Arboretum, PIN, 13 Sep 2015 (ph. GM). This species remains casual in Arizona and is particularly infrequent during fall.

BAY-BREASTED WARBLER *Setophaga castanea* (0, 19, 2). Two accepted records, of one in Yuma, YUM, 6–7 Nov 2016 (ph. MV, HD) and one at Lonely Dell Ranch, Glen Canyon NRA, COC, 9–12 Nov 2017 (ph. RM).

BLACKBURNIAN WARBLER *Setophaga fusca* (0, 22, 2). Accepted records are of one along Diamond Creek near Whiteriver, NAV, 18 Sep 2015 (†, ph. EH), and one at Gilbert Water Ranch, MAR, 28 Oct 2017 (†, ph. TD).

BLACKPOLL WARBLER *Setophaga striata* (4, 26, 4). Accepted records are of one at Gilbert, MAR, 15 Sep 2016 (ph. DC; ph. CMc, SV); a male at the Sweetwater Wetlands, Tucson, PIM, 7–9 May 2017 (†, ph. CR); one at the Glendale recharge pond, Glendale, MAR, 1 Sep 2017 (†, ph. TD); and one again at the Sweetwater Wetlands, PIM, 16 Dec 2017 (ph. MWe, SVo), providing one of the latest fall records for Arizona.

PINE WARBLER *Setophaga pinus* (0, 21, 6). Six records accepted, with one at Sonoita, PIM, 5 Dec 2015 (ph. KC); one at the Randolph Golf Course, Tucson, PIM 14–20 Dec 2015 (†, WL); one in Sunnyside Canyon, SCR, 29 Dec 2015 (†, ph. LH); one at McCormick Ranch, Scottsdale, MAR, 30 Oct 2016 (†, ph. AR), and one along the Salt River east of Phoenix, MAR, 14–20 Dec 2017 (ph. MWe). Virtually all of the Arizona records are from late fall or winter.

YELLOW-THROATED WARBLER *Setophaga dominica* (0, 32, 5). Accepted records are of one at Saint David, COS, 5 Nov 2015 (†, ph. BJ); one at Patagonia, SCR, 6 Dec 2015–12 Mar 2016, perhaps returning after having wintered there the previous year (ph. DWi); one at the Tres Rios Wetlands, Phoenix, MAR, 9–24 Dec 2015 (ph. CS); one in Ash Canyon, COS, 17 May 2016 (ph. JVR); and one along the Salt River east of Phoenix, MAR, 14–20 Dec 2017 (ph. MWe). As there are more than 30 Arizona records, occurrence is almost annual, and the species is distinctive, the ABC removed this species from its review list at the end of 2017.


BLACK-THROATED GREEN WARBLER *Setophaga virens* (7, 24, 3). Two records were accepted from the Hassayampa River Preserve near Wickenburg, MAR, of one 24–25 Dec 2016 (ph. CL) and one on 16 Apr 2017 (ph. J&DB; ph. CKS). Elsewhere, one was along Sasco Road near Marana, PIN, 16–18 Jan 2017 (ph. LH). Although there are now more than 30 records from Arizona, the ABC has decided to retain this species on its review list.

FAN-TAILED WARBLER *Basileuterus lachrymosus* (1, 8, 1). Arizona’s tenth Fan-tailed Warbler was netted and banded in Ramsey Canyon, COS, 31 May 2015 (ph. WL).

RUFOUS-CAPPED WARBLER *Basileuterus rufifrons* (0, 26, 8). The number of localities where the Rufous-capped Warbler has occurred in Arizona continues to increase. Accepted records for this report are of one at Peña Blanca Lake, SCR, 13 Jan–25 Feb 2015 (ph. PS), apparently the same individual there 30 Dec 2015–25 Mar 2016, and two in Hunter Canyon, Huachuca Mts., COS, 13 Mar 2015, with an apparent family group of five there 23 Sep 2015 (†, ph. AM; ph. IS; ph. JVR). From then this species was reported there nearly continuously through 19 Dec 2017. A family group of five was found in Peña Blanca Canyon, SCR, 10 Jul 2015 (ph. LH), after which sporadic reports continued through 6 Nov 2016. Elsewhere, one was at the Peña Blanca Lake dam, SCR, 27 Aug 2015 (ph. CMc) and 27 Apr–11 May
2016; one was reported sporadically in Miller Canyon, COS, 29 Sep 2015–14 Nov 2017 (†JM); one was in Ventana Canyon, Santa Catalina Mts., PIM, 21 Nov–19 Dec 2015 (ph. PS); one was at Tonto Canyon w. of Rio Rico, SCR, 30 Dec 2016 (†CC); one was about 2 km w. of Rock Corral, SCR, 2 Jan 2017 (ph. SF); and a population has persisted in Florida Canyon, PIM, throughout the period covered by this report. As the Rufous-capped Warbler has increased steadily in southeastern Arizona in recent years, and the total number of records in the state now exceeds 30, the ABC removed it from the review list at the end of 2017.

SLATE-THROATED REDSTART *Myioborus miniatus* (0, 13, 3). Accepted records are of one at the Hirabayashi Rest Area on Mount Lemmon, PIM, 19–20 Mar 2015 (ph. PS; ph. KM, JH, JS, MV); one in Hunter Canyon, COS, 25 Jul–12 Oct 2015 (RR, GS; †MBr; ph. BA); and one female in Pinery Canyon, COS, 3 May–21 Jul 2016. The last evidently mated with a male Painted Redstart, as it was seen feeding what was considered a hybrid young Painted Redstart × Slate-throated Redstart 19 Jun 2016 (ph. AS; ph. JL, AR, GE, JB, SWo, PBa, SS). This individual returned to the same location in Pinery Canyon 30 Apr–24 Jun 2017 (ph. TJ, MW) and again was likely mated with a Painted Redstart. The frequency of the Slate-throated Redstart in Arizona has been increasing in recent years.

SCARLET TANAGER *Piranga olivacea* (4, 30, 1). One accepted record, of one at Spring Creek Ranch near Sedona, YAV, 22 Oct 2017 (ph. TC). As there are now more than 30 Arizona records the ABC removed the Scarlet Tanager from its review list at the end of 2017.

FLAME-COLORED TANAGER *Piranga bidentata* (0, 18, 3). The status of this species in the Huachuca Mountains remains uncertain. Accepted records are of a pair in lower Ramsey Canyon (Bledsoe Loop), COS, 14 May–9 Aug 2015 (ph. MSc); of a presumed different male in upper Ramsey Canyon, COS, 4 Jun–7 Aug 2015 (ph. DVP); at least a male again in lower Ramsey Canyon, COS, 13 Mar–26 May 2016 (ph. AR, CDB, BBr); and a male in Garden Canyon, COS, 7–11 May 2017 (ph. ER, JA). A pair apparently remained in upper Ramsey Canyon all summer during 2017, yet documentation was never submitted to the ABC.

REPORTS NOT ACCEPTED

FULVOUS WHISTLING-DUCK *Dendrocygna bicolor*. A report of one heard only and identified later at Gilbert Water Ranch, Gilbert, MAR, 1 Nov 2017 received no support from the committee.

TRUMPETER SWAN *Cygnus buccinator*. The ABC believes the report of two supposed immature Trumpeter Swans from Whitewater Draw, COS, 15 Jan 2015 to represent the same two Tundra Swans (*C. columbianus*) reported at that location 10–15 Jan 2015. Though two immature swans at Tres Rios, MAR, 19 Dec 2016 had legs described as “beige/yellow/blackish and more yellow at the base of their legs,” other features, such as overall color, shape, and bill color were better for the Tundra Swan and the record was not accepted. The report of one immature from the north end of Lake Havasu, MOH, 5 Dec 2016, was not detailed enough to accept. Identification of immature swans is notoriously difficult (Armistead and Sullivan 2016).

BLACK SCOTER *Melanitta nigra*. The report of one in the Bill Williams arm of Lake Havasu, LAP, 31 Mar 2016 was not detailed enough for acceptance, while a description of three in the same area on 30 Dec 2016 was inconsistent with the claimed species; several committee members suggested the birds were Surf Scoters (*M. perspicillata*) known to be present at the location.

LEAST GREBE *Tachybaptus dominicus*. A report of one in the Bill Williams
arm of Lake Havasu, LAP, 7 Jan 2017 received no support, with a majority of the committee believing the description better fit an Eared Grebe (*Podiceps nigricollis*).

**RUBY-THROATED HUMMINGBIRD** *Archilochus colubris*. A submitted photo of a supposed Ruby-throated Hummingbird in Mesa, MAR, 1 Oct 2015 showed a female Anna’s Hummingbird (*Calypte anna*), and a report of one in Scottsdale, MAR, 1 Jun 2016 received no support from the committee.

**AMERICAN GOLDEN-PLOVER** *Pluvialis dominica*. A report of one from Cibola NWR, LAP, 3–4 Mar 2015 was found to represent a Black-bellied Plover (*P. squatarola*) and was later retracted by the observer. One reported by an observer playing golf in Prescott, YAV, 25 Apr 2017 received no support from the committee.

**LAUGHING GULL** *Leucophaeus atricilla*. A written description of one at Mormon Lake, COC, 7 May 2017 did not definitively rule out a Franklin’s Gull (*L. pipixcan*).

**LEACH’S/TOWNSEND’S STORM-PETREL** (*Oceanodroma leucorhoa*/*socorroidens*). The report of one from the Amado sewage-treatment pond, PIM, 7 Sep 2016 was later retracted and accepted as representing a Wedge-rumped Storm-Petrel (see accepted records above). Another report in the wake of Hurricane Newton, of one seen while the observer was driving near Tubac, SCR, 7 Sep 2016 was accepted only as an unidentified storm-petrel. Several other reports of unidentified storm-petrels seen during the storm were not submitted to the ABC.

**YELLOW-CROWNED NIGHT-HERON** *Nyctanassa violacea*. The report of one near the Sonoita Creek Preserve, SCR, 12 Feb 2014 was not detailed enough for acceptance.

**GLOSSY IBIS** *Plegadis falcinellus*. Several reports were not accepted, including a flock of 20+ individuals in Marana, PIM, 23 Sep 2015; an adult at the Yuma East Wetlands, YUM, 23 Apr 2016; a hatch-year bird at the Tres Rios Wetlands, MAR, 2 Jul 2016; an adult at the Green Valley sewage-treatment pond, PIM, 26 Jul 2017; and a hatch-year at Roper Lake State Park, GRA, 3 Oct 2017. The report of the flock at Marana failed to rule out the more expected White-faced Ibis (*P. chihi*). Both supposed adults showed the red eyes and tinge to the facial skin typical of the White-faced Ibises. In their first year these ibises are often indistinguishable, as both can show dark eyes and facial skin (Pyle 2008).

**SHORT-TAILED HAWK** *Buteo brachyurus*. Details of reports of Short-tailed Hawks at Summerhaven, PIM, 2 May 2015; at Arivaca, PIM, 1 Sep 2015; near Safford, GRA, 19 Jun 2016; near Sierra Vista, COS, 18 Jul 2017; and at Saint David, COS, 5 Aug 2017 were all insufficient for acceptance, failing to eliminate Swainson’s Hawk. The Short-tailed was removed from the ABC’s review list at the end of 2017.

**APLOMADO FALCON** *Falco femoralis*. A report of one in Oro Valley, PIM, 22 Feb 2016 received no support from the committee.

**NUTTING’S FLYCATCHER** *Myiarchus nuttingi*. The identification of one reported in the southern San Simon Valley (southwest of Rodeo, New Mexico), COS, 6 Oct 2015 relied primarily on the lack of dark across the tip of the tail, a feature also of the juvenile plumage of the Ash-throated Flycatcher (*M. cinerascens*), which the committee agreed the report more likely represented. An intriguing report of a “wheep” call from a presumed *Myiarchus* in Miller Canyon, COS, 17–19 Jul 2016 was not accepted. Analyses of the recordings found the call intermediate between that of a Nutting’s and that of a Great Crested Flycatcher (*M. crinitus*). Unfortunately, the bird was never seen.

**YELLOW-BELLIED FLYCATCHER** *Empidonax flaviventris*. One reported at Granite Reef Recreation Area in Mesa, MAR, 18 Feb 2015 was thought by the
committee to have been a Gray Flycatcher, while one reported at Patagonia, SCR, 7 Jan 2017 was a Hammond’s Flycatcher.

BLUE-HEADED VIREO *Vireo solitarius*. Photos of vireos identified as this species near Sonoita, PIM, 27 Apr 2015 and at Ramsey Canyon, COS, 7 Nov 2015 were both inconclusive in distinguishing the bird from a bright Cassin’s Vireo. One report from Hassayampa has been recirculated.

PHILADELPHIA VIREO *Vireo philadelphicus*. A photograph of a supposed Philadelphia Vireo submitted from Madera Canyon, PIM, 18 Sep 2015 was thought by all on the committee to show an Orange-crowned Warbler. One written description from Willcox, COS, 2 Sep 2017 suggested a Philadelphia Vireo, but the very early date and common confusion with a bright immature Warbling Vireo (*V. gilvus*) precluded acceptance.

RED-EYED VIREO *Vireo olivaceus*. One was briefly described from Madera Canyon, SCR, 3 May 2016, but the report did not rule out a Warbling Vireo.

YELLOW-GREEN VIREO *Vireo flavoviridis*. The identification of one reported from Montosa Canyon, SCR, 10 Jul 2015 was thought by some on the committee to be likely correct, but a majority of the ABC agreed that the description did not rule out the similar Red-eyed Vireo.

CAVE SWALLOW *Petrochelidon fulva*. A report of one heard and seen only without the aid of optics in Liberty, MAR, 30 Oct 2016, lacked enough details for acceptance.

BLACK-CAPPED CHICKADEE *Poecile atricapillus*. One reported from Williams, COC, 15 Apr 2015 was not described well enough for acceptance, particularly given that the Mountain Chickadee is known to breed at this location.

CAROLINA WREN *Thryothorus ludovicianus*. The report of one from Arivaca, PIM, 18 Jan 2016 was somewhat controversial: the details appeared to have been generated well after the actual sighting, creating doubt with several committee members.

CLAY-COLORED THRUSH *Turdus grayi*. From a single photograph, the committee concluded that one in a yard in Portal, COS, 21 Jun 2015 was correctly identified. A majority of the ABC, however, thought the bird had possibly not occurred naturally. This was a difficult decision for several members. The mid-summer date is outside the species’ normal period of vagrancy in Texas, and caged individuals are often seen in Mexico, leading the committee to be conservative and not accept this record as a first for Arizona. If additional Clay-colored Thrushes appear in Arizona, it is likely that this record will be re-evaluated.

AZTEC THRUSH *Ridgwayia pinicola*. One reported from urban Phoenix, MAR, 27 Apr 2016 was described only briefly, and the committee concluded it was likely a juvenile of some other species with white spotting.

PURPLE FINCH *Haemorhous purpureus*. The photograph of a reported Purple Finch at Patagonia, SCR, 25 Jan 2015 shows a bright male House Finch, and one of a female-plumaged finch at the Sweetwater Wetlands, Tucson, PIM, 10 Jan 2016 more likely shows a female House Finch.

COMMON GRACKLE *Quiscalus quiscula*. The committee believes the photos of a reported Common Grackle at Prescott, YAV, 14 Oct 2015 represent a Brewer’s Blackbird.

GOLDEN-WINGED WARBLER *Vermivora chrysoptera*. A photo supposedly of this species at Glendale, MAR, 25 Feb 2016 showed a Verdin (*Auriparus flaviceps*).

CONNECTICUT WARBLER *Oporornis agilis*. Details of one reported at Patagonia, SCR, 25 Sep 2016 were insufficient for acceptance of a second state record.
MOURNING WARBLER *Oporornis philadelphia*. An odd individual showing very little white around the eye at Agua Caliente Park, Tucson, PIM, 26 May 2016 was thought by the committee to be either an aberrant MacGillivray’s Warbler or a hybrid. An “immature” reported at Benson on 27 Jul 2016 was well described, but as the date was unprecedented for this plumage a majority of the committee could not accept it.

KENTUCKY WARBLER *Oporornis formosus*. The report of one at Holbrook, NAV, 26 Sep 2015 had details insufficient for acceptance.

PINE WARBLER *Dendroica pinus*. One described from McCormick Ranch, Scottsdale, MAR, 3 Oct 2015 had details insufficient to definitively eliminate confusing similar species.

RUFOUS-CAPPED WARBLER *Basileuterus rufifrons*. Two reports of this species were not accepted because of insufficient details, of one near Amado, SCR, 15 Mar 2015 and one near Ruby, SCR, 26 Jan 2017.

FLAME-COLORED TANAGER *Piranga bidentata*. A male reported as this species in upper Miller Canyon, COS, 5 May 2015 appeared to be a hybrid.

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We thank the more than 187 observers who submitted material to the AZFO and ABC; they have made an important contribution to our expanding knowledge of the status of Arizona birds. Thanks to Steve Mlodinow for comments on the report of the Trumpeter Swan from Tres Rios. Thanks to reviewers Chris McCreedy and Ryan Terrill, who both contributed greatly to the improvement of the manuscript. Philip Unitt also improved the manuscript.

CONTRIBUTORS

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ARIZONA BIRD COMMITTEE REPORT, 2015–2017 RECORDS


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NOTES

A HOUSE FINCH’S SUCCESSFUL USE OF A BARN SWALLOW NEST

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The ability to adapt to and thrive in human-dominated landscapes has allowed the House Finch (Haemorhous mexicanus) to become one of the most widely distributed songbirds in North America and has allowed the Barn Swallow (Hirundo rustica) to become the widest-ranging swallow in the world (Alsop 2006). As a result of adapting to nest on artificial structures and the House Finch’s introduction to the east coast of the United States (Aldrich and Weske 1978), these species’ overlap increased greatly. Both species inhabit disturbed areas (Badyaev et al. 2012) and construct cup-shaped nests, but House Finches use twigs, grasses, leaves, and a lining of finer materials, while Barn Swallows use dried mud and grass with a lining of feathers or hair (Alsop 2006). As the chicks grow, a characteristic ring of feces forms around the edge of House Finch nests (Evenden 1957), but Barn Swallow chicks defecate over the edge rather than on the edge of a nest (Spencer 2005). Additionally, unlike House Finches, Barn Swallows reuse the same nests many times, and the nest structures themselves can persist for years (Møller 1994). Here I present an observation of a House Finch occupying an abandoned Barn Swallow nest, an occurrence documented rarely.

I first observed a House Finch sitting inside a Barn Swallow nest on 18 July 2018 (Figure 1A). The nest was atop a light fixture under the roof edge of a building with a wooden exterior in Elkhorn Slough National Estuarine Reserve, California. The finch laid three eggs (Figure 1B), and all three hatched, the last on 26 July 2018, when I observed eggshell fragments around the third hatchling. Though there were Barn Swallows nearby while the House Finches used the nest, I noted no swallows harassing the House Finches. The finch treated the clay nest as platform, building a complete nest within it with outer layer, thick walls, and inside lining.

In a search online, I found only three similar observations of House Finches nesting in Barn Swallow nests—in Pennsylvania (www.hiltonpond.org/ThisWeek000415.html), South Carolina (www.marys-view.blogspot.com/2007/04/hit-and-miss.html), and

![Figure 1. (A) House Finch incubating eggs in an abandoned Barn Swallow nest at Elkhorn Slough National Estuarine Reserve, California. (B) Clutch of House Finch eggs inside of nest.](photos.jpg)

Photos by Leo C. Gaskins
North Carolina (www.nestwatch.org/connect/participant-photo/house-finch-eggs). Additionally, House Wrens (*Troglodytes aedon*) (Schafer 1916) and Eastern Phoebes (*Sayornis phoebe*) and Carolina Wrens (*Thryothorus ludovicianus*) (www.hiltonpond.org/ThisWeek000415.html) have also been observed using Barn Swallow nests. But given the House Finch’s and Barn Swallow’s now extensive overlap in habitat and range, the finch may use the swallow’s nests more often than is currently understood. The species may compete, if the finch attempts to displace a swallow from an occupied nest rather than just adopting an abandoned nest.

Future research might examine the reasons why Barn Swallows abandon their nests, factors that cause other species to reuse them, and how the House Finch’s nest placement is evolving as that species’ range expands. Swallows may abandon nests heavily infested with parasites (Møller 1990), or nests may simply outlive their builders (Møller 1994). Reuse by other species could be driven by a breeding season extending beyond that of the Barn Swallow, or ability to displace Barn Swallows from their nest (Schafer 1916). As House Finches continue to expand their range, the types of structures they select for nests will also likely evolve, and continued use of Barn Swallow nests could link them even more closely with humans.

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The Light-footed Ridgway’s Rail (*Rallus obsoletus levipes*) is considered endangered in the United States under the Endangered Species Act of 1973 and is protected in Mexico under the Norma Oficial Mexicana (NOM-059-SEMARNAT-2010) as “in danger of extinction” (“P,” DOF 2010, Ortiz-Pulido 2018). It is a cryptic species that inhabits coastal wetlands and lagoons from Santa Barbara, California, in the southwestern United States to Bahía de San Quintín in the northwest portion of the Baja California peninsula, Mexico (Bent 1926, van Rossem 1929). This species is highly dependent for its survival on the halophytic vegetation cover provided by California cordgrass (*Spartina foliosa*) and pickleweed (*Salicornia* spp.) (Foin and Benchley-Jackson 1991). Here we describe an unreported, or at least uncommon, behavior for this species.

On 21 January 2019, at 07:00 during a rising tide (to 2.08 at 8:26, [http://predmar.cicese.mx](http://predmar.cicese.mx)) we noticed six adult Ridgway’s Rails perching together in a tall bush at Estero Punta Banda, located in Ensenada, Baja California, México, at 31° 45′ 36″ N, 116° 17′ 10″ W (<1 m above median sea level). The birds were perched approximately 1.80 meters above the marsh in a ngaio tree (*Myoporum laetum*), a species native to New Zealand, and one of the highest shrubs on the marsh. We had observed similar behavior at the site during previous high tides, including on 21 December 2016, when one rail was perching in desert broom (*Baccharis sarothroides*), and on 24 March 2018, when another was observed perching on California boxthorn (*Lycium californicum*); both plants are native species.

Eddleman and Conway (2018) referred to hopping or climbing behavior of Ridgway’s Rail, in which birds may climb unto tall emergent plants, shrubs, or trees, especially in response to a reproduction of the species’ call. However, our observations did not involve recorded calls, and suggest that the use of the highest shrubs at the Punta Banda marsh during high rising tides likely protects the birds not only from high waters, but that the shrubs also serve as a refuge from predators. Zembal et al. (1989) found that the rails they radio-tracked moved to higher ground during high tide. In finding survivorship around San Francisco Bay higher in areas of tall, dense cover of hybrid *Spartina*, Overton et al. (2014) showed that plant structure may facilitate the rails’ persistence by providing cover during periods of tidal inundation. Any plans for removal of the invasive emergent shrubs at Estero Punta Banda should take this uncommon but possibly critical behavior of climbing into taller vegetation during high tides into account. We digitally recorded the 2019 observation on a Motorola G6 mobile phone, and have posted the recording at [www.westernfieldornithologists.org/V50A/RidgwayRail-video.mp4](http://www.westernfieldornithologists.org/V50A/RidgwayRail-video.mp4).
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The Tricolored Blackbird (*Agelaius tricolor*) is endangered (*Birdlife International 2018*) and declining rapidly (*Cook and Toft 2005, Meese 2017*), designated as threatened by the state of California (*Calif. Dept. Fish and Wildlife 2019*), and nearly endemic to the California ecoregion (*Kelsey 2008*). It breeds somewhat nomadically (*Hamilton 1998*), which behavior has hampered its conservation. For its declining population to be managed, it is essential that the resources on which it depends for food and habitat be understood (*Skorupa et al. 1980*). Here we describe a previously unknown behavior of the Tricolored Blackbird, foraging in the inflorescences of a common plant.

On 20 April 2019, while on a class field trip, we were driving through the Kelso Valley in Kern County, California, at 1270 m elevation. The habitat was characterized by desert with fairly dense cover of Western Joshua Trees (*Yucca brevifolia brevifolia*), bordering agricultural fields along the bottom of the valley. We noticed a small flock of blackbirds flying between Joshua Trees and stopped to observe them. We identified them as Tricolored Blackbirds, and saw them probing into the trees’ inflorescences (Figure 1). This first flock comprised 11 individuals, with seven or eight females and three or four males. We then noted two other similarly sized flocks engaging in the same behavior. As we observed these birds probing into the inflorescences, they appeared to be obtaining and eating items from among the flowers and developing fruit. They would forage in one tree, probing into and prying open fruits and flowers, then move as a flock to a nearby tree.

Tricolored Blackbirds are opportunistic foragers that take advantage of superabundant resources of diverse nature. They generally eat arthropods, especially insects of the orders Orthoptera and Odonata, but also eat grains and mollusks when available (*Crase and DeHaven 1977, Meese 2013, Beedy et al. 2018*). They generally forage in open habitats with low vegetation such as grasslands, wetlands, pastures, fields, dairies, and scrub. The only previous description of Tricolored Blackbirds foraging in trees involved the Coast Live Oak, *Quercus agrifolia* (*Wilson et al. 2016*).

Many other species of insectivorous birds occur in the southern Sierra Nevada, but we only observed Tricolored Blackbirds foraging in these flowers. The family Icteridae is characterized by an extended postarticular process to the mandible, the site of insertion of the depressor mandibulae muscle (*Zusi 1959*) and a structure that allows the birds to open the bill with force. This “gaping” behavior allows the Icteridae to obtain food unavailable to other birds, by prying objects open. The ability to pry open inflorescences might mean that the Tricolored Blackbirds have access to the arthropods living in these flowers that other insectivorous birds of other families do not have. If this is true, and a common behavior during periods of extensive Joshua Tree flowering, the inflorescences of Joshua Trees might be important for the foraging of Tricolored Blackbirds. Tricolored Blackbirds occur nearby in the Kern River Valley and occasionally wander in flocks up the Kelso Valley (*www.eBird.org*, accessed 20 May 2019).

While driving through the Kelso Valley, we noticed that most, if not all, of the Joshua Trees were in flower or fruit. The winter of 2018/2019 was characterized by
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heavy precipitation, causing a “superbloom” in parts of the California desert (Johnson 2019), which likely contributed to the flowering of these Joshua Trees (Smith et al. 1983). Joshua Tree inflorescences attract a wide variety of arthropods, such as pollinating and nonpollinating yucca moths (genera *Tegeticula* and *Prodoxus*, respectively), less specialized taxa including thrips (Thysanoptera), leaf-footed bugs (Coreidae), weevils (Curculionoidea) of the genus *Rhinostomus*, click beetles (Elateridae), and predators and parasitoids such as lacewings (Neuroptera) and wasps of the genera *Eusandalum* and *Heterospilus* (Yoder pers. obs.; Force and Thompson 1984, Pellmyr and Segraves 2003, Pellmyr et al. 2005). At least one photograph appears to show a male Tricolored Blackbird consuming a white moth, most likely *Prodoxus sordidus*, a nonpollinating yucca moth that lays its eggs in the stalks of flowering Joshua tree inflorescences (Pellmyr et al. 2005). Given that the Tricolored Blackbird is at least somewhat nomadic, this observation suggests that the ephemeral arthropod resources provided by Joshua Trees might be an important source of food for the species in and near the western Mojave Desert where its range overlaps that of the Joshua Tree.

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LITERATURE CITED


Figure 1. (A) A male Tricolored Blackbird opening an inflorescence of a Joshua Tree by prying into a flower, evidently with the goal of extracting arthropods, including small moths. (B) A small flock of Tricolored Blackbirds foraging in the inflorescences of Joshua Trees in the Kelso Valley, Kern Co., California.

*Photos by James M. Maley (A) and Ryan S. Terrill (B)*
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NORTHWEST LIMIT OF THE BREEDING RANGE OF THE RUDDY DUCK

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This note describes the status of the Ruddy Duck (Oxyura jamaicensis) as breeding in Alaska and updates the northwest extent of the species’ breeding range in North America. That distribution now includes wetlands just south of the Arctic Circle, within the Yukon Flats National Wildlife Refuge (NWR).

The earliest records of the Ruddy Duck in Alaska reflected a sporadic occurrence, but the species is now considered annual but rare in the state (Checklist of Alaska Birds, 25th ed., 2019; www.universityofalaskamuseumbirds.org/products/checklist.pdf). The first sighting was of two birds at Kupreanof Island, southeast Alaska, near Petersburg, on 15 August 1916 (Willett 1921), but the species was not sighted again until 1959, when the first breeding was noted, at Tetlin Lakes in the eastern Interior (Hansen 1960; see Gibson and Withrow 2015:95 for a map defining Alaska’s geographic regions). Between 1959 and 1996 most Alaska breeding records were from the eastern Interior, with a single sighting as far west as Minto Lakes, in 1963 (Kessel and Springer 1966). Most recent broods have been found farther north in the Interior (Yukon Flats NWR, 1997–2018) than previously described, or farther south, south of the Alaska Range, in south-central Alaska (Kenney Lake, 2005–2018). The northernmost sightings of Ruddy Duck broods motivated me to summarize the record of the Ruddy Duck breeding in Alaska, and I have organized records by region and year of sighting. For the Yukon Flats NWR, I have also referred to efforts that produced no sightings of Ruddy Ducks.

Four Ruddy Duck broods were observed in the eastern Interior in four years from 1959 to 1993 (Figure 1). The first was at Tetlin Lakes on 25 August 1959 (Hansen 1960). At wetlands north of the Northway airport, a female with two downy young was observed on 25 July 1987 (Gibson et al. 1987), a juvenile almost certainly reared locally was observed on 26 August 1992 (Tobish and Isleib 1993), and a female with seven ducklings was observed 26–28 June 1993 (Tobish 1993). In the central Interior, a single brood was noted at Minto Lakes 21 July 1963 (Figure 1, Kessel and Springer 1966).

In south-central Alaska, Ruddy Duck broods were observed at Kenney Lake in eight years from 2005 to 2018 (Figure 1). The first sighting was of three females and 13 ducklings on 3 August 2005 (Tobish 2006; A. Lang pers. comm.). Three broods were observed 12–19 August 2006 (Tobish 2007), four females and five ducklings were seen 4 August 2007 (Tobish 2008), and four females with seven ducklings were seen from 24 June to 13 July 2009 (Tobish 2010). A single female with 12 ducklings was present 24 July 2010 (Tobish 2011), and several broods were reported there in September 2011 (Tobish 2012). On 22 July 2017, a female with three downies was observed (www.eBird.org, Z. Pohlen pers. comm.), and on 22 July 2018, a female with four ducklings (eBird, S. Schuette pers. comm.).

In the northern Interior, U.S. Fish and Wildlife Service (USFWS) personnel surveyed duck broods in July 1965–1971, 1973, 1974, and 1981 on up to 35 wetlands distributed across the 35,000 km² of Yukon Flats NWR. No Ruddy Duck broods were observed (Shively and Lake 2009). From May to September 1985–1989 the duck-brood surveys expanded to cover 106 wetlands (Heglund 1992). Just a single observation of an adult Ruddy Duck was noted, with no evidence of young (P. Heglund pers. comm.). Duck-brood surveys by ground and helicopter crews covered 202 km² in July and August 1992 but revealed no Ruddy Duck broods (USFWS unpubl. data). In 1997, the first observation of a brood was made, of a female with seven ducklings
at Mallard Lake (K. Sowl pers. comm.). In August 1998, a helicopter-based brood survey of 32 wetlands in southern Yukon Flats yielded five adult Ruddy Ducks but no broods (Person and Bertram 1999). Searches for duck nests at Scoter Lake (66.243° N, 146.394° W) from June to August 2002–2004 revealed no Ruddy Duck nests (D. Safine pers. comm.). Nest searches at Shack Lake (Figure 1) from 2005 to 2008 yielded observations of multiple pairs, but no counts were recorded and no broods were observed (K. Martin pers. comm.). Surveys of 72 wetlands across the Yukon Flats from June to August 2010–2012 (Lewis et al. 2015) recorded at least one adult Ruddy Duck in 13 instances but zero broods. In 2013, however, a Ruddy Duck

Figure 1. Locations of broods or nests of the Ruddy Duck observed in Alaska, 1959–2018.
nest was discovered at an unnamed wetland at 66.364° N, 144.252° W (Figure 1). Adults had previously been observed at this wetland in 2011 and 2012 (Lewis et al. 2015, T. Lewis pers. comm.). In 2017, a brood of six ducklings of class 1B (Gollop and Marshall 1954) was observed at Canvasback Lake (Figures 1 and 2, USFWS, unpubl. data). In 2018, a brood of three class 1A ducklings was observed at Shack Lake (Figures 1 and 3, USFWS, unpubl. data).

Figure 2. Male Ruddy Duck at Canvasback Lake, Yukon Flats National Wildlife Refuge, Alaska, 1 June 2017.

*Photo by Adam Grimm/U.S. Fish and Wildlife Service*

Figure 3. Female Ruddy Duck with three young at Shack Lake, Yukon Flats National Wildlife Refuge, Alaska, 25 July 2018.

*Photo by Michelle Lake/U.S. Fish and Wildlife Service*
Thus the currently known Alaska breeding distribution of the Ruddy Duck includes (1) Kenney Lake at the southern margin of the boreal forest, in south-central Alaska, and (2) wetlands just below the Arctic Circle on the Yukon Flats NWR. The latter records represent the northwest limit of the species’ breeding range in North America. Notably, no Ruddy Duck broods have been observed recently at the sites of the earliest breeding records. Perhaps the species has simply moved away from the highway system in the eastern Interior, where three of the four instances of breeding in the region were recorded. In Tetlin NWR, though staff surveying wetlands distant from the highway did not report any broods, they did encounter single individuals and pairs in most years from 1988 to 2013 (N. Berg pers. comm.). Thus the Ruddy Duck could just be passing through that region en route to new habitat (Hansen 1960).

On the Yukon Flats NWR, sightings of pairs and single birds became regular and widespread around 2010. Ruddy Ducks are now seen annually on some of the refuge’s wetlands. The species is now also observed annually in other parts of Alaska, as around Fairbanks (eBird). Two instances of Ruddy Duck breeding in Yukon Territory have been documented (Sinclair et al. 2003), and pairs are now reported there regularly (eBird). During aerial surveys (1957–2018) of Alaska, pairs and single Ruddy Ducks were recorded sporadically except on the tundra of the north and northwest (U.S. Fish and Wildlife unpubl. data). Thus the species may extend its breeding range further. Similar boreal wetland habitat exists to the west of the current range in the Innoko, Tanana, Kanuti, Nowitna, and Kokukuk regions and farther south in some of the Kenai Peninsula.

It is unclear why the range of Ruddy Duck has spread north in Alaska. The earliest records in the Interior were “apparently a result of displacement from drought-affected prairies” (Kessel and Gibson 1978:24), but perhaps a longer ice-free period in some years has been favorable, as it has been for the Trumpeter Swan (Cygnus buccinator, Schmidt et al. 2009). Therefore, like the ranges of some landbirds such as the Yellow-bellied Flycatcher (Empidonax flaviventris; Martin et al. 2006), Common Yellowthroat (Geothlypis trichas; Winker and Gibson 2018), and Cassin’s Vireo (Vireo cassini; DeCicco and Hajdukovich 2008), the ranges of some other species of waterfowl are probably expanding as well, a topic worthy of further investigation.


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Accepted 11 June 2019
During the spring of 2015, I documented a pair of California Gnatcatchers (*Polioptila californica californica*) nesting in the foothills of the San Gabriel Mountains of Los Angeles County, in Grasshopper Canyon north of the town of Castaic and west of Castaic Lake. I located one pair with three dependent juveniles and three nests: one nest from a previous year, one recently active nest, and one nest built and occupied during the observation period. I found these gnatcatchers 13.8 km north of the northernmost pair of the California Gnatcatcher previously reported to the United States Fish and Wildlife Service (USFWS; data available by request to the offices in Ventura or Carlsbad, California).

*Polioptila californica californica* is designated as threatened by the USFWS and as a species of special concern by the California Department of Fish and Wildlife. Its four component subspecies extend from southwestern California to southern Baja California, Mexico (Mellink and Rea 1994, Atwood and Lerman 2006). The most northerly subspecies, nominate *californica*, is an obligate resident of coastal sage scrub in Los Angeles, Orange, Riverside, and San Diego counties, California, and northwestern Baja California (Atwood 1992). The breeding season for *californica* ranges from mid-February to July. Nests are constructed of various soft materials, about 1 m off the ground, in shrubs such as California bush sunflower (*Encelia californica*), California sagebrush (*Artemisia californica*), black sage (*Salvia mellifera*), and white sage (*S. apiana*). The California Gnatcatcher has been recorded from sea level to approximately 914 m above mean sea level (USFWS 2003), although >90% of records are at elevations <550 m (Atwood and Bolsinger 1992). In 2001, the USFWS estimated the size of the population in southern California to be about 3000 pairs (Atwood and Bontrager 2001).

Cooper et al. (2017) summarized reports of the California Gnatcatcher at the northern limit of its range, and the locations they mapped included the site of the pair I observed in 2015. Formerly, the species was common from the San Fernando Valley east along the base of the San Gabriel Mountains to Claremont (Atwood 1990). Today, however, it is rare in the northern part of its range with only occasional sightings from Santa Clarita to Tujunga Wash, though a small population persists near the city of Moorpark in Ventura County (Cooper et al. 2017). Until July 2015, the northernmost pair reported to the USFWS was located west of the Magic Mountain amusement park just west of the city Santa Clarita and south of the Santa Clara River (USFWS unpubl. data). An adult male and female were observed foraging at that location during the 2012 breeding season, but no breeding behavior, nests, or immature birds were seen.

In April of 2014, a team of biologists following the current protocol (USFWS 1997a, b) conducted focused presence/absence surveys for the California Gnatcatcher across 538 hectares within Grasshopper Canyon west of Castaic Lake in Los Angeles County, north of the Santa Clara River. The results of these surveys are available at http://planning.lacounty.gov/assets/upl/case/tr073336_dseir-append-d.pdf (pp. 473–495). A female was observed twice within the Grasshopper Canyon drainage approximately 1 km west of the western shore of Castaic Lake and 4.5 km northwest of the lake’s main dam. An adult male was detected once 3 km southeast of the female, down the canyon. No nesting behaviors were observed, and the birds were not relocated during subsequent surveys.

A year later, on 25 April 2015, another gnatcatcher-permitted biologist and I began...
surveying this site under the federal protocol. The survey results are available at http://planning.lacounty.gov/assets/upl/case/tr073336_dseir-appen-d.pdf (pp. 496–515, 517) and in Cooper et al. (2017). Under the protocol, all potentially occupied habitat must be surveyed six times within the breeding season, and my assigned survey area took six daily visits to cover each week. On 3 May, I located an adult male California Gnatcatcher a few meters from where a female had been detected the previous year (Figure 1). The male soon joined an adult female. At that time the birds showed little reaction to broadcast of the species’ calls. After completing surveys within the area planned for the morning, I returned to the site to determine the pair’s nesting status and found the pair tending three dependent juveniles that did not forage for themselves. The behavior of the juveniles indicated that they had emerged from a nearby nest. When they were near the juveniles, the adults reacted strongly to a very brief playing of the call.

On 13 May, I was following the movements of the male when it flew to a shrub and settled for a few seconds into a nest (Figure 2). The nest was empty and in excellent condition but worn inside from use. The nest was situated in a black sage at an elevation of 560 m above mean sea level on a gradual slope of about a 20% gradient, 100 m east of the bottom of Grasshopper Canyon. Shrubs within 15 m of the nest were 65% black sage, 25% thickleaf yerba santa (Eriodictyon crassifolium), and 10%
California sagebrush. Given that the male visited this nest, that the nest had been recently used, and that it was within the pair’s home range, I concluded that this was the nest from which the three juveniles had emerged.

After the male perched in its previous nest, it foraged on the slope of a side canyon immediately south of the nest, then flew up the canyon to join the female and three juveniles. The juveniles foraged on their own but occasionally begged and received food from both adults. The shrub cover within about 15 m of the juveniles consisted of approximately 70% black sage, 20% thickleaf yerba santa, and 10% purple sage (Salvia leucophylla).

It has been my experience that during a single nesting season, after the first nesting
is completed, a California Gnatcatcher pair often builds subsequent nests by reusing material torn from their previous nest. On the morning of 27 May I found that one side of the apparently successful nest was missing, a strong indication that the pair was using the material to build a new nest. I confirmed this later when the male flew from the old nest carrying material torn from the nest up the side canyon where I had found the family group on 13 May—additional evidence that the nest in which the male had briefly perched was the nest that had produced the three juveniles. Soon thereafter, I found the female lining a newly constructed nest in the middle of a California sagebrush (see this issue’s inside front cover; Figure 3). The nest was near the bottom of

Figure 3. Female California Gnatcatcher at the nest in Grasshopper Canyon, Los Angeles County, first located on 27 May.

*Photo by Michael C. Couffer*
the side canyon at an elevation of 577 m and was located near the center of habitat shown in Figure 4. The shrub cover within 15 m of the new nest was composed of approximately 50% California sagebrush, 35% thickleaf yerba santa, 10% black and purple sage, and 5% bare ground with sparse annual grasses. No juvenile California Gnatcatchers were observed during this survey or subsequent visits.

A week later, both adults took turns on the nest, making several nest exchanges and behaving as if eggs were in the nest. Then in the late afternoon of 8 June, I watched the nest with binoculars from a distance. I saw no adults initially, but after about 15 minutes the female flew in and sat in the nest for about 10 minutes before flying off. I continued watching the nest from a distance for just over a half an hour but no adults appeared at the nest. The ambient temperature in the shade that day had reached 38°C, and although the afternoon temperature had dropped, the lack of adults attending to eggs or young nestlings indicated a problem; neither eggs nor young nestlings of the California Gnatcatcher should remain untended for that amount of time. Being federally permitted to inspect the contents of this species’ nests, I approached the nest and found two eggs of the gnatcatcher and three of the Brown-headed Cowbird (*Molothrus ater*), a nest parasite. To increase the chances of successful nesting, I removed the cowbird eggs with double-sided tape.

On 12 June, both adults appeared to be incubating eggs with nest exchanges taking place. Because the nest had been parasitized, I approached it while both adults were off foraging and found an old nest from a previous year in a California sagebrush just 5 m from the currently active nest. The old nest had fallen into ruin, with one side missing, but remained identifiable as a California Gnatcatcher nest. The recently built nest still held two gnatcatcher eggs and no cowbird eggs. On 26 June, I concluded that the nest was abandoned, as it still contained the two gnatcatcher eggs but no adults tended to it. The adults foraged together within the habitat where I had previously observed them. Although this second nest had failed, the pair had fledged three young from this territory earlier in 2015.

Some may consider surveys for the California Gnatcatcher within and north of

Figure 4. Habitat in Grasshopper Canyon, Los Angeles County, in which California Gnatcatchers nested.

*Photo by Michael C. Couffer*
the Santa Clarita Valley to be a waste of resources, as very few breeding pairs have been found in that area during focused surveys, and many of the sightings have been of single birds seen only once. However, the detection of a juvenile California Gnatcatcher near Gorman in Los Angeles County by Brian E. Daniels (Cooper et al. 2017) highlights the questions of how far north the species currently breeds and how climate change might affect its breeding range. The detection of this breeding pair of California Gnatcatchers west of Castaic Lake, as well as occasional sightings of scattered birds to the south along the foothills of the San Gabriel Mountains, suggests that the USFWS and consulting biologists’ recommendations for surveys for breeding California Gnatcatchers in the Santa Clarita Valley and the foothills of the San Gabriel Mountains are warranted.

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LITERATURE CITED


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IN MEMORIAM

JERRY R. OLDENETTEL, 1942–2019

Jerry Oldenettel, an outstanding figure in New Mexico field ornithology during the past quarter century, passed away on 11 April 2019, aged 76. It would be difficult to overstate Jerry’s contributions to New Mexico ornithology, or his impact on the state’s birding community.

Jerry grew up in Illinois and as a young man served in the United States Navy. Highly intelligent and mathematically inclined, he earned a bachelor’s degree in mathematics from San Diego State University, and with this background launched a successful career as a manager of large, complex research and development projects related to high-resolution satellite imaging and atmospheric correction. His career took him from San Diego to Maui and then to New Mexico. He became prominent in the California birding community in the early 1980s and made substantial contributions to ornithological knowledge both there and in Hawaii before arriving in Albuquerque in 1994.

For a variety of reasons but especially because of its small population, New Mexico has been an underbirded state for most of its history. In the early 1990s there was a small community of birders and ornithologists who were beginning to deliberately seek out and document rarities, and to explore parts of the state where the birdlife had hitherto received scant attention. Jerry almost immediately took birding in New Mexico to another level, spending two full days in the field virtually every weekend, exploring new areas, discovering new birding locations, and working the “hot spots” as no one had done before.

Jerry’s ability to find and photograph rare birds was remarkable. During his time in New Mexico, he found and photographed nine firsts for the state, of the Long-billed Thrasher (1995), Prairie Warbler (1995), Piratic Flycatcher (1996), Swainson’s Warbler (1999), Lesser Black-backed Gull (2001), Henslow’s Sparrow (2003), Little Stint (2005), Eastern Whip-poor-will (2010—this bird netted and the identification confirmed by DNA analysis), and Common Crane (2014). The Piratic Flycatcher he discovered at Rattlesnake Springs in September 1996 was the first to be identified as such in the United States, though it was preceded by a Florida record that for many years was thought to represent a Variegated Flycatcher. Jerry also photographed more than 25 additional New Mexico firsts that were discovered by others. With his long hours in the field and knack for obtaining high-quality photos, Jerry probably provided more documentation on rare birds in the state than did any other individual over the past 25 years. While his talents were deployed throughout New Mexico and elsewhere, he had a special affinity for the Melrose or North Roosevelt migrant trap (16 km west of the town of Melrose), and he did more than any other individual to document rare occurrences at that oasis and give it the prominence among birders that it enjoys today.

Jerry made numerous other contributions to New Mexico ornithology. He served for many years as the treasurer of the New Mexico Ornithological Society, was sev-
eral times a member of the New Mexico Bird Records Committee, compiled detailed reports of his records each season for publication in North American Birds and the New Mexico Ornithological Society’s Field Notes, and conducted multiple breeding bird surveys each year. Perhaps most importantly, in the early 2000s he played a key role in mentoring several excellent young New Mexico birders who have gone on to become among the best and most active in the state. In the last decade of his life, Jerry branched out into other areas of natural history, becoming an expert on New Mexico’s butterflies and orchids.

Though Jerry’s interest in listing waned somewhat in his last years, he certainly enjoyed this aspect of birding, and his enthusiasm was contagious. In 2005 he set a New Mexico record of 428 species that is likely to stand for many years. His big year sparked the interest of the entire state’s birding community, and many birders made special efforts to seek out rarities and help Jerry find key species. In the end it seemed like a team effort, and Jerry always treated it as such.

Jerry was in all respects an exceptionally generous individual. He gave generously of his time to the New Mexico Ornithological Society, the Friends of the Bosque at Bosque del Apache National Wildlife Refuge, and the Socorro Rotary Club. He was also extremely generous with his money. When sharing rides with other birders, he always offered to pay more than his fair share for gas. He donated substantial sums of money to charitable causes and especially to conservation, and provided considerable assistance to members of his extended family who lacked his financial means.

Everyone who knew Jerry knows that he was the consummate gentleman, always kind and thoughtful, and always willing to help and mentor others. His death leaves a huge gap in the New Mexico birding community. All of us who had the privilege of birding with him gained from the experience, and will miss him.

John Parmeter
In the summer of 2018, in a meadow in northeastern California, Calvin Lou and I found a singing male Eastern Meadowlark (*Sturnella magna*) showing characteristics of either the nominate subspecies *S. m. magna* or of *S. m. argutula* (photograph on this issue’s back cover). The bird was seen from 10 June to 30 July. This represents the first documented and accepted record of this species in California (California Bird Records Committee record #2018-057) and one of few in the West. Here I describe its identification, habitat, and the species’ status in the West.

The bird was in the town of Day, Modoc County. Day is known as the northeastern limit of several California-based species such as Nuttall's Woodpecker (*Dryobates nuttallii*), Hutton’s Vireo (*Vireo huttoni*), California Towhee (*Meloszone crissalis*), and Lawrence’s Goldfinch (*Spinus lawrencei*), all of which are rare or absent in eastern California north of the Day Valley. The area is a patchwork of several habitats, including chaparral dominated by manzanita (*Arctostaphylos* spp.), woodland of Oregon white oak (*Quercus garryana*), forest of Jeffrey pine (*Pinus jeffreyi*), and meadows/grasslands.

The Eastern Meadowlark is a polytypic species with approximately 16 currently recognized subspecies, only four of which are relevant to the western United States: nominate *S. m. magna*, *S. m. argutula*, *S. m. hoopesi*, and *S. m. lilianae*. Nominate *magna* breeds primarily in grasslands of northeastern North America from the Atlantic coast west to North Dakota, Kansas, and north-central Texas. *S. m. argutula* breeds south of nominate *magna* from eastern Texas and Oklahoma east to Georgia. *S. m. hoopesi* occurs in southern Texas and far northeastern Mexico. *S. m. lilianae* breeds from central New Mexico west to west-central Arizona and south to central Mexico (Jaramillo and Burke 1999).

Because of the extensively dark upperparts and head pattern of the Eastern Meadowlark at Day, California, *S. m. lilianae* can be eliminated. Additionally, *S. m. hoopesi* should show upperparts paler than this bird’s (see description below). Therefore, I conclude the bird represents nominate *magna* or *argutula*.

The Eastern Meadowlark has a limited history of vagrancy in the western United States, probably due in part to difficulty in identification. *S. m. lilianae* has demonstrated short-distance vagrancy, with several records along the Arizona side of the Colorado River (Rosenberg et al. 1991). Thus it has long been expected to show up in southern California. There are two previous records of *S. m. magna/argutula* west of the Rocky Mountains, both of which were of singing males:

- 18–28 June 2009, Madison County, Montana (Marks et al. 2016)
- 1–4 June 2012, Skagit County, Washington (Mlodinow and Bartels 2016)

Including the one in California, all three of these Eastern Meadowlarks were discovered in the month of June. None was coastal, and, perhaps surprisingly, none came from well-covered migrant and vagrant “traps” in the desert. The lack of fall records possibly indicates the difficulty of locating and identifying silent Eastern Meadowlarks rather than their actual pattern of vagrancy. The Montana and Washington records were of birds in relatively wet meadows and, notably, not in the presence of Western Meadowlarks (*S. neglecta*)—reflecting a general habitat difference between the two taxa, with *S. m. magna* preferring lusher grasslands.

Unsurprisingly, the Eastern Meadowlark in California was located and identified by vocalization, the five-noted whistled song. While under observation it gave three
Figure 1. (A) Three-noted song given by the Eastern Meadowlark at Day, California. (B) Eastern Meadowlark song recorded in the species’ core range in Pennsylvania.

Recordings by Curtis Marantz (A) and Wilbur L. Hershberger/Macaulay Library at the Cornell Lab of Ornithology (B, ML94369)

Figure 2. Typical Western Meadowlark song.

Recording by Wilbur L. Hershberger/Macaulay Library at the Cornell Lab of Ornithology (ML516717)

Figure 3. (A) “Bzrrt” call given by the Eastern Meadowlark at Day, California. (B) “Bzrrt” call of an Eastern Meadowlark recorded in the species’ core range.

Recordings by Curtis Marantz and Wilbur L. Hershberger/Macaulay Library at the Cornell Lab of Ornithology (B, ML94367)
Figure 4. “Chup” call of a Western Meadowlark.

Recording by Wilbur L. Hershberger/Macaulay Library
at the Cornell Lab of Ornithology (ML534727)

Figure 5. (A) Flight rattle of the Eastern Meadowlark at Day, California. (B) Flight rattle of an Eastern Meadowlark recorded in the species’ core range.

Recordings by Curtis Marantz and Wilbur L. Hershberger/Macaulay Library
at the Cornell Lab of Ornithology (B, ML94369)

Figure 6. Flight rattle of a Western Meadowlark.

Recording from www.xeno-canto.org/472289
primary vocalizations: its melodic song of three to five notes, its “bzrrt” note, and its shrill, high rattle. Below I discuss these three vocalizations, and their differences from those of the Western.

The Eastern Meadowlark’s song varies widely, both between individuals and within a single individual’s repertoire. The bird in California gave several variations of this song, the number of auditorily discernible notes ranging from three to five (Figure 1A), and resembling a song recorded in Pennsylvania (Figure 1B). Most songs began with a single high note, followed by a lower note, followed by a note similar to the first note, followed by two descending notes. All notes in the song were clear and melodic, in contrast to those of the Western, which typically starts with a series of clear ascending notes then proceeds to a more jumbled section (Figure 2). That song has been described as “flute-like,” a quality which would not apply to the song of the Eastern Meadowlark at Day, California.

While in flight, the bird frequently gave its high buzzy call (Figure 3A), similar to Eastern Meadowlark calls given in the species’ normal range (Figure 3B). This call is very distinct in quality, resembling a lower-pitched Eastern Kingbird call: a high, thin, rapid trill often described as “bzrrt” or “dzert.” It differs from the low-pitched “chup” flight call given by the Western Meadowlark (Figure 4). Calls of the meadowlarks are inherited, indicating that the Eastern Meadowlark in California was not a hybrid.

Additionally, while in flight, this bird occasionally gave a rattle call (Figure 5A), similar to calls of Eastern Meadowlarks recorded in Pennsylvania (Figure 5B). This call is more staccato than the corresponding vocalization of the Western Meadowlark—a more liquid, less explosive rattle (Figure 6).

Visually, this bird was in almost every way similar to the nearby Western Meadowlarks, but a few key differences were noticeable in the field. It stood out as being more contrasting than the Westerns because of its much bolder, darker upperparts and much brighter face pattern. The back feathers were all dark-centered with broad buffy edges. In the Western and Lilian’s the edges of the greater coverts are grayish overall. On the face, the bold black eyeline contrasted with bright white superciliia and silvery cheeks, bolder than the Western’s more muted face pattern. The malar area was notably white without intruding yellow, and in flight the outer four pairs of rectrices were extensively white, more than on even extreme Westerns. Also, the flank pattern was distinctive, showing stronger black streaking extending to the sides of the breast, rather than the duller spotting of the Western Meadowlark.

The Eastern Meadowlark at Day, California, was in a field with many Western Meadowlarks. Its flight style often differed from that of the nearby Westerns, with fast flickering wingbeats recalling those of a Spotted Sandpiper. The Westerns at this location did not appear to exhibit this flight pattern.

With now three records of vagrant Eastern Meadowlarks in the far West, it seems likely that states such as Idaho, Oregon, and Nevada all have the potential for S. m. magna/argutula in lush meadows in June.

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LITERATURE CITED


Western Specialty:

California Gnatcatcher

Photo by © Michael C. Couffer of Corona del Mar, California:
Male California Gnatcatcher (Polioptila californica) in active nest first located on 27 May 2015 in Grasshopper Canyon, just west of Castaic Lake, Los Angeles County, California. As Couffer describes in this issue, this represents the northernmost nesting of the California Gnatcatcher known to date. Though the nest was ultimately parasitized by the Brown-headed Cowbird (Molothrus ater) and deserted, gnatcatchers occupied this site in at least 2014 and 2015. The importance of sites on the periphery of a species’ range can change quickly when the core habitat is disrupted, be it by wildfire, urban development, or climate change.

Aleutian Cackling Goose

Photo by © David Vander Pluym of Lake Havasu City, Arizona:
Aleutian Cackling Goose (Branta hutchinsii leucopareia), one of two at Lake Havasu City, Mohave County, Arizona, 4 December 2013. Once on the verge of extinction, the subspecies of the Cackling Goose nesting in the Aleutian Islands has recovered spectacularly. As the population recovers, wintering birds are being found ever farther from the core winter range in northern California. Among the areas into which the winter range has expanded is Arizona. In this issue of Western Birds, David Vander Pluym addresses the status of the Aleutian Cackling Goose in Arizona, confirming at least 24 records, concentrated along the Colorado River but scattered as far southeast as Willcox.
“Featured Photo” by © Larry Sansone of Los Angeles, California: Eastern Meadowlark (*Sturnella magna*) at Day, Modoc Co., California, 12 June 2018, representing the first confirmation of the species’ occurrence in California and only the third of the eastern subspecies west of the Rocky Mountains.