CHECKLIST OF THE BIRDS OF COCONINO COUNTY

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INTRODUCTION

Until now there has been no comprehensive and up-to-date listing of the bird species encountered in Coconino County. A well-sourced checklist of the birds of any particular locality is useful for amateur birders as a reference to help them understand the birds that may be present and to contextualize their observations. Moreover, it serves as a record of the natural history of an area that can be examined at a later date. As factors such as climate change and habitat alteration affect the distribution of wild bird species (e.g. Parmesan 2006, Thomas and Lennon 1999, Tingley et al. 2009), such documentation may prove useful in the long term as well.

Coconino County is a vast area that is both geographically and ecologically diverse. At 48,332 km2, it is the second-largest county by land area in the contiguous United States and larger than nine states. Elevations range from approximately 411 m along the Colorado River at the bottom of the Grand Canyon to 3851 m at the summit of Humphreys Peak. Life zones range from low desert to the only true alpine tundra in Arizona. The birds that have been observed in Coconino County are correspondingly diverse, with 416 species on record in the checklist now (Arizona Field Ornithologists 2017). This tally is impressive when one considers that the county is landlocked with relatively little in the way of surface water, is sparsely populated, and has a large amount of inhospitable and inaccessible terrain. Despite this, decades of careful observation by professional and amateur field ornithologists have established a remarkable record documenting the avian diversity of the region. The new checklist includes a phylogenetic-ordered list (Chesser et al. 2017) of all species recorded in the county, with brief indicators of the abundance and pattern of occurrence of each species.

CRITERIA FOR INCLUSION ON THE CHECKLIST

Establishing that a particular species of bird has or has not been recorded in the county is not always straightforward. As a starting point, this checklist uses as its base composition birds listed to be present in the county in published monographs (Corman and Wise-Gervais 2005, Monson and Phillips 1981). Rare birds listed on the state Review Species List (Arizona Bird Committee 2016) are included if the record was submitted to and accepted by the Arizona Bird Committee (ABC); an exception is a handful of recent well-documented observations, including photographs, where the identification is not in doubt, but an ABC decision is still pending. These include Common Crane, Lesser Sand-Plover, Lesser Black-backed Gull, Ruby-throated Hummingbird, and Wood Thrush. Accepted review list records were accessed through published reports of ABC activity (Rosenberg 2001, Rosenberg and Witzeman 1998 and 1999, Rosenberg et al. 2007 and 2011, Speich and Parker 1973, Speich and Witzeman 1975), and for more recent submissions

the online-accessible records of the ABC (Arizona Bird Committee 2017). In addition, there is a handful of well-documented sightings of review list birds that appear not to have been submitted to or discussed by the ABC, though details for most have been published elsewhere. These include Harlequin Duck (Rosenberg and Jones 2001), Black-legged Kittiwake (injured bird given to Arizona Game & Fish Department, photos obtained; J. Coons, pers. comm.), Red-headed Woodpecker (Benesh and Rosenberg 1996), and Field Sparrow (Rosenberg and Stejskal 1992).

Between the extremes of regular, expected birds and ABC-reviewable records, there is a category of birds that is not unusual at a statewide level but represents rare or accidental visitors to Coconino County. Examples of these species include Blue-throated Hummingbird, Sulphur-bellied Flycatcher, and Thick-billed Kingbird (Figure 1), each of which is common enough in the state to be unreviewable as rarities by the ABC, but is represented in Coconino County by only one or a few records. For species in this category, I have tried to use good judgment regarding the quality of documentation to include only valid records. Clearly, this opens the door for errors of both inclusion and exclusion, and I welcome discussion of records that may be questionable either way.

Figure 1. Thick-billed Kingbird at Flagstaff, 10 November 2016. First record of the species in Coconino County. Species such as this, rare in the county but not unusual enough statewide to warrant ABC review, pose a challenge to inclusion on county-level bird checklists if not well documented. Photo by Jason Wilder

Finally, an additional category of birds included on the list includes two species that have been present in the county in recent years, but likely only because of human-assisted reintroduction programs; these are the Trumpeter Swan and California Condor (Figure 2). The former was recorded in Coconino County multiple times from 1994 through 1999, though always collared or marked individuals that may not be wild-born (LaRue et al. 2001, Stejskal et al. 1994). The latter is now well established in northern Arizona, where it has bred successfully in the wild since 2003 (US Fish and Wildlife Service 2013).

Figure 2. The endangered California Condor is now a wild-breeding bird in Coconino County, following reintroduction in 1996. This female, #33, was observed over the South Rim of the Grand Canyon at the Yaki Point Hawk Watch site, 29 September 2012. When photographed, #33 was 16 years old. She died of suspected predation a few months later (The Peregrine Fund, 2017). Photo by Jason Wilder

As a last caveat regarding the composition of the checklist, I will remark that though I have tried to be fully comprehensive in this work, there may be records I have overlooked due to the dispersed nature of the data. Feedback about such records is always welcome and will be incorporated in future updates to this list. There is one tantalizing written bird record for the region that I have not included in the checklist, but bears mention here for both its historical and ornithological value. In 1582-83, a Spanish expedition led by Antonio de Espejo explored the Desert Southwest and described its people and the landscape. The written chronicle of the expedition describes travel from New Mexico to the Hopi pueblos, and then a crossing of the Little Colorado River to the high country near present-day Flagstaff, followed by a difficult descent into a lush grapevine-filled tributary of the Verde River. This valley was described as a "warm land in which there are parrots", and the expedition named the river El Rio de las Parras because of

its birdlife (Hammond and Rey 1929). In the 20th century, the archaeologist, ornithologist, and ethnobiologist Lyndon Hargrave surmised that the location referred to in this work was "undoubtedly" Oak Creek, and the parrots likely Thick-billed Parrots (Hargrave 1933). Thick-billed Parrots are now extinct in the United States. There are no other historical records of this species in northern Arizona, but the plausibility of their presence in the 16th century underscores the value of documenting the rich avifauna of the region.

COUNTY HIGHLIGHTS

One of the highlights of observing birds in Coconino County is the accessibility of astonishingly diverse habitats and bird communities. From the high-elevation tundra and forests of the San Francisco Peaks, to the well-watered drainages of the Mogollon Rim, to the dry deserts of the Little Colorado River Valley and inner Grand Canyon, it is easy to see in a single day birds that make a living in widely divergent physical environments with correspondingly variable biological communities (Jenks 1931). Indeed, it was in this setting in 1889 that the naturalist C. Hart Merriam conceptualized biological "life zones" as he and his team surveyed the flora and fauna of northern Arizona from a base camp at Little Spring in the San Francisco Peaks (Merriam and Stejneger 1890).

A second characteristic of Coconino County that contributes to its rich avifauna is its position relative to major biogeographical regions. The Mogollon Rim forms the southern border of the Colorado Plateau, and many species associated with the Sonoran Desert and Mexican Madrean Highlands reach their northern limit in the vicinity (Figure 3); this intersection between northern and southern fauna leads to a region of exceptionally high species diversity for many organisms, including birds (Hargrave 1933, Mearns 1890, Warshall 1995). There are numerous bird species whose regular northern distribution barely reaches the lower elevations at the southern edge of the county, along the Mogollon Rim, and in the depths of the Grand Canyon. Some of these species include Magnificent Hummingbird, Common Black Hawk, Gila Woodpecker, Brown-crested Flycatcher, Mexican Jay, Verdin, Northern Cardinal, and Bronzed Cowbird. Likewise, there are birds from colder climes whose southern distribution in winter barely extends into Coconino County. These include Northern Shrike, Black-billed Magpie, Black-capped Chickadee, and American Tree Sparrow.

A further highlight of Coconino County is its spectacular record of vagrancy, with some truly surprising species on record. These include strays from eastern North America, Eurasia, Mexico, and even a remarkable number of lost seabirds and shorebirds. In a county that is largely arid, it is no surprise that large bodies of water such as Lake Powell and Mormon Lake attract wayward ducks, shorebirds, and gulls. Also highly productive are the springs, smaller bodies of water, and green patches that dot the dry landscape. Migrants often seek shelter and rest in these places, which can be few and far between and thus serve to concentrate bird numbers (Figures 4 and 5). Places such as the Cameron Trading Post, Rimmy Jim Tank (not currently accessible), Pasture Canyon, and the Meteor Crater RV Park stand out as islands of greenery in the desert and have remarkable species lists far out of proportion to their small size. While common western migrants make up the vast majority of the birds that stop at these spots, eastern and Mexican vagrants occur with regularity (Figure 6).

Figure 3. Red-faced Warbler, Elden Spring near Flagstaff, 22 August 2011. This is a bird of the Madrean highlands in the southwestern United States and western Mexico. In Coconino County, it is an uncommon but regular breeder north to the San Francisco Peaks. Photo by Jason Wilder

Figure 4. Abundant water and green grass attract many ducks and geese to golf courses in northern Arizona, including these side-by-side Eurasian and American Wigeons in Flagstaff, 23 February 2012. Photo by Jason Wilder

Figure 5. Shorebird migration produces a surprising diversity of species at cattle tanks, lakes, and playas that dot the arid landscape of Coconino County. Pectoral Sandpiper, such as this one at Babbitt Tank, 28 September 2016, is an uncommon fall migrant in the region. Photo by Jason Wilder

Figure 6. Rufous-backed Robin is a west Mexican species that strays north in fall and winter, with four records in Coconino County. This individual was observed at the Cameron Trading Post, 19 November 2013. Photo by Jason Wilder

One way to assess unusual records for the county is by their rarity code assigned by the American Birding Association (ABA). Birds with Codes 3 and higher can be considered rare in the entire ABA region (North America north of Mexico, plus Hawaii). Nine such species have been recorded in Coconino County (Table 1). These include an interesting mix of four species associated with Mexico (Ruddy Ground-Dove, White-eared Hummingbird, Eared Quetzal, and Rufous-backed Robin), four Eurasian species (Common Crane, Lesser Sand-Plover, Sharp-tailed Sandpiper, and White Wagtail), and one wayward seabird (a Blue-footed Booby that was found crashed in the desert near Cameron).

Table 1. American Birding Association Code 3+ Birds Observed in Coconino County
Ruddy Ground-Dove (3)
White-eared Hummingbird (3)
Lesser Sand-Plover (3)
Sharp-tailed Sandpiper (3)
Rufous-backed Robin (3)
White Wagtail (3)
Common Crane (4)
Blue-footed Booby (4)
Eared Quetzal (4)

Figure 7. In Arizona, six species have been observed only in Coconino County. Among these is this Lesser Sand-Plover (right), accompanied by a Killdeer, at Round Cedar Playa, Navajo Nation, 2 October 2016. This is one of only two inland records from western North America, the other being from Alberta, Canada in 1984. Photo by Jason Wilder

Another means of assessment of unusual records is the presence of species on the state ABC Review Species List maintained by the ABC or Sketch Details Species List by the state editors of North American Birds (Arizona Bird Committee 2016). Inclusion on the most recent version of either of these lists is indicated on the county checklist. Briefly, 54 species on the current Review Species List have been observed in the county. Highlights include Arizona's only records of Common Crane, Lesser Sand-Plover (Figure 7), Yellow-footed Gull, Black Rosy-Finch, White-winged Crossbill, and Common Redpoll, as well as Arizona's first records of Blue Jay, White Wagtail, and Gray-crowned Rosy-Finch. On the less-rare Sketch Details Species List, there are likewise 54 species with records in Coconino County.

CONCLUSION

A careful review of records finds 416 species observed in Coconino County to date. Six of these species have been seen only in Coconino County within the state of Arizona. Examination of records from neighboring counties suggests that range expansions will increase the county species list; this may include Abert's Towhee, which has expanded upstream along Oak Creek to Sedona since the 1970s (Tweit and Finch 1994), and Curve-billed Thrasher, which also has been reported in the Sedona area immediately adjacent to the county line. Likewise, Scaled Quail can be found just east of the county as part of a population that may have been expanding as a result of historical introduction (Monson and Phillips 1981). It was only in 2010 that the first Neotropic Cormorants, which are undergoing a range-wide expansion, were documented in the county; now this species is observed regularly in good numbers. Perhaps other northward expanding species in Arizona, such as Tropical Kingbird (Jenness 2015), will follow. The Coconino County checklist can serve as a benchmark to measure future changes to the avifauna as well as a record of those species already documented.

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