INCREASE IN BARN SWALLOW NESTING IN THE PHOENIX, AZ AREA

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Prior to 1987 there were no known or documented Barn Swallow (Hirundo rustica) nests or nesting attempts in Phoenix or elsewhere in Maricopa County. During the ensuing 3 decades only a few nest locations of this species were discovered and documented in the county. However, in the summer of 2020, birders reported Barn Swallows apparently nesting under road bridges over canals at several locations in the greater Phoenix area.

FIRST NESTING RECORDS

According to Witzeman et al. (1997), the first documented Barn Swallow nest in Maricopa County was at the Gilbert sewage ponds in July 1987. The next confirmed nesting wasn’t until 9 years later during the Breeding Bird Atlas surveys, when 12 nests were found in May and June 1996, under low, dimly lit road culverts near Aguila, west of Wickenburg (Corman 2005). Barn Swallows have continued to nest annually at that location as of 2020 (T. Corman pers. comm.).

Two nests were then discovered at the Rio Salado Habitat Restoration Area in south Phoenix in May 2007; a pair was feeding 3 young on the Tempe Canal between Mesa and Tempe in September 2011; 2 pairs were nest-building at this same location May 2012; and nesting with fledged young was observed in 2010-2012 at the Central Arizona Project (CAP) canal south of Southern Avenue near US 60 (J. Witzeman pers. comm.). Up to 4 summer Barn Swallow sightings were reported each year in Maricopa County from 2006 to 2019 (eBird 2020). Witzeman and Corman (2017) continued to categorize them as a rare and very local late spring and summer resident.

CURRENT NESTING STATUS

John Weser (fide D. Witter) observed Barn Swallows on 22 March 2020 under the AZ 202 bridge over the South Canal in Mesa, and in June 2020 he saw 2 occupied nests there (Figures 1 and 2). I rechecked this bridge on 1 August 2020 and found 24 likely Barn Swallow nests on ledges in the darker recesses under the bridge. Approximately 60 Cliff Swallow (Petrochelidon pyrrhonota) nests were on the more exposed vertical surface on the north side of the bridge. All the Barn and Cliff swallow nests were inactive except for 2 with recently fledged Barn Swallows still being fed by their parents near or at the nests.
In June and July of 2020, Janice Anderson, Sean Peters, Don Witter, and Walter Thurber reported Barn Swallows at the Reach 11 Recreation Area along the CAP Canal in north Phoenix (eBird 2020), and Thurber (eBird 2020) observed 7 Barn Swallows foraging and then returning underneath the Cave Creek Road CAP bridge on 19 June 2020. Pearson (pers. comm.) observed one Barn Swallow on 2 June 2020 and photographed one on 23 June 2020 near the Wildhorse Pass Resort in southern Maricopa County (Figure 3). Additional June–July 2020 reports of summer Barn Swallows—several of multiple birds—were from the Arlington Wildlife Area and Paloma Ranch (both southwest of Phoenix); the Riggs and Price roads ponds; the Salt River Granite Reef Recreation Area; the Glendale Recharge Ponds; and Lake Pleasant (eBird 2020).

CENSUS EFFORTS IN 2020

To determine how widespread Barn Swallows were along the CAP Canal, I checked 13 bridges over the canal between the I-17 highway and the Beeline Highway on 17 and 18 June 2020. While none were found under the 2 taller bridges, Barn Swallows were using 10 of the 11 bridges that were low to the water, which apparently provided the more sheltered areas where Barn Swallows prefer to build their mud nests (Corman 2005). Cliff Swallows and/or their more exposed nests were present at 6 of the 11 CAP bridges. According to Corman (2005), the Barn Swallow’s preference for low, dark nesting locations is probably due to its cave-nesting roots, and in Arizona this species typically avoids tall bridges and other well-lit structures commonly used by Cliff Swallows. Cliff Swallows construct enclosed, gourd-shaped nests with a spout-like entrance tunnel, whereas Barn Swallows construct open cup nests. Most locations I visited had only a pair or 2 of Barn Swallows flying back and forth under the bridges, apparently feeding young, but one location had a colony of 15 or more Barn Swallows using the bridge. Because of the low height of the bridges over the water, no Barn Swallow nests could be directly observed. On 26 July 2020, I observed 10 Barn Swallows, including what appeared to be recently fledged young, near one CAP bridge. Black Phoebes (Sayornis nigricans) were also present at several of the bridges. This is another species which often builds its very similar mud nests in sheltered locations (T. Corman pers. comm.).

Still curious about how widespread Barn Swallow nesting in the Phoenix area might be, and wondering why the newer CAP bridges seem especially attractive to nesting Barn Swallows, I checked 8 older bridges along the Arizona Canal, 5 bridges along the Tempe Canal, and 3 older bridges along the South Canal between 21 and 26 July 2020. Although most of the bridges over these 3 older canals have been in place much longer than have the CAP canal bridges and the newer AZ 202 bridge, and most were also low to the water, no Barn or Cliff Swallows were observed near any of those I checked. It is unknown why these bridges do not—at least not yet—support swallows. However, I did note that the vertical walls under the old Arizona Canal bridges and under some of the older bridges along the Tempe and South canals were perhaps not as suitable for attaching mud nests as were the newer CAP (completed 1993) and AZ 202 South Canal bridge walls (completed 2008), which were sloping and/or had ledges that could possibly better support nests. According to Brown and Brown (2020), Barn Swallows will often use, but apparently do not require, some vertical surface irregularity or a ledge on which to attach their mud nests. It is also possible that canal bridges in some of these more urban locations lacked a nearby source of mud for nest-building during the breeding season (T. Corman pers. comm.).
DISCUSSION

Barn Swallows are the most widely distributed and abundant species of swallow in the world, as well as in North America, where they have expanded their breeding range in response to the construction of buildings, bridges, culverts, and other suitable structures on which to build their nests (Brown and Brown 2020). In Arizona they have continued to expand their breeding range, with nesting records now in every county except Yuma. They are most abundant as a breeding species in the southeast quarter of the state and have nested annually in northwestern Maricopa County since 1996 (Corman 2005).

It is unclear why it has apparently taken them until 2020 to become a more common breeder in the Phoenix area despite suitable nesting habitat on decades-old bridges over canals. Possibly Barn Swallows have been gradually colonizing the Phoenix area but were only detected in greater numbers in 2020 due to a more concerted effort to locate additional nesting areas.

They have been documented nesting in all but one Arizona county (Yuma) and in other urban areas around the state. However, there are few nesting records from the heavily birded Phoenix metro area itself and none since 2012 (J. Witzeman pers. comm., Corman 2005). It is unlikely that this distinctive swallow would have been missed if it had been nesting in the Phoenix area in numbers in recent years. Also, Atlas surveyors found Cliff Swallows widespread in the greater Phoenix area but found no nesting Barn Swallows (Corman 2005). Possibly the newer bridge designs with horizontal ledges and sloping walls are more suitable for nesting than are the older bridges with vertical walls. All the 2020 records are from the more recently constructed bridges over the CAP canal and AZ 202-Red Mountain Freeway over the South Canal. Barn Swallows are such generalists in their nest locations throughout most of their range, that it seems unlikely that nesting substrate is a limiting factor. Still, in some areas of North America they are apparently limited to certain nesting parameters. For example, in east-central Mississippi they appear to exclusively use bridges with water running under or through them, constructed of metal or concrete, and with utility wires nearby; there, occupied bridges have shorter spans, higher end walls, and wider entrances than unused sites (Jackson and Burchfield 1975). Perhaps the cooler microclimate under more recently constructed and often wider bridges over canals is also more attractive to these open-cup nesters during the hot summer climate in the low-elevation “heat-island” of Phoenix.

In addition to the apparent recent colonization of previously unoccupied urban habitat by the Barn Swallow in the greater Phoenix area, other species have also only recently taken advantage of the urban setting here, despite seemingly suitable habitat having been present for many years. These recent colonizers include Common Raven (Corvus corax), Cooper’s Hawk (Accipiter cooperii), and Vermilion Flycatcher (Pyrocephalus rubinus) (T. Corman pers. comm.). Based on this recent evidence of nesting in several areas in the greater Phoenix area, the Barn Swallow can no longer be considered a rare nesting species in Maricopa County (J. Witzeman pers. comm.).

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LITERATURE CITED


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