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RECENT BIRD RECORDS FROM THE GRAND CANYON REGION, 1974–2000

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ABSTRACT: We report information on 100 species from the Grand Canyon region from 1974 to 2000; of these, 98 are from the Colorado River and 18 species are new to the Grand Canyon region. We compiled new seasonal information on 33 species and breeding information on 11 species. Changes are due, among other factors, to a change in habitats resulting from the construction and operation of Glen Canyon Dam. Flow regulation from the dam increased water clarity, and numbers of many waterbirds (primarily Anseriformes) subsequently increased. For example, the Common Goldeneye did not occur in Grand Canyon before the late 1980s, but since then it has become the most abundant wintering waterfowl. Stabilization of the river's flow has also allowed the growth and expansion of riparian vegetation. Birds we believe are responding to this increase in vegetation include Bell's Vireo, Sharpshinned Hawk, and wintering Empidonax flycatchers and sparrows. Also, there has been an increase in coverage, e.g., bird-monitoring river trips in winter. Some species are increasing in number and/or expanding their ranges in Arizona, such as the Double-crested Cormorant, Cattle Egret, Ross's Goose, White-winged Dove, Anna's Hummingbird, Black Phoebe, Brown-crested Flycatcher, Crissal Thrasher, Summer Tanager, and Common Grackle. Last, improved field identification has helped in discerning closely related species.

This report discusses bird observations from the Grand Canyon region from 1974 through 2000. We report information on 100 species, of which 18 are new to the region. The Grand Canyon, located in northern Arizona, covers approximately $1000~\rm km^2$ and several life zones from lower Sonoran along the Colorado River (elevation 350 m) to boreal forests (2800 m; Figure 1). The physiographic Grand Canyon falls within the complex boundaries of six land-

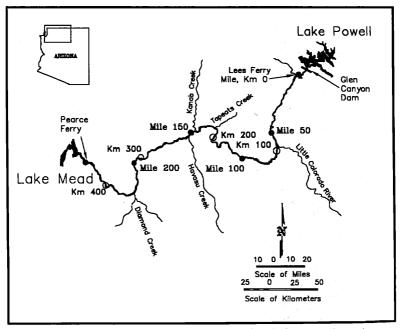


Figure 1. The Grand Canyon region, showing the Colorado River corridor and major tributaries.

management jurisdictions, including the National Park Service (Grand Canyon National Park, Lake Mead National Recreation Area, Glen Canyon National Recreation Area), the Bureau of Land Management, the U. S. Forest Service (Kaibab National Forest), the Navajo Nation, the Hualapai Nation, and the Havasupai Nation (Billingsley and Hampton 1999).

Bird diversity and distribution in the Grand Canyon region have been summarized by Bailey (1939) and Brown et al. (1984, 1987, 1993); Stevens et al. (1997) and Sogge et al. (1998) made additional studies of riparian and waterbirds along the Colorado River. The completion of Glen Canyon Dam in 1963 eliminated the nearly annual floods that scoured the banks of the Colorado River through the Grand Canyon and allowed the growth and expansion of native and nonnative riparian thickets (primarily tamarisk, Tamarix ramosissima) the length of the corridor (Turner and Karpiscak 1980, Johnson 1991). Flow regulation has increased the populations of waterbirds (primarily Anseriformes) along the Colorado River in lower Glen Canyon and the upper Grand Canyon, where density is a function of water clarity (Stevens et al. 1997, Glen Canyon N.R.A. files).

The majority of observations we report were recorded during investigations of ecological impacts of Glen Canyon Dam on the river and adjacent riparian zones. Most of our data were obtained during projects funded by the Bureau of Reclamation and administered by Glen Canyon Environmental Studies and Grand Canyon Research and Monitoring Center. Several projects were administered by Glen Canyon National Recreation Area, including 12 bird-monitoring trips in the Grand Canyon from 1997 to 1999 during January, February, April, May, and June and a bird-monitoring project in Glen Canyon N.R.A. from 1992 to present. Sources of our other records include $>\!200$ research and commercial river trips from 1975 through 1999 by Stevens, projects on both the river and canyon rims by Grand Canyon National Park staff, and personal time and personal communications.

Trips on the Colorado River were conducted via motor and rowboats during all seasons. River trips were from river mile (RM) 0 at Lee's Ferry to RM 280 at Pearce Ferry (elevation 950 m to 350 m). We covered the Glen Canyon reach (RM 0 to RM ${-}16$ at Glen Canyon Dam) via motorboat. Locations on the Colorado River are given in river miles from Lee's Ferry (Stevens 1983) followed by L (left bank looking downstream) or R (right bank), where applicable. Records are given in a seasonal order; for example, observations of a winter resident start in the fall and go through the spring. Observers are noted in the text with their initials for each species, and their full names are given alphabetically in the acknowledgments.

Our reasons for reporting these observations include new species for the Grand Canyon region, new seasonal records, new breeding records, changes in status, including distribution and abundance, rarely encountered species, and range expansion. The published sources of status and distribution information from which we determined the significance of our records are Woodbury and Russell (1945), Phillips et al. (1964), Monson and Phillips (1981), Brown et al. (1984, 1987, 1993), Brown (1985), Stevens et al.(1997), and Sogge et al. (1998). For a broader regional perspective, we referred to the account by Rosenberg et al. (1991) of the lower Colorado River Valley (LCRV), from Davis Dam to Mexico (primarily the Arizona–California border) and to Monson and Phillips (1981) for the state of Arizona. For current information on the status of unusual species and records in Arizona, we referred to Rosenberg and Witzeman (1998, 1999).

We report 18 species new to the Grand Canyon region: the Least Bittern, Greater White-fronted Goose, Ross's Goose, Trumpeter Swan, Sanderling, Caspian Tern, White-winged Dove, Yellow-bellied Sapsucker, Eastern Phoebe, Scissor-tailed Flycatcher, Hutton's Vireo, Blue Jay, Northern Parula, Prairie Warbler, Prothonotary Warbler, Bobolink, Common Grackle, and Streak-backed Oriole. Our data bring the total number of waterbird species in the Grand Canyon region to 91, adding six species (and one corrected identification) to the list by Stevens et al. (1997).

SPECIES ACCOUNTS

COMMON LOON *Gavia immer*. Sogge et al. (1998) reported one previous record from the river corridor. Six of our seven records indicate that the Common Loon is a rare transient primarily in fall. We observed individuals at Lee's Ferry on 8 October 1992 (ACP), RM 51.5 on 19 October 1992 (LES), RM –3.6 on 2 November 1998 (JRS, CTL), RM –1.8L on 7 November 1996 (BKR, TMH), RM –12.0 on 12 November 1993 (ACP, BKR), and RM 1.4 on 12 February 1999 (PGF, RKR, LLD).

A very unusual summer occurrence was of one at RM 214 on 24 July 1998 (NLB, photo). The Common Loon is an uncommon fall and winter migrant at lakes throughout Arizona and is most frequent in the LCRV.

PACIFIC LOON *Gavia pacifica*. One was at Lee's Ferry 9–26 February 2000 (KSB, BRB, CTL). There is one other record from the Grand Canyon region, also from Lee's Ferry in winter. This species is rare but regular in winter on lakes in the LCRV and elsewhere in central and southern Arizona.

HORNED GREBE *Podiceps auritus*. We report the first records from the river corridor, seven from Glen Canyon: one at Lee's Ferry 27–31 October 1996 (CTL), one each at RM -13.5 L and -2.5 L on 7 November 1996 (BKR, TMH), one at Lee's Ferry on 21 December 1997 (JRS), two at Lee's Ferry on 1 January 1998 (JRS, BKR, CEG), one at RM -3.5 on 8 January 1997 (JRS, BKR, CTL), and two at RM -9.4 on 30 March 1995 (ACP). This species is a rare to uncommon migrant and winter visitor throughout Arizona.

AMERICAN WHITE PELICAN Pelecanus erythrorhynchos. One was at the base of Glen Canyon Dam on 30 January 1995 (ACP); this is the first winter record of the species from northern Arizona. Five were at RM 209.0 on 12 April 1999 (BHD, LLD, JAH). A flock of approximately 40 birds was at RM 8 on 8 May 1999 (reported to LES by TV). Nine were at RM 133 on 28 May 1999 (reported to LES by AP). A flock of 50 was at RM 120 in late August 1990 or 1991 (reported to LES by SH). Two river guides reported (to LES) a flock of 200 birds at RM 150 in mid-summer 1998. There are five previous records from the Grand Canyon region. The White Pelican is a rare but irregular transient throughout the year in Arizona.

BROWN PELICAN *Pelecanus occidentalis*. One was observed in Glen Canyon at RM -14.5 on 9 June 1992 (ACP), and another was at RM 170R on 4 August 2000 (NLB, photo). There is one other report from the Grand Canyon region. This species is a rare but irregular late summer and fall wanderer to lakes in the LCRV and elsewhere in Arizona.

DOUBLE-CRESTED CORMORANT *Phalacrocorax auritus*. Brown et al. (1984) reported this species as a common permanent resident in the upper portion of Lake Mead and an irregular transient along the river upstream from there. Beginning as early as 1985 this species began appearing in winter at the base of Glen Canyon Dam, and since 1992 the numbers have steadily increased to a high of 22 individuals in 1999 (JRS).

LEAST BITTERN *Ixobrychus exilis*. We report the first record of this species from the Grand Canyon region: one at Quartermaster Canyon, RM 260.1L, upper Lake Mead, on 22 January 1999 (CTL, JRS, photo NLB, BHD). This species is rare in winter in the upper LCRV. There are two other northern Arizona records.

GREAT BLUE HERON Ardea herodias. Incubating birds were seen on 10 nests at RM 275.0 on 7 April 2000 (CTL, LLD). Four pairs were on nests in tamarisks at the mouth of Burnt Springs Canyon (RM 259R) on 15 May 1990 (LES). The species nested in tamarisks at RM 0L (Lee's Ferry) in 1998 and 1999, successfully raising young both years (LES, JRS, NLB). Another nesting attempt (on a ledge 100 m above the river) at RM –13.3R in 1998 was unsuccessful (BKR, TMH). These are the first nesting attempts in the Grand Canyon region of this common wanderer along the Colorado River.

CATTLE EGRET *Bubulcus ibis*. Four records: one at Marble Canyon Lodge on 24 March 1999 (LLD, JAH), one at Glen Canyon Dam on 21 April 1994 (JDG), one at Lee's Ferry on 25 April 1995 (JDG), and three between RM -8.8 and -10.8 on 26 April 1995 (ACP). There were two previous records from the Grand Canyon region. This species has recently become more abundant as a migrant in northern Arizona (CTL unpubl. data).

GREATER WHITE-FRONTED GOOSE Anser albifrons. The first record of this species from the Grand Canyon region is of a single bird observed at RM 158 on 11 September 1997 (reported to LES by SH). The White-fronted Goose is a rare fall migrant in northern Arizona; there are seven records from the adjacent Navajo Nation (CTL unpubl. data).

ROSS'S GOOSE *Chen rossii*. One was observed at RM 2 on 8 March 1993 (reported to LES by KJB, CG), and another (or the same) was seen at RM -12.0 on 19 March 1993 (ACP, photo JRS). These are the first records of this species from the Grand Canyon region. Ross's Goose is a rare winter resident in the LCRV and has recently increased throughout Arizona as a migrant and winter resident.

TRUMPETER SWAN Cygnus buccinator. Two first-year birds that had been painted bright pink on one side were observed between RM 7 and 9.5 on 14 and 15 February 1997 (LES), observed and photographed 25–27 February 1997 between RM 4 and 20.5 by VM (reported to LES), and at RM 5 on 10 March 1997 (DH). Presumably the same two birds were seen near RM 6 on 12 January 1998 (JRS, NLB, KME, CTL), at RM 10.6 on 4 January 1999 (LES) and 8 January 1999 (DGS, NLB, CTL), and at RM 12 on 22 January 1999 (reported to LES by RGB). These marked individuals originated in Wyoming, through a cooperative effort to augment the population there (S. Patla pers. comm.). These are the first records of this species from the Grand Canyon region.

WOOD DUCK Aix sponsa. We accumulated nine records from the niver corridor, seven from the Glen Canyon reach and Marble Canyon, two from RM 180–194. Five sightings were in spring (from 22 April to 8 June), four in fall or early winter (24 September to 30 December). To our knowledge, these are the first records of this species from the river corridor. This species is sparse in fall and winter throughout Arizona, a status reflected in these Grand Canyon region records.

EURASIAN WIGEON Anas penelope. An adult male was at RM -1.8L on 13 March 1998 (CEG, BKR). There was one previous report from the river corridor. There are more than 50 records of this rare migrant and winter visitor in Arizona.

MALLARD Anas platyrhynchos. The first breeding record of this species in the river corridor was in 1983 (Brown et al. 1987), and the population increased greatly after 1986 (Stevens et al. 1997). At present, Mallards breed commonly from Glen Canyon Dam to the Little Colorado River (RM 61) but apparently not farther downstream. Nests with up to 10 eggs have been found in dense stands of horsetail (Equisetum spp.) slightly above the typical high water mark from 15 April through 15 June (LES). The relatively long incubation period and the nests' proximity to the water's edge make this species highly susceptible to inundation as dam operations change.

A probable female Cinnamon Teal (*Anas cyanoptera*) with three young was observed at RM 47.8L on 8 June 1987 (LES, WB). Although this and the Blue-winged Teal (*A. discors*) are common migrants, neither has been recorded previously breeding on the Colorado River in the Grand Canyon region.

GREATER SCAUP Aythya marila. Since 1995 up to 30 individuals have been found wintering from Lee's Ferry upstream to RM –7.0 (Glen Canyon N.R.A. files). These are the first records from the river corridor in the Grand Canyon region. Monson and Phillips (1981) reported four records for Arizona based on specimens but noted that the species may be more common in the state. It has since been recognized as a rare but regular winter resident in the LCRV and elsewhere in Arizona (Brown 1985), a status reflected in the Grand Canyon region.

SURF SCOTER Melanitta perspicillata. There is one prior record from the Grand Canyon region. We report an additional four: a male at Lee's Ferry from 19

September 1991 to 26 April 1994 (ACP, JDG), a female at Glen Canyon Dam on 22 October 1993 (ACP), two birds at Lee's Ferry on 4 November 1995 (ACP), and one at Lee's Ferry on 26 April 1995 (ACP). This species is a rare but regular migrant and winter visitor throughout Arizona.

WHITE-WINGED SCOTER *Melanitta fusca*. We report five records from the Glen Canyon reach: one at Lee's Ferry from 21 November 1996 to 8 February 1997 (CTL, JRS), four at Lee's Ferry on 10 December 1990, with two there on 31 December 1990 (LES), one at Lee's Ferry on 25 January 1998 (CTL et al.), and one at RM -14.5 on 27 February 1995 (ACP). These observations represent the first records from the river corridor in the Grand Canyon region. This species is a rare migrant and winter visitor in Arizona.

LONG-TAILED DUCK Clangula hyemalis. We report eight records: one at Glen Canyon Dam on 30 November 1993 (ACP), one at Lee's Ferry on 10 December 1990 (NCK), an immature at Glen Canyon Dam from 2 January to 2 March 1999 (CTL, RKR, CEG, LLD, JAH), a male near Lee's Ferry from 16 January to 4 March 1992 (ACP, NCK), one on the Glen Canyon reach from 27 January to 9 April 1996 (JEH, JDG, JRS, ACP, BKR), one at RM –9.9 from 27 February to 19 March 1995 (ACP, MKS), one at Lee's Ferry on 19 March 1993 (ACP), and one at Glen Canyon Dam 27–28 March 2000 (CTL, BRB). These represent the first records from the river corridor and indicate that this species is a sparse winter resident in the Glen Canyon reach. This species is rare and irregular in winter in the upper LCRV.

BUFFLEHEAD Bucephala albeola. One was seen at Lee's Ferry on 23 June 1995 (JDG), a female was below Glen Canyon Dam on 24 June 1998, and a male was at RM -9.5 on 25 and 26 June 1998 (CTL, NLB). These are the first summer stragglers reported from the Grand Canyon region. A few have also been noted in summer in the LCRV.

COMMON GOLDENEYE *Bucephala clangula*. Brown et al. (1987) did not list this species as occurring in Grand Canyon. Since the late 1980s, however, it has become the most abundant wintering waterfowl along the Colorado River in the Grand Canyon, being observed commonly from Glen Canyon Dam to RM 61 from November through March (Stevens et al. 1997, Spence et al. 1998). The largest single-day count from the Glen Canyon reach was 2380 on 8 January 1998 (JRS, CTL, TMH). Records of nonbreeding birds remaining into summer include nine below Glen Canyon Dam on 3 June 1999 (CTL), single birds at RM –4.6 and RM –9.8 on 23 June 1995 (JDG), one male and two females in the Glen Canyon reach from 19 May to 19 August 1998 (CTL, NLB), and two below Glen Canyon Dam on 16 August 2000 (CTL). This species has increased in the LCRV since 1960.

BARROW'S GOLDENEYE *Bucephala islandica*. Since 1992, this species has been found annually in winter below Glen Canyon Dam (Spence et al. 1998) with up to 80 present in some years. The birds are generally present from late October to early March; however, two lingered until 15 June in 1999 (CTL, LLD). A female observed at RM 66.0 on 11 January 1999 (CTL, BHD) is the only record of this species below Lee's Ferry. Barrow's Goldeneye is a rare but irregular winter visitor below dams in the LCRV.

HOODED MERGANSER Lophodytes cucullatus. One to four males were seen at Lee's Ferry from 20 November 1990 to 11 February 1991, and two males were observed there on 7 January 1992 (LES, NCK). From 1992 through 1999, 24 records of 61 individuals were recorded from mid-November through April during waterfowl surveys in the Glen Canyon reach (Glen Canyon N.R.A. files). Brown et al. (1987) listed this species as casual in the region. To our knowledge these are the first records from the river corridor and indicate that this species is an uncommon migrant and winter resident in the Glen Canyon reach, as it is in the LCRV.

RED-BREASTED MERGANSER *Mergus serrator*. Brown et al. (1984, 1987) listed four records from the Grand Canyon region and described the species as casual in the region; however, our observations represent the first records from the Colorado River corridor. Four were seen at RM –6.2 on 13 February 1998 (CTL, CEG). Single males were seen at RM 64.0 on 5 April 1999 and RM 221 on 13 April 1999 (CTL, LLD, JAH, BHD). A mortally wounded female, probably struck by a Peregrine Falcon, was examined at RM 211L on 30 April 1994 (LES). The Red-breasted Merganser is a sparse migrant throughout Arizona and is occasionally a common migrant in LCRV.

OSPREY Pandion haliaetus. We report the first winter records from both the Grand Canyon region and northern Arizona. Individuals were observed at Lee's Ferry on 10 December 1990 (NCK) and in January 1991 (KJB), in Glen Canyon at RM –14.0 on 9 January 1998 (JDG) and on 18 January 1997 (JRS).

SHARP-SHINNED HAWK Accipiter striatus. We accumulated seventeen winter records from the river corridor in January and February of 1998 and 1999 (CTL, NLB, JRS, LLD, RKR, DGS). These and four other winter records (Brown et al. 1984, Sogge et al. 1998) indicate that this species is an uncommon winter resident of the river corridor, probably exploiting small birds wintering in the dense riparian vegetation that has proliferated since the building of the dam.

COMMON BLACK-HAWK Buteogallus anthracinus. We report three records: individuals were seen at RM 60.5 on 10 April 1998 (LES), RM 205.0 on 19 April 2000 (SEO, DS, DT), and Pumpkin Spring (RM 212) on 28 June 1997 (reported to LES by JC). These three stragglers and a few previous records from the Grand Canyon (B. T. Brown pers. comm.) represent the first records in northern Arizona aside from the extreme northwest corner (cf. Monson and Phillips 1981). Additionally, the Black Hawk is a casual transient and recent summer visitor in the LCRV and a summer resident of permanent streams, primarily in central Arizona.

RED-SHOULDERED HAWK *Buteo lineatus*. An immature, likely of the distinctive California race *B. l. elegans*, was seen at Quartermaster Canyon, RM 260.1L, upper Lake Mead, 26–27 February 1998 (CTL, RKR, NLB, CAL). This represents the second record from the Grand Canyon region. This species is a rare transient in Arizona that appears to be nearly annual in its occurrence.

ZONE-TAILED HAWK *Buteo albonotatus*. Listed as casual by Brown et al. (1984), this hawk is now confirmed as a breeding species. Six successful breeding attempts were recorded from 1995 to 1999 on the south rim (Grand Canyon N.P. files, reported to LLD by EFL).

VIRGINIA RAIL *Rallus limicola*. One was seen at RM –8.7L on 2 January 1999 (RKR, CTL), one was seen at RM 52R on 10 January 2000 (JRS), and one was heard at RM 246.0L on 21 January 1998 (CTL, JRS, BHD, NLB, KME). These are the first winter records from the Grand Canyon region, though the species is a common to abundant winter resident in the LCRV.

SORA *Porzana carolina*. One and two were heard calling at RM 246.0L and RM 265.0L, respectively, on 22 January 1998 (CTL, JRS, NLB). Nine and one were seen at RM 260.0L and RM 265.0L, respectively, on 27 February 1998 (CTL, RKR, CAL, NLB). One was observed at RM 259.5R on 4 April 2000 (CTL, LLD). There were two previous records from the Grand Canyon region. The Sora is a common winter resident and transient in the LCRV and a common transient throughout Arizona.

COMMON MOORHEN Gallinula chloropus. Three were at RM 260.0L on 22 January 1998 and 27 February 1998 (JRS, NLB, BHD, CTL), two were there on 13 May 1998 (NLB, CTL), one was at RM 255.5R on 3 April 2000 (CTL, LLD), and one was at Lee's Ferry on 22 July 1994 (JDG). There was one previous record from the Grand Canyon region. This species is a fairly common but local permanent resident in LCRV.

SOLITARY SANDPIPER *Tringa solitaria*. One was observed at RM –6.5 on 10 September 1992 (CTL). Although this is only the third record from the river corridor, the species is a fairly common migrant throughout Arizona.

SPOTTED SANDPIPER Actitis macularia. Brown et al. (1984) and Sogge et al. (1998) each reported one winter record from the river. We accumulated seven additional winter records from RM 1 to 73, indicating that this species winters in small numbers along the Colorado River. Additionally, three adults with one young were observed at RM -8.0 on 1 July 1998 (CTL, NLB), and one adult and one young were observed at RM 55.5 R in early July 1987 (LES). These represent the third and fourth breeding records from the river corridor.

SANDERLING *Calidris alba*. An immature bird was photographed by John Blaustein at RM 110R on 28 August 1974. This bird was initially identified as a Semipalmated Sandpiper (*Calidris pusilla*) and is the basis for that species' being ascribed to the Grand Canyon (B. T. Brown pers. comm., Brown et al. 1984, 1987, Stevens et al. 1997). A photograph of this individual in *The Hidden Canyon* (Blaustein 1999) is labeled as a Semipalmated Sandpiper, although it is identifiable as an immature Sanderling. Figure 2 is a more diagnostic photograph of the same bird. Sanderling is a sparse migrant through the region, and this photograph documents the only record from the Grand Canyon region.

CASPIAN TERN Sterna caspia. We report the first records from the Grand Canyon region. One was seen at RM 171.3 on 9 April 1999 (LLD, JAH, CTL, BHD), another at Pearce Ferry (RM 280) on 13 May 1998 (NLB, CTL). Although a rare to fairly common transient in the LCRV, the Caspian Tern is sparse in northern Arizona.

WHITE-WINGED DOVE Zenaida asiatica. We report the first records from the Grand Canyon region. Single birds were seen at Lee's Ferry on 27 April 1982 (GMS),



Figure 2. Sanderling at river mile 110 on 28 August 1974.

Photo by John Blaustein

8 May 1999 (CEG), and 20 May 1992 (JRS). This species is a rare transient in northern Arizona, where records have recently increased (CTL unpubl. data).

INCA DOVE *Columbina inca*. One was at RM 98.0R on 15 October 1993 (JB, CG), two were at Phantom Ranch (RM 87.8R) on 17 October 1998 (NLB), one was at Lonely Dell, near Lee's Ferry, on 24 October 1982 (ARL, CTL), and three were at Lee's Ferry on 2 December 1995 (JDG). There are two previous records from the Grand Canyon region. This species is an occasional transient in northern Arizona.

COMMON GROUND-DOVE *Columbina passerina*. One was observed at Lee's Ferry on 14 October 1991 (SRG). It represents the second record of this species from the Grand Canyon region and northern Arizona.

YELLOW-BILLED CUCKOO Coccyzus americanus. One was at RM –14.2 on 6 June 1995, and another (or the same) was at Lee's Ferry on 21 June 1995 (JDG). Brown et al. (1984) reported only one record from the Grand Canyon region since 1950. This species has declined sharply in the western U.S. (Hughes 1999).

GROOVE-BILLED ANI Crotophaga sulcirostris. One was at Cardenas Marsh, RM 71.0L, from 10 to 13 October 1993 (photo CG, Figure 3; JB). Another was photographed at the mouth of Salt Trail Canyon in the Little Colorado River gorge 6 miles above the confluence on 21 October 1992 (reported to CTL by PFR). A third was at RM 80.5R on 23 October 1992 (LES). There was one prior record from the Grand Canyon region. This is a casual transient primarily in summer and fall in central and southern Arizona and elsewhere in the Southwest (Mlodinow and Karlson 1999).

FLAMMULATED OWL *Otus flammeolus*. This species is a common summer resident of pine forest on the canyon rims, occurring as late as 25 October (on the South Bass Trail at the top of the Redwall Limestone in 1999, LES). A migrant was mist-netted



Figure 3. Groove-billed Ani at Cardenas Marsh, river mile 71, on 10 October 1993.

Photo by Chris Geanious

at RM 72R in dense riparian vegetation of Goodding willow (Salix gooddingii) and tamarisk on 5 May 1975 (LES). This species is occasionally found at lowland sites throughout Arizona, including two prior records from the bottom of Grand Canyon.

LONG-EARED OWL Asio otus. An adult with three fledglings and the nest site (on the ground in dense tamarisk) were found at Cardenas Marsh (RM 71.0L) on 6 June 1998 (NLB, TJT, CTL). Although this species was reported calling throughout the night at Cardenas Marsh from 1 to 3 May 1975 (SWC) and sporadically in subsequent years (LES), the 1998 record represents one of the few breeding records from Grand Canyon and the first verified from the Colorado River corridor. The Long-eared Owl breeds sparsely throughout Arizona.

NORTHERN SAW-WHET OWL Aegolius acadicus. One was observed at Kwagunt Marsh at RM 55.5R on 20 February 1996 (MJK, JB). Although irregularly present (occasionally in large numbers) on the canyon rims, and casually at lowland sites in the LCRV, this is the first report from the river corridor.

COMMON POORWILL Phalaenoptilus nuttallii. One was seen RM 246.0R, upper Lake Mead, on 22 February 1999 (LLD, RKR, CTL). This is the first winter record from the Grand Canyon region; however, whether this bird overwintered (perhaps hibernating) or was an early migrant is unknown. The presence of an overwintering population downstream in the LCRV has yet to be demonstrated.

WHIP-POOR-WILL Caprimulgus vociferus. Two birds were heard at Swamp Point on the north rim on 27 June 1999 (reported to LLD by JPD, JVJ, NEP). This is the third record from the Grand Canyon region; the two previous records were from the same location (Brown et al. 1984). This is the northernmost locality for this species in Arizona.

ANNA'S HUMMINGBIRD *Calypte anna*. Single males were seen at RM 196.0R and 198.0R on 16 January 1999, RM 200.5R on 17 January 1999, and RM 207.8L on 12 April 1999 (CTL). These are the first records from the Colorado River corridor and are likely associated with recent population increases and expansion in the LCRV, elsewhere in Arizona (Monson and Phillips 1981, Rosenberg et al. 1991), and in several other western states (DeSante and George 1994).

COSTA'S HUMMINGBIRD Calypte costae. Brown et al. (1984) and Sogge et al. (1998) reported this species along the river corridor primarily from RM 140 downstream. A remarkable influx occurred in April and May of 1999. We recorded 60 males throughout the corridor, including 16 from RM 0 to 65 (LLD, JAH, CTL, NLB). Single males were also seen as far upstream as RM –8.4R on 26 April 1999 and RM –10.0L on 27 April 1999 (LLD, CTL). This influx may be related to the severe drought that prevailed in the desert Southwest during the winter. An influx of Costa's Hummingbirds occurred in 1984 (Brown et a1.1987), which was also an exceptionally dry winter in the Southwest. One was observed at RM –6.0 on 10 April 1984 (BTB, KDG).

YELLOW-BELLIED SAPSUCKER Sphyrapicus varius. A first-winter individual was at Lee's Ferry from 16 to 30 January 1994 (CTL), and an adult male was at RM 1.0R on 12 February 1999 (RKR, CTL, LLD). These are the first reports of this species from the Grand Canyon region. The Yellow-bellied Sapsucker is a rare winter visitor in the southwestern half of Arizona, including the LCRV.

WILLOW FLYCATCHER *Empidonax traillii*. The decline and virtual disappearance of the breeding population of this species along the river corridor has been documented by Sogge et al. (1997) and Brown (1988). A territorial male was observed at RM –7.0L from 27 May to 15 June 1999 (LLD, CTL, JAH); it is the first to be noted from the Glen Canyon reach (M. Sogge pers. comm.).

HAMMOND'S FLYCATCHER *Empidonax hammondii*. One seen at RM 193.8R on 23 February 1998 (CTL, RKR) represents the first winter record from the Grand Canyon region and northern Arizona. The species is a rare and irregular winter resident in the LCRV.

GRAY FLYCATCHER *Empidonax wrightii*. The first winter record from the Grand Canyon region is of one at RM 207.5L on 21 February 1999 (CTL, RKR). The Gray Flycatcher is a locally uncommon winter resident in the LCRV.

DUSKY FLYCATCHER *Empidonax oberholseri*. One was seen and heard at RM 49.1R on 18 February 1998 (RKR, CTL, NLB, CAL). This represents the first winter record of the Dusky Flycatcher from the Grand Canyon region. The species is a rare and irregular winter resident in the LCRV.

BLACK PHOEBE Sayornis nigricans. We report the first winter and breeding records from the Glen Canyon reach. At RM -12.0L, one bird was seen on 2 January 1999 (RKR, CTL) and two were seen on 3 and 30 January 2000 (RKR, LLD, JDG). Another bird was at RM -11.5R on 2 February 1999 (CTL, LLD). A bird was seen at a newly constructed nest at RM -12.0R on 20 April 1999; this nest contained two eggs on 16 June 1999, and a second nest found the same day at RM -13.4L contained four eggs (CTL, JAH). The nest at RM -12.0R contained four eggs on 27 April 2000 (CTL). A family group was seen at the base of Glen Canyon Dam on 7 July 1997 (CTL, DGS, BKR). This species has expanded its range in Arizona, particularly in the LCRV, and our records suggest this expansion includes the Grand Canyon region.

EASTERN PHOEBE Sayornis phoebe. We report the first records of this species from the Grand Canyon region. Individuals were observed at RM 1.0R and 1.8R on 1 April 1999 (CTL, JAH, KGM, BHD, MC, LLD) and at RM 155.2 on 8 April 1999 (CTL, JAH, LLD, BHD). The Eastern Phoebe is an uncommon migrant/winter resident in much of Arizona, but its status in northern Arizona is unclear.

VERMILION FLYCATCHER *Pyrocephalus rubinus*. A male was at Lonely Dell, Lee's Ferry, from 25 May to 4 June 1997 (LSB, CEG). This is the sixth record from the river corridor. Although a common summer resident in southern Arizona, this species is a sparse transient in northern Arizona.

BROWN-CRESTED FLYCATCHER Myiarchus tyrannulus. Brown et al. (1984, 1987) speculated on this species' occurrence in Grand Canyon. Sogge et al. (1998) confirmed its restricted range in the immediate area of RM 198, and LES observed one to two pairs in the cottonwoods at Supai Campground in Havasu Canyon periodically during the 1980s and 1990s. From 1997 to 1999 we recorded 12 observations (a maximum of 18 individuals) from RM 194 to 204 (CTL, LLD, NLB, JAH, TJT). Remarkably, one was observed at RM 5.2R on 30 May 1999 (reported to LLD by TJT, LA, KB). Our records suggest this species is continuing its expansion into the Grand Canyon region, as noted in the LCRV (Rosenberg et al. 1991) and elsewhere in the Southwest (Johnson 1994).

EASTERN KINGBIRD *Tyrannus tyrannus*. One was observed at Lee's Ferry on 14 July 1994 (JDG). This is the fourth record from the river corridor of this rare annual migrant in Arizona.

SCISSOR-TAILED FLYCATCHER *Tyrannus forficatus*. We report the first record of this species from the Grand Canyon region: one at RM 74R on 14 June 1996 (reported to LES by SH, JC). A different (or the same) bird was reported at Thunder River ten days later (reported to LES by TF). This species is a recurring summer visitor (over 45 records) in Arizona.

NORTHERN SHRIKE *Lanius excubitor*. There was one previous record from the river corridor. We report four additional records: an adult at RM 5.8R on 17 December 1999 (CTL, CAB), and at Lee's Ferry an adult on 1 January 1998 (JRS),

an immature on 15 January 1997 (CTL), and an adult found dead on 1 February 2000 (CAB; specimen to Univ. of Ariz.). This species is a regular and uncommon winter resident in northern Arizona.

BELL'S VIREO *Vireo bellii*. Both Brown et al. (1984) and Sogge et al. (1998) reported this species as a breeding resident as far upstream as RM 50, with occasional vagrants as far as Lee's Ferry. We report three records above Lee's Ferry: two at RM -8.8L on 2 June 1993 (JRS), two at RM -8.3 on 6 June 1995 (JDG), and one at RM -2.3L on 7 July 1997 (CTL, NLB). The presence of two birds each in June of 1993 and 1995 in Glen Canyon may indicate breeding. Our records suggest that the range expansion in the Grand Canyon region documented by Brown et al. (1983) is continuing.

CASSIN'S VIREO *Vireo cassinii*. One was seen at RM 193.8R on 10 April 1999 (CTL, LLD, JAH) and at RM 198.0R on 11 April 1999 (CTL). These records are nearly a month earlier than the known spring passage in northern Arizona (Phillips et al. 1964) and may represent individuals that wintered locally. This species is known to winter in the LCRV and is a common migrant throughout Arizona.

HUTTON'S VIREO *Vireo huttoni*. We report the first record of this species from the Grand Canyon region and the northernmost record from Arizona. One was heard singing and later observed at RM 204.1R on 21 February 1999 (CTL, LLD, RKR). Hutton's Vireo is a common summer and uncommon winter resident in central and southeastern Arizona and a casual transient and winter visitor to the LCRV.

RED-EYED VIREO Vireo olivaceus. One was observed at Lonely Dell, Lee's Ferry, on 23 September 1998 (CTL, NLB). There were six previous records from the Grand Canyon region. This species is a sparse transient throughout Arizona, but reports have declined in recent years.

BLUE JAY *Cyanocitta cristata*. One was observed at RM 175.8 on 7 May 1998 (CTL, PW, photo NLB). This represents the first record of this species from the Grand Canyon region and the sixth report from Arizona (Rosenberg and Witzeman 1999).

TREE SWALLOW *Tachycineta bicolor*. One was seen at RM 204.0 on 24 February 1998, and two were seen at RM 223.0 on 25 February 1998 (CTL, RKR, CAL). These represent the earliest spring records from the Grand Canyon region and were probably early spring arrivals.

NORTHERN ROUGH-WINGED SWALLOW Stelgidopteryx serripennis. One was at RM 208.7 on 21 February 1999 (AMD, CTL, LLD), and six were between RM 260.2 and Pearce Ferry on 26 and 27 February 1998 (CAL, RKR, NLB). These represent the earliest records from the Grand Canyon region and were probably early spring migrants. Additionally, one was seen at Lee's Ferry on 16 January 2000 (CAB) during a period of unusually mild weather. Breeding by this species on upper Lake Mead was recorded by Brown et al. (1993) and R. McKernan (pers. comm.). We report nests farther upstream than has previously been noted. At RM 196.0, a nest was observed 10 May 1999 (NLB, BHD), and adults with fledglings were observed on 10 June 1998 (NLB, PW).

CACTUS WREN Campylorhynchus brunneicapillus. This species is a rare to uncommon permanent resident in the upper Lake Mead area (Brown et al. 1984) and the middle reaches of Peach Springs Wash (LES). A nest containing three eggs was found at RM 207.5L on 12 April 1999 (CTL). To our knowledge, this is the farthest upstream Cactus Wren breeding has been reported.

HOUSE WREN *Troglodytes aedon*. We report the first seven known winter records from the Grand Canyon region: one each at RM 203.0L, 204.3R, and 209.0L on 17 January 1999 (CTL, NLB, RKR), Spencer Canyon, RM 246.0L, on

18 January 1999 and 26 February 1998 (CTL, NLB, RKR), and RM 209.0L on 20 January 1998 (JRS, CTL) and 21 February 1999 (LLD, RKR). This species is a fairly common winter resident in the LCRV but is sparse in winter in northern Arizona.

WINTER WREN *Troglodytes troglodytes*. Both Brown et al. (1984) and Sogge et al. (1998) considered this species to be a rare transient and winter visitor in riparian vegetation of the Colorado River and its lower tributaries. Our series of records indicates that it may be more common. We recorded 21 observations of 26 individuals from the length of the river corridor in 1998 and 1999. These records extend the known period of occurrence in the Grand Canyon region from 16 October 1999 (at Indian Gardens; CTL) to 1 April 1999 (at RM 5.8R; JAH). The Winter Wren is a rare winter resident throughout riparian areas in central and southern Arizona.

BLUE-GRAY GNATCATCHER *Polioptila caerulea*. There was one previous winter record from the river corridor, and we add two more. Three were at Lee's Ferry on 5 December 1995 (JDG), three at RM -11.0R on 30 January 2000 (JDG). This species is common in southern Arizona in winter but sparse in the northern portions.

HERMIT THRUSH Catharus guttatus. There were three previous winter records (Brown et al. 1984, Sogge et al. 1998). From 1998 to 2000, we accumulated 12 winter records extending from RM –7.0 to 265.0, with the majority below RM 200. These records establish that this species is an uncommon winter resident in riparian vegetation along the river corridor, primarily in the lower western portions of the Grand Canyon. The Hermit Thrush is a common winter resident in riparian areas in central and southern Arizona and the LCRV.

NORTHERN MOCKINGBIRD *Mimus polyglottos*. At "Dox Seep" at RM 70L on 1 June 1995, an adult Blue-gray Gnatcatcher was observed landing on the head of a fledgling Northern Mockingbird and unsuccessfully attempting to place a geometrid moth larva in the panting mockingbird's bright yellow mouth (LES). This was the first evidence of nesting mockingbirds known to us in the river corridor in the Grand Canyon, although singing males are heard here sporadically.

SAGE THRASHER Oreoscoptes montanus. One was observed at RM 196.0R on 20 February 1999 (CTL, LLD). This is the third record from the Colorado River in the Grand Canyon region and likely represents an early spring migrant. This species is a migrant and sparse summer resident on adjacent arid plateaus.

CRISSAL THRASHER Toxostoma crissale. The status and distribution of this species in northern Arizona are poorly known (Phillips et al. 1964, Brown et al. 1984), but recent field work is clarifying its distribution in the region. Brown et al. (1984) speculated that it is a locally rare resident in the western Grand Canyon and noted only two records from the Colorado River. Sogge et al. (1998) reported four additional records from the Colorado River from RM 173.8 to 204.5R during winter and spring surveys. We add five records: one each at RM 246.0R on 22 January (CTL, JRS) and 26 February 1998 (RKR, CAL), seven at RM 265.0L on 27 February 1998 (CTL, RKR, CAL), and one at RM 45.5R on 2 April 1998 (NLB, CTL). Last, one remained at Lonely Dell, Lee's Ferry, from 30 November 1999 to 9 February 2000 (CAB, CTL). The Arizona breeding-bird atlas project documented breeding across north-central and northwestern Arizona from the Echo Cliffs west (T. Corman pers. comm.), and there are several winter records from the western Navajo Nation (CTL unpubl. data). It may be concluded that this species is a sparse permanent resident throughout much of northwestern Arizona. In the Grand Canyon region, it is found primarily on plateaus in open sage desert and juniper woodlands, and along the Colorado River from RM 175 downstream to Grand Wash Cliffs (RM 280).

EUROPEAN STARLING Sturnus vulgaris. Although nonnative starlings are widespread throughout the United States, their distribution and ecological role in

Grand Canyon are poorly known. Although single birds are occasionally seen during summer, a flock of 50 birds was seen for a full day at Granite Park (RM 209L) on 13 November 1993 (LES). This record corresponds to a marked period of migratory passage in northeastern Arizona (CTL unpubl. data).

BOHEMIAN WAXWING Bombycilla garrulus. One was observed at Lonely Dell, Lee's Ferry, on 20 May 1992 (JRS). This represents the third record from the Grand Canyon region and is perhaps the latest in spring that this species has been reported from Arizona (cf. Phillips et al. 1964). The Bohemian Waxwing is a sparse and erratic winter visitor to northern Arizona.

ORANGE-CROWNED WARBLER Vermivora celata. There were no winter records prior to our observations. From 1998 to 2000, we accumulated 23 winter records from RM –10 to 265. Although these records extend the length of the river corridor, the majority are from the lower western end. These records establish that this species is an uncommon winter resident in riparian vegetation along the Colorado River in the Grand Canyon region, perhaps becoming so only since completion of Glen Canyon Dam. Furthermore, it is a common winter resident along the LCRV.

NORTHERN PARULA *Parula americana*. We report the first record of this species from the Grand Canyon region. An immature male was at Lee's Ferry from 19 November to 29 December 1999 (CTL, CEG). The Parula is a rare but regular migrant and winter resident in the LCRV and throughout Arizona, with reports increasing in recent years.

PRAIRIE WARBLER *Dendroica discolor*. We report the first record of this species from the Grand Canyon region. An adult male was seen at Spencer Canyon, RM 246.0L, on 22 January and 26 February 1998 (JRS, CTL, KME, CAL, RKR). This species is casual in Arizona.

AMERICAN REDSTART Setophaga ruticilla. We report three records: a male at RM 131.6L on 13 May 2000 (LLD, BTM, LKM), one at Lonely Dell, Lee's Ferry, on 3 June 1986 (CTL), and one at RM 11.3R on 13 October 2000 (JDG). There were four previous records, two from the river corridor, one in spring, one in fall, and two fall records from the rim. This is a sparse but regular transient throughout Arizona.

PROTHONOTARY WARBLER *Protonotaria citrea*. We report the first record of this species from the Grand Canyon region. One was observed at RM -14.3R on 26 May 1994 (JDG). This species is a sparse transient throughout Arizona.

COMMON YELLOWTHROAT Geothlypis trichas. We report the first winter record of this species from the Grand Canyon region. An adult male was at RM 50.0L on 10 January and 14 February 1999 (CTL, RKR, PGF). The species is a fairly common winter resident in the LCRV.

PAINTED REDSTART Myioborus pictus. Brown et al. (1984) reported three previous records from the Grand Canyon region. We report one at RM 31.5R on 4 April 1999 (reported to CTL by CBN, BJB, TD). These are the only reports of this species from northern Arizona. Our record corresponds to the unusual occurrence of this species at nearly 20 lowland sites in Arizona in the spring of 1999 (Rosenberg and Benesh 1999).

SUMMER TANAGER *Piranga rubra*. This species has recently colonized and become a rare summer resident in lowland riparian areas in the Grand Canyon (Brown et al. 1984). Sogge et al. (1998) reported singing males as far upstream as RM 46.7 but no evidence of nesting. We accumulated four sightings that seem to indicate that this expansion is continuing upstream into the Glen Canyon reach: a subadult male at RM –13.4L on 22 May 1998 (CTL), a subadult male at RM –3.0R on 25 May 1999 (CTL, LLD), one at RM –6.1R on 21 June 1995 (JDG), and an adult male at RM –8.6R on 21 July 1993 (JRS). Although this species has recently

increased in the Grand Canyon region, it has decreased dramatically in the LCRV.

CHIPPING SPARROW Spizella passerina. We report four winter records: two at RM 209.0L on 21 January 1998 (JRS, CTL), two on 25 February 1998 (NLB, RKR), and one there on 18 January 1999 (CTL, NLB), and two at RM 196.0R on 23 February 1998 (RKR, CTL). There were two previous winter records from the river corridor. The species is rare in northern Arizona in winter.

CLAY-COLORED SPARROW Spizella pallida. We report the first record of this species from the Grand Canyon region. One was observed at RM 1.0R (Paria Beach) on 2 May 1995 (JDG).

BREWER'S SPARROW Spizella breweri. We report the first winter records of this species from the Grand Canyon region. One was at RM 5.2R on 12 January 1998 (CTL, NLB), 25 were at RM –3.0R on 13 February 1998 (CTL, CEG), and two were at RM 56.1R on 19 February 1998 (RKR, CAL, NLB). This species is generally sparse in winter in northern Arizona, and our records may be a result of favorable weather and/or food conditions.

BLACK-THROATED SPARROW Amphispiza bilineata. This species is known as a common summer resident in desert habitats throughout northern Arizona with rather abrupt arrival and departure from the region in mid-March and early September (Phillips et al. 1964). Although it is not known as a winter resident in this area (Brown et al. 1984, Sogge et al. 1998), we accumulated 11 records of more than 20 individuals from desert scrub adjacent to the Colorado River from October through February. From these records, it is apparent that this species winters in small numbers in the lowlands along the Colorado River in the Grand Canyon region.

GRASSHOPPER SPARROW Ammodramus savannarum. One was seen at RM 1.0R on 27 and 31 October 1996 (CTL). This observation is the first report from the river corridor and the third from the Grand Canyon region. This species is a sparse migrant in northern Arizona (CTL unpubl. data) and more common elsewhere in the state.

FOX SPARROW Passerella iliaca. "Slate-colored" individuals were observed at Lee's Ferry on 27 October 1996 (CTL), RM –7.0L on 3 February 2000 (CTL, JRS), RM –8.8L on 18 March 1996 (JRS), and Spring Canyon (RM 204.4R) on 11 April 1999 (CTL, JAH). There were two previous records from the river corridor. This species is a rare transient and winter resident throughout Arizona.

LINCOLN'S SPARROW *Melospiza lincolnii*. Both Brown et al. (1987) and Sogge et al. (1998) speculated that this species may winter in the Grand Canyon region. During winter survey trips along the Colorado River in January and February, we recorded 60 in 1998 and 16 in 1999 (CTL, JRS, NLB, RKR, LLD). These records indicate that this species winters in the riparian vegetation along the Colorado River in the Grand Canyon region with high year-to-year variability. It is common in winter in southern Arizona.

SWAMP SPARROW *Melospiza georgiana*. The two previous records were of one in October (Brown et al. 1984) and one in April (Sogge et al. 1998). We report six records, the first winter records from the Grand Canyon region. Individuals were observed at RM –8.7L on 4 February 2000 (CTL), RM 1.6R on 17 February 1998 (CTL, RKR) and 30 November 1999–23 February 2000 (CTL), Phantom Ranch (RM 87.8R) on 20 February 1998 (RKR), RM 204.3R on 24 February 1998 (RKR), and RM 209.0R on 25 February 1998 (RKR, NLB). This species is a rare winter resident in northern Arizona.

WHITE-THROATED SPARROW Zonotrichia albicollis. We report seven records. Individuals were observed at RM -14.3R on 29 October 1998 (CTL), at Lee's Ferry

from 5 December 1994 to 7 March 1995 (JDG) and on 5 December 1995 (JDG, CTL), at RM 87.8R on 15 January 1998 (JRS), and at RM -0.5L on 27 March 2000 (CTL). There were four previous records from the Grand Canyon region, two from the Colorado River corridor. The White-throated Sparrow is an uncommon winter resident throughout Arizona but is considered rare in the LCRV.

GOLDEN-CROWNED SPARROW Zonotrichia atricapilla. Individuals were observed at RM -8.8R on 8 January 1998 (CTL, JRS), upper Deer Creek on 13 January 1999 (CTL), RM 136.3R on 2 April 1997 (CTL, JRS, AF), and RM 53.0R on 5 April 1999 (CTL, JAH). There were four previous records from the Grand Canyon region. This species is an uncommon winter visitor throughout Arizona, although less numerous in the northern portions.

BOBOLINK *Dolichonyx oryzivorus*. The first record of this species from the Grand Canyon region is of one at Lonely Dell, Lee's Ferry, on 15 September 1994 (JDG). The Bobolink is a sparse, primarily fall, migrant throughout Arizona.

COMMON GRACKLE *Quiscalus quiscula*. We report the first records of this species from the Grand Canyon region. One was observed with a female Great-tailed Grackle (*Q. mexicanus*) at RM 198.0R on 9 and 10 June 1997 (CTL, NLB, MDY), another was in the Lee's Ferry area from 28 May to 31 July 1997 (CTL, CEG, DGS), with two present there on 29 and 31 July 1997 (CTL, CEG, DGS), and another was at RM 217.8 on 16 November 1993 (LES). This species is a recent sparse transient to Arizona (LaRue and Ellis 1992).

STREAK-BACKED ORIOLE *Icterus pustulatus*. One was seen and heard at Spencer Canyon, RM 246.0L, upper Lake Mead, on 22 January 1998 (JRS, CTL, NLB, KME). This represents the first record of this Mexican oriole from the Grand Canyon region. This species is known for its rare breeding (Corman and Monson 1995) and rare but regular winter northward dispersal from Mexico into southern Arizona (Monson and Phillips 1981, Rosenberg and Witzeman 1999). This is the northernmost occurrence in Arizona.

RED CROSSBILL *Loxia curvirostra*. One was seen at RM 51.5L on 13 January 1998 (CTL, JRS). There were no previous records from the river corridor. This species is a rare irregular transient at lowland sites throughout Arizona.

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