

2001 Bird Banding Report for Amistad National Recreation Area

By

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Introduction

The purpose of this report is to present a summary of birds captured during migratory bird banding at four locations within Amistad National Recreation Area during 2001 (Figure 1). This report presents a brief background on each banding location and a summary of the information obtained from the field.



Figure 1. Location of Amistad National Recreation Area in Texas.

Migration Banding

The purpose of migration bird banding through constant-effort mist netting is to provide baseline resource data on the presence of migratory birds and determine the importance of managed lands within Amistad National Recreation Area for providing migratory bird habitat. With baseline information gained through this study, park management can protect these habitats for migratory and resident bird species.

Banding Locations

Constant-effort mist netting occurred on March 31, 2001 at Oak Creek/277 North. Oak Creek/277 North migration station is located in southwest Val Verde County, Texas. UTM location for this site is E (312,019) and N (3,266,902). Latitude is (29,31,03) and Longitude is (100,56,21). See figure 2 for location map. Oak Creek/277 North is a tributary of the San Pedro branch of the Devils River, located west of the 277 North campground.

Constant-effort mist netting occurred on April 1 and April 14, 2001 at Hunt Area 1. Hunt Area 1 migration station is located in southwest Val Verde County, Texas. UTM location for this site is E (301,396) and N (3,264,446). Latitude is (29,29,37) and Longitude is (101,02,54). See figure 2 for location map. Hunt Area 1 is a 1,000-acre hunt area located in the central region of Amistad NRA, south of highway 90.

Constant-effort mist netting occurred on April 15 and April 16, 2001 at Satan Canyon. Satan Canyon migration station is located in southwest Val Verde County, Texas. UTM location for this site is E (310,431) and N (3,283,027). Latitude is (29,39,45) and Longitude is (100,57,30). See figure 2 for location map. Satan Canyon is a tributary of the Devils River, located in the northern region of Amistad NRA.



Figure 2. Bird banding locations for Amistad NRA during 2001.

Constant-effort mist netting occurred on April 25, 2001 at 277 North campground. The 277 North campground migration station is located in southwest Val Verde County, Texas. UTM location for this site is E (315,063) and N (3,265,568). Latitude is (29,30,21) and Longitude is (100,54,27). See figure 2 for location map. The 277 North campground is located on the San Pedro branch of the Devils River, located east of the 277 Highway, Amistad NRA.

Oak Creek/277 North banding station occurs at a spring and ephemeral creek drainage containing plateau live oak (*Quercus fusiformis*) and honey mesquite (*Prosopis glandulosa*) which dominates the vegetation canopy with a shrub component dominated by mountain laurel (*Sophora secundiflora*). Grasses and forbs occur in the understory of the site. The habitat is characterized by large plateau live oak motts surrounded by lower shrub habitat. This site experiences heavy grazing from sheep and cattle.

Hunt Area 1 banding station contains a huisache (*Acacia farnesiana*) and honey mesquite (*Prosopis glandulosa*) woodland drainage surrounded by upland Chihuahuan Desert scrub-land dominated by blackbrush (*Acacia rigidula*) and ceniza (*Leucophyllum frutescens*). Roosevelt weed (*Baccharis neglecta*) is found in the lower areas of the banding station. Grasses and forbs are common in the understory of the site.

Satan Canyon contains a plateau live oak, mesquite, and huisache vegetation canopy with an understory represented by mountain laurel, blackbrush, guayacan and prickly pear cactus (*Opuntia spp.*). Grasses and forbs are common in the understory of the site. The habitat is characterized by large plateau live oak motts surrounded by lower shrub habitat and reservoir inundation zone.

277 North Campground banding station is located in the inundation zone of the reservoir, approximately 100 meters south of the 277 North campground. Since 1993, the area has been above the reservoir water line. The habitat is characterized by well developed grassland with open clumps of retama/paloverde (*Parkinsonia aculeata*) and roosevelt weed (*Baccharis neglecta*).

Methods

Nine 12-meter long by 2.6 meter high (40 feet by 8.5 feet) with four shelves and 30mm (1.2 in) mesh mist nets were placed at the Oak Creek/277 North migration station on March 31, 2001. The nets were opened at 0830 a.m. and closed at 1330 p.m., 5 hours of operation. The nets were re-opened at 1700 p.m. and closed at 1900 p.m., 2 hours of operation. Nets were placed facing vegetation edges along the Oak Creek drainage. Net locations were chosen to be in areas of high use by birds, areas where nets could blend with the vegetation, and be out of direct sunlight to the greatest extent possible. Temporary metal stakes and poles were used to place nets. One GPS location was taken in the center of the station.

Seven 12-meter long mist nets were placed at Hunt Area 1 on April 1, 2001. The nets were opened at 0700 a.m. and closed at 1400 p.m., 7 hours of operation. Nets were placed along the first drainage encountered after entering the hunt area following the main access road. On April 14, 2001, eight 12-meter long mist nets were placed at the same location in Hunt Area 1. The nets were opened at 0700 a.m. and closed at 1200 p.m., 5 hours of operation.

Nine 12-meter long mist nets were placed at the Satan Canyon migration station. The nets were opened at 0700 a.m. and closed at 1400 p.m., 7 hours of operation. Five nets were re-opened at 1700 p.m. and closed at 2000 p.m., 3 hours of operation. One net was opened at 1800 p.m. and closed at 2000 p.m., 2 hours of operation. Nets were placed along the access road, under the canopy of large oaks and along the edges of huisaches and mesquite. Temporary metal stakes and poles were used to place nets. One GPS location was taken in the center of the station. On April 16, 2001, ten nets were opened at 0700 a.m. and closed at 1100 a.m., four hours of operation.

Nine 12-meter long mist nets were placed at the 277 North campground migration station on April 25, 2001. The nets were opened at 0700 a.m. and closed at 1300 p.m., 6 hours of operation. Nets were placed along both sides of the old 277 North Highway access to the reservoir. All nets were placed below the inundation zone of 1,117 feet elevation, approximately 100 meters south of the campground. Nets were

placed on both sides of the old 277 road, out in the grassland and along retama and roosevelt weed edges. Temporary metal stakes and poles were used to place nets. One GPS location was taken in the center of the station.

Closure of nets during the above operations was based primarily on high temperatures, exposure to sun, and potential threats to birds. Closure of nets also occurred if bird capture rates were low.

David Larson, Natural Resources Program Manager, operated the four stations, Master Banding permit holder (#22946, U.S. Fish and Wildlife Service) during year 2001. Whitney Howeth and Brian Poe assisted as volunteers on the project.

Results

The following information is a summary of the data obtained at the four stations. Tables 1 through 6 provide species and number of birds captured at the above described stations. Field information collected on each bird banded can be found in Appendix 1. In Appendix 2, a description of a bird banding activity at the San Pedro Campground (tent site) on 12/10/01 is provided.

Number of bird species captured at Oak Creek/277 North on March 31 was 16 species. Total number of birds banded was 26 (table1).

On this date, two female Black-chinned Hummingbirds (*Archilochus alexandri*) were observed on nests. One of the female Black-chinned Hummingbirds netted on this date was documented with an advanced brood patch, confirming breeding of this species at this time of year. Downstream, approximately 500 meters from the banding location, a Great Blue Heron (*Ardea herodias*) rookery was discovered with approximately 20 active nests located at the top of a dead oak tree. This rookery was located within 100 meters of the 1,117 foot elevation inundation zone line of the reservoir.

From approximately 1830 until leaving the banding station at 2000, Eastern Screech-Owl (*Otus asio*) and Common Poorwill (*Phalaenoptilus nuttallii*) were heard calling in the banding station. The Eastern Screech-Owl responded to imitated screech owl whistles, showing breeding territorial defense. An attempt was made to capture owls with no success. Wild turkey (*Meleagris gallopavo*) was observed in the oak creek drainage during the survey.

Table 1. Species and number of birds captured at Oak Creek/277 North, March 31, 2001.

CODE	SPECIES	Number, Year 2001
BCHU	Black-chinned Hummingbird	8*
BEVI	Bell's Vireo	1
BEWR	Bewick's Wren	2
BGGN	Blue-gray Gnatcatcher	1
CHSP	Chipping Sparrow	3, (+)
FISP	Field Sparrow	1, (+)
HETH	Hermit Thrush	1, (+)
LISP	Lincoln's Sparrow	3, (+)
NOMO	Northern Mockingbird	2
OCWA	Orange-crowned Warbler	1
RCKI	Ruby-crowned Kinglet	5, (+)
PYRR	Pyrrhuloxia	1, (+)
SPTO	Spotted Towhee	1
VEFL	Vermilion Flycatcher	1, (+)
VESP	Vesper Sparrow	1
WCSP	White-crowned Sparrow	2
* Birds not banded. (+) Bird's photo vouchered.		

Number of species captured at Hunt Area 1 on April 1 was 14 species. Total number of birds captured at Hunt Area 1 was 34 (table 2).

Cassin's Sparrow (*Aimophila cassinii*) was heard singing on territories surrounding the Hunt Area 1 banding site, primarily in the upland blackbrush habitat. This bird is considered common throughout the scrub habitats of Amistad NRA. Observed 20+ Red-winged Blackbirds (*Agelaius phoeniceus*) occurring in a small pond area, approximately 100 meters north of the banding site.

Table 2. Species and number of birds captured at Hunt Area 1, April 1, 2001.

CODE	SPECIES	Number, Year 2001
ATFL	Ash-throated Flycatcher	1, (+)
BGGN	Blue-gray Gnatcatcher	3, (+)
BTGN	Black-tailed Gnatcatcher	1, (+)
CACW	Cactus Wren	1, (+)
HETH	Hermit Thrush	1
LISP	Lincoln's Sparrow	6, (+)
NAWA	Nashville Warbler	1, (+)
NOCA	Northern Cardinal	2, (+)
NOMO	Northern Mockingbird	4, (+)
OCWA	Orange-crowned Warbler	6, (+)
RCKI	Ruby-crowned Kinglet	2, (+)
VEFL	Vermilion Flycatcher	2
VESP	Vesper Sparrow	2
WCSP	White-crowned Sparrow	2
(+) Bird's photo vouchered.		

Number of species captured at Hunt Area 1 on April 14 was 8 species. Total number of birds captured at Hunt Area 1 on April 14 was 33 (table 3), including two recaptures of Northern Mockingbird (*Mimus polyglottos*).

Birds observed in the banding area of Hunt Area 1 on April 14 included Scissor-tailed Flycatcher (*Tyrannus forficatus*), Red-winged Blackbird (*Agelaius phoeniceus*), and Lark Sparrow (*Chondestes grammacus*).

Table 3. Species and number of birds captured at Hunt Area 1, April 14, 2001.

CODE	SPECIES	Number, Year 2001
BEVI	Bell's Vireo	2
BUOR	Bullock's Oriole	3, (+)
HETH	Hermit Thrush	1, (+)
LISP	Lincoln's Sparrow	17
NOMO	Northern Mockingbird	2 Recaptures
OROR	Orchard Oriole	1, (+)
PYRR	Pyrrhuloxia	3, (+)
WCSP	White-crowned Sparrow	4, (+)
(+) Birds photo vouchered.		

Number of species captured at Satan Canyon on April 15 was 22 species (table 4). Total number of birds captured was 51 birds, which included 4 recaptures.

On this date, one female Black-chinned Hummingbird was netted with developed brood patch. Additional birds observed in the area during the banding activity included Nashville Warbler (*Vermivora ruficapilla*), Ruby-crowned Kinglet (*Regulus calendula*), Verdin (*Auriparus flaviceps*), Ladder-backed Woodpecker (*Picoides scalaris*), Morning Dove (*Zenaidura macroura*), Summer Tanager (*Piranga rubra*), and heard only Cassin's Sparrow (*Aimophila cassinii*) in upland scrub areas surrounding the site. Observed seven Blue-winged Teal (*Anas discors*) in the Satan canyon drainage, south of the banding station.

Table 4. Species and number of birds captured at Satan Canyon, April 15, 2001.

CODE	SPECIES	Number, Year 2001
AMGO	American Goldfinch	3
AMRO	American Robin	1, (+)
AUWA	Yellow-rumped Warbler, "Audubon"	2, (+)
BCHU	Black-chinned Hummingbird	1*
BEVI	Bell's Vireo	1 Recapture
BEWR	Bewick's Wren	1, 2 Recaptures
BTGN	Black-tailed Gnatcatcher	1, (+)
CACW	Cactus Wren	1, (+)
CHSP	Chipping Sparrow	4, (+)
FISP	Field Sparrow	1
HETH	Hermit Thrush	2
LISP	Lincoln's Sparrow	3, (+)
MGWA	MacGillivray's Warbler	1, (+)
NOCA	Northern Cardinal	1
NOMO	Northern Mockingbird	6
OCWA	Orange-crowned Warbler	10
PABU	Painted Bunting	2, (+)
RCSP	Rufous-crowned Sparrow	1, (+)
SPTO	Spotted Towhee	1
VEFL	Vermilion Flycatcher	1
WCSP	White-crowned Sparrow	3, (+)
WEVI	White-eyed Vireo	1 Recapture
WIWA	Wilson's Warbler	1, (+)
* Birds not banded. (+) Bird's photo vouchered.		

Number of species captured at Satan Canyon on April 16 was 7 species (table 5). Total number of birds captured was 10 birds, including one recaptured Yellow-breasted Chat (*Icteria virens*).

Table 5. Species and number of birds captured at Satan Canyon, April 16, 2001.

CODE	SPECIES	Number, Year 2001
BAWW	Black-and-white Warbler	1, (+)
COGD	Common Ground Dove	1
HETH	Hermit Thrush	1
LISP	Lincoln's Sparrow	3
OCWA	Orange-crowned Warbler	1
WIWA	Wilson's Warbler	1, (+)
YBCH	Yellow-breasted Chat	Total 2, 1 Recapture
(+) Birds photo vouchered.		

Number of species captured at 277 North campground on April 25, 2001, was 16 species (table 6). Total number of birds captured was 50.

One female Northern Bobwhite (*Colinus virginianus*) was found on nest with eggs during the banding operation.

Table 6. Species and number of birds captured at 277 N Campground, April 25.

CODE	SPECIES	Number, Year 2001
BCHU	Black-chinned Hummingbird	1*
BEWR	Bewick's Wren	2
BLGR	Blue Grosbeak	1
BUOR	Bullock's Oriole	1
CCSP	Clay-colored Sparrow	8
CHSP	Chipping Sparrow	1
GRSP	Grasshopper Sparrow	3, (+)
LASP	Lark Sparrow	3
LISP	Lincoln's Sparrow	4
MAWR	Marsh Wren	1, (+)
NOMO	Northern Mockingbird	4
OROR	Orchard Oriole	6, (+)
RWBL	Red-winged Blackbird	6, (+)
SAVS	Savannah Sparrow	6, (+)
VESP	Vesper Sparrow	1
WCSP	White-crowned Sparrow	2
* Birds not banded. (+) Bird's photo vouchered.		

Discussion

Winter resident species encountered at Oak Creek/277 North during March 31 included Spotted Towhee (*Pipilo maculatus*), Lincoln's Sparrow (*Melospiza lincolnii*), Field Sparrow (*Spizella pusilla*), Chipping Sparrow (*Spizella passerina*), Ruby-crowned Kinglet (*Regulus calendula*) and Hermit Thrush (*Catharus guttatus*). Orange-crowned Warbler (*Vermivora celata*) was documented as a migratory species. Summer confirmed breeding species present on site included Bell's Vireo (*Vireo bellii*) and Black-chinned Hummingbird (*Archilochus alexandri*).

Hunt Area 1 documentation included an array of bird confirmations. During the April 1 event, resident Black-tailed Gnatcatcher (*Poliophtila melanura*) was confirmed along with Blue-gray Gnatcatcher (*Poliophtila caerulea*). Migratory species included Nashville Warbler (*Vermivora ruficapilla*) and Orange-crowned Warbler (*Vermivora celata*). Winter resident birds included Ruby-crowned Kinglet (*Regulus calendula*) and Vesper Sparrow (*Poocetes gramineus*). During April 14, the number of Lincoln's Sparrow (*Melospiza lincolnii*) migrating through the area and the presence of Bell's Vireo (*Vireo bellii*) on breeding territories were noteworthy.

Migratory species encountered at the Satan Canyon banding station during April 15 and 16 included Wilson's Warbler (*Wilsonia pusilla*), Orange-crowned Warbler (*Vermivora celata*), MacGillivray's Warbler (*Oporornis philadelphia*), Yellow-rumped Warbler "Audubon Race" (*Dendroica coronata*), and Black-and-white Warbler (*Mniotilta varia*). Winter resident bird species confirmed during the banding included Field Sparrow (*Spizella pusilla*), White-crowned Sparrow (*Zonotrichia leucophrys*), American Goldfinch (*Carduelis tristis*), American Robin (*Turdus migratorius*), Hermit Thrush (*Catharus guttatus*) and Spotted Towhee (*Pipilo maculatus*). The most interesting resident bird species encountered at the Satan Canyon site was a Black-tailed Gnatcatcher (*Poliophtila melanura*).

Bird banding results in what can be termed ephemeral grasslands at 277North campground provided a number of interesting results. The presence of Grasshopper Sparrow (*Ammodramus savannarum*), Savannah Sparrow (*Passerculus sandwichensis*), Clay-colored Sparrow (*Spizella pallida*), and Vesper Sparrow (*Poocetes gramineus*) shows how this developing grassland habitat, since 1993, has provided wintering grounds and stopover habitat for grassland dependent migrants and grassland winter residents. The presence of Marsh Wren (*Cistothorus palustris*) during the survey confirmed the presence of this species as a potential winter resident at Amistad NRA.

Management Recommendations

Oak Creek/277 North banding location contains a riparian zone that experiences heavy grazing by cattle and sheep. During the banding operation, two nets were partially destroyed by cattle moving through the area. The Oak Creek area contains large plateau oaks in the drainage. No variation in age classes of oaks was encountered during the project. There were a number of large trees with heavy grazing encountered around the bases of these trees. No young age classes were found in the area. It is recommended that a fence project be initiated to remove grazing out of the drainage, in order to establish a healthy riparian zone with oak regeneration.

Hunt Area 1 is a large natural area managed by the park. It is recommended that this area be publicized as a good birding location for visitors to encounter a good representation of birds that occupy brushland and some riparian habitats. The presence of a fairly good array of bird species during the banding operation made the area very interesting for bird watchers. The presence of a good dirt road through the area also makes for safe and easy walking.

Satan Canyon is currently found in a state of vegetation regeneration. Visitor use in the area has been restricted since the start of the 1993 draught. Reservoir water levels have been low since 1993, restricting motor boat access to the entrance of Satan Canyon. There is an estimated 15 old campsites and fire rings under the oak motts, found on the west end of the station. It is recommended that visitor access and use of this area be managed to prevent vegetation loss and negative impacts on the oak motts. If livestock grazing becomes active again in the area, a fencing project could be initiated to prevent heavy grazing pressures on the oak motts. Controls should be put in place to prevent further degradation of the oak motts.

277 North campground banding location was in the inundation zone of the Amistad Reservoir. If this grassland habitat remains above water in the upcoming years it is recommended that bird watchers be informed of the array of grassland bird species that can be found during migration in this habitat. This ephemeral grassland habitat should also be further studied throughout the park for the presence/absence of bird species over the calendar year to confirm the importance of this habitat for resident and migratory bird species.

David Hays, GIS specialist for Amistad NRA, created all the figures displayed in this report. Cover photos in order are Grasshopper Sparrow, Black-tailed Gnatcatcher, and Savannah Sparrow, banded during the 2001 project (photos by David Larson).

Appendix 1: Original bird banding data for 2001 at AMISOAK (Oak Creek / 277 North), AMISHUN1 (Hunt Area 1), AMISSACA (Satan Canyon), AMIS277N (277 N Campground), Amistad NRA.

Amistad National Recreation Area											
Year 2001 Bird Migration Data											
Bander: David Larson. Natural Resources Program Manager											
bandnumb	bandstat	spcd	aou	yr	mo	day	sex	age	location	wing	notes
1180-08685	1	BEVI	6330	2001	3	31	0	1	AMISOAK	54	
1691-67290	1	BEWR	7190	2001	3	31	0	1	AMISOAK	54	und.cov.=1
1691-67291	1	BEWR	7190	2001	3	31	5	1	AMISOAK	0	
2130-57237	1	BGGN	7510	2001	3	31	5	1	AMISOAK	49	
1180-08688	1	CHSP	5600	2001	3	31	0	1	AMISOAK	67	
1180-08689	1	CHSP	5600	2001	3	31	0	1	AMISOAK	70	
1180-08690	1	CHSP	5600	2001	3	31	0	5	AMISOAK	70	
1671-28799	1	FISP	5630	2001	3	31	0	1	AMISOAK	70	
1711-35423	1	HETH	7590	2001	3	31	0	1	AMISOAK	93	
1671-28797	1	LISP	5830	2001	3	31	0	1	AMISOAK	60	
1671-28798	1	LISP	5830	2001	3	31	0	1	AMISOAK	61	
1671-28800	1	LISP	5830	2001	3	31	0	1	AMISOAK	63	
1192-07902	1	NOMO	7030	2001	3	31	0	1	AMISOAK	115	
1192-07903	1	NOMO	7030	2001	3	31	0	1	AMISOAK	0	
1180-08686	1	OCWA	6460	2001	3	31	5	1	AMISOAK	59	
0961-94219	1	PYRR	5940	2001	3	31	4	1	AMISOAK	91	
2130-57236	1	RCKI	7490	2001	3	31	4	1	AMISOAK	58	
2130-57238	1	RCKI	7490	2001	3	31	4	1	AMISOAK	58	
2130-57239	1	RCKI	7490	2001	3	31	4	1	AMISOAK	59	
2130-57240	1	RCKI	7490	2001	3	31	4	1	AMISOAK	59	
2130-57241	1	RCKI	7490	2001	3	31	5	1	AMISOAK	55	
1192-07904	1	SPTO	5880	2001	3	31	4	1	AMISOAK	0	
1180-08687	1	VEFL	4710	2001	3	31	5	5	AMISOAK	80	
1711-35422	1	VESP	5400	2001	3	31	0	1	AMISOAK	84	
1711-35420	1	WCSP	5540	2001	3	31	0	1	AMISOAK	78	
1711-35421	1	WCSP	5540	2001	3	31	0	1	AMISOAK	77	
1711-35429	1	ATFL	4540	2001	4	1	0	1	AMISHUN1	102	
2130-57243	1	BGGN	7510	2001	4	1	0	5	AMISHUN1	51	
2130-57245	1	BGGN	7510	2001	4	1	4	1	AMISHUN1	51	
2130-57248	1	BGGN	7510	2001	4	1	5	1	AMISHUN1	51	
2130-57246	1	BTGN	7520	2001	4	1	5	1	AMISHUN1	46	
0961-94220	1	CACW	7130	2001	4	1	0	1	AMISHUN1	85	
1711-35427	1	HETH	7590	2001	4	1	0	1	AMISHUN1	90	
1691-67292	1	LISP	5830	2001	4	1	0	1	AMISHUN1	63	
1691-67293	1	LISP	5830	2001	4	1	0	5	AMISHUN1	65	
1691-67294	1	LISP	5830	2001	4	1	0	1	AMISHUN1	63	
1691-67295	1	LISP	5830	2001	4	1	0	1	AMISHUN1	62	
1691-67296	1	LISP	5830	2001	4	1	0	1	AMISHUN1	59	
1691-67297	1	LISP	5830	2001	4	1	0	1	AMISHUN1	63	
2130-57244	1	NAWA	6450	2001	4	1	4	5	AMISHUN1	61	
1192-07905	1	NOCA	5930	2001	4	1	5	1	AMISHUN1	90	
1192-07906	1	NOCA	5930	2001	4	1	4	1	AMISHUN1	94	

Appendix 1 Continued.

bandnumb	bandstat	spcd	aou	yr	mo	day	sex	age	location	wing	notes
1192-07907	1	NOMO	7030	2001	4	1	0	1	AMISHUN1	104	
1192-07908	1	NOMO	7030	2001	4	1	0	5	AMISHUN1	117	
1192-07909	1	NOMO	7030	2001	4	1	0	1	AMISHUN1	109	
1192-07910	1	NOMO	7030	2001	4	1	0	5	AMISHUN1	115	
1180-08691	1	OCWA	6460	2001	4	1	5	1	AMISHUN1	55	
1180-08693	1	OCWA	6460	2001	4	1	4	1	AMISHUN1	59	
1180-08694	1	OCWA	6460	2001	4	1	4	1	AMISHUN1	63	
1180-08696	1	OCWA	6460	2001	4	1	5	1	AMISHUN1	59	
1180-08697	1	OCWA	6460	2001	4	1	4	1	AMISHUN1	56	
1180-08698	1	OCWA	6460	2001	4	1	4	1	AMISHUN1	63	
2130-57242	1	RCKI	7490	2001	4	1	5	1	AMISHUN1	55	
2130-57247	1	RCKI	7490	2001	4	1	4	1	AMISHUN1	62	
1180-08692	1	VEFL	4710	2001	4	1	4	6	AMISHUN1	82	
1180-08695	1	VEFL	4710	2001	4	1	5	5	AMISHUN1	80	
1711-35426	1	VESP	5400	2001	4	1	0	5	AMISHUN1	84	
1711-35428	1	VESP	5400	2001	4	1	0	1	AMISHUN1	85	
1711-35424	1	WCSP	5540	2001	4	1	0	5	AMISHUN1	77	
1711-35425	1	WCSP	5540	2001	4	1	0	5	AMISHUN1	79	
1180-08699	1	BEVI	6330	2001	4	14	0	1	AMISHUN1		
1180-08700	1	BEVI	6330	2001	4	14	5	1	AMISHUN1	55	
0961-94224	1	BUOR	5080	2001	4	14	4	1	AMISHUN1	101	
0961-94225	1	BUOR	5080	2001	4	14	4	1	AMISHUN1	95	
0961-94226	1	BUOR	5080	2001	4	14	4	1	AMISHUN1	102	
1711-35435	1	HETH	7590	2001	4	14	0	1	AMISHUN1	89	
1691-67298	1	LISP	5830	2001	4	14	0	1	AMISHUN1	0	
1691-67299	1	LISP	5830	2001	4	14	0	1	AMISHUN1	62	
1691-67300	1	LISP	5830	2001	4	14	0	1	AMISHUN1	62	
2131-82901	1	LISP	5830	2001	4	14	0	1	AMISHUN1	62	
2131-82902	1	LISP	5830	2001	4	14	0	5	AMISHUN1	60	molting
2131-82903	1	LISP	5830	2001	4	14	0	1	AMISHUN1	61	
2131-82904	1	LISP	5830	2001	4	14	0	5	AMISHUN1	58	
2131-82905	1	LISP	5830	2001	4	14	0	1	AMISHUN1	56	
2131-82906	1	LISP	5830	2001	4	14	0	1	AMISHUN1	63	
2131-82907	1	LISP	5830	2001	4	14	0	1	AMISHUN1	61	
2131-82908	1	LISP	5830	2001	4	14	0	5	AMISHUN1	64	molting
2131-82909	1	LISP	5830	2001	4	14	0	5	AMISHUN1	61	molting
2131-82910	1	LISP	5830	2001	4	14	0	5	AMISHUN1	60	
2131-82911	1	LISP	5830	2001	4	14	0	1	AMISHUN1	62	
2131-82912	1	LISP	5830	2001	4	14	0	1	AMISHUN1	61	
2131-82913	1	LISP	5830	2001	4	14	0	1	AMISHUN1	62	
2131-82914	1	LISP	5830	2001	4	14	0	1	AMISHUN1	0	
1192-07909	R	NOMO	7030	2001	4	14	5	1	AMISHUN1	0	
1192-07910	R	NOMO	7030	2001	4	14	0	5	AMISHUN1	0	
1711-35432	1	OROR	5060	2001	4	14	4	1	AMISHUN1	79	
0961-94221	1	PYRR	5940	2001	4	14	4	1	AMISHUN1	93	
0961-94222	1	PYRR	5940	2001	4	14	4	1	AMISHUN1	92	
0961-94223	1	PYRR	5940	2001	4	14	5	1	AMISHUN1	87	

Appendix 1 Continued.

bandnumb	bandstat	spcd	aou	yr	mo	day	sex	age	location	wing	notes
1711-35430	1	WCSP	5540	2001	4	14	0	1	AMISHUN1	76	
1711-35431	1	WCSP	5540	2001	4	14	0	5	AMISHUN1	75	
1711-35433	1	WCSP	5540	2001	4	14	0	5	AMISHUN1	72	
1711-35434	1	WCSP	5540	2001	4	14	0	1	AMISHUN1	8	
1180-08906	1	AMGO	5290	2001	4	15	5	5	AMISSACA	69	no wing patch (wp)
1180-08907	1	AMGO	5290	2001	4	15	5	5	AMISSACA	69	no wp, tail 45 mm
1180-08913	1	AMGO	5290	2001	4	15	5	1	AMISSACA	70	tail 49 mm
1192-07915	1	AMRO	7610	2001	4	15	5	1	AMISSACA	130	female by plumage
1180-08916	1	AUWA	6560	2001	4	15	4	1	AMISSACA	78	
1180-08917	1	AUWA	6560	2001	4	15	4	1	AMISSACA	81	
0118-08654	R	BEVI	6330	2001	4	15	0	1	AMISSACA	53	
1180-08918	1	BEVI	6330	2001	4	15	0	1	AMISSACA	56	
1691-67258	R	BEWR	7190	2001	4	15	4	1	AMISSACA	59	c p visible
1691-67260	R	BEWR	7190	2001	4	15	0	1	AMISSACA	55	
2131-82918	1	BEWR	7190	2001	4	15	5	1	AMISSACA	53	
2130-57249	1	BTGN	7520	2001	4	15	4	1	AMISSACA	48	
0961-94227	1	CACW	7130	2001	4	15	0	1	AMISSACA	88	
1180-08909	1	CHSP	5600	2001	4	15	0	1	AMISSACA	71	
1180-08911	1	CHSP	5600	2001	4	15	0	1	AMISSACA	72	
1180-08914	1	CHSP	5600	2001	4	15	0	1	AMISSACA	70	
1180-08915	1	CHSP	5600	2001	4	15	0	1	AMISSACA	70	
2131-82919	1	FISP	5630	2001	4	15	0	1	AMISSACA	65	
1711-35436	1	HETH	7590	2001	4	15	0	1	AMISSACA	90	
1711-35440	1	HETH	7590	2001	4	15	0	1	AMISSACA	91	
1180-08922	1	LISP	5830	2001	4	15	0	1	AMISSACA	59	
2131-82916	1	LISP	5830	2001	4	15	0	1	AMISSACA	62	
2131-82920	1	LISP	5830	2001	4	15	0	1	AMISSACA	62	
2131-82923	1	LISP	5830	2001	4	15	0	1	AMISSACA	60	
2131-82917	1	MGWA	6800	2001	4	15	4	1	AMISSACA	62	
1192-07917	1	NOCA	5930	2001	4	15	5	1	AMISSACA	90	brood patch
1192-07911	1	NOMO	7030	2001	4	15	5	1	AMISSACA	99	brood patch
1192-07912	1	NOMO	7030	2001	4	15	5	1	AMISSACA	104	brood patch
1192-07913	1	NOMO	7030	2001	4	15	4	1	AMISSACA	112	
1192-07914	1	NOMO	7030	2001	4	15	0	1	AMISSACA	118	
1192-07916	1	NOMO	7030	2001	4	15	0	5	AMISSACA	108	
1192-07919	1	NOMO	7030	2001	4	15	5	1	AMISSACA	108	
1180-08901	1	OCWA	6460	2001	4	15	4	1	AMISSACA	58	15mm Orange crown
1180-08902	1	OCWA	6460	2001	4	15	5	5	AMISSACA	59	no crown
1180-08903	1	OCWA	6460	2001	4	15	4	1	AMISSACA	60	16 mm orange crown
1180-08904	1	OCWA	6460	2001	4	15	4	1	AMISSACA	62	14 mm orange crown
1180-08905	1	OCWA	6460	2001	4	15	4	5	AMISSACA	61	11 mm orange crown
1180-08910	1	OCWA	6460	2001	4	15	4	1	AMISSACA	61	15 mm orange crown
1180-08912	1	OCWA	6460	2001	4	15	4	1	AMISSACA	60	14 mm orange crown
1180-08919	1	OCWA	6460	2001	4	15	4	5	AMISSACA	60	molting
1180-08920	1	OCWA	6460	2001	4	15	5	5	AMISSACA	62	no orange crown
1180-08921	1	OCWA	6460	2001	4	15	4	1	AMISSACA	63	17 mm orange crown
2131-82921	1	PABU	6010	2001	4	15	4	6	AMISSACA	69	

Appendix 1 Continued.

bandnumb	bandstat	spcd	aou	yr	mo	day	sex	age	location	wing	notes
2131-82922	1	PABU	6010	2001	4	15	4	6	AMISSACA	75	
2131-82915	1	RCSP	5800	2001	4	15	0	1	AMISSACA	66	
1192-07918	1	SPTO	5880	2001	4	15	0	1	AMISSACA	90	
1180-08908	1	VEFL	4710	2001	4	15	5	5	AMISSACA	81	brood patch
1711-35437	1	WCSP	5540	2001	4	15	0	1	AMISSACA	80	
1711-35438	1	WCSP	5540	2001	4	15	0	1	AMISSACA	77	
1711-35439	1	WCSP	5540	2001	4	15	0	5	AMISSACA	73	
0118-08660	R	WEVI	6310	2001	4	15	0	1	AMISSACA	58	
2130-57250	1	WIWA	6850	2001	4	15	4	1	AMISSACA	57	
2130-57251	1	WIWA	6850	2001	4	15	5	5	AMISSACA	55	
1180-08926	1	BAWW	6360	2001	4	16	4	6	AMISSACA	71	
1192-07920	1	COGD	3200	2001	4	16	5	1	AMISSACA	89	
1711-35441	1	HETH	7590	2001	4	16	0	1	AMISSACA	88	
1180-08924	1	LISP	5830	2001	4	16	0	5	AMISSACA	62	
1180-08925	1	LISP	5830	2001	4	16	0	1	AMISSACA	60	
1180-08923	1	OCWA	6460	2001	4	16	5	1	AMISSACA	61	8 mm orange crown
0961-94228	1	YBCH	6830	2001	4	16	5	6	AMISSACA	73	wing gap 2.0mm
1681-72850	R	YBCH	6830	2001	4	16	4	6	AMISSACA	80	
2131-82924	1	BEWR	7190	2001	4	25	0	1	AMIS277N	56	
2131-82925	1	BEWR	7190	2001	4	25	5	1	AMIS277N	53	
1711-35449	1	BLGR	5970	2001	4	25	4	6	AMIS277N	91	
0961-94231	1	BUOR	5080	2001	4	25	5	1	AMIS277N	93	
1180-08927	1	CCSP	5610	2001	4	25	0	1	AMIS277N	62	
1180-08930	1	CCSP	5610	2001	4	25	0	1	AMIS277N	62	
1180-08932	1	CCSP	5610	2001	4	25	0	1	AMIS277N	61	
1180-08933	1	CCSP	5610	2001	4	25	0	5	AMIS277N	60	
1180-08934	1	CCSP	5610	2001	4	25	0	1	AMIS277N	58	
1180-08935	1	CCSP	5610	2001	4	25	0	5	AMIS277N	61	
1180-08936	1	CCSP	5610	2001	4	25	0	5	AMIS277N	61	
1180-08937	1	CCSP	5610	2001	4	25	0	1	AMIS277N	61	
1180-08931	1	CHSP	5600	2001	4	25	0	5	AMIS277N	68	
2131-82926	1	GRSP	5460	2001	4	25	0	1	AMIS277N	59	
2131-82927	1	GRSP	5460	2001	4	25	0	1	AMIS277N	63	
2131-82929	1	GRSP	5460	2001	4	25	0	1	AMIS277N	65	
1711-35443	1	LASP	5520	2001	4	25	4	5	AMIS277N	86	c p visible
1711-35444	1	LASP	5520	2001	4	25	4	6	AMIS277N	87	c p visible
1711-35448	1	LASP	5520	2001	4	25	4	6	AMIS277N	84	c p visible
1180-08928	1	LISP	5830	2001	4	25	0	5	AMIS277N	59	
1180-08929	1	LISP	5830	2001	4	25	0	1	AMIS277N	59	
2131-82931	1	LISP	5830	2001	4	25	0	1	AMIS277N	58	
2131-82937	1	LISP	5830	2001	4	25	0	1	AMIS277N	59	
2131-82932	1	MAWR	7250	2001	4	25	0	1	AMIS277N	50	
1192-07921	1	NOMO	7030	2001	4	25	0	1	AMIS277N	0	
1192-07922	1	NOMO	7030	2001	4	25	0	1	AMIS277N	111	
1192-07925	1	NOMO	7030	2001	4	25	5	1	AMIS277N	109	brood patch
1192-07926	1	NOMO	7030	2001	4	25	0	1	AMIS277N	107	
1711-35442	1	OROR	5060	2001	4	25	5	1	AMIS277N	70	no brood patch

Appendix 1 Continued.

bandnumb	bandstat	spcd	aou	yr	mo	day	sex	age	location	wing	notes
1711-35447	1	OROR	5060	2001	4	25	5	1	AMIS277N	73	no brood patch
1711-35450	1	OROR	5060	2001	4	25	4	6	AMIS277N	75	
1711-35453	1	OROR	5060	2001	4	25	4	5	AMIS277N	74	
1711-35454	1	OROR	5060	2001	4	25	4	5	AMIS277N	77	
1711-35455	1	OROR	5060	2001	4	25	4	6	AMIS277N	76	
0961-94229	1	RWBL	4980	2001	4	25	5	1	AMIS277N	95	
0961-94230	1	RWBL	4980	2001	4	25	5	1	AMIS277N	96	
0961-94232	1	RWBL	4980	2001	4	25	5	5	AMIS277N	99	
1192-07923	1	RWBL	4980	2001	4	25	4	6	AMIS277N	115	
1192-07924	1	RWBL	4980	2001	4	25	4	6	AMIS277N	118	
1192-07927	1	RWBL	4980	2001	4	25	5	1	AMIS277N	100	
2131-82928	1	SAVS	5420	2001	4	25	0	1	AMIS277N	66	
2131-82930	1	SAVS	5420	2001	4	25	0	1	AMIS277N	68	
2131-82933	1	SAVS	5420	2001	4	25	0	5	AMIS277N	67	
2131-82934	1	SAVS	5420	2001	4	25	0	1	AMIS277N	66	
2131-82935	1	SAVS	5420	2001	4	25	0	1	AMIS277N	67	
2131-82936	1	SAVS	5420	2001	4	25	0	1	AMIS277N	64	
1711-35452	1	VESP	5400	2001	4	25	0	1	AMIS277N	82	
1711-35446	1	WCSP	5540	2001	4	25	0	1	AMIS277N	74	
1711-35451	1	WCSP	5540	2001	4	25	0	1	AMIS277N	78	

Sex: 0 = unknown; 4 = male; 5 = female.

Age: 2 = HY (Hatch Year); 5 = SY (Second Year); 1 = AHY (After Hatch Year); 6 = ASY (After Second Year).

Bandstat: R = Recapture; 1 = New band.

Wing length is in mm.

Appendix 2: Bird banding information for banding activity conducted on 12/10/01 at the San Pedro Campground (tent site).

On 12/10/01, operated 7 mist nets from 0700 to 1200 at the tent site area of the San Pedro campground (figure 1). A total of seven birds were captured and banded during this activity. One Yellow-rumped Warbler (*Dendroica coronata*) “Audubon’s Warbler,” one Northern Mockingbird (*Mimus polyglottos*), three Vesper Sparrow (*Poocetes gramineus*) and two Say’s Phoebe (*Sayornis saya*). See table 1 for bird banding data collected in the field.

UTM location for this activity was 310,654 E and 3,261,187 N. This activity was conducted in an area dominated by trees of huisache and grassland edges to document winter resident birds occupying this area.

Table 1. Bird banding data collected at San Pedro campground tent area.

bandnumb	spcd	aou	yr	mo	day	sex	age	birdstat	location	initials	wing
1180-08973	AUWA	6560	2001	12	10	4	1	300	AMISSPTC	DHL	78
1202-40808	NOMO	7030	2001	12	10	0	1	300	AMISSPTC	DHL	115
1711-35494	VESP	5400	2001	12	10	0	1	300	AMISSPTC	DHL	82
1711-35495	VESP	5400	2001	12	10	0	1	300	AMISSPTC	DHL	85
1711-35496	VESP	5400	2001	12	10	0	2	300	AMISSPTC	DHL	78
1771-04985	SAPH	4570	2001	12	10	0	1	300	AMISSPTC	DHL	104
1771-04986	SAPH	4570	2001	12	10	0	1	300	AMISSPTC	DHL	104

Sex: 4 = Male; 0 = Unknown. Age: 1 = AHY (After Hatch Year); 2 = HY (Hatch Year).



Figure 1. Bird banding location at San Pedro campground on 12/10/01.