



## New Information on Wintering Birds of Northwestern Chihuahua

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### Introduction

The desert grasslands of northern Chihuahua, Mexico, and the southwestern United States are important breeding, migration, and wintering habitats for many grassland and shrubland bird species of high conservation interest in the United States (U.S. Fish and Wildlife Service 2002). The area around Janos, in northern Chihuahua, contains a large portion of the remaining desert grasslands important for the conservation of biodiversity in North America (Ceballos 1999, List et al. 2000, Manzano-Fischer et al. 2000). Conservation interest has focused on the large tracts of relatively intact semidesert grasslands that occur here, including the largest complex of black-tailed prairie-dog (*Cynomys ludovicianus*) towns left in North America (Ceballos et al. 1993). These concerns led to the initiation in 1997 of the Ejido San Pedro Christmas Bird Count (ESPC), organized cooperatively by Mexican and American biologists. The ESPC encompasses the foothills of the northern Sierra Madre Occidental and adjacent Chihuahuan Desert lowlands to the east, and is centered in a mid-elevation valley where the Chihuahuan Desert intergrades west into

the Sierra Madre Occidental. Results from the ESPC have contributed to our knowledge of the area's birds and have provided valuable information for the conservation of the area. Here, we summarize ESPC results from 1997 through 2003, with an emphasis on bird species composition, relative abundance, and range extensions.

*The conservation importance of the ESPC region continues to draw participants to this remote count area.*



Ojitos Spring, rail habitat in wet years, Ejido San Pedro, Mexico CBC. Photo/J. Scott Dieni

*The authors, all biologists, have a strong interest in Mexican birds and the wintering range and habitat of neotropical species.*

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## Study Area

The ESPC is located in northwestern Chihuahua, Mexico, (30° 50' N, 108° 25' W) at 1400-1600 m elevation, roughly 30 km (18 mi.) east of the Sonora-Chihuahua boundary and 58 km (36 mi.) south of the "boot-heel" of New Mexico (see count circle MXEJ on reference map, page 105). The climate is continental and semiarid, averaging <350 mm precipitation annually (Garcia 1973). In January, the high temperature averages 14°C, and daily lows are typically just below freezing. Generally, weather during the ESPC has been mild to warm and dry, although we have experienced relatively cold and wet conditions and/or high winds during some years.

The ESPC includes a mosaic of habitats, including semidesert grasslands (*Bouteloua gracilis*, *B. curtipendula*, *B. hirsuta*, *Aristida hamulosa*, *Hilaria mutica*, *Ephedra trifurca*), mesquite woodlands (*Prosopis glandulosa*, *Acacia angustissima*, *Opuntia imbricata*, *Yucca spp.*), foothill oak-savannah (*Quercus spp.*, *Celtis reticulata*), riparian woodlands (*Populus fremontii*, *Platanus wrightii*, *Salix gooddingii*), and local rural, pasture, and cropland development. The terrain is mostly flat, with an occasional volcanic butte, and some rolling foothill and canyon development on the southern edge of the count circle. Surface water is scarce and generally restricted to the perennial Ojitos Spring, ephemeral streams, and scattered irrigation/stock ponds. Most of the region is heavily grazed year round.

## Methods

In 1996, a pilot survey was conducted to determine the feasibility of conducting a Christmas Bird Count (CBC) in Mexico. The pilot effort was successful, and the ESPC has been conducted annually from 1997 through 2003, with one-day surveys conducted during the official count period. The count area was subdivided into seven to ten sections, with two to five people in each section each year. In most years, the ESPC was conducted between 30 December and 3 January, except on 18 December 1999.

Prior to the count, most participants engaged in a practice survey, to review identification of sparrows, longspurs, and Sprague's Pipits. Surveys were conducted between 0800-1800 CST, with 1.5 hours of owling in one year. Most surveys were conducted along tertiary roads by car or foot; some walking transects were conducted in the grasslands. Total survey party hours were calculated for each year, and included total distance and time covered by vehicle and on foot. The relative abundance of birds counted in a given year was adjusted for survey effort by dividing annual counts by party-hours for that year. Annual variation in counts was summarized using a measure of relative variability, termed the percent coefficient of variation (CV = standard deviation divided by the average count across years). Data from the pilot year of 1996 were excluded from the analyses.

## Results and Discussion

Overall, 85 different observers participated in the ESPC over the seven-year period, averaging about 23 observers per year (Table 1). We identified 162 bird species of the 218 total species that have been recorded in the area (Manzano-Fischer et al. 1999), across 42 families and averaging 109 species per year (Table 1).

Sparrows were the richest (26 species) and most abundant (avg. 6332 per year) family recorded, representing 41 percent of all observations. Other families commonly observed were waterfowl (12



**Aplomado Falcon (*Falco femoralis*) on the Ejido San Pedro, Mexico, CBC.**  
Photo/J. Scott Dieni

species, avg. 1582 per year), hawks and eagles (10 species, avg. 114 per year), and blackbirds (8 species, avg. 1523 per year). Overall, 45 percent were classified as winter visitors (including 9 percent as rare winter visitors), 36 percent as residents, and the remainder as irregular, vagrant, summer resident, or migrant.

Across all years, Lark Buntings were recorded more often than any other species, followed by Mourning Doves, Horned Larks, Chestnut-collared Longspurs, and Brewer's and Vesper

**Table 1. Survey summary for Ejido San Pedro CBC, 1997–2003.**

Variable	Total	Per year	%CV
Observers	85	23	28
Foot-km	471	67	44
Foot-hours	308	44	39
Vehicle-km	2363	338	24
Vehicle-hours	301	43	24
Party-hours	608	87	21
Total birds counted	107,916	15,417	31
Total/party-hour	1304	186	40
Number of species	162	109	7
Waterbirds	30	17	27
Raptors	21	16	5
Landbirds	111	76	9
Songbirds	93	64	9

sparrows (Table 2). Among waterbirds (30 species), Snow Geese (and some Ross's Geese), Mallards, Long-billed Curlews, and American Wigeon were the most commonly recorded species. American Kestrels and Northern Harriers were the most observed diurnal raptors; also common were Golden and Bald eagles, Red-tailed, Ferruginous and Harris's hawks, American Kestrels, Merlins, and Prairie Falcons. Six species of owl were observed, including Great Horned, Burrowing, Short-eared, Western Screech-, Northern Pygmy-, and Barn owls.

Overall, 72 of the species (44 percent) observed were recorded every year of the survey, while 29 species (18 percent) were recorded during a single year only. Six species were observed in the survey area during the count weeks, but not during the official count days: Common Ground-Dove (*Columbina passerina*), Dusky Flycatcher (*Empidonax oberholseri*), Juniper Titmouse (*Baeolophus griseus*), Rufous-backed Robin (*Turdus rufopalliatu*), Hermit Thrush (*Catharus guttatus*), and Gray Catbird (*Dumetella carolinensis*).

Annual counts varied considerably across years, even when adjusted for survey effort. Total adjusted counts varied from a high of 70 percent above average in 2000, to a low of 43 percent below average in 2001. The overall CV, which measures the variability in the species' relative abundance among ESPC counts, was 40 percent across years. Not surprisingly, waterbirds collectively varied the most (avg. CV = 162 percent), followed by landbirds (123 percent), and diurnal raptors (83 percent).

Of the 85 species recorded in six or more years, the average CV was 76 percent, ranging from a low of 18 percent for Loggerhead Shrikes, to a high of 216 percent for American Pipits and Yellow-headed Blackbirds. Among species recorded six or more years, winter visitors had the least stable counts (avg. CV = 100 percent), versus only 55 percent for residents. Thus it appears that migratory status accounts for some annual

**Table 2. Count summary of bird species encountered at Ejido San Pedro CBC, 1997–2003.**

Species	Scientific name	Years recorded	Count/year	Count/party-hr/year	%CV
Great Blue Heron	<i>Ardea herodias</i>	6	2.0	0.0	130
Great Egret	<i>Ardea alba</i>	1	0.1	0.0	265
Green Heron	<i>Butorides virescens</i>	1	0.1	0.0	265
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	1	0.1	0.0	265
Black Vulture	<i>Coragyps atratus</i>	7	10.4	0.1	96
Turkey Vulture	<i>Cathartes aura</i>	7	164.3	2.0	31
Snow Goose	<i>Chen caerulescens</i>	7	866.4	9.6	96
Blue Goose	<i>C. c. caerulescens</i>	4	2.0	0.0	130
Ross's Goose	<i>Chen rossii</i>	4	6.7	0.1	166
Gadwall	<i>Anas strepera</i>	7	27.4	0.3	189
American Wigeon	<i>Anas americana</i>	6	30.3	0.3	121
Mallard	<i>Anas platyrhynchos</i>	7	282.9	3.1	108
Mexican Duck	<i>Anas platyrhynchos diazi</i>	7	72.0	0.8	138
Northern Shoveler	<i>Anas clypeata</i>	7	19.3	0.2	75
Northern Pintail	<i>Anas acuta</i>	4	4.3	0.0	114
Green-winged Teal	<i>Anas crecca</i>	7	27.6	0.3	108
Cinnamon Teal	<i>Anas cyanoptera</i>	2	0.7	0.0	171
Bufflehead	<i>Bucephala albeola</i>	5	1.7	0.0	81
Common Merganser	<i>Mergus merganser</i>	1	0.1	0.0	265
Ruddy Duck	<i>Oxyura jamaicensis</i>	2	0.3	0.0	174
White-tailed Kite	<i>Elanus caeruleus</i>	6	2.1	0.0	57
Bald Eagle	<i>Haliaeetus leucocephalus</i>	7	4.7	0.1	30
Northern Harrier	<i>Circus cyaneus</i>	7	36.1	0.4	28
Sharp-shinned Hawk	<i>Accipiter striatus</i>	7	2.1	0.0	105
Cooper's Hawk	<i>Accipiter cooperii</i>	6	1.4	0.0	70
Harris's Hawk	<i>Parabuteo unicinctus</i>	7	4.9	0.1	61
Red-tailed Hawk	<i>Buteo jamaicensis</i>	7	24.1	0.3	30
Ferruginous Hawk	<i>Buteo regalis</i>	7	25.1	0.3	34
Rough-legged Hawk	<i>Buteo lagopus</i>	2	0.1	0.0	265
Golden Eagle	<i>Aquila chrysaetos</i>	7	10.6	0.1	43
American Kestrel	<i>Falco sparverius</i>	7	36.3	0.4	20
Merlin	<i>Falco columbarius</i>	7	6.0	0.1	67
Aplomado Falcon	<i>Falco femoralis</i>	1	0.1	0.0	265
Peregrine Falcon	<i>Falco peregrinus</i>	3	0.4	0.0	128
Prairie Falcon	<i>Falco mexicanus</i>	7	6.9	0.1	37
Scaled Quail	<i>Callipepla squamata</i>	7	221.7	2.7	34
Gambel's Quail	<i>Callipepla gambelli</i>	7	117.9	1.4	43
Montezuma Quail	<i>Cyrtonyx montezumae</i>	1	1.0	0.0	265
Virginia Rail	<i>Rallus limicola</i>	1	0.1	0.0	265
Sora	<i>Porzana carolina</i>	1	0.1	0.0	265
American Coot	<i>Fulica americana</i>	3	1.3	0.0	138
Sandhill Crane	<i>Grus canadensis</i>	4	2.4	0.0	201
Killdeer	<i>Charadrius vociferus</i>	7	26.0	0.3	43
Mountain Plover	<i>Charadrius montanus</i>	6	15.7	0.2	87
Greater Yellowlegs	<i>Tringa melanoleuca</i>	4	0.9	0.0	114
Lesser Yellowlegs	<i>Tringa flavipes</i>	1	0.1	0.0	265
Spotted Sandpiper	<i>Actitis macularia</i>	3	1.0	0.0	146
Long-billed Curlew	<i>Numenius americanus</i>	7	129.7	1.7	93
Least Sandpiper	<i>Calidris minutilla</i>	2	1.9	0.0	180
Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>	1	0.1	0.0	265
Wilson's Snipe	<i>Gallinago delicata</i>	5	4.0	0.0	124
Rock Dove	<i>Columba livia</i>	7	75.3	0.9	45
White-winged Dove	<i>Zenaida asiatica</i>	6	5.9	0.1	114
Mourning Dove	<i>Zenaida macroura</i>	7	1975.9	23.6	78
Inca Dove	<i>Columbina inca</i>	6	7.6	0.1	84
Greater Roadrunner	<i>Geococcyx californianus</i>	7	13.7	0.2	48
Barn Owl	<i>Tyto alba</i>	2	0.1	0.0	265
Western Screech-Owl	<i>Otus kennicottii</i>	1	0.1	0.0	265
Great Horned Owl	<i>Bubo virginianus</i>	7	2.6	0.0	80
Northern Pygmy-Owl	<i>Glaucidium gnoma</i>	1	0.1	0.0	265
Burrowing Owl	<i>Speotyto cunicularia</i>	7	23.0	0.2	96
Short-eared Owl	<i>Asio flammeus</i>	6	2.3	0.0	97
White-throated Swift	<i>Aeronautes saxatalis</i>	4	2.6	0.0	130
Belted Kingfisher	<i>Ceryle alcyon</i>	7	2.3	0.0	71
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	3	0.4	0.0	132
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	1	0.1	0.0	265
Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>	2	0.1	0.0	265
Ladder-backed Woodpecker	<i>Picoides scalaris</i>	7	34.9	0.4	49
Hairy Woodpecker	<i>Picoides villosus</i>	4	0.9	0.0	114
Northern Flicker	<i>Colaptes auratus</i>	7	48.4	0.5	43
Least Flycatcher	<i>Empidonax minimus</i>	1	0.1	0.0	265
Gray Flycatcher	<i>Empidonax wrightii</i>	5	1.0	0.0	81
Black Phoebe	<i>Sayornis nigricans</i>	7	8.4	0.1	39
Say's Phoebe	<i>Sayornis saya</i>	7	26.7	0.3	47
Vermilion Flycatcher	<i>Pyrocephalus rubinus</i>	4	1.6	0.0	141
Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	2	0.1	0.0	265
Loggerhead Shrike	<i>Lanius ludovicianus</i>	7	64.9	0.7	18
Hutton's Vireo	<i>Vireo huttoni</i>	4	0.9	0.0	95
Western Scrub-Jay	<i>Aphelocoma californica</i>	3	1.7	0.0	137
Mexican Jay	<i>Aphelocoma ultramarina</i>	4	3.6	0.0	144
Chihuahuan Raven	<i>Corvus cryptoleucus</i>	7	99.6	1.1	38
Common Raven	<i>Corvus corax</i>	7	41.4	0.5	55
Raven total	<i>Corvus spp.</i>	7	164.9	1.9	25
Horned Lark	<i>Eremophila alpestris</i>	7	1678.1	18.9	55

Table 2 continued.

Species	Scientific name	Years recorded	Count/year	Count/party-hr/year	%CV
Barn Swallow	<i>Hirundo rustica</i>	1	0.1	0.0	265
Mexican Chickadee	<i>Poecile sclateri</i>	1	0.1	0.0	265
Bridled Titmouse	<i>Baeolophus wollweberi</i>	6	3.1	0.0	67
Verdin	<i>Auriparus flaviceps</i>	7	7.9	0.1	67
Bushtit	<i>Psaltriparus minimus</i>	4	5.1	0.1	143
White-breasted Nuthatch	<i>Sitta carolinensis</i>	5	0.7	0.0	103
Cactus Wren	<i>Campylorhynchus brunneicapillus</i>	7	71.1	0.8	33
Rock Wren	<i>Salpinctes obsoletus</i>	7	11.7	0.1	67
Canyon Wren	<i>Catherpes mexicanus</i>	7	2.6	0.0	53
Bewick's Wren	<i>Thryomanes bewickii</i>	7	15.1	0.2	52
House Wren	<i>Troglodytes aedon</i>	7	1.6	0.0	73
Marsh Wren	<i>Cistothorus palustris</i>	3	1.0	0.0	171
Ruby-crowned Kinglet	<i>Regulus calendula</i>	7	22.6	0.3	51
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	3	0.7	0.0	136
Black-tailed Gnatcatcher	<i>Polioptila melanura</i>	1	0.1	0.0	265
Eastern Bluebird	<i>Sialia sialis</i>	2	1.7	0.0	265
Western Bluebird	<i>Sialia mexicana</i>	4	13.3	0.1	136
Mountain Bluebird	<i>Sialia currucoides</i>	4	55.7	0.6	138
Townsend's Solitaire	<i>Myadestes townsendi</i>	2	1.3	0.0	227
American Robin	<i>Turdus migratorius</i>	5	31.1	0.3	235
Northern Mockingbird	<i>Mimus polyglottos</i>	7	20.3	0.2	49
Sage Thrasher	<i>Oreoscoptes montanus</i>	7	3.1	0.0	72
Brown Thrasher	<i>Toxostoma rufum</i>	1	0.1	0.0	265
Curve-billed Thrasher	<i>Toxostoma curvirostre</i>	7	54.6	0.6	20
Crissal Thrasher	<i>Toxostoma crissale</i>	5	1.6	0.0	99
European Starling	<i>Sturnus vulgaris</i>	7	37.0	0.4	59
American Pipit	<i>Anthus rubescens</i>	6	25.0	0.3	216
Sprague's Pipit	<i>Anthus spragueii</i>	7	15.4	0.2	116
Cedar Waxwing	<i>Bombycilla cedrorum</i>	3	7.0	0.1	141
Phainopepla	<i>Phainopepla nitens</i>	7	8.9	0.1	62
Orange-crowned Warbler	<i>Vermivora celata</i>	5	1.0	0.0	142
Yellow-rumped Warbler	<i>Dendroica coronata</i>	7	12.6	0.1	48
Audubon's	<i>D. c. auduboni</i>	7	8.0	0.1	81
Myrtle	<i>D. c. coronata</i>	1	0.3	0.0	265
Common Yellowthroat	<i>Geothlypis trichas</i>	2	0.3	0.0	171
Green-tailed Towhee	<i>Pipilo chlorurus</i>	5	14.0	0.2	131
Spotted Towhee	<i>Pipilo maculatus</i>	5	9.3	0.1	135
Canyon Towhee	<i>Pipilo fuscus</i>	7	37.6	0.4	34
Cassin's Sparrow	<i>Aimophila cassinii</i>	7	4.3	0.1	120
Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>	5	3.9	0.0	164
Chipping Sparrow	<i>Spizella passerina</i>	7	196.3	2.8	143
Clay-colored Sparrow	<i>Spizella pallida</i>	1	0.1	0.0	265
Brewer's Sparrow	<i>Spizella breweri</i>	7	779.3	10.3	116
Black-chinned Sparrow	<i>Spizella atrogularis</i>	6	4.0	0.1	84
Vesper Sparrow	<i>Pooecetes gramineus</i>	7	667.4	8.3	65
Lark Sparrow	<i>Chondestes grammacus</i>	5	8.9	0.1	133
Black-throated Sparrow	<i>Amphispiza bilineata</i>	7	74.9	0.9	84
Sage Sparrow	<i>Amphispiza belli</i>	3	4.6	0.1	160
Lark Bunting	<i>Calamospiza melanocorys</i>	7	2169.6	30.5	126
Savannah Sparrow	<i>Passerculus sandwichensis</i>	7	433.3	5.5	100
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	7	10.6	0.1	68
Baird's Sparrow	<i>Ammodramus bairdii</i>	5	2.4	0.0	116
Fox Sparrow	<i>Passerella iliaca</i>	1	0.4	0.0	265
Song Sparrow	<i>Melospiza melodia</i>	7	15.4	0.2	116
Lincoln's Sparrow	<i>Melospiza lincolni</i>	7	24.7	0.3	119
Swamp Sparrow	<i>Melospiza georgiana</i>	1	0.1	0.0	265
White-throated Sparrow	<i>Zonotrichia albicollis</i>	2	0.3	0.0	176
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	6	508.4	5.8	121
Dark-eyed Junco	<i>Junco hyemalis</i>	7	24.1	0.3	139
Gray-headed	<i>J. h. caniceps</i>	6	6.0	0.1	118
Oregon	<i>J. h. oregonus</i>	3	7.3	0.1	207
Pink-sided	<i>J. h. mearnsii</i>	2	4.9	0.1	218
Slate-colored	<i>J. h. hyemalis</i>	1	0.1	0.0	265
McCown's Longspur	<i>Calcarius mccownii</i>	7	247.4	3.0	118
Chestnut-collared Longspur	<i>Calcarius ornatus</i>	7	748.0	8.6	68
Longspur total	<i>Calcarius spp.</i>	7	1097.0	12.8	63
Northern Cardinal	<i>Cardinalis cardinalis</i>	7	5.6	0.1	52
Pyrrhuloxia	<i>Cardinalis sinuatus</i>	7	51.9	0.6	36
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	7	97.0	1.2	126
Eastern Meadowlark	<i>Sturnella magna</i>	7	52.1	0.6	92
Western Meadowlark	<i>Sturnella neglecta</i>	7	69.7	0.8	62
Meadowlark total	<i>Sturnella spp.</i>	7	349.7	4.3	49
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	6	282.7	2.8	216
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	7	235.1	2.9	77
Great-tailed Grackle	<i>Quiscalus mexicanus</i>	7	87.9	1.1	87
Common Grackle	<i>Quiscalus quiscula</i>	1	0.1	0.0	265
Brown-headed Cowbird	<i>Molothrus ater</i>	5	9.7	0.1	138
Oriole species	<i>Icterus sp.</i>	1	0.1	0.0	265
Cassin's Finch	<i>Carpodacus cassinii</i>	1	0.4	0.0	265
House Finch	<i>Carpodacus mexicanus</i>	7	162.1	1.8	39
Lesser Goldfinch	<i>Carduelis psaltria</i>	5	6.6	0.1	94
Lawrence's Goldfinch	<i>Carduelis lawrencei</i>	3	2.6	0.0	183
American Goldfinch	<i>Carduelis tristis</i>	3	1.4	0.0	190
House Sparrow	<i>Passer domesticus</i>	7	398.7	4.5	37

variability in relative abundance. We caution that interpretation of annual variation and trends is challenging at the scale of a single CBC.

When CBCs are established in regions that are poorly known ornithologically, new insights on bird distributions may result. The ESPC has been no exception, with a wealth of records for species with few or no previous records here. Our interpretation of these records is based on their known status from Howell and Webb (1995; hereafter H&W). These records are also compared with the known status of the species in New Mexico when the Chihuahua observations differ significantly from their New Mexico status.

**Black Vulture:** Small numbers found in a roost at Casa de Janos, ranging from two in 1997 to 19 in 2003. This represents the northernmost location for the species in this part of its range, and is a considerable range extension from H&W, which shows a large gap in western and northern Chihuahua. A large roost has also been found farther south, at Casas Grandes by the Paquime Ruins, with 80-plus observed there 11 January 1996 and seen annually since then. There are only three verified or credible sight records of the species in New Mexico.

**Turkey Vulture:** This species is very rare in New Mexico in mid-winter (contrary to the H&W range map). It was therefore a surprise to find a large winter roost in the count circle at Casa de Janos, only 60 km south of New Mexico, with numbers on the count ranging from 105 to 279 birds.

**White-tailed Kite:** One to four recorded per year in six of the seven years, suggesting a small but stable population here, slightly north of the range depicted in H&W. This may be the source for birds that appear in New Mexico, where it is rare and irregular.

**Harris's Hawk:** The northern edge of the range map in H&W is slightly south of the Janos/Nuevo Casas Grandes area, yet this species is well distributed in the mesquite shrublands east of Ascension, south of Janos, and in the ESPC, including 11 south of Janos

on 11 January 1996 and 9 on the ESPC 3 January 1999. This is consistent with the recent solidification of their range in southwestern New Mexico.

*Aplomado Falcon*: One adult at the count center at Ignacio Zaragoza from 29-31 December 2001 was very exciting, but not a complete surprise given the remarkable increase and spread throughout the 1990s of the native relict population from its stronghold in east-central Chihuahua. This species has also started to re-colonize New Mexico after a 50-year absence with multiple verified sightings in the 1990s and breeding attempts in 2001 (unsuccessful) and 2002 (successful).

*Mountain Plover*: Although there are no verified records in winter in New Mexico, this species regularly winters in small numbers in the prairie-dog towns within the ESPC circle. First found in the mid-1990s (Manzano-Fischer et al. 1999), Mountain Plovers were also found in six of the seven years of the count, with a maximum count of 35 on 30 December 2000.

*Long-billed Curlew*: Very rare in New Mexico from early December through March, this species winters in the ESPC in large numbers. It was found on all years of the count, with a high of 296 on 30 December 2001.

*Short-eared Owl*: This species appears to be a regular wintering bird within the ESPC, with one to five located in six of the seven years. The species is inexplicably scarce in New Mexico during migration and winter.

*Dusky Flycatcher*: One observed along the San Pedro River upstream from Casa de Janos 5 January 2003 was probably north of any area of regular wintering with the exception of southeastern Arizona (contra the H&W range map).

*Gray Flycatcher*: The ESPC may represent the northern regular wintering limit of the species east of southeastern Arizona, with one to two found in five of the seven years. There are very few New Mexico winter records.

*Ash-throated Flycatcher*: Two records during the count, in 1997 and 2000, suggest sporadic local wintering. Well

east and north of known wintering areas in western Arizona, Sonora, and farther south in west Mexico. No winter records for New Mexico.

*Eastern Bluebird*: A lowland incursion of this species occurred only once, in 2003, with 12 on the ESPC, 17 near Casas Grandes on 6 January, and three on the Rio Casas Grandes east of Janos on 7 January. These are presumably of the southwestern race, Azure Bluebird (*Sialia sialis fulva*) from the nearby Sierra Madre Occidental.

*Rufous-backed Robin*: One along the Rio San Pedro near Casa de Janos 6 January 1997 may be the first record for Chihuahua. Well north of its regular range but consistent with recent pattern of winter occurrence in Arizona and, occasionally, in New Mexico.

*Gray Catbird*: One observed along the Rio San Pedro near Casa de Janos on 5 January 2003 is apparently the first record for Chihuahua, but not unexpected given occasional winter records and recent breeding in southern New Mexico.

*Brown Thrasher*: One on the count 5 January 1997 may also be the first Chihuahua record, but not unexpected given regular wintering of small numbers in southern New Mexico.

*Clay-colored Sparrow*: Most New Mexico winter records are undocumented, with questionable validity. This species was found twice in northwestern Chihuahua: one on 5 January 1997 during the ESPC, and one near Colonia Juarez on 3 January 1999. H&W depicts southern Chihuahua as the northern wintering range limit.

*Brewer's Sparrow*: A single individual of the Timberline Sparrow (*Spizella*

*breweri taverneri*), a subspecies rarely identified in the winter, was observed on 30 December 2001. Winter range of this subspecies remains largely unknown.

*Fox Sparrow*: Three individuals of the Slate-colored subspecies (*Passerella iliaca schistacea*) were found on the count on 3 January 1997, following a wet year. These are apparently the first records for this species in Chihuahua, but it is not totally unexpected given that it is found in winter in small numbers in much of New Mexico.

*White-throated Sparrow*: The records resulting from the count effort are the first from Chihuahua, but the species is probably an annual wintering bird in the northwestern part of the state. Singles were found on the count 5 January 1997 and 18 December 1999, and along the Rio Casas Grandes at Casas Grandes on 12 January 1996 (first Chihuahua record) and 6 January 2003.

*Common Grackle*: Intriguing records from the count were 16 on 10 January 1996 and one on 2 January 1998. These may represent the first records from Mexico, though documentation of its occurrence in Mexico is still lacking.

*Lawrence's Goldfinch*: H&W shows the wintering range extending east to the Sonora/Chihuahua border. This species was found in three years in or near the count circle during flight years into the southwestern United States: 14 on 5 January 1997; 3 on 30 December 2001; and 1 on 3-4 January 2003. Additionally, several were along the Rio Casas Grandes east of Janos on 6 January 1997.

*American Goldfinch*: This species was found on three of the seven years of the count



Sprague's Pipit and grassland sparrow habitat, Ejido San Pedro, Mexico.  
Photo/J. Scott Dieni

(7 on 5 January 1997; 3 on 30 December 2000; and 1 on 3 January 2003). Another was at Casas Grandes on 12 Jan 1996. These records are slightly south and east of the wintering range depicted in H&W.

Another objective in conducting these surveys was to document the wintering range and habitat of grassland bird species of conservation concern in the United States (U.S. Fish and Wildlife Service 2002). Two of these species, Sprague's Pipit and Baird's Sparrow, are solitary, secretive species, typically located away from roads in extensive grasslands. The valley containing the ESPC circle may represent a northern limit of regular wintering by large numbers of Sprague's Pipits, as it is a rare and irregular wintering bird in southern New Mexico. It was observed each year, but only in significant numbers following a wet year in 1997 ( $n = 54$ ), and only once during 1998 and 2001. Baird's Sparrows were found on five of the seven years, with a maximum of six on 5 January 1997 and 18 December 1999. In all likelihood, Baird's Sparrows are present in most years, but in small numbers; the ESPC may be more central to the winter range of Sprague's Pipits. Lark Buntings, Chestnut-collared Longspurs, and to a lesser extent McCown's Longspurs were commonly observed in the grasslands, but were extremely variable in numbers depending on grassland condition. Savannah and Vesper sparrows were observed in loose groups in the interior grasslands, along roads, and in the mesquite woodlands. One of the most interesting observations during the ESPC was the extreme variability in the abundance of sparrows from year to year, perhaps in response to the amount of annual rainfall. Variability in sparrow numbers ranged from a high of 13,634 in 2000 to a low of 1865 in 2001; 148 percent above normal in 2000 to 78 percent below normal in 2001.

Much of the conservation interest in this area centers on the few desert grasslands that remain in Chihuahua. In the 1850s, the grass in the northern Chihuahua was said "...to grow as high

as the belly of a horse." Since then, most of the grasslands have been converted to desert shrublands, with little unfragmented grassland left. This process is primarily caused by over-grazing of cattle but also by other animals, such as kangaroo rats (*Dipodomys spp.*) and jackrabbits (*Lepus spp.*), as well as fire suppression. Other rates of change and associated habitat loss include changes due to increasing development and changes in traditional ranching techniques. New powerlines to support these changes have increased and are mounted on structures that lead to the electrocution of raptors and other large birds.

To a great extent, the conservation importance of the ESPC region continues to draw participants to this CBC. The CBC at Ejido San Pedro has been extremely successful, despite the logistical difficulties, which include recruiting enough qualified observers to participate in this remote count. Our plan is to continue the count as a valuable contribution to the North American CBC effort. It is clear from our data that expanding the CBC and other long-term bird surveys into northern Mexico will continue to enhance our spatial and temporal understanding of North American avian geography.

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