

## ENDANGERED SMALL LANDBIRDS OF THE WESTERN UNITED STATES

JONATHAN L. ATWOOD

*Abstract.* Lists of small western landbirds that have been recognized by federal or state wildlife agencies as endangered, threatened, or of special conservation concern are compared with the results of recent analyses of population trends based on literature surveys, the North American Breeding Bird Survey, and migration counts. There is little concordance between species officially "listed" by wildlife agencies and those determined by professional ornithologists to be showing widespread population declines. In part these differences are explained by limitations in population monitoring techniques. However, the absence from official lists of 27 species that appear to be declining in the western United States suggests an urgent need to improve the current process by which wildlife agencies identify species that warrant special conservation concern.

*Key Words:* Endangered species; conservation; population trends; wildlife agencies.

At present, seven species or subspecies of small landbirds that occur primarily or entirely in the western United States have been listed as threatened or endangered under the U.S. Endangered Species Act (ESA). Additionally, 16 species, subspecies, or populations of small western landbirds have been identified by the U.S. Fish and Wildlife Service (FWS) as possibly warranting protection under the ESA, or have been formally petitioned for addition to the U.S. List of Endangered and Threatened Wildlife and Plants. One hundred thirty-three species of small landbirds have been listed by the wildlife agencies of at least one of the 17 western states under various categories indicating special conservation concern.

Federal and state lists of endangered or sensitive species may provide some index of declines in western bird populations that have transpired since the early 1900s. More importantly, however, lists of birds that have been or are being considered for legal designation as threatened or endangered classifications may indicate whether or not regulatory protection of bird populations is effectively incorporating current scientific information. In other words, do lists of endangered, threatened, and sensitive bird species compiled by federal and state wildlife agencies accurately reflect known or suspected population declines?

In this paper I identify the small, western landbirds currently included on federal or

state lists of endangered or sensitive species, and compare these lists with the results of three recent studies (Sauer and Droege 1992, DeSante and George 1994, Pyle et al. 1994) that assessed regional trends in western bird populations. Finally, I discuss the implications of these comparisons on the listing process currently used by federal and state wildlife agencies.

### DEFINITIONS AND METHODS

The following summary is geographically restricted to the United States west of approximately 95° longitude, excluding Alaska and Hawaii. Birds belonging to the orders Columbiformes, Cuculiformes, Caprimulgiformes, Apodiformes, Trogoniformes, Coraciiformes, Piciformes, and Passeriformes are here referred to as "small landbirds."

Species (as defined below) considered to be in danger of extinction throughout all or a significant portion of their range may be classified as "endangered" under the ESA; "threatened" species are those that are "likely to become [endangered] within the foreseeable future." Any of five factors may legally qualify a species for designation as "endangered" or "threatened," including "(a) the present or threatened destruction, modification, or curtailment of its habitat or range; (b) overutilization for commercial, recreational, scientific, or educational purposes; (c) disease or predation; (d) the in-

adequacy of existing regulatory mechanisms; [and] (e) other natural or manmade factors affecting its current existence.” Candidacy lists under the ESA include Category 1 species, defined as taxa for which legal protection appears to be biologically warranted, but which have not yet been formally listed as threatened or endangered, and Category 2 species, for which “conclusive data on biological vulnerability and threat” are currently lacking. Although legal protection is not given to candidate species under the ESA, such species are sometimes afforded special considerations during environmental review and planning, and often are the focus of research aimed at clarifying their current status.

Most western states have also enacted various forms of endangered species legislation. In general, state laws use definitions of the words “threatened” and “endangered” that parallel those given by the ESA. However, terms used to describe declining species or those of potential conservation concern, roughly equivalent to the Category 1 and Category 2 species listed under federal regulations, are highly variable. Because of these pronounced inconsistencies, I combine all of the various categories used by the FWS and the 17 western state wildlife agencies; the limited detailed information that is available concerning definitions used by each state is provided in footnotes to Table 1. I refer to this combined category, which includes taxa that range from being fully protected as endangered to those which are merely listed as being of unknown status or in need of further monitoring, as “species of conservation concern.”

The ESA broadly defines the word “species” to include “any subspecies of fish or wildlife or plants, and any distinct population segment of any species of vertebrate, fish, or wildlife which interbreeds when mature.” However, the analyses of population trends provided by Sauer and Droege (1992), DeSante and George (1994), and Pyle et al. (1994) did not, in general, refer to taxa below the species level. Consequently, to fa-

cilitate comparison of these two data sets, I use the more traditional, biological definition of “species” in cases where wildlife agencies have described particular subspecies or populations as endangered, threatened, or sensitive. For example, I refer to Song Sparrow (*Melospiza melodia*) as a “species of conservation concern” based on the fact that three subspecies (*maxillaris*, *samuelis*, and *pusillula*) are listed as Category 2 candidates by the FWS.

## RESULTS

One hundred thirty-five species of small, western landbirds are currently indicated as species of conservation concern on lists prepared by the FWS or at least one of 17 state wildlife agencies (Table 1). Seventy-eight (58%) occur either peripherally in the western United States, or as peripheral populations in those states where they appear on official lists of sensitive or threatened species (American Ornithologists’ Union 1957). Of the 252 total “listings” (including species, subspecies, and populations) provided among all of the agency lists, 115 (46%) refer to peripheral populations. Three species (Scrub Jay, California Towhee, and Song Sparrow) are included solely by virtue of listed subspecies with highly restricted geographic distributions.

Of the remaining 54 species characterized by relatively widespread distributions in the western United States, population trend information was provided by Sauer and Droege (1992), DeSante and George (1994), or Pyle et al. (1994) for 37 (Table 2). Significant population declines were noted by one of these sources in 22 cases (59%). None of the 54 species exhibited declining population trends that were detected by two or more of the sources. Fourteen (26%) of these 54 species nest primarily in arid woodlands or scrub habitats, 12 (22%) in coniferous forests or oak woodlands, 11 (20%) in riparian habitats, marshes, or streamside areas, 10 (18%) in grassland habitats, and 7 (13%) in miscellaneous habitat types (Table 2).

TABLE 1. SMALL LANDBIRDS CLASSIFIED AS ENDANGERED, THREATENED, OR OF SPECIAL CONSERVATION CONCERN IN THE WESTERN UNITED STATES (EXCLUDING ALASKA AND HAWAII)

Common name <sup>a</sup>	Scientific name	US <sup>b</sup>	WA <sup>c</sup>	OR <sup>d</sup>	CA <sup>e</sup>
Common Ground-Dove	<i>Columbina passerina</i>	—	—	—	—
*Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	—	—	—	—
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	—	C	C	—
Yellow-billed Cuckoo (Western)	<i>C. a. occidentalis</i>	—	—	—	E
Greater Roadrunner	<i>Geococcyx californianus</i>	—	—	—	—
Lesser Nighthawk	<i>Chordeiles acutipennis</i>	—	—	—	—
Common Nighthawk	<i>Chordeiles minor</i>	—	—	—	—
*Common Poorwill	<i>Phalaenoptilus nuttallii</i>	—	—	—	—
*Buff-collared Nightjar	<i>Caprimulgus ridgwayi</i>	—	—	—	—
*Whip-poor-will	<i>Caprimulgus vociferus</i>	—	—	—	—
Black Swift	<i>Cypseloides niger</i>	—	M	R	SC
Vaux's Swift	<i>Chaetura vauxi</i>	—	C	—	—
*Broad-billed Hummingbird	<i>Cyanthus latirostris</i>	—	—	—	—
*White-eared Hummingbird	<i>Hylocharis leucotis</i>	—	—	—	—
*Violet-crowned Hummingbird	<i>Amazilia violiceps</i>	—	—	—	—
*Lucifer Hummingbird	<i>Calothorax lucifer</i>	—	—	—	—
*Costa's Hummingbird	<i>Calypte costae</i>	—	—	—	—
*Elegant Trogon	<i>Trogon elegans</i>	—	—	—	—
*Belted Kingfisher	<i>Ceryle alcyon</i>	—	—	—	—
Lewis' Woodpecker	<i>Melanerpes lewis</i>	—	C	C	—
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	—	—	U	—
*Gila Woodpecker	<i>Melanerpes uropygialis</i>	—	—	—	(E)
*Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	—	—	—	—
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	—	—	U	—
*Ladder-backed Woodpecker	<i>Picoides scalaris</i>	—	—	—	—
*Red-cockaded Woodpecker	<i>Picoides borealis</i>	(E)	—	—	—
White-headed Woodpecker	<i>Picoides albolarvatus</i>	—	C	C	—
Three-toed Woodpecker	<i>Picoides tridactylus</i>	—	M	C	—
Black-backed Woodpecker	<i>Picoides arcticus</i>	—	M	C	—
*Northern Flicker (Gilded)	<i>Colaptes auratus chrysoides</i>	—	—	—	(E)
Pileated Woodpecker	<i>Dryocopus pileatus</i>	—	C	C	—
*N. Beardless-Tyrannulet	<i>Camptostoma imberbe</i>	—	—	—	—
*Western Wood-Pewee	<i>Contopus sordidulus</i>	—	—	—	—
*Alder Flycatcher	<i>Empidonax alnorum</i>	—	—	—	—
Willow Flycatcher	<i>Empidonax traillii</i>	—	—	—	E
Willow Flycatcher (Southwestern)	<i>E. t. extimus</i>	P	—	—	—
Gray Flycatcher	<i>Empidonax wrightii</i>	—	M	—	—
*Buff-breasted Flycatcher	<i>Empidonax fulvifrons</i>	(P)	—	—	—
Vermilion Flycatcher	<i>Pyrocephalus rubinus</i>	—	—	—	SC
*Ash-throated Flycatcher	<i>Myiarchus cinerascens</i>	—	(M)	—	—
Brown-crested Flycatcher	<i>Myiarchus tyrannulus</i>	—	—	—	SC
*Tropical Kingbird	<i>Tyrannus melancholicus</i>	—	—	—	—
*Thick-billed Kingbird	<i>Tyrannus crassirostris</i>	—	—	—	—
*Rose-throated Becard	<i>Pachyramphus aglaiae</i>	—	—	—	—
Horned Lark (California)	<i>Eremophila alpestris actia</i>	C2	—	—	—
Horned Lark (Streaked)	<i>E. a. strigata</i>	—	M	U	—
Purple Martin	<i>Progne subis</i>	—	C	C	SC
*Tree Swallow	<i>Tachycineta bicolor</i>	—	—	—	—
Bank Swallow	<i>Riparia riparia</i>	—	—	U	T
Scrub Jay (Eagle Mtn.)	<i>Aphelocoma coerulescens cana</i>	C2	—	—	—
*Black-billed Magpie	<i>Pica pica</i>	—	—	—	—
Chihuahuan Raven	<i>Corvus cryptoleucus</i>	—	—	—	—
*Black-capped Chickadee	<i>Parus atricapillus</i>	—	—	—	(SC)
*Boreal Chickadee	<i>Parus hudsonicus</i>	—	(M)	—	—
*Red-breasted Nuthatch	<i>Sitta canadensis</i>	—	—	—	—
Pygmy Nuthatch	<i>Sitta pygmaea</i>	—	—	V	—
Cactus Wren	<i>Campylorhynchus brunneicapillus</i>	—	—	—	—
Cactus Wren (Coastal population)	<i>C. b. couesi</i> (in part)	P	—	—	SC
Canyon Wren	<i>Catherpes mexicanus</i>	—	—	—	—
*California Gnatcatcher	<i>Polioptila californica</i>	—	—	—	(SC)



TABLE 1. CONTINUED

Common name <sup>a</sup>	Scientific name	US <sup>b</sup>	WA <sup>c</sup>	OR <sup>d</sup>	CA <sup>e</sup>
California Gnatcatcher (Coastal)	<i>P. c. californica</i>	T	—	—	—
*Black-capped Gnatcatcher	<i>Poliophtila nigriceps</i>	—	—	—	—
Eastern Bluebird	<i>Sialia sialis</i>	—	—	—	—
Western Bluebird	<i>Sialia mexicana</i>	—	C	V	—
Mountain Bluebird	<i>Sialia currucoides</i>	—	—	—	—
*Veery	<i>Catharus fuscescens</i>	—	—	—	—
*Wood Thrush	<i>Hylocichla mustelina</i>	—	—	—	—
*Gray Catbird	<i>Dumetella carolinensis</i>	—	—	—	—
*Northern Mockingbird	<i>Mimus polyglottos</i>	—	—	—	—
Sage Thrasher	<i>Oreoscoptes montanus</i>	—	C	—	—
Bendire's Thrasher	<i>Toxostoma bendirei</i>	—	—	—	SC
*Curve-billed Thrasher	<i>Toxostoma curvirostre</i>	—	—	—	—
Crissal Thrasher	<i>Toxostoma crissale</i>	—	—	—	SC
LeConte's Thrasher	<i>Toxostoma lecontei</i>	—	—	—	SC
Sprague's Pipit	<i>Anthus spragueii</i>	—	—	—	—
Loggerhead Shrike	<i>Lanius ludovicianus</i>	C2	C	—	—
Loggerhead Shrike (Migrant)	<i>L. l. migrans</i>	—	—	—	—
Loggerhead Shrike (San Clemente)	<i>L. l. mearnsi</i>	E	—	—	—
Bell's Vireo	<i>Vireo bellii</i>	—	—	—	—
Bell's Vireo (Arizona)	<i>V. b. arizonae</i>	—	—	—	E
Bell's Vireo (Least)	<i>V. b. pusillus</i>	E	—	—	E
Black-capped Vireo	<i>Vireo atricapillus</i>	E	—	—	—
Gray Vireo	<i>Vireo vicinior</i>	—	—	—	SC
*Solitary Vireo	<i>Vireo solitarius</i>	—	—	—	—
*Philadelphia Vireo	<i>Vireo philadelphicus</i>	—	—	—	—
*Blue-winged Warbler	<i>Vermivora pinus</i>	—	—	—	—
*Golden-winged Warbler	<i>Vermivora chrysoptera</i>	—	—	—	—
*Orange-crowned Warbler	<i>Vermivora celata</i>	—	—	—	—
*Virginia's Warbler	<i>Vermivora virginiae</i>	—	—	—	(SC)
*Colima Warbler	<i>Vermivora crissalis</i>	—	—	—	—
*Tropical Parula	<i>Parula pitaiyumi nigrilora</i>	(C2)	—	—	—
*Yellow Warbler (Sonora)	<i>Dendroica petechia sonorana</i>	—	—	—	(SC)
*Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	—	—	—	—
*Yellow-rumped Warbler	<i>Dendroica coronata</i>	—	—	—	—
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>	—	—	—	—
Golden-cheeked Warbler	<i>Dendroica chrysoparia</i>	E	—	—	—
*Yellow-throated Warbler	<i>Dendroica dominica</i>	—	—	—	—
*Prairie Warbler	<i>Dendroica discolor</i>	—	—	—	—
*Cerulean Warbler	<i>Dendroica cerulea</i>	(C2)	—	—	—
*American Redstart	<i>Setophaga ruticilla</i>	—	—	—	—
*Worm-eating Warbler	<i>Helminthos vermivorus</i>	—	—	—	—
*Northern Waterthrush	<i>Seiurus noveboracensis</i>	—	—	—	—
*Mourning Warbler	<i>Oporornis philadelphia</i>	—	—	—	—
Common Yellowthroat	<i>Geothlypis trichas</i>	—	—	—	—
Common Yellowthroat (Brownsville)	<i>G. t. inseperata</i>	C2	—	—	—
Common Yellowthroat (Saltmarsh)	<i>G. t. sinuosa</i>	C2	—	—	SC
*Hooded Warbler	<i>Wilsonia citrina</i>	—	—	—	—
Yellow-breasted Chat	<i>Icteria virens</i>	—	—	—	SC
*Hepatic Tanager	<i>Piranga flava</i>	—	—	—	(SC)
Summer Tanager	<i>Piranga rubra</i>	—	—	—	SC
*Scarlet Tanager	<i>Piranga olivacea</i>	—	—	—	—
*Western Tanager	<i>Piranga ludoviciana</i>	—	—	—	—
*Northern Cardinal	<i>Cardinalis cardinalis</i>	—	—	—	(SC)
Blue Grosbeak	<i>Guiraca caerulea</i>	—	—	—	—
*Varied Bunting	<i>Passerina versicolor</i>	—	—	—	—
Dickcissel	<i>Spiza americana</i>	—	—	—	—
*Olive Sparrow (Texas)	<i>Arremonops r. rufivirgatus</i>	(C2)	—	—	—
*Green-tailed Towhee	<i>Pipilo chlorurus</i>	—	(C)	—	—
California Towhee (Inyo)	<i>Pipilo crissalis eremophilus</i>	T	—	—	E
*Abert's Towhee	<i>Pipilo aberti</i>	—	—	—	—
*Bachman's Sparrow	<i>Aimophila aestivalis</i>	(C2)	—	—	—



TABLE 1. CONTINUED

Common name <sup>a</sup>	Scientific name	US <sup>b</sup>	WA <sup>c</sup>	OR <sup>d</sup>	CA <sup>e</sup>
*Botteri's Sparrow (Texas)	<i>Aimophila botterii texana</i>	(C2)	—	—	—
Rufous-cr. Sparrow (S. Calif.)	<i>Aimophila ruficeps canescens</i>	C2	—	—	—
*Brewer's Sparrow	<i>Spizella breweri</i>	—	—	—	—
Vesper Sparrow (Oregon)	<i>Poocetes gramineus affinis</i>	—	M	—	—
Sage Sparrow	<i>Amphispiza belli</i>	—	C	—	—
Sage Sparrow (Bell's)	<i>A. b. belli</i>	C2	—	—	—
Sage Sparrow (San Clemente)	<i>A. b. clementeae</i>	T	—	—	—
Lark Bunting	<i>Calamospiza melanocorys</i>	—	—	—	—
Savannah Sparrow (Belding's)	<i>Passerculus sandwichensis beldingi</i>	C2	—	—	E
*Savannah Sparrow (Large-billed)	<i>P. s. rostratus</i>	C2	—	—	(SC)
Baird's Sparrow	<i>Ammodramus bairdii</i>	C2	—	—	—
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	—	M	U	—
*Grasshopper Sparrow (Arizona)	<i>A. s. ammolegus</i>	—	—	—	—
*Henslow's Sparrow	<i>Ammodramus henslowii</i>	(C2)	—	—	—
*LeConte's Sparrow	<i>Ammodramus leconteii</i>	—	—	—	—
*Sharp-tailed Sparrow	<i>Ammodramus caudacutus</i>	—	—	—	—
Song Sparrow (Alameda)	<i>Melospiza melodia pusillula</i>	C2	—	—	SC
Song Sparrow (San Pablo)	<i>M. m. samuelis</i>	C2	—	—	SC
Song Sparrow (Suisun)	<i>M. m. maxillaris</i>	C2	—	—	SC
*Swamp Sparrow	<i>Melospiza georgiana</i>	—	—	—	—
*White-throated Sparrow	<i>Zonotrichia albicollis</i>	—	—	—	—
*Dark-eyed Junco (Gray-headed)	<i>Junco hyemalis caniceps</i>	—	—	—	(SC)
*Yellow-eyed Junco	<i>Junco phaeonotus</i>	—	—	—	—
McCown's Longspur	<i>Calcarius mccownii</i>	—	—	—	—
Bobolink	<i>Dolichonyx oryzivorus</i>	—	—	V	—
Tricolored Blackbird	<i>Agelaius tricolor</i>	C2	—	(R)	SC
*Hooded Oriole (Mexican)	<i>Icterus cucullatus cucullatus</i>	(C2)	—	—	—
*Hooded Oriole (Sennett's)	<i>I. c. sennettii</i>	(C2)	—	—	—
*Audubon's Oriole	<i>Icterus graduacauda audubonii</i>	(C2)	—	—	—
*Rosy Finch (Black)	<i>Leucosticte arctoa atrata</i>	—	—	(R)	—
*Pine Grosbeak	<i>Pinicola enucleator</i>	—	—	—	—
*Lesser Goldfinch	<i>Carduelis psaltria</i>	—	(M)	—	—
Totals					
Endangered or threatened, non-peripheral		7	0	0	7
Miscellaneous categories, non-peripheral		16	17	16	16
Endangered or threatened, peripheral		1	0	0	2
Miscellaneous categories, peripheral		10	4	2	8

<sup>a</sup> Taxa are identified to subspecies only if so indicated on a particular list. Asterisks indicate peripheral taxa (a) distributed primarily in Mexico, Canada, or the eastern United States, or (b) of peripheral occurrence west of 95° longitude in the state(s) in which they are officially listed. Listing designations shown in parentheses indicate populations considered to be peripheral to the taxon's primary area of distribution.

<sup>b</sup> US: United States. E = endangered; T = threatened; P = petitioned; C1 = Category 1; C2 = Category 2—USFWS, Endangered and Threatened Wildlife and Plants (Aug 1992) and 56 FR 58804 (Nov 1991).

<sup>c</sup> WA: Washington. C = candidate species (under review for possible listing as threatened or endangered); M = monitor (limited habitat availability, unresolved taxonomic problems, or unknown population status)—Washington Dept. of Wildlife, Nongame Program, Wildlife Management Division (Summer 1991).

<sup>d</sup> OR: Oregon. C = sensitive species (critical); V = sensitive species (vulnerable); R = sensitive species (peripheral or naturally rare); U = sensitive species (undetermined status)—Oregon Dept. of Fish and Wildlife (Dec 1991).

<sup>e</sup> CA: California. E = endangered; T = threatened; SC = species of special concern—Calif. Dept. Fish and Game (Mar 1990).

<sup>f</sup> ID: Idaho. SCB = species of special concern, Category B (peripheral species); SCC = species of special concern, Category C (undetermined status)—Natural Heritage Section, Nongame and Endangered Wildlife Program, Idaho Dept. of Fish and Game (Aug 1991).

<sup>g</sup> NV: Nevada. P = protected (limited or vulnerable distribution)—Nevada Dept. of Wildlife (date not specified; pers. comm. received Feb 1992).

<sup>h</sup> UT: Utah. T = threatened; S1 = sensitive species (declining population); S2 = sensitive species (limited range or habitat); S12 = sensitive species (declining population and limited range or habitat)—Utah Division of Wildlife Resources (May 1992).

<sup>i</sup> AZ: Arizona. E = endangered; T = threatened; C = candidate—Arizona Game and Fish Dept. (Jul 1988).

<sup>j</sup> MT: Montana. SC = species of special interest or concern; U = additional data needed on status or population trend—Montana Dept. of Fish, Wildlife and Parks (Jan 1991).

<sup>k</sup> WY: Wyoming. No small landbirds listed—Wyoming Game and Fish Dept. (pers. comm., Feb 1992).

<sup>l</sup> CO: Colorado. U = undetermined—Colorado Division of Wildlife (Jan 1992).

<sup>m</sup> NM: New Mexico. E1 = endangered, group 1 (any species or subspecies whose prospects of survival or recruitment are in jeopardy); E2 = endangered, group 2 (any species or subspecies whose prospects of survival or recruitment are likely to be in jeopardy in the foreseeable future)—Endangered Species Program, New Mexico Dept. of Game and Fish (Feb 1992).

<sup>n</sup> ND: North Dakota. T = threatened; P = peripheral (small populations limited by habitat availability); W = watch (declines suspected but unconfirmed)—North Dakota Game and Fish Dept. (Aug 1986).

<sup>o</sup> SD: South Dakota. R = rare—South Dakota Dept. of Wildlife, Parks and Forestry (date not specified; pers. comm. received Feb 1992).

<sup>p</sup> NE: Nebraska. No small landbirds listed—Nebraska Game and Parks Commission (pers. comm. received Mar 1992).

<sup>q</sup> KS: Kansas. E = Endangered; SC = species in need of conservation; U = unclassified (additional data needed)—Investigation and Inventory Office, Kansas Wildlife and Parks (date not specified; pers. comm. received Feb 1992).

TABLE 1. EXTENDED (CONTINUED)

ID <sup>1</sup>	NV <sup>2</sup>	UT <sup>3</sup>	AZ	MT <sup>3</sup>	WY <sup>3</sup>	CO <sup>3</sup>	NM <sup>3</sup>	ND <sup>3</sup>	SD <sup>3</sup>	NE <sup>3</sup>	KS <sup>4</sup>	OK <sup>5</sup>	TX <sup>6</sup>
—	—	—	—	—	—	—	—	—	—	—	—	—	(T)
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	(P)	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	SC	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	S12	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	T	SC	—	—	(E2)	W	R	—	—	—	SU
—	—	—	—	—	—	—	(E2)	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	(SC)	—	(SU)
—	—	—	—	(SC)	—	—	—	(W)	—	—	—	—	—
—	—	—	—	—	—	—	—	(W)	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	(P)	—	—	—	—	—
—	—	—	—	—	—	—	—	(P)	—	—	—	—	—
—	—	—	—	—	—	—	(E2)	—	—	—	—	—	—
—	—	—	—	—	—	—	—	T	—	—	—	—	—
—	—	S1	(E)	—	—	—	—	—	—	—	SC	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	(SU)
—	—	—	—	—	—	—	—	—	—	—	—	—	(SU)
—	—	—	—	—	—	—	—	—	—	—	—	—	(SU)
—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	(C)	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—
0	0	1	3	0	0	0	5	1	0	0	0	0	2
4	3	11	1	4	0	10	0	5	1	0	3	1	3
0	0	0	5	0	0	0	15	0	0	0	1	2	6
1	0	2	9	2	0	0	0	27	0	0	11	0	7

<sup>1</sup> OK: Oklahoma. E = endangered; SC = species of special concern, Category 2 (data suggests declining population, but inadequate to support listing)—Oklahoma Dept. of Wildlife Conservation, Nongame Section (Sep 1990).  
<sup>2</sup> TX: Texas. E = endangered; T = threatened; species of special concern, Rank 1 (critically imperiled in state, extremely rare, very vulnerable to extirpation); SU = species of special concern, uncertain ranking—Texas Parks and Wildlife Dept. (Jan 1992).

Using a conservative interpretation of trends described by Sauer and Droege (1992), DeSante and George (1994), and Pyle et al. (1994), I found that 27 species of small western landbirds that exhibit evidence of population declines are absent from federal or state lists of species of conservation concern (Table 3). Six (Band-tailed Pigeon, Olive-sided Flycatcher, Swainson's Thrush, Wilson's Warbler, Chipping Sparrow, and Black-throated Sparrow) were found to be declining by at least two sources. Thirteen (48%) of these 27 species nest in a variety

of miscellaneous habitats, 6 (22%) in arid woodlands or scrub habitats, 4 (15%) in coniferous forests or oak woodlands, 3 (11%) in grasslands, and 1 (4%) in riparian habitats or streamside vegetation.

DISCUSSION

A comparison of small landbird species listed by federal or state wildlife agencies as being of conservation concern with recent analyses of population trends in the western United States demonstrates a substantial lack of concordance. Some differences are

TABLE 2. POPULATION TRENDS OF SMALL WESTERN LANDBIRDS IDENTIFIED AS SPECIES OF CONSERVATION CONCERN ON OFFICIAL WILDLIFE AGENCY LISTS

Common name <sup>a</sup>	Scientific name	Habitat <sup>b</sup>	Trend and source			
			LIT <sup>c</sup>	BBS1 <sup>d</sup>	BBS2 <sup>e</sup>	MIG <sup>f</sup>
Common Ground-Dove	<i>Columbina passerina</i>	M				
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	R	—			
Greater Roadrunner	<i>Geococcyx californianus</i>	S	—			
Lesser Nighthawk	<i>Chordeiles acutipennis</i>	S		+	ns	
Common Nighthawk	<i>Chordeiles minor</i>	F		ns	ns	
Black Swift	<i>Cypseloides niger</i>	M		ns		
Vaux's Swift	<i>Chaetura vauxi</i>	F		—	ns	
Lewis' Woodpecker	<i>Melanerpes lewis</i>	F		—		
Acorn Woodpecker	<i>Melanerpes formicivorus</i>	F				
Williamson's Sapsucker	<i>Sphyrapicus thyroideus</i>	F		—		
White-headed Woodpecker	<i>Picoides albolarvatus</i>	F				
Three-toed Woodpecker	<i>Picoides tridactylus</i>	F				
Black-backed Woodpecker	<i>Picoides arcticus</i>	F				
Pileated Woodpecker	<i>Dryocopus pileatus</i>	F				
Willow Flycatcher	<i>Empidonax traillii</i>	R	—	ns		ns
Gray Flycatcher	<i>Empidonax wrightii</i>	S		ns	ns	
Vermilion Flycatcher	<i>Pyrocephalus rubinus</i>	R	—			
Brown-crested Flycatcher	<i>Myiarchus tyrannulus</i>	R		+		
Horned Lark	<i>Eremophila alpestris</i>	G		—		
Purple Martin	<i>Progne subis</i>	M	—	ns	ns	
Bank Swallow	<i>Riparia riparia</i>	R		ns	ns	
Chihuahuan Raven	<i>Corvus cryptoleucus</i>	S	—			
Pygmy Nuthatch	<i>Sitta pygmaea</i>	F				
Cactus Wren	<i>Campylorhynchus brunneicapillus</i>	S	—			
Canyon Wren	<i>Catherpes mexicanus</i>	M				
Eastern Bluebird	<i>Sialia sialis</i>	M				
Western Bluebird	<i>Sialia mexicana</i>	F		ns		
Mountain Bluebird	<i>Sialia currucoides</i>	F		ns		
Sage Thrasher	<i>Oreoscoptes montanus</i>	S		ns		
Bendire's Thrasher	<i>Toxostoma bendirei</i>	S		ns		
Crissal Thrasher	<i>Toxostoma crissale</i>	R				
LeConte's Thrasher	<i>Toxostoma lecontei</i>	S				
Sprague's Pipit	<i>Anthus spragueii</i>	G		—		
Loggerhead Shrike	<i>Lanius ludovicianus</i>	M		ns		
Bell's Vireo	<i>Vireo bellii</i>	R	—	ns	ns	
Black-capped Vireo	<i>Vireo atricapillus</i>	S				
Gray Vireo	<i>Vireo vicinior</i>	S	—			
Black-throated Gray Warbler	<i>Dendroica nigrescens</i>	S		—		ns
Golden-cheeked Warbler	<i>Dendroica chrysoparia</i>	S				
Common Yellowthroat	<i>Geothlypis trichas</i>	R		ns	+	+
Yellow-breasted Chat	<i>Icteria virens</i>	R	—	+	ns	
Summer Tanager	<i>Piranga rubra</i>	R				
Blue Grosbeak	<i>Guiraca caerulea</i>	M		+	+	
Dickcissel	<i>Spiza americana</i>	G				
Rufous-crowned Sparrow	<i>Aimophila ruficeps</i>	S				
Vesper Sparrow	<i>Poocetes gramineus</i>	G		—		
Sage Sparrow	<i>Amphispiza belli</i>	S		ns		
Lark Bunting	<i>Calamospiza melanocorys</i>	G		ns		
Savannah Sparrow	<i>Passerculus sandwichensis</i>	G		ns		ns
Baird's Sparrow	<i>Ammodramus bairdii</i>	G	—	+		
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	G	—	ns		
McCown's Longspur	<i>Calcarius mccownii</i>	G	—	+		
Bobolink	<i>Dolichonyx oryzivorus</i>	G		—	ns	
Tricolored Blackbird	<i>Agelaius tricolor</i>	R				

<sup>a</sup> Excluding: (a) species occurring peripherally in the western United States, (b) species occurring as peripheral populations in the state(s) where they are listed as being of conservation concern, and (c) species represented solely by listed subspecies with highly restricted distributions. See text for further discussion.

<sup>b</sup> Habitat categories: G = grassland, F = coniferous forest/oak woodland, S = arid woodlands and miscellaneous scrub, R = riparian, marsh, and streamside, M = miscellaneous.

<sup>c</sup> LIT. Based on results of literature survey presented by DeSante and George (1994). Increasing trends (+) defined as those where "major increases

TABLE 3. SMALL WESTERN LANDBIRDS WITH REPORTEDLY DECLINING POPULATIONS THAT ARE ABSENT FROM OFFICIAL WILDLIFE AGENCY LISTS OF SPECIES OF CONSERVATION CONCERN

Common name	Scientific name	Habitat	Trend and source			
			LIT	BBS1	BBS2	MIG
Band-tailed Pigeon*	<i>Columba fasciata</i>	F	—	—	—	—
Mourning Dove	<i>Zenaida macroura</i>	M	—	ns	—	—
Black-chinned Hummingbird	<i>Archilochus alexandri</i>	M	—	—	—	—
Anna's Hummingbird	<i>Calypte anna</i>	M	+	—	—	—
Rufous Hummingbird	<i>Selasphorus rufus</i>	M	—	—	—	—
Allen's Hummingbird	<i>Selasphorus sasin</i>	M	—	—	—	—
Olive-sided Flycatcher*	<i>Contopus borealis</i>	F	—	—	—	—
Say's Phoebe	<i>Sayornis saya</i>	M	—	—	—	—
Rock Wren	<i>Salpinctes obsoletus</i>	M	—	—	—	—
Swainson's Thrush*	<i>Catharus ustulatus</i>	F	—	—	ns	—
Cedar Waxwing	<i>Bombycilla cedrorum</i>	M	—	ns	—	—
Lucy's Warbler	<i>Vermivora luciae</i>	S	—	—	—	—
Townsend's Warbler	<i>Dendroica townsendi</i>	F	+	ns	—	—
MacGillivray's Warbler	<i>Oporornis tolmiei</i>	M	—	—	—	ns
Wilson's Warbler*	<i>Wilsonia pusilla</i>	R	—	—	ns	—
Rufous-winged Sparrow	<i>Aimophila carpalis</i>	S	—	—	—	—
Chipping Sparrow*	<i>Spizella passerina</i>	M	—	—	—	—
Black-chinned Sparrow	<i>Spizella atrogularis</i>	S	—	—	—	—
Black-throated Sparrow*	<i>Amphispiza bilineata</i>	S	—	—	—	—
Fox Sparrow	<i>Passerella iliaca</i>	M	—	—	—	ns
Chestnut-collared Longspur	<i>Calcarius ornatus</i>	G	—	+	—	—
Eastern Meadowlark	<i>Sturnella magna</i>	G	—	—	—	—
Western Meadowlark	<i>Sturnella neglecta</i>	G	+	—	—	ns
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	M	—	—	—	ns
Northern Oriole	<i>Icterus galbula</i>	M	—	ns	—	ns
Scott's Oriole	<i>Icterus parisorum</i>	S	—	—	+	—
Lawrence's Goldfinch	<i>Carduelis lawrencei</i>	S	—	—	—	—

\* Declines indicated by two or more sources.

trivial, and merely reflect limitations in population monitoring techniques. Broad-scale analyses based on methods such as the Breeding Bird Survey or migration counts are unlikely to accurately detect trends characterizing taxa with geographically limited distributions. For example, even though Sauer and Droege (1992) and DeSante and George (1994) found no significant declines for Willow Flycatcher or Bell's Vireo based on data collected throughout the western United States, there is little doubt that two subspecies of these birds that are frequently included on official agency lists (South-

western Willow Flycatcher, *Empidonax traillii extimus*; Least Bell's Vireo, *Vireo bellii pusillus*) are both highly threatened due to loss and degradation of riparian habitat (Phillips 1948, Unitt 1987, U.S. Fish and Wildlife Service 1986, Franzreb 1989).

Such factors may excuse the absence of some officially "listed" taxa from summaries of declining species based on analyses of population trends, but they do not explain the failure of public wildlife agencies to incorporate into official lists the results of recent scientific findings concerning the status of bird populations. For example, the

←

(> 50% population increase)" were cited in at least one western state; decreasing trends (—) as those where "major decreases (> 50% population decrease)" were cited in at least one western state.

<sup>a</sup> BBS1. Based on analysis of Breeding Bird Survey data (1966–1991) presented by DeSante and George (1994). Increasing trends (+) include those defined as "Strong increasing" by DeSante and George; decreasing trends (—) include those defined as "Strong decreasing" by DeSante and George. Non-significant or less pronounced trends indicated by "ns".

<sup>b</sup> BBS2. Based on analysis of Breeding Bird Survey data (1966–1988) presented by Sauer and Droege (1992); + = significantly increasing trend ( $P < 0.05$ ), — = significantly decreasing trend ( $P < 0.05$ ), ns = non-significant.

<sup>c</sup> MIG. Based on linear regression analysis of weather-adjusted spring migration captures (1968–1992) presented by Pyle et al. (1994); + = significantly increasing trend ( $P < 0.05$ ), — = significantly decreasing trend ( $P < 0.05$ ), ns = non-significant.

existence of at least 27 declining species of small, western landbirds—none of which have been officially recognized by federal or state wildlife agencies—casts obvious doubt on the effectiveness of the present process.

Furthermore, official lists of species of conservation concern are frequently inflated by inclusion of peripheral species that are “threatened” only by virtue of their occurrence as small, often isolated populations located “on the wrong side” of a political boundary line. The frequent inclusion of such species on official lists, although perhaps understandable from the standpoint of local conservation concerns, may ultimately threaten the public credibility of the overall endangered species listing process, and divert research and management attention that should be given to truly threatened populations. For instance, Sauer and Droege (1992) and DeSante and George (1994) found significant population increases for Ash-throated Flycatcher in the western United States. Nonetheless, the state of Washington lists Ash-throated Flycatcher as of conservation concern (“Monitor” status), even though the species’ normal range barely extends north of Oregon (Jewett et al. 1953, American Ornithologists’ Union 1957). Furthermore, Washington also applies the “Monitor” designation to Three-toed Woodpecker, which, at least based on its appearance on the official lists of Oregon, Idaho, and Utah, may well be a species for which there is a legitimate cause for concern. Similarly, New Mexico ascribes the same listing category (“Endangered, group 2”) to White-eared Hummingbird, which occurs only as a peripheral species in the United States (American Ornithologists’ Union 1957), as it does to the Southwestern Willow Flycatcher, for which the state represents a major portion of the subspecies’ range (Phillips 1948, Unitt 1987).

Similar inconsistencies characterize virtually every agency list examined in this analysis. In perhaps the most inexplicable case, the FWS lists the Mexican Hooded Oriole (*Icterus cucullatus cucullatus*) as a

Category 2 candidate, even though the subspecies only occurs as an occasional migrant in western Texas (American Ornithologists’ Union 1957).

There is little evidence that lists compiled by federal or state wildlife agencies provide a comprehensive and accurate picture of threatened or declining bird populations in the western United States. This fact should especially concern conservationists. The existing environmental review processes used by most local or state planning authorities often depend on official lists of protected or sensitive species as the primary biological criterion by which to evaluate potential impacts of proposed projects. Also, lists of sensitive species compiled by wildlife agencies may be important in shaping land-use decisions associated with ecosystem or multi-species conservation planning (U.S. Fish and Wildlife Service 1993). Finally, official lists frequently direct research attention (and needed funding) toward studies aimed at clarifying the population status of these species.

Current lists of species of conservation concern that have been compiled by federal and state agencies leave much to be desired. Inconsistent and poorly defined terminology, failure to systematically incorporate current scientific data, and over-emphasis on protection of peripheral populations that show no evidence of widespread declines have created a vague and confusing system that has minimal value to scientists or conservationists. Given the increasing threats faced by bird populations throughout the United States, there is an urgent need to improve the process by which species are officially identified as being in need of special conservation attention.

#### ACKNOWLEDGMENTS

L. Nagy assisted with initial compilation of data, which were provided by representatives of the U.S. Fish and Wildlife Service and western state wildlife agencies. M. Kasprzyk and D. Lahaise helped with preparation of the final manuscript, which was improved by the editorial comments of J. Jehl. B. Atwood gave needed encouragement. This work was supported

financially by the trustees and members of Manomet Bird Observatory.

## LITERATURE CITED

- AMERICAN ORNITHOLOGISTS' UNION. 1957. Checklist of North American birds, 5th ed. American Ornithologists' Union, Baltimore, MD.
- DESANTE, D. F., AND T. L. GEORGE. 1994. Population trends in the landbirds of Western North America. Pp. 173–190 in J. R. Jehl, Jr. and N. K. Johnson (eds.), *A century of avifaunal change in western North America*. Studies in Avian Biology No. 15.
- FRANZREB, K. E. 1989. Ecology and conservation of the endangered Least Bell's Vireo. Biological Report 89. U.S. Fish and Wildlife Service, Washington, DC.
- JEWETT, S. G., W. P. TAYLOR, W. T. SHAW, AND J. W. ALDRICH. 1953. *Birds of Washington State*. University of Washington Press, Pullman, WA.
- PHILLIPS, A. R. 1948. Geographic variation in *Empidonax traillii*. *Auk* 65:507–514.
- PYLE, P., N. NUR, AND D. F. DESANTE. 1994. Trends in nocturnal migrant landbird populations at Southeast Farallon Island, California, 1968–1992. Pp. 58–74 in J. R. Jehl, Jr. and N. K. Johnson (eds.), *A century of avifaunal change in western North America*. Studies in Avian Biology No. 15.
- SAUER, J. R., AND S. DROEGE. 1992. Geographic patterns in population trends of Neotropical migrants in North America. Pp. 26–42, in J. M. Hagan III and D. W. Johnston (eds.), *Ecology and conservation of neotropical migrant landbirds*. Smithsonian Institution Press, Washington, DC.
- UNITT, P. 1987. *Empidonax traillii extimus*: an endangered subspecies. *Western Birds* 18:137–162.
- U.S. FISH AND WILDLIFE SERVICE. 1986. Endangered and threatened wildlife and plants; determination of endangered status for the Least Bell's Vireo. *Federal Register* 51:16474–16482.
- U.S. FISH AND WILDLIFE SERVICE. 1993. Endangered and threatened wildlife and plants; proposed special rule to allow take of the threatened coastal California Gnatcatcher. *Federal Register* 58:16758–16759.