

## Mexican Highlands Region Chapter BCR 34

Juan Caicedo, Jennifer N. Duberstein, Eduardo Gómez-Limón, Alberto Macias-Duarte, Susan Wethington, and Scott Wilbor

### Location:

The Sierra Madre Occidental Bird Conservation Region includes parts of Arizona, New Mexico, Sonora, Sinaloa, Chihuahua, Durango, Nayarit, Jalisco, Zacatecas, Aguascalientes, Guanajuato, and San Luis Potosi (Figure 4). For purposes of this Plan we include only the Arizona portion in the United States. In Mexico, we include the entire BCR in the analyses, but we cover only the portions in the states of Sonora and Sinaloa for Focus Areas and recommendations. In the Mexican Species Assessment Process, BCR 34 was analyzed as a stand-alone BCR and given the name “Mexican Highlands”; this name is used in this Plan.

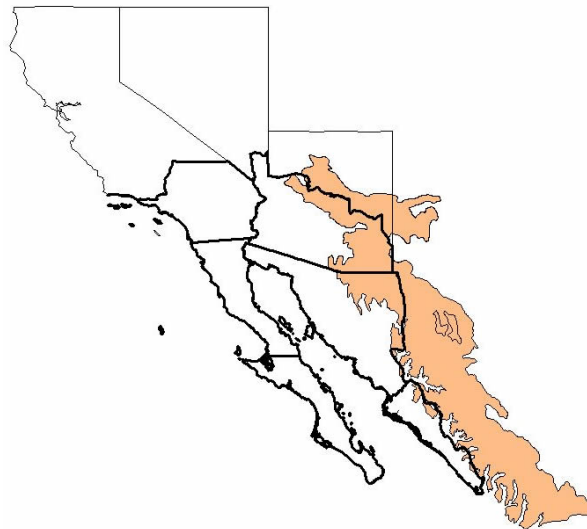


Figure 4. Map of the Mexican Highland Region.

### Description:

This area is characterized by high elevations and complex topography with high mountain forests interdigitated with semi-desert grasslands, Sinaloan thornscrub, tropical deciduous forest (TDF), and Chihuahuan and Sonoran desertscrub. The southern-most extension of the Rocky Mountains along the Mogollon Rim in Arizona reaches south to meet the Sierra Madre Occidental mountain range, which runs along a northwest to southeast parallel to the Pacific Coast. It includes many isolated mountain ranges (Sky Islands) in central and southeastern Arizona, southwestern New Mexico, and northern Sonora. In Mexico, the Sierra Madre Occidental is found from Sonora and Chihuahua to central Mexico, where they connect with the Sur del Altiplano Mexicano.

At the highest elevations in this Region, in canyons and on north slopes, a mixed conifer forest of Douglas Fir, White Fir, Limber Pine, Mexican White Pine, and Aspen or Ponderosa Pine communities are found. Spruce-Fir is generally lacking in all but the most northern parts of the region. The lower limits of these pine forests merge with Pinyon-Juniper, Chaparral, and Pine-Oak (i.e., Madrean evergreen woodland). Grasslands, which are often now degraded, are also found at the lower contact zone. Riparian habitat is important throughout, as are desert wetlands such as playas and ciénegas. Remnants of old-growth pine-oak forest and habitat for the possibly extinct Imperial Woodpecker and other important species, such as Golden Eagle, Military Macaw, Thick-billed Parrot, and Eared Trogon occur here. Other priority landbirds of this BCR are Sinaloa Martin, Spotted Owl, Red-faced Warbler, and Aztec Thrush. Among the species whose range extends into the United States in this region, highest priorities include Red-faced Warbler, Five-striped Sparrow, and Montezuma Quail. Riparian areas in lower portions of the BCR support many in-transit migrants as well as breeding Thick-billed Kingbird, Yellow-billed “Western” Cuckoo, and Willow “Southwestern” Flycatcher. Most uplands in the United States are publicly owned, but lower-elevation grasslands and riparian are mostly privately owned. Significant wetland habitats, such as Willcox Playa, provide wintering habitat for waterfowl and waterbirds.

#### **Avifaunal Analysis—Species Assessment and Prioritization:**

In order to guide the expenditure of resources, the SJV and its partners have assessed the vulnerability of the bird species and responsibility of the SJV to conserve bird species found in the SJV area. Priority species for the Mexican Highlands Region are presented in three different lists: (1) Continental Concern Species (Table 2); (2) Regional Concern Species (Table 3); and (3) Stewardship Species (Table 4). Species assessments were done using the Partners in Flight methodology (<http://www.rmbo.org/pubs/downloads/Handbook.pdf>). Entry onto the Continental Concern list uses the same criteria that the North American PIF Landbird Plan used for landbirds breeding in the U.S./Canada (PIF Watch List). These same criteria, as adopted by the Mexican North American Bird Conservation Initiative, were used to determine the Continental Concern species for species breeding entirely in Mexico. Also used were the U.S. Shorebird Conservation Plan (Imperiled and High Concern North American populations), the North American Waterbird Plan (Imperiled), and the North American Waterfowl Management Plan (2005) (see Appendix C for a decision matrix for waterfowl entry to the lists and a comparison of designations).

The following table lists the Continental Concern Species found in the Mexican Highlands Region (Table 2). These species are recognized as vulnerable in either the breeding or nonbreeding season by at least one of the National or International Bird Conservation Initiatives. This analysis was done for the entire BCR 34 within Arizona, New Mexico, Sonora, Sinaloa, Chihuahua, Durango, and Jalisco including portions that are outside of the SJV. Conservationists working in those locations may find this information helpful in their work. The highest priority species tend to have distributions restricted or nearly restricted to the BCR 34 and they tend to face similar threats. Species whose ranges cross political boundaries will benefit if all states involved coordinate conservation efforts.

The “Plan” column in the tables below indicates which species assessment process or which bird initiative(s) was used to include the species on the Concern Species Lists. The North American Waterfowl Management Plan’s (NAWMP) “Combined Prioritization of Breeding and Nonbreeding Ducks” meeting the criteria in Appendix C appear in the Concern Species Lists below. The U. S. Shorebird Conservation Plan’s (USSCP) highly imperiled and high concern species appear in the Concern Species Lists (see Appendix D. for a comparison of designations). The North American Waterbird Conservation Plan’s (NAWCP) imperiled and high concern species appear on Concern Species List (see Appendix E. for a comparison of designations). Partners in Flight (PIF; US/Canada landbirds and gamebirds) and Mexican Species Assessment Process (MX-PIF; all birds) denote the species assessment process that was used. An “SJV” designation indicates that the species or subspecies was scored by the SJV Technical Committee because the species was not scored by the above bird initiatives. For example, subspecies are not scored by most initiatives.

The “Season of Occurrence” column lists the season in which the species occurs in the SJV area (R= Resident, B=Breeding, W=Nonbreeding). A resident score @ is given for species that are essentially nonmigratory in Region. Breeding and nonbreeding (B/W) scores are given for species that are migratory but have individuals that are present during both seasons or may be considered resident but have various numbers of individuals moving in or out of the area seasonally. “B” or “W” scores are given for species that breed or winter only respectively.

The “RD” (Relative Density) column shows this value in the season of occurrence. Relative Density scores reflect the mean density of a species within a given BCR relative to the density in the single BCR in which the species occurs in its highest density (5 being the highest value, indicated by bold type). Scores relate to the season of occurrence given in the previous column (e.g., 5/3 signifies an RD of 5 in the breeding season and 3 in the nonbreeding season). Species with an RD score of 1 are not presented because they occur peripherally and/or in such low densities that it is wise to conserve them in other locations.

The “Habitat” column shows the primary habitat(s) that the species uses in this Region. In some cases, there is a designation for the season in which the species uses the listed habitat (B=Breeding, NB=Nonbreeding). The reader can use the habitats listed here for each species to find more information in the Habitat Discussion Sections. Habitats are not listed in order of importance. The habitat nomenclature is the same as Table 1, with the following exceptions: Desertscrub=Sonoran-Mojave Desertscrub; Grassland=Desert Grassland; Bosque=Mesquite Bosque; Chaparral=Interior Chaparral; and Pine-Oak=Pine Oak Forest.

The species in each of the following tables are sorted by RD score first and then arranged in taxonomic order. This order reflects the magnitude of “Stewardship Responsibility” for species in the SJV area (most Responsibility (5) to the least Responsibility (2)). In other words, the SJV has large numbers of the entire world’s population of these RD=5 species and those species have high vulnerability scores. However, one should remember that all species on these tables meet the combined score criteria for vulnerability either continentally or regionally and are worthy of conservation attention. There are two ways that the Continental and Regional Concern Species tables can be used. First if the SJV or a partner is initiating a conservation project they should consider the higher RD species first. The tables can also be used to determine what Concern Species are in a particular habitat so project can be designed for their benefit.

Table 10. Continental Concern Species in the Mexican Highlands Region.

<b>Scientific Name</b>	<b>Common English Name</b>	<b>Plan</b>	<b>Season of Occurrence</b>	<b>RD (B/W)</b>	<b>Habitat</b>
<i>Cyrtonyx montezumae</i>	Montezuma Quail	PIF, MX-PIF	R	5	Pine-Oak, Grassland, Riparian
<i>Columba fasciata</i>	Band-tailed Pigeon	PIF	B/W	5/2	Pine-Oak, Mixed Conifer
<i>Rhynchopsitta pachyrhyncha</i>	Thick-billed Parrot	PIF, MX-PIF	R	5	Pine-Oak, Mixed Conifer
<i>Streptoprocne semicollaris</i>	White-naped Swift	MX-PIF	R	5	Tropical Deciduous Forest, Pine-Oak
<i>Euptilotis neoxenus</i>	Eared Quetzal	MX-PIF	R	5	Mixed Conifer, Pine-Oak
<i>Melanerpes lewis</i>	Lewis’s Woodpecker	PIF	B/W	3/5	Pine-Oak, Pinyon-Juniper
<i>Picoides arizonae</i>	Arizona Woodpecker	PIF, MX-PIF	R	5	Pine-Oak, Riparian
<i>Piculus auricularis</i>	Gray-crowned Woodpecker	MX-PIF	R	5	Pine-Oak, Riparian
<i>Campephilus imperialis</i>	Imperial Woodpecker	MX-PIF	R	5	Pine-Oak, Mixed Conifer

<b>Scientific Name</b>	<b>Common English Name</b>	<b>Plan</b>	<b>Season of Occurrence</b>	<b>RD (B/W)</b>	<b>Habitat</b>
<i>Lepidocolaptes leucogaster</i>	White-striped Woodcreeper	MX-PIF	R	5	Mixed Conifer, Pine-Oak
<i>Vireo bellii</i>	Bell's Vireo	PIF	B	5	Riparian, Bosque, Tropical Deciduous Forest
<i>Vireo vicinior</i>	Gray Vireo	PIF	B	5	Pine-Oak, Pinyon-Juniper, Chaparral
<i>Cyanocorax dickeyi</i>	Tufted Jay	MX-PIF	R	5	Pine-Oak, Mixed Conifer
<i>Progne sinaloae</i>	Sinaloa Martin	MX-PIF	B	5	Pine-Oak, Mixed Conifer
<i>Ridgwayia pinicola</i>	Aztec Thrush	MX-PIF	B/W	5/3	Pine-Oak, Riparian, Mixed Conifer
<i>Vermivora virginiae</i>	Virginia's Warbler	PIF	B	5	Pine-Oak, Riparian, Mixed Conifer, Pinyon-Juniper
<i>Dendroica graciae</i>	Grace's Warbler	PIF	R	5	Pine-Oak, Mixed Conifer, Pinyon-Juniper
<i>Cardellina rubrifrons</i>	Red-faced Warbler	PIF, MX-PIF	B/W	5/2	Riparian, Mixed Conifer, Pine-Oak
<i>Piranga erythrocephala</i>	Red-headed Tanager	MX-PIF	B/W	5/4	Pine-Oak, Mixed Conifer
<i>Aimophila quinquestriata</i>	Five-striped Sparrow	PIF, MX-PIF	B/W	4/5	Desertscrub, Tropical Deciduous Forest, Grassland
<i>Otus flammeolus</i>	Flammulated Owl	PIF	B/W	4/2	Pine-Oak, Mixed Conifer
<i>Strix occidentalis</i>	Spotted Owl	PIF, MX-PIF	R	4	Pine-Oak, Riparian, Mixed Conifer
<i>Nyctiphrynus mcleodii</i>	Eared Poorwill	MX-PIF	R	4	Pine-Oak
<i>Aeronautes saxatalis</i>	White-throated Swift	PIF	R	4	Cliff/Rock
<i>Gymnorhinus cyanocephalus</i>	Pinyon Jay	PIF	R	4	Pinyon-Juniper, Pine-Oak
<i>Ptilogonys cinereus</i>	Gray Silky-Flycatcher	MX-PIF	R	4	Pine-Oak
<i>Vermivora luciae</i>	Lucy's Warbler	PIF	B	4	Riparian, Bosque

<b>Scientific Name</b>	<b>Common English Name</b>	<b>Plan</b>	<b>Season of Occurrence</b>	<b>RD (B/W)</b>	<b>Habitat</b>
<i>Ergaticus ruber</i>	Red Warbler	MX-PIF	R	4	Pine-Oak, Mixed Conifer
<i>Basileuterus belli</i>	Golden-browed Warbler	MX-PIF	B/W	4/3	Pine-Oak, Mixed Conifer
<i>Pipilo aberti</i>	Abert's Towhee	PIF	R	4	Riparian, Desertscrub
<i>Spizella atrogularis</i>	Black-chinned Sparrow	PIF	R	4	Chaparral, Pinyon-Juniper
<i>Passerina versicolor</i>	Varied Bunting	PIF, MX-PIF	B/W	4/2	Bosque, Desertscrub, Tropical Deciduous Forest, Riparian
<i>Euphonia elegantissima</i>	Elegant Euphonia	MX-PIF	B/W	¾	Pine-Oak
<i>Anas acuta</i>	Northern Pintail	NAWMP	B/W	1/3	Wetlands
<i>Callipepla squamata</i>	Scaled Quail	PIF	R	3	Grassland, Desertscrub
<i>Buteo swainsoni</i>	Swainson's Hawk	PIF	B	3	Grassland, Agriculture, Desertscrub
<i>Ara militaris</i>	Military Macaw	MX-PIF	R	3	Pine-Oak, Cliff/Rock, Tropical Deciduous Forest
<i>Micrathene whitneyi</i>	Elf Owl	PIF, MX-PIF	B	3	Pine-Oak, Riparian, Tropical Deciduous Forest, Bosque, Desertscrub
<i>Cypseloides niger</i>	Black Swift	PIF	B	3	Cliff/Rock, Riparian
<i>Atthis heloisa</i>	Bumblebee Hummingbird	MX-PIF	R	3	Mixed Conifer, Pine-Oak
<i>Trogon elegans</i>	Elegant Trogon	PIF, MX-PIF	R	3	Pine-Oak, Riparian, Tropical Deciduous Forest
<i>Empidonax traillii</i>	Willow Flycatcher	PIF	B/W	3/2	Riparian
<i>Myadestes occidentalis</i>	Brown-backed Solitaire	MX-PIF	R	3	Pine-Oak, Riparian
<i>Toxostoma bendirei</i>	Bendire's Thrasher	PIF	R	3	Desertscrub, Grassland
<i>Buarremon virenticeps</i>	Green-striped Brush-Finch	MX-PIF	B/W	3/2	Mixed Conifer, Pine-Oak
<i>Aimophila carpalis</i>	Rufous-winged	PIF,	B/W	3/2	Tropical Deciduous Forest, Desertscrub,

Scientific Name	Common English Name	Plan	Season of Occurrence	RD (B/W)	Habitat
	Sparrow	MX-PIF			Grassland
<i>Oriturus superciliosus</i>	Striped Sparrow	MX-PIF	R	3	Pine-Oak, Grassland
<i>Spizella breweri</i>	Brewer's Sparrow	PIF	W	3	Grassland, Desertscrub
<i>Xenospiza baileyi</i>	Sierra Madre Sparrow	MX-PIF	R	3	Grassland, Pine-Oak, Mixed Conifer
<i>Anas platyrhynchos</i>	Mallard	NAWMP	B/W	2/2	Wetlands, Agriculture
<i>Aythya affinis</i>	Lesser Scaup	NAWMP	W	2	Wetland
<i>Penelope purpurascens</i>	Crested Guan	MX-PIF	R	2	Pine-Oak, Mixed Conifer
<i>Dendragapus obscurus</i>	Blue Grouse	PIF	R	2	Mixed Conifer
<i>Aechmophorus clarkia</i>	Clark's Grebe	PIF	W	2	Wetlands
<i>Harpyhaliaetus solitarius</i>	Solitary Eagle	MX-PIF	R	2	Pine-Oak, Mixed Conifer
<i>Charadrius alexandrinus</i>	Snowy Plover	PIF, USSCP	B	2	Wetlands
<i>Charadrius montanus</i>	Mountain Plover	USSCP, PIF	W	2	Agriculture, Grassland
<i>Recurvirostra americana</i>	American Avocet	PIF	B/W	½	Wetlands
<i>Numenius americanus</i>	Long-billed Curlew	USSCP, PIF	W	2	Grassland, Wetlands, Agriculture
<i>Amazona finschi</i>	Lilac-crowned Parrot	MX-PIF	B/W	½	Pine-Oak, Tropical Deciduous Forest
<i>Asio flammeus</i>	Short-eared Owl	PIF	W	2	Grassland, Wetlands, Agriculture
<i>Tilmatura dupontii</i>	Sparkling-tailed Hummingbird	MX-PIF	R	2	Pine-Oak, Tropical Deciduous Forest
<i>Calypte costae</i>	Costa's Hummingbird	PIF	B/W	2/1	Riparian, Desertscrub, Urban
<i>Contopus cooperi</i>	Olive-sided Flycatcher	PIF	B	2	Pine-Oak, Mixed Conifer
<i>Tyrannus crassirostris</i>	Thick-billed Kingbird	PIF, MX-PIF	R	2	Riparian, Tropical Deciduous Forest
<i>Pachyramphus major</i>	Gray-collared Becard	MX-PIF	R	2	Pine-Oak
<i>Anthus spragueii</i>	Sprague's Pipit	PIF	W	2	Grassland,

Scientific Name	Common English Name	Plan	Season of Occurrence	RD (B/W)	Habitat
<i>Vermivora crissalis</i>	Colima Warbler	PIF	W	2	Agriculture Mixed Conifer, Pine-Oak
<i>Euthlypis lachrymosa</i>	Fan-tailed Warbler	MX-PIF	R	2	Pine-Oak, Riparian, Tropical Deciduous Forest
<i>Ammodramus bairdii</i>	Baird's Sparrow	PIF	W	2	Grassland
<i>Pheucticus chrysopleus</i>	Yellow Grosbeak	MX-PIF	R	2	Riparian, Tropical Deciduous Forest
<i>Coccothraustes abeillei</i>	Hooded Grosbeak	MX-PIF	R	2	Pine-Oak, Mixed Conifer

Species of Regional Concern (Table 11) are species that have a combination of moderately high vulnerability, high regional threats, and declining regional population trends. High scoring subspecies (from the Species Assessment Process) are included in the Species of Regional Concern table. These species have not been scored by a national or international bird initiative but were scored by the SJV Technical Committee. There are a few full species that the SJV Technical Committee has scored higher than either the Mexican or the US/Canada Species Assessment Process (denoted "SJV" in the Plan column). This situation resulted from combining the two sets of scores and the combination resulted in a higher score. In the future, there will not be two sets of scores; they will be reconciled into one set by NABCI, SJV Technical Committee, and other experts.

Table 11. Regional Concern Species in the Mexican Highlands.

Scientific Name	Common English Name	Plan	Season of Occurrence	RD (B/W)	Habitat
<i>Meleagris gallopavo mexicana</i>	Wild "Gould's" Turkey	SJV	R	5	Pine-Oak, Riparian
<i>Haliaeetus leucocephalus</i>	Bald Eagle (Southwestern popn.)	SJV	B/W	5/3	Riparian, Wetlands
<i>Accipiter gentilis apache</i>	Northern "Apache" Goshawk	SJV	R	5	Pine-Oak, Riparian, Mixed Conifer
<i>Coccyzus americanus occidentalis</i>	Yellow-billed "Western" Cuckoo	SJV	B	5	Riparian, Bosque
<i>Megascops trichopsis</i>	Whiskered Screech-Owl	MX-PIF	R	5	Pine-Oak, Riparian
<i>Lampornis clemenciae</i>	Blue-throated Hummingbird	MX-PIF	B/W	5/5	Pine-Oak, Riparian
<i>Trogon mexicanus</i>	Mountain Trogon	MX-PIF	B/W	5/5	Pine-Oak, Mixed Conifer
<i>Empidonax traillii</i>	Willow	SJV	B	5	Riparian

Scientific Name	Common English Name	Plan	Season of Occurrence	RD (B/W)	Habitat
<i>extimus</i>	“Southwest” Flycatcher				
<i>Empidonax affinis</i>	Pine Flycatcher	MX-PIF	R	5	Pine-Oak
<i>Empidonax occidentalis</i>	Cordilleran Flycatcher	MX-PIF	B/W	5/5	Pine-Oak, Riparian, Mixed Conifer
<i>Tyrannus vociferans</i>	Cassin’s Kingbird	PIF, SJV	B/W	5/3	Riparian, Tropical Deciduous Forest, Agriculture, Pinyon-Juniper
<i>Poecile sclateri</i>	Mexican Chickadee	MX-PIF	B/W	5/2	Pine-Oak, Mixed Conifer
<i>Catharus occidentalis</i>	Russet Nightingale-Thrush	MX-PIF	R	5	Pine-Oak
<i>Myioborus pictus</i>	Painted Redstart	MX-PIF	B/W	5/4	Pine-Oak, Riparian
<i>Aimophila ruficeps</i>	Rufous-crowned Sparrow	PIF	B/W	5/5	Grassland, Desertscrub, Chaparral, Pine-Oak
<i>Ammodramus savannarum ammoregus</i>	Grasshopper “Arizona” Sparrow	SJV	B/W	5/2	Grassland
<i>Sturnella magna liliana</i>	Eastern “Lilian’s” Meadowlark	SJV	B/W	5/5	Grassland, Agriculture
<i>Accipiter cooperi</i>	Cooper’s Hawk	PIF, SJV	B/W	2/4	Pinyon-Juniper, Pine-Oak, Riparian
<i>Accipiter gentilis</i>	Northern Goshawk	MX-PIF, PIF, SJV	B/W	4/3	Pine-Oak, Riparian, Mixed Conifer
<i>Glaucidium gnoma</i>	Northern Pygmy-Owl	MX-PIF, PIF	R	4	Pine-Oak, Riparian, Mixed Conifer
<i>Caprimulgus vociferous arizonae</i>	“Stephen’s” Whip-poor-will	SJV	R	4	Pine-Oak, Riparian, Mixed Conifer
<i>Eugenes fulgens</i>	Magnificent Hummingbird	MX-PIF	B/W	4/4	Pine-Oak, Mixed Conifer, Riparian
<i>Selasphorus platycercus</i>	Broad-tailed Hummingbird	PIF	B/W	4/2	Pine-Oak, Mixed Conifer, Riparian, Pinyon-Juniper
<i>Melanerpes uropygialis</i>	Gila Woodpecker	SJV	B/W	4/4	Desertscrub, Tropical Deciduous Forest, Riparian, Bosque, Urban
<i>Mitrephanes phaeocercus</i>	Tufted Flycatcher	MX-PIF	B/W	4/3	Riparian, Pine-Oak
<i>Myiodynastes luteiventris</i>	Sulphur-bellied Flycatcher	MX-PIF, SJV	B	4	Pine-Oak, Riparian, Tropical Deciduous Forest
<i>Lanius ludovicianus</i>	Loggerhead Shrike	MX-PIF, PIF	B/W	¾	Tropical Deciduous Forest, Grassland, Agriculture, Desertscrub
<i>Turdus assimilis</i>	White-throated	MX-PIF	R	4	Riparian, Mixed Conifer,

Scientific Name	Common English Name	Plan	Season of Occurrence	RD (B/W)	Habitat
	Robin				Pine-Oak, Tropical Deciduous Forest
<i>Dendroica petechia sonorana</i>	Yellow "Sonoran" Warbler	SJV	B/W	4/3	Riparian
<i>Piranga rubra</i>	Summer Tanager	MX-PIF, SJV	B/W	4/3	Riparian
<i>Piranga bidentata</i>	Flame-colored Tanager	MX-PIF	B/W	4/4	Pine-Oak, Riparian
<i>Pipilo fuscus</i>	Canyon Towhee	PIF, SJV	B/W	4/4	Tropical Deciduous Forest, Grassland, Desertscrub
<i>Anas platyrhynchos diazi</i>	"Mexican" Mallard	SJV	B/W	3/3	Wetland, Agriculture
<i>Asturina nitida</i>	Gray Hawk	MX-PIF, PIF, SJV	B/W	3/2	Tropical Deciduous Forest, Riparian, Bosque
<i>Aquila chrysaetus</i>	Golden Eagle	MX-PIF, SJV	B/W	3/3	Pine-Oak, Grassland, Pinyon-Juniper, Cliff/Rock, Tropical Deciduous Forest, Mixed Conifer
<i>Columbina passerine</i>	Common Ground-Dove	PIF	B/W	2/3	Tropical Deciduous Forest, Riparian, Agriculture, Desertscrub
<i>Megascops kennicottii</i>	Western Screech-Owl	MX-PIF	B/W	3/3	Desertscrub, Tropical Deciduous Forest, Bosque, Riparian, Pinyon-Juniper
<i>Phalaenoptilus nuttallii</i>	Common Poorwill	SJV	B/W	3/2	Pine-Oak, Desertscrub, Grassland, Pinyon-Juniper
<i>Amazilia violiceps</i>	Violet-crowned Hummingbird	SJV	B/W	3/2	Riparian, Tropical Deciduous Forest
<i>Camptostoma imberbe</i>	Northern Beardless-Tyrannulet	MX-PIF, PIF	B/W	3/1	Bosque, Riparian, Tropical Deciduous Forest
<i>Vireo gilvus</i>	Warbling Vireo	MX-PIF	B	3	Riparian, Mixed Conifer, Pine-Oak
<i>Cinclus mexicanus</i>	American Dipper	MX-PIF, SJV	B/W	3/2	Riparian
<i>Phainopepla nitens</i>	Phainopepla	SJV	B/W	3/3	Riparian, Bosque, Tropical Deciduous Forest, Desertscrub
<i>Aimophila cassinii</i>	Cassin's Sparrow	PIF	B/W	3/3	Desertscrub, Grassland, Tropical Deciduous Forest
<i>Aimophila botterii</i>	Botteri's Sparrow	MX-PIF, PIF	B/W	2/3	Grassland
<i>Ammodramus savannarum</i>	Grasshopper Sparrow	MX-PIF, PIF, SJV	B/W	2/3	Grassland

Scientific Name	Common English Name	Plan	Season of Occurrence	RD (B/W)	Habitat
<i>Cardinalis sinuatus</i>	Pyrrhuloxia	PIF	B/W	2/3	Desertscrub, Grassland, Tropical Deciduous Forest
<i>Sturnella neglecta</i>	Western Meadowlark	PIF	B/W	2/3	Grassland, Agriculture
<i>Colinus virginianus ridgwayi</i>	Northern "Masked" Bobwhite	SJV	R	2	Grassland
<i>Circus cyaneus</i>	Northern Harrier	PIF	B/W	½	Wetland, Agriculture, Grassland
<i>Parabuteo unicinclus</i>	Harris's Hawk	PIF, SJV	B/W	2/2	Tropical Deciduous Forest, Desertscrub
<i>Buteo regalis</i>	Ferruginous Hawk	PIF	B/W	2/2	Grassland
<i>Falco femoralis</i>	Apomado Falcon	SJV	B/W	2/2	Grassland
<i>Athene cunicularia</i>	Burrowing Owl	PIF	B/W	2/2	Desertscrub, Grassland, Agriculture
<i>Strix varia</i>	Barred Owl	MX-PIF	B/W	2/2	Pine-Oak, Mixed Conifer
<i>Asio otus</i>	Long-eared Owl	PIF	B/W	2/2	Riparian, Pinyon-Juniper, Agriculture, Pine-Oak, Desertscrub
<i>Aegolius acadieus</i>	Northern Saw-whet Owl	MX-PIF	B/W	2/2	Pine-Oak, Mixed Conifer
<i>Calothorax Lucifer</i>	Lucifer Hummingbird	MX-PIF	B	2	Pine-Oak, Riparian, Desertscrub, Bosque
<i>Xiphorhynchus flavigaster</i>	Ivory-billed Woodcreeper	MX-PIF	R	2	Tropical Deciduous Forest, Pine-Oak
<i>Attila spadiceus</i>	Bright-rumped Attila	MX-PIF	B/W	2/2	Riparian, Tropical Deciduous Forest

The following Stewardship Responsibility Species for the Mexican Highlands (Table 12) are those species that have an RD of 5 in either the U.S. or Mexican database that are in addition to those RD=5 species on the Continental Concern or Regional Concern Species lists above. RD is being used as a substitute for percent of population until these can be calculated for all species. These are species for which the SJV has "stewardship responsibility". They are species in which a large percentage of the population inhabits this Region during either the breeding or nonbreeding portion of their annual cycle. Concern level (due to threats, population declines, etc.) for them is not high at present, but it is the SJV's responsibility to ensure that they do not slip into the "concern" category. This usually means that monitoring is an action and these species and their habitats need to be maintained and considered in long-term planning.

Table 12. Additional Stewardship Responsibility Species in the Mexican Highlands.

Scientific Name	Common English Name	Season of Occurrence	RD (B/W)	Habitat
<i>Buteo albonotatus</i>	Zone-tailed Hawk	B	5	Riparian

Scientific Name	Common English Name	Season of Occurrence	RD (B/W)	Habitat
<i>Falco peregrinus</i>	Peregrine Falcon	B	5	Cliff/Rock, Pinyon-Juniper, Desertscrub, Pine-Oak
<i>Tyto alba</i>	Barn Owl	R	5	Desertscrub, Agriculture, Riparian
<i>Caprimulgus vociferus</i>	Whip-poor-will	R	5	Pine-Oak, Riparian
<i>Hylocharis leucotis</i>	White-eared Hummingbird	R	5	Riparian, Mixed Conifer
<i>Melanerpes uropygialis</i>	Gila Woodpecker	B	5	Desertscrub
<i>Contopus pertinax</i>	Greater Pewee	R	5	Pine-Oak, Mixed Conifer, Riparian
<i>Empidonax albigularis</i>	White-throated Flycatcher	B	5	Riparian, Tropical Deciduous Forest
<i>Empidonax fulvifrons</i>	Buff-breasted Flycatcher	R	5	Pine-Oak
<i>Myiarchus tuberculifer</i>	Dusky-capped Flycatcher	B	5	Riparian, Pine-Oak
<i>Vireo plumbeus</i>	Plumbeous Vireo	B	5	Pinyon-Juniper, Riparian, Pine-Oak, Mixed Conifer
<i>Aphelocoma ultramarine</i>	Mexican Jay	R	5	Pine-Oak
<i>Tachycineta thalassina</i>	Violet-green Swallow	B	5	Pinyon-Juniper, Riparian, Mixed Conifer
<i>Baeolophus wolweberi</i>	Bridled Titmouse	R	5	Riparian, Pine-Oak
<i>Baeolophus griseus</i>	Juniper Titmouse	R	5	Pinyon-Juniper
<i>Sitta pygmaea</i>	Pygmy Nuthatch	R	5	Mixed Conifer, Pine-Oak
<i>Campylorhynchus gularis</i>	Spotted Wren	R	5	Pine-Oak, Tropical Deciduous Forest
<i>Catherpes mexicanus</i>	Canyon Wren	R	5	Desertscrub, Cliff/Rock, Pinyon-Juniper, Riparian
<i>Sialia mexicana</i>	Western Bluebird	R	5	Pinyon-Juniper, Mixed Conifer, Pine-Oak
<i>Toxostoma crissale</i>	Crissal Thrasher	R	5	Riparian, Bosque, Chaparral
<i>Peucedramus taeniatus</i>	Olive Warbler	R	5	Mixed Conifer, Pine-Oak
<i>Parula superciliosa</i>	Crescent-chested Warbler	R	5	Pine-Oak, Mixed Conifer
<i>Piranga flava</i>	Hepatic Tanager	R	5	Riparian, Pine-Oak, Pinyon-Juniper, Mixed Conifer
<i>Pipilo maculatus</i>	Spotted Towhee	R	5	Pinyon-Juniper, Interior Chaparral, Pine-Oak
<i>Aimophila botterii</i>	Botteri's Sparrow	R	5	Grassland
<i>Atlapetes pileatus</i>	Rufous-capped Brush-Finch	R	5	Pine-Oak, Mixed Conifer
<i>Amphispiza bilineata</i>	Black-throated Sparrow	R	5	Desertscrub, Grassland
<i>Junco phaeonotus</i>	Yellow-eyed Junco	R	5	Pine-Oak, Mixed Conifer
<i>Icterus cucullatus</i>	Hooded Oriole	B	5	Riparian, Desertscrub, Agriculture
<i>Icterus parisorum</i>	Scott's Oriole	B	5	Desertscrub, Pinyon-Juniper, Grassland

The total number of Continental (72) and Regional (60) Concern Species (Table 13) is relatively similar to the number of species in concern categories in the Arid Borderlands Region (88 and 83 respectively). However if the species with coastal affinities (e.g., Red-billed Tropicbird) were removed from the Arid Borderlands lists, Mexican Highlands would have considerably more Concern Species than the Arid Borderlands. The Mexican Highlands is an area of high terrestrial diversity and endemism.

Table 13. Total and percentage of Concern Species in the SJV and Mexican Highlands Region.

<b>Concern Category</b>	<b>Total Number of Concern Species in the Category</b>	<b>Concern Species as a % of the regularly occurring SJV (667) species</b>	<b><i>Concern Species as a % of the regularly occurring Mexican Highlands (369) species</i></b>
Continental Concern Species (Table 10)	72	10.8%	19.5%
Continental Concern Species also with RD = 5	20	3.0%	5.4%
Regional Concern Species (Table 11)	60	9.0%	16.3%
Regional Concern Species also with RD =5	17	2.5%	4.6%
Stewardship-Only * (Table 12)	30	4.5%	8.1%
<i>Total Stewardship species</i> **	67	10.0%	18.6%

\* Species with RD =5 that are not also Continental or Region Concern Species.

\*\* A total of all Stewardship Species from Continental and Regional Concern, and Stewardship-Only lists.

## **Mexican Highlands Habitat Sections**

### **Habitat Discussions:**

The following sections describe the major habitats found in the Mexican Highlands Region. Land managers, landowners, conservationists, and others can use this feature of the plan to focus on the habitats in their area and thus the birds and recommendations of interest. The habitat descriptions given are intended to be a general picture of the landscape. Detailed habitat descriptions of these major habitat types can be found in many other sources (see Literature Cited for references). Bird species from the Mexican Highlands Continental and Regional Concern Tables are sorted into their habitat(s) of primary use and are shown in the following habitat tables. Some birds use more than one primary habitat and thus will appear in more than one habitat section. Continental (CC) and Regional (RC) Concern categories are explained above. If a species is included in the habitat table as needing attention, all subspecies present in the Region are included by listing the full species. However, if a subspecies or population is of Concern, the full species may also be listed in the Habitat Tables if there are other possible subspecies or populations needing attention in the Region.

The habitat tables that follow also include, Conservation Action, Habitat Needs, and Population Objectives. The “Conservation Action” category column (Cons. Action) indicates the urgency and level of need for conservation efforts for that species. The SJV Technical Committee assigned each species to a Conservation Action category based on their knowledge and expertise. The Immediate Action (IM) category indicates that action is urgently needed to reverse or stabilize significant, long-term population declines of species with small populations or to protect species with small populations for which trends are poorly known. Populations of these species are at risk of extirpation over portions of their range and immediate and focused attention to their needs represent the highest conservation priority. Management Attention (MA) indicates that recommended management is needed to reverse significant long-term population declines or sustain vulnerable populations. Although many of these species are still relatively widespread, actions are necessary to prevent these species from becoming in danger of regional or range-wide extirpation in the future. Planning and Responsibility (PR) indicates species with relatively stable populations, regardless of population size or relatively abundant species for which population trends are poorly known. Many species in this category are also Stewardship Responsibility species. Often the action needed is long term planning and monitoring. Although this is considered a lower conservation category, action is still needed to protect vulnerable species while they have relatively healthy populations.

Conservation Actions categories are an important aspect of the Plan for land managers and conservation planners. The “IM” category provides a quick look at the species in the most need (usually critical need) of conservation action. As projects are planned in the various habitats, the “IM” species should be the first to be considered for beneficial habitat and population actions followed by the “MA” species. “PR” species are often species with less exacting habitat requirements than “IM” or “MA” species and will be benefited by actions for “IM” and “MA” species. If “PR” species are present in a project area their populations should be maintained. Concern categories are also a feature of the Plan that will direct research and monitoring projects. “IM” species often need intense, immediate research to determine the cause(s) of their declines. “MA” species usually need work on habitat relationships in order to better manage their habitat. All three categories must have long-term population trend monitoring.

Specific “Habitat Needs” are given for species that have habitat requirements or characteristics that define where they successfully breed or winter. This information can be used to find suitable habitat in order to manage it or to survey for the species of interest. The information may also be used to restore or enhance those habitat components necessary for a species to breed or winter successfully. If a species generally uses the habitat described in the habitat section and has no specific habitat needs other than well-developed habitat, then “generalist” is shown in this column. In addition, if the habitat needs for a species are not well known, then “specifics unknown (?)” is shown.

Species population objectives fall into one of four possible categories: Maintain, Maintain/Determine Status, Increase by 50%, or Double. For breeding or resident species, the objectives, described above under “Format of Plan” section, are based on regional population trend or expert opinion of trend when actual trend has not been measured reliably. Population objectives given for species only present during the nonbreeding seasons are based on the continental population trend. They should be interpreted as “a nonbreeding population that supports the breeding population objective of (whichever objective is given) the current population”. Population objectives may relate directly to habitat objectives (for instance, a doubling of a population may only be accomplished by a doubling of habitat area). However, increasing the population may be accomplished by other actions, such as improving the condition of existing habitat, preventing capture for the pet trade, or a combination of several actions.

Habitat tables are sorted first by Conservation Action (Immediate Action, Management Attention, and Planning and Responsibility), then by Population Objective (Double, Increase by 50%, Maintain/Determine Status, Maintain), and finally by taxonomic order. Species that are high responsibility due to a large portion of their population (RD=5) residing in this Region are shown in bold.

For further descriptions and reading regarding the following habitats, the reader may refer to:

Brown 1994, Latta et al. 1999 (Arizona), and Corman and Wise-Gervais 2005 (Arizona).

In the tables below citations are abbreviated as follows:

Corman and Wise-Gervais (2005) = (ABBA)

Russell and Monson (1998) = (R&M)

Howell and Webb (1995) = (H&W)

Monterrubio-Rico and Enkerlin-Hoeflich (2004) = (M-R&E-H)

## **Habitat: Pine-Oak Forest**

**Location:** Sierra Madre Occidental and its outlying ranges in Mexico, and associated Sky Islands from the Mogollon Rim in Arizona south through Sinaloa.

**Dominant plant species:** Apache Pine (*Pinus engelmannii*), Chihuahua Pine (*P. leiophylla* var. *chihuahuana*), Ponderosa Pine (*P. ponderosa*), Emory Oak (*Quercus emoryi*), Arizona White Oak (*Q. arizonica*), Mexican Blue Oak (*Q. oblongifolia*), and many other tree species; bunchgrasses, bluestems, grammas, and various cacti and agaves.

**Physical/biological descriptions:** Foothills, bajadas, barrancas, and mountains; temperate climate, monsoon rain patterns, 330-1000 mm rain/year (extremes), generally >400 mm/year rainfall, with half falling between May and August; elevation approximately 1300-2200 m, usually adjacent and down-slope of Mixed Conifer Forest.

**Threats:** Large-scale timber extraction, erosion, unsustainable grazing, unsustainable water use, development, catastrophic fire, climate change, road construction, nonnative/invasive species, pollution, garbage, overharvest of oaks, OHVs, and capture of birds for the pet trade.

**Opportunities for cooperation on conservation actions:** Many birds use this habitat that have high visibility and recognition, such as Thick-billed Parrots, trogons, Tufted Jays, raptors, quail, Imperial Woodpeckers; work with private landowners/ejidos, USFS, municipalities; coordination with different government agencies/levels, NGOs; habitat crosses variety of states and two countries, so there are many opportunities for collaboration between groups, agencies, residents, etc.

**Primary Conservation Needs/Actions:** Officially protect all remaining breeding habitat of the Thick-billed Parrot, enforce Mexican laws requiring retention of a minimum of five large snags (60-80 cm dbh) per hectare and continue the present prohibition of Douglas fir commercialization (Monterrubio and Enkerlin 2004); immediately search for Imperial Woodpeckers, Solitary Eagles, and Sierra Madre Sparrows and protect habitat if found; begin fire management, grazing management, forest management, erosion control, planned development (houses, roads, etc.); build conservation partnerships with landowners/stakeholders, and in Mexico, increase acreage in protected areas and strengthen status of existing protected areas with help of landowners; encourage sustainable hunting of Wild Turkeys and Crested Guans; control pet trade in wild birds.

### **Priority Species for Pine-Oak Forest**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Solitary Eagle	CC	IM	Large, undisturbed areas; extirpated?	Double/Determine Presence
<b>Imperial Woodpecker</b>	CC	IM	<b>Old growth, large snags, large undisturbed areas; extinct?</b>	<b>Double/Determine Presence</b>

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Sierra Madre Sparrow	CC	IM	Bunch grass in open pine woods; extirpated? (H&W)	Double/Determine Presence
<b>Thick-billed Parrot</b>	CC	IM	<b>Large undisturbed areas, trees or snags (avg. 75cm dbh), pine cone crop (M-R&amp;E-H)</b>	<b>Double</b>
Lilac-crowned Parrot	CC	IM	Cavities for nests	Double
<b>Eared Quetzal</b>	CC	IM	<b>Cavities; requires pine-oak or pine-evergreen forest most often in undisturbed canyons</b>	<b>Increase by 50%</b>
<b>Tufted Jay</b>	CC	IM	<b>Relatively large, undisturbed areas</b>	<b>Increase by 50%</b>
<b>Wild “Gould’s” Turkey</b>	RC	MA	<b>Grassy, shrubby understory (ABBA)</b>	<b>Double</b>
Golden Eagle	RC	MA	Near cliffs/canyons, abundant prey (ABBA), protection from disturbance/shooting	Double
Crested Guan	CC	MA	Sustainable hunting	Increase by 50%
<b>Montezuma Quail</b>	CC	MA	<b>Grass and forb understory (ABBA)</b>	<b>Increase by 50%</b>
<b>Northern “Apache” Goshawk</b>	RC	MA	<b>Tall trees, open canopy (ABBA)</b>	<b>Increase by 50%</b>
<b>Band-tailed Pigeon</b>	CC	MA	<b>Dependent on pine nuts, acorns, berries (ABBA)</b>	<b>Increase by 50%</b>
Military Macaw	CC	MA	Large snags, tree cavities, rock crevices (H&W)	Increase by 50%
Flammulated Owl	CC	MA	Cavities in snags or live trees	Increase by 50%
<b>Whiskered Screech-Owl</b>	RC	MA	<b>Nests in tree cavities, medium to large trees, dense foliage (ABBA)</b>	<b>Increase by 50%</b>
Spotted Owl	CC	MA	Cavities in old growth pine-oak forests, narrow moist canyons	Increase by 50%
Eared Poorwill	CC	MA	Specifics unknown (?)	Increase by 50%
<b>Blue-throated Hummingbird</b>	RC	MA	<b>Narrow moist canyons with clearings and flowers (especially Lobelia) (R&amp;M)</b>	<b>Increase by 50%</b>
Bumblebee Hummingbird	CC	MA	Openings with shrubs and flowers (H&W)	Increase by 50%
Elegant Trogon	CC	MA	Large trees with cavities often in riparian (H&W)	Increase by 50%
<b>Arizona Woodpecker</b>	CC	MA	<b>Dense stands of oak and stringers into grasslands (ABBA); open, undisturbed areas of oak, juniper, madrone</b>	<b>Increase by 50%</b>
<b>Gray-crowned Woodpecker</b>	CC	MA	<b>Cavity trees (R&amp;M), specifics unknown (?)</b>	<b>Increase by 50%</b>

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Ivory-billed Woodcreeper	RC	MA	Specifics unknown (?)	Increase by 50%
Gray-collared Becard	CC	MA	Oak and pine-oak forests, specifics unknown (?)	Increase by 50%
<b>Sinaloa Martin</b>	CC	MA	<b>Tall snags, specifics unknown (?)</b>	<b>Increase by 50%</b>
Brown-backed Solitaire	CC	MA	Often on mesic slopes, fruiting trees (R&M)	Increase by 50%
<b>Russet Nightingale-Thrush</b>	RC	MA	<b>Specifics unknown (?)</b>	<b>Increase by 50%</b>
White-throated Robin	RC	MA	Gallery forests with undergrowth (R&M)	Increase by 50%
<b>Aztec Thrush</b>	CC	MA	<b>Specifics unknown (?)</b>	<b>Increase by 50%</b>
<b>Red-faced Warbler</b>	CC	MA	<b>Cool, moist forested canyons, ground nester (ABBA)</b>	<b>Increase by 50%</b>
Red Warbler	CC	MA	Ground nester, specifics unknown (?)	Increase by 50%
<b>Red-headed Tanager</b>	CC	MA	<b>Specifics unknown (?)</b>	<b>Increase by 50%</b>
Green-striped Brush-Finch	CC	MA	Ground dweller, specifics unknown (?)	Increase by 50%
Elf Owl	CC	MA	Cavities for nests (ABBA)	Maintain/Determine Status
Northern Saw-whet Owl	RC	MA	Woodpecker holes in conifers or aspen (ABBA)	Maintain/Determine Status
<b>White-naped Swift</b>	CC	MA	<b>Nests colonially in caves, behind waterfalls (largest swift in the world) (H&amp;W)</b>	<b>Maintain/Determine Status</b>
Lucifer Hummingbird	RC	MA	Dry, open habitats; agave flowers (R&M)	Maintain/Determine Status
<b>Lewis's Woodpecker</b>	CC	MA	<b>Trees with cavities or constructs own, acorns (nonbreeding)</b>	<b>Maintain/Determine Status</b>
<b>White-striped Woodcreeper</b>	CC	MA	<b>Specifics unknown (?)</b>	<b>Maintain/Determine Status</b>
Olive-sided Flycatcher	CC	MA	Snags, coniferous forests with openings (ABBA)	Maintain/Determine Status
<b>Gray Vireo</b>	CC	MA	<b>Open oak, juniper, and pinyon pine, scattered woody shrubs understory, slopes (ABBA)</b>	<b>Maintain/Determine Status</b>
Pinyon Jay	CC	MA	Pine nut crop, colonial nester, nomadic (ABBA)	Maintain/Determine Status
<b>Virginia's Warbler</b>	CC	MA	<b>Shrubby understory</b>	<b>Maintain/Determine Status</b>
Colima Warbler	CC	MA	Brushy understory, flower banks (H&W)	Maintain/Determine Status

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
<b>Grace's Warbler</b>	CC	MA	<b>Open areas with large pines</b>	<b>Maintain/Determine Status</b>
Fan-tailed Warbler	CC	MA	Near riparian, with rocky understory (H&W, R&M)	Maintain/Determine Status
Striped Sparrow	CC	MA	Openings, bunchgrass understory (H&W)	Maintain/Determine Status
Hooded Grosbeak	CC	MA	Specifics unknown (?)	Maintain/Determine Status
<b>Pine Flycatcher</b>	<b>RC</b>	<b>PR</b>	<b>Edge, clearings, semi-open areas with scrub and scattered trees (H&amp;W)</b>	<b>Double</b>
Cooper's Hawk	RC	PR	Riparian component nearby (ABBA)	Increase by 50%
Barred Owl	RC	PR	Specifics unknown (?)	Increase by 50%
Long-eared Owl	RC	PR	Near open areas with abundant prey; reuse nests of ravens and raptors (ABBA)	Increase by 50%
Sparkling-tailed Hummingbird	CC	PR	Edge, second growth (H&W)	Increase by 50%
<b>Mountain Trogon</b>	<b>RC</b>	<b>PR</b>	<b>Nests in tree cavities (H&amp;W)</b>	<b>Increase by 50%</b>
Tufted Flycatcher	RC	PR	Upper reaches of moist canyons (R&M)	Increase by 50%
Sulphur-bellied Flycatcher	RC	PR	Tree cavities (ABBA)	Increase by 50%
<b>Painted Redstart</b>	<b>RC</b>	<b>PR</b>	<b>Moist, shaded canyons and slopes, tall, dense trees, closed canopies (ABBA)</b>	<b>Increase by 50%</b>
Golden-browed Warbler	CC	PR	Specifics unknown (?)	Increase by 50%
Flame-colored Tanager	RC	PR	Dense, multilayered canopy (ABBA)	Increase by 50%
Northern Pygmy-Owl	RC	PR	Taller trees with cavities (ABBA); lower elevations of Pine-Oak (R&M)	Maintain/Determine Status
Stephen's Whip-poor-will	RC	PR	Outcrops, wooded drainages (ABBA)	Maintain/Determine Status
Common Poorwill	RC	PR	Rocky hillsides (ABBA)	Maintain/Determine Status
Magnificent Hummingbird	RC	PR	Drainages, slopes, ridges (ABBA)	Maintain/Determine Status
Broad-tailed Hummingbird	RC	PR	Patches of flowers	Maintain/Determine Status
<b>Cordilleran Flycatcher</b>	<b>RC</b>	<b>PR</b>	<b>Moist, shady canyons, steep drainages, edge (ABBA)</b>	<b>Maintain/Determine Status</b>
Warbling Vireo	RC	PR	Often with aspen (ABBA)	Maintain/Determine

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
				Status
<b>Mexican Chickadee</b>	<b>RC</b>	<b>PR</b>	<b>Tree cavities</b>	<b>Maintain/Determine Status</b>
Gray Silky-Flycatcher	CC	PR	Fruit/insect eater (H&W)	Maintain/Determine Status
<b>Rufous-crowned Sparrow</b>	<b>RC</b>	<b>PR</b>	<b>Open oak woodlands with grass understory (ABBA)</b>	<b>Maintain/Determine Status</b>
Elegant Euphonia	CC	PR	Mistletoe clumps (H&W); 1250-1660m (R&M)	Maintain/Determine Status

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Mixed Conifer Forest**

**Location:** High elevation (2000-3500 m) throughout Region.

**Dominant plant species:** Ponderosa Pine (*Pinus ponderosa*), Douglas Fir (*Pseudotsuga menziesii*), White Fir (*Abies concolor*), Quaking Aspen (*Populus tremuloides*), Apache Pine (*Pinus engelmannii*), Chihuahuan Pine (*Pinus leiophylla* var. *chihuahuana*), Engelmann Spruce (*Picea engelmannii*).

**Physical/biological descriptions:** Some stands are extensive, others are in isolated mountains and canyons; mean annual precipitation 460-769 mm; freezing temperatures from Sept-May.

**Threats:** Unsustainable timber harvest, risk of catastrophic fire, drought/climate change, bark beetles/insect plagues, road construction, pollution, and habitat destruction from mining.

**Opportunities for cooperation on conservation actions:** Work with the Comisión Nacional Forestal (CONAFOR), Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT), U.S. Forest Service, private landowners, indigenous communities.

**Primary Conservation Needs/Actions:** Forest management, fire management, erosion control, planned development (especially road construction); increase protected areas.

### **Priority Species for Mixed Conifer Forest**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Solitary Eagle	CC	IM	Large, undisturbed areas; extirpated (?)	Double/Determine Presence
<b>Imperial Woodpecker</b>	CC	<b>IM</b>	<b>Old growth, large trees for cavity construction, undisturbed areas</b>	<b>Double/Determine Presence</b>
Sierra Madre Sparrow	CC	IM	Bunch grass openings (H&W)	Double/Determine Presence
<b>Thick-billed Parrot</b>	CC	<b>IM</b>	<b>Large snags, trees 75cm dbh, pine seed crops, undisturbed areas (M-R and E-H 2004)</b>	<b>Double</b>
Eared Quetzal	CC	IM	Undisturbed pine forest (R&M); nests in tree cavities (H&W)	Increase by 50%
<b>Tufted Jay</b>	CC	<b>IM</b>	<b>Relatively large, undisturbed areas</b>	<b>Increase by 50%</b>

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Golden Eagle	RC	MA	Cliff/canyons, abundant prey, undisturbed (ABBA)	Double
Crested Guan	CC	MA	Sustainable hunting	Increase by 50%
<b>Northern “Apache” Goshawk</b>	<b>RC</b>	<b>MA</b>	<b>Old growth ponderosa pine; tall trees, open canopy (ABBA)</b>	<b>Increase by 50%</b>
<b>Band-tailed Pigeon</b>	<b>CC</b>	<b>MA</b>	<b>Abundant pine nuts, acorns, berries (ABBA)</b>	<b>Increase by 50%</b>
Spotted Owl	CC	MA	Old growth, nests in tree cavities/ledges/debris piles (ABBA)	Increase by 50%
Bumblebee Hummingbird	CC	MA	Openings with shrubs and flowers (H&W)	Increase by 50%
<b>Mountain Trogon</b>	<b>RC</b>	<b>MA</b>	<b>Tree cavities (H&amp;W)</b>	<b>Increase by 50%</b>
<b>Sinaloa Martin</b>	<b>CC</b>	<b>MA</b>	<b>Tall snags, specifics unknown (?)</b>	<b>Increase by 50%</b>
White-throated Robin	RC	MA	Gallery forests with undergrowth (R&M)	Increase by 50%
<b>Aztec Thrush</b>	<b>CC</b>	<b>MA</b>	<b>Feeds in bushes, trees, ground (H&amp;W); specifics unknown (?)</b>	<b>Increase by 50%</b>
<b>Red-faced Warbler</b>	<b>CC</b>	<b>MA</b>	<b>Deep, heavily forested canyons, understory of trees and shrubs (ABBA)</b>	<b>Increase by 50%</b>
Red Warbler	CC	MA	Ground nester (H&W), specifics unknown (?)	Increase by 50%
Golden-browed Warbler	CC	MA	Specifics unknown (?)	Increase by 50%
<b>Red-headed Tanager</b>	<b>CC</b>	<b>MA</b>	<b>Forest and edge, low fruiting shrubs (H&amp;W)</b>	<b>Increase by 50%</b>
Green-striped Brush-Finch	CC	MA	Ground-dweller, specifics unknown (?)	Increase by 50%
Blue Grouse	CC	MA	Low shrubs, forbs, grasses (ABBA)	Maintain/Determine Status
Northern Saw-whet Owl	RC	MA	Woodpecker holes in conifers or aspens (ABBA)	Maintain/Determine Status
<b>Virginia’s Warbler</b>	<b>CC</b>	<b>MA</b>	<b>Shrubby deciduous component (ABBA)</b>	<b>Maintain/Determine Status</b>
Colima Warbler	CC	MA	Brushy understory, flower banks (H&W)	Maintain/Determine Status
<b>White-striped Woodcreeper</b>	<b>CC</b>	<b>MA</b>	<b>Nests in tree cavities and crevices (H&amp;W)</b>	<b>Maintain</b>
Flammulated Owl	CC	PR	Old growth, natural or woodpecker-made cavities (ABBA)	Increase by 50%
Barred Owl	RC	PR	Specifics unknown (?)	Increase by 50%

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
“Stephen’s” Whip-poor-will	RC	PR	Rocky outcrops, wooded drainages (ABBA)	Maintain/Determine Status
Northern Pygmy-Owl	RC	PR	Cavities for nesting	Maintain/Determine Status
Magnificent Hummingbird	RC	PR	Uneven age ponderosa pine (ABBA) (ABBA)	Maintain/Determine Status
Broad-tailed Hummingbird	RC	PR	Patches of flowers (ABBA)	Maintain/Determine Status
<b>Cordilleran Flycatcher</b>	<b>RC</b>	<b>PR</b>	<b>Moist, shaded canyons, steep drainages, ledge nesters (ABBA)</b>	<b>Maintain/Determine Status</b>
Olive-sided Flycatcher	CC	PR	Forest, , or openings with prominent trees and snags (ABBA)	Maintain/Determine Status
Warbling Vireo	RC	PR	Often in aspen (ABBA)	Maintain/Determine Status
<b>Mexican Chickadee</b>	<b>RC</b>	<b>PR</b>	<b>Cavities in conifers (ABBA)</b>	<b>Maintain/Determine Status</b>
<b>Grace’s Warbler</b>	<b>CC</b>	<b>PR</b>	<b>Park like stands of mature trees (ABBA)</b>	<b>Maintain/Determine Status</b>
Hooded Grosbeak	CC	PR	Specifics unknown (?)	Maintain/Determine Status

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Tropical Deciduous Forest**

**Location:** Western slopes and canyons of Sierra Madre Occidental, central Sonora and continuing south through all of Sinaloa.

**Dominant plant species:** Mauto (*Lysiloma candida*), Pochote/Kapok (*Ceiba acuminata*), Copal (*Bursera* spp.), Elephant Tree (*Bursera microphylla*), and Hecho/Cardón (*Pachycereus pecten-aboriginum*).

**Physical/biological descriptions:** Semi-arid, drought deciduous, hot, monsoon rain patterns; canopy up to 20 m high; includes thornscrub of central Sonora; grades into Pine-Oak Forest at higher elevations and desertscrub at lower elevations.

**Threats:** Erosion, unsustainable grazing, land conversion/development, catastrophic fires, invasive/nonnative species, unsustainable timber harvesting, habitat destruction due to agriculture and mining.

**Opportunities for cooperation on conservation actions:** Work with private landowners.

**Primary Conservation Needs/Actions:** Timber harvest management, grazing management, erosion control, planned development, fire management, invasive/nonnative species control (mainly grasses).

### **Priority Species for Tropical Deciduous Forest**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action*</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Golden Eagle	RC	IM	Near cliffs, abundant prey, undisturbed (ABBA)	Double
Lilac-crowned Parrot	CC	IM	Cavities (H&W)	Double
Military Macaw	CC	IM	Foothills, cavities (H&W)	Increase by 50%
Sparkling-tailed Hummingbird	CC	MA	Edge, second growth (H&W)	Increase by 50%
Elegant Trogon	CC	MA	Cavities in trees such as mesquite (R&M)	Increase by 50%
Ivory-billed Woodcreeper	RC	MA	Specifics unknown (?)	Increase by 50%
<b>Bell's Vireo</b>	CC	MA	<b>Semi-open, brushy areas (H&amp;W)</b>	<b>Increase by 50%</b>
White-throated Robin	RC	MA	Undergrowth (R&M)	Increase by 50%
<b>Five-striped Sparrow</b>	CC	MA	<b>Rocky, well-vegetated hillsides (R&amp;M)</b>	<b>Increase by 50%</b>
Gray Hawk	RC	MA	Large trees, near water	Maintain/Determin

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action*</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
			(R&M)	e Status
Harris's Hawk	RC	MA	Large columnar cactus or desert trees (R&M)	Maintain/Determine Status
Elf Owl	CC	MA	Cavities in trees or columnar cactus (ABBA)	Maintain/Determine Status
Violet-crowned Hummingbird	RC	MA	Near riparian vegetation, nectar sources (R&M)	Maintain/Determine Status
Thick-billed Kingbird	CC	MA	Large trees near water (R&M)	Maintain/Determine Status
Fan-tailed Warbler	CC	MA	Mesic areas (R&M); often rocky (H&W)	Maintain/Determine Status
Rufous-winged Sparrow	CC	MA	Open, grassy areas (R&M)	Maintain/Determine Status
Yellow Grosbeak	CC	MA	Large trees, often near water, fruit (R&M)	Maintain/Determine Status
Cassin's Sparrow	RC	MA	Mesquite savannas (R&M)	Maintain
<b>White-naped Swift</b>	<b>CC</b>	<b>PR</b>	<b>Aerial, nests in foothills/highlands (H&amp;W)</b>	<b>Increase by 50%</b>
Gila Woodpecker	RC	PR	Columnar cactus for nests (R&M)	Increase by 50%
Northern Beardless-Tyrannulet	RC	PR	Tent caterpillar webs or mistletoe for nesting (R&M)	Increase by 50%
Bright-rumped Attila	RC	PR	Scrubby woodlands (H&W)	Increase by 50%
Sulphur-bellied Flycatcher	RC	PR	Natural or woodpecker-made cavities in large trees (R&M)	Increase by 50%
<b>Cassin's Kingbird</b>	<b>RC</b>	<b>PR</b>	<b>Tall, clumped trees (ABBA)</b>	<b>Increase by 50%</b>
Phainopepla	RC	PR	Mistletoe berries (R&M)	Increase by 50%
Canyon Towhee	RC	PR	Abundant seeds (R&M)	Increase by 50%
Varied Bunting	CC	PR	Edges, thickets (H&W)	Increase by 50%
Common Ground-Dove	RC	PR	Brushy thornscrub (R&M)	Maintain/Determine Status
Western Screech-Owl	RC	PR	Clumps of trees, along drainages, need cavities (R&M)	Maintain/Determine Status
Loggerhead Shrike	RC	PR	Thorny trees and shrubs (ABBA)	Maintain/Determine Status
Pyrrhuloxia	RC	PR	Mesquite scrub (R&M)	Maintain/Determine Status

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Mesquite Bosque Woodland**

**Location:** Upland habitat adjacent to riparian wetlands throughout the Region, usually on river benches or terraces.

**Dominant plant species:** Mesquites (*Prosopis* spp.), acacias (*Acacia* spp.), sacaton (*Sporobolus* spp.), and hackberries (*Celtis* spp.).

**Physical/biological descriptions:** Gradient from wetter conditions to drier, upland conditions; on floodplains.

**Threats:** Groundwater pumping, erosion, urbanization, nonnative/invasive species, conversion to agriculture, catastrophic fire, unsustainable grazing, unsustainable firewood harvest and charcoal production.

**Opportunities for cooperation on conservation actions:** Important component for many riparian bird species (Yellow-billed Cuckoo).

**Primary Conservation Needs/Actions:** Water conservation, erosion control, invasive/nonnative species control, planned development, forest management (charcoal production), protect old growth mesquite, fire management, grazing management, and increase protected areas.

### **Priority Species for Mesquite Bosque Woodland**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Yellow-billed "Western" Cuckoo	RC	MA	Densely wooded, multistoried structured native vegetation (ABBA)	Increase by 50%
Gila Woodpecker	RC	MA	Large trees or saguaros to make cavities (ABBA)	Increase by 50%
Northern Beardless-Tyrannulet	RC	MA	Tent caterpillar webs or mistletoe for nesting (ABBA)	Increase by 50%
Bell's Vireo	CC	MA	Dense shrubby understory (ABBA)	Increase by 50%
Lucy's Warbler	CC	MA	Trees with cavities or exfoliating bark (ABBA)	Increase by 50%
Varied Bunting	CC	MA	Thickets and edges, low thorny shrubs (ABBA)	Increase by 50%
Gray Hawk	RC	MA	Extensive, tall mesquite (ABBA)	Maintain/Determine Status
Elf Owl	CC	MA	Nesting cavities, large trees, densely wooded (ABBA)	Maintain/Determine Status
Lucifer Hummingbird	RC	MA	Nectar sources	Maintain/Determine Status

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Western Screech-Owl	RC	PR	Mesquite, cavities (ABBA)	Maintain/Determine Status
Phainopepla	RC	PR	Mistletoe berries (ABBA)	Increase by 50%

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Pinyon-Juniper Woodland**

**Location:** Along foothills and mountains primarily in central and southeastern Arizona and northern Sonora; elevations range between 1,500 m and 2,300 m.

**Dominant plant species:** Equal dominance of juniper (*Juniperus* spp.) and pinyon pine (*Pinus edulis*), oaks (*Quercus* spp.) also grade into the habitat; understory often composed of grasses; junipers have invaded some former grasslands at lower elevations, but that pinyons have also is less certain as attempts to “reconvert” these areas to grass will attest (Brown 1994).

**Physical/biological descriptions:** Cold winter temperatures; rocky, with thin soils; contact with grassland or desertscrub below, and pine or pine-oak at the higher elevations, often parkland or savanna-like.

**Threats:** Unsustainable grazing, catastrophic fire, development, overharvest of trees, firewood collection, mining, recreation OHV disturbance.

**Opportunities for cooperation on conservation actions:** Work with private landowners, U.S. Forest Service, Bureau of Land Management, municipalities, and CONANP.

**Primary Conservation Needs/Actions:** Grazing management, fire management, recreation management, increase protected areas and awareness of importance of this habitat.

### **Priority Species for Pinyon-Juniper Woodland**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Pinyon Jay	CC	IM	Pine nuts, colonial nester, nomadic (ABBA )	Maintain/Determine Status
Golden Eagle	RC	MA	Tall cliffs/canyons for nesting, abundant prey	Double
<b>Lewis’s Woodpecker</b>	CC	MA	<b>Brushy understory, open foraging areas (ABBA)</b>	<b>Maintain/Determine Status</b>
Gray Vireo	CC	MA	Open juniper or P-J, scattered woody shrubs understory, slopes (ABBA)	Maintain/Determine Status
<b>Virginia’s Warbler</b>	CC	MA	<b>Shrubby deciduous slopes (ABBA)</b>	<b>Maintain/Determine Status</b>
<b>Grace’s Warbler</b>	CC	MA	<b>Open P-J with ponderosa pine (ABBA)</b>	<b>Maintain/Determine Status</b>
Cooper’s Hawk	RC	PR	Riparian component nearby	Increase by 50%

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
			(ABBA)	
Black-chinned Sparrow	CC	PR	Rocky slopes, shrubby structure, often with oak component (ABBA)	Increase by 50%
Western Screech-Owl	RC	PR	Abandoned woodpecker holes or natural cavities (ABBA)	Maintain/Determine Status
Long-eared Owl	RC	PR	Near open areas with abundant prey; reuse nests of ravens and raptors (ABBA)	Increase by 50%
Common Poorwill	RC	PR	Rocky hillsides (ABBA)	Maintain/Determine Status
Broad-tailed Hummingbird	RC	PR	Tall, dense P-J; often with oak or other pine, flower patches (ABBA)	Maintain/Determine Status
Cassin's Kingbird	RC	PR	Brushy cover, with vantage point for foraging (ABBA)	Increase by 50%

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

**Habitat: Interior Chaparral Shrubland**

**Location:** Patchily distributed from south of the Mogollon Rim through the Pinaleno Mountains, west to the Hualapai Mountains.

**Dominant plant species:** Manzanita (*Arctostaphylos* spp.), ceanothus (*Ceanothus* spp.), sumacs (*Rhus* spp.), mountain-mahogany (*Cerocarpus* spp.), and silktassels (*Garrya* spp.).

**Physical/biological description:** 1,067-2,286 m; arid habitat of low, dense primarily evergreen shrubs, associated with winter rainfall; fire-dependent.

**Threats:** Invasion of nonnative plants, altered fire frequencies, unsustainable grazing, soil erosion on steeper slopes.

**Opportunities for cooperation on conservation actions:** Urban/wildlands interface programs of agencies (fire management), planning/zoning to keep habitat from being converted.

**Primary Conservation Needs/Actions:** Protection from sprawling residential development, road construction, reduce off-road motorized vehicle traffic, grazing management; protect riparian zones within drainages to preserve ecotones; fire management; nonnative species removal/management.

**Priority Species for Interior Chaparral Shrubland**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Gray Vireo	CC	MA	Scattered woody shrubs in understory, slopes (ABBA)	Maintain/Determine Status
Black-chinned Sparrow	CC	PR	Rocky slopes, shrubby structure, often with oak component (ABBA)	Increase by 50%
<b>Rufous-crowned Sparrow</b>	<b>RC</b>	<b>PR</b>	<b>Grassy areas with rocky slopes/outcrops (ABBA)</b>	<b>Maintain/Determine Status</b>

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Desertscrub Shrubland**

**Location:** Southeastern Arizona and northeastern Sonora; most of the area is Chihuahuan desertscrub but also includes a small portion of Sonoran Desertscrub in the western part of the area; in the lowest and driest elevations of the Mexican Highlands and along intermittent water courses.

**Dominant plant species:** Creosote (*Larrea tridentate*), Tarbush (*Flourensia cernua*), Whitethorn Acacia (*Acacia neovernicosa*), Ocotillo (*Fouquieria splendens*), Allthorn (*Koeberlinia spinosa*), Mesquite (*Prosopis* spp.), Netleaf hackberry (*Celtis reticulata*), Palo Verde (*Cercidium* spp.), Ironwood (*Olneya tesota*), Cholla and Opuntia (*Opuntia* spp.), Saltbush (*Atriplex* spp.) and large succulents (e.g., *Ferocactus pringlei*, *Echinocactus platyacanthus*).

**Physical/biological descriptions:** 400-2000 m elevation; 80% of desertscrub resides on limestone and gravel planes; semi-arid climate, monsoon rain patterns, wide temperature variation, freezing temperatures >100 nights/year; 200->300 m rain/year, most precipitation falls during summer thunderstorms; desert washes have denser vegetation than surrounding areas.

**Threats:** Sprawling development, unsustainable grazing, conversion due to agriculture, unsustainable timber extraction, sand and gravel extraction, desertification (climate change), invasive/nonnative species, catastrophic fire, disturbance and habitat destruction due to off-road vehicles.

**Opportunities for cooperation on conservation actions:** Partnerships with private landowners, ejidos, New Mexico State University, University of Chihuahua, Chihuahuan Desert Research Institute (CDRI)-Sul Ross University (Alpine, TX); desert washes gaining attention as important migratory stopover sites; CONAFOR.

**Primary Conservation Needs/Actions:** Forest and grazing management, fencing, fire management, and nonnative/invasive species control, water conservation, erosion control, recreation management.

**Priority Species for Desertscrub Habitat**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Brewer's Sparrow	CC	MA	Open grassy areas with shrub thickets (winter) (R&M)	Double
Varied Bunting	CC	MA	Dense, low shrub thickets, dry washes, mesquite and hackberry (ABBA)	Increase by 50%
Five-striped Sparrow	CC	MA	Rocky hillsides/slopes, scattered thorny trees/shrubs	Increase by 50%

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
			(ABBA)	
Scaled Quail	CC	MA	Open desert, yucca, cactus, creosote (ABBA)	Maintain/Determine Status
Elf Owl	CC	MA	Saguaros, large thorny trees for nest cavities (ABBA)	Maintain/Determine Status
Lucifer Hummingbird	RC	MA	Flowering plants such as agave, yucca, ocotillo (ABBA)	Maintain/Determine Status
Costa's Hummingbird	CC	MA	Nectar sources	Maintain/Determine Status
Loggerhead Shrike	RC	PR	Thorny trees and shrubs (ABBA)	Maintain/Determine Status
Bendire's Thrasher	CC	MA	Scattered mesquite, acacia, yucca (ABBA)	Maintain/Determine Status
Rufous-winged Sparrow	CC	MA	Grass component (ABBA) Sonoran only	Maintain/Determine Status
Swainson's Hawk	CC	MA	Scattered thorny trees, mammalian prey (ABBA)	Maintain
Long-eared Owl	RC	PR	Abundant rodent population (ABBA)	Increase by 50%
Gila Woodpecker	RC	PR	Columnar cactus and large trees for cavities (ABBA)	Increase by 50%
Phainopepla	RC	PR	Mistletoe, scattered mesquite, palo verde, ironwood (ABBA)	Increase by 50%
Canyon Towhee	RC	PR	Scattered shrubs, ground cover, wooded dry washes (ABBA)	Increase by 50%
Harris's Hawk	RC	PR	Large saguaros, desert trees for nest placement (R&M)	Maintain/Determine Status
Common Ground-Dove	RC	PR	Generalist	Maintain/Determine Status
Western Screech-Owl	RC	PR	Clumps of trees, ironwood, mesquite, palo verde, saguaros (ABBA)	Maintain/Determine Status
Burrowing Owl	RC	PR	Open, low grass with burrows (ABBA)	Maintain/Determine Status
Common Poorwill	RC	PR	Numerous saguaros, desert trees (ABBA)	Maintain/Determine Status
Abert's Towhee	CC	PR	Dense understory, dry wash (ABBA)	Maintain/Determine Status
<b>Rufous-crowned Sparrow</b>	<b>RC</b>	<b>PR</b>	<b>Grassy areas with rocky slopes/outcrops (ABBA)</b>	<b>Maintain/Determine Status</b>
Pyrrhuloxia	RC	PR	Scattered mesquite (R&M)	Maintain/Determine Status

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Cassin's Sparrow	RC	PR	Patches of grass, ground cover (ABBA)	Maintain

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Desert Grasslands**

**Location:** Dominates valleys, such as the Santa Cruz and San Pedro river basins in Sonora and Arizona.

**Dominant plant species:** Blue Grama (*Bouteloua gracilis*), three-awns (*Aristida* spp.), sacaton (*Sporobolus* spp.), Lehman's lovegrass (*Eragrostis lehmanniana*), Soaptree Yucca (*Yucca elata*), and various other yuccas (*Yucca* spp.).

**Physical/biological descriptions:** Temperate, dry climate, monsoon rain patterns; approximately 1300-1500 m elevation.

**Threats:** Unsustainable grazing, erosion, woody shrub encroachment, invasive/nonnative species (e.g., buffelgrass), fragmentation, increased frequency and intensity of fire, conversion to agriculture or suburban development.

**Opportunities for cooperation on conservation actions:** Importance as wintering grounds for migratory birds primarily from the Great Plains (Botteri's and Cassin's Sparrows, Lark Bunting, Burrowing Owl, Northern Harrier); recognized as one of the most threatened habitats by the Commission on Environmental Cooperation.

**Primary Conservation Needs/Actions:** Grazing management, erosion control, nonnative/invasive species control, planned development, fire management, woody shrub control.

### **Priority Species for Desert Grasslands**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Aplomado Falcon	RC	IM	Scattered mesquite, soaptree yucca, open spaces; extirpated (ABBA)	Protect habitat to allow for possible natural recolonization
Sierra Madre Sparrow	CC	IM	Bunchgrass meadows within pine (H&W)	Double/Determine Status
Northern "Masked" Bobwhite	RC	IM	Native grass with scattered mesquite, acacia (ABBA)	Double
Sprague's Pipit	CC	IM	Open, short grass	Double
<b>Grasshopper "Arizona" Sparrow</b>	<b>RC</b>	<b>IM</b>	<b>Mid-grass (12") some woody shrubs and trees (ABBA)</b>	<b>Double</b>
Baird's Sparrow	CC	IM	Ungrazed or slightly grazed areas, short grass without trees and shrubs (Latta 1999)	Double

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Golden Eagle	RC	MA	Near cliffs/canyons, abundant prey, free of disturbance (ABBA)	Double
Short-eared Owl	CC	MA	Open areas with abundant prey	Double
Brewer's Sparrow	CC	MA	Small shrub thickets (R&M)	Double
<b>Montezuma Quail</b>	<b>CC</b>	<b>MA</b>	<b>Shrub cover, water sources</b>	<b>Increase by 50%</b>
<b>Five-striped Sparrow</b>	<b>CC</b>	<b>MA</b>	<b>Rocky hillsides, scrub, scattered grass and forbs, water nearby (ABBA)</b>	<b>Increase by 50%</b>
Scaled Quail	CC	MA	Open mixed grass (ABBA)	Maintain/Determine Status
Northern Harrier	RC	MA	Relatively undisturbed open areas (ABBA)	Maintain/Determine Status
Ferruginous Hawk	RC	MA	Low shrubs or jumpers (ABBA)	Maintain/Determine Status
Burrowing Owl	RC	MA	Open, low grasslands, with burrows (ABBA)	Maintain/Determine Status
Mountain Plover	CC	MA	Short grass	Maintain/Determine Status
Long-billed Curlew	CC	MA	Short grass (R&M)	Maintain/Determine Status
Bendire's Thrasher	CC	MA	Scattered mesquite, acacia, yucca (ABBA)	Maintain/Determine Status
Rufous-winged Sparrow	CC	MA	Scattered shrubs, trees, with grass cover (ABBA)	Maintain/Determine Status
Botteri's Sparrow	RC	MA	Sacaton or other native bunch grasses (ABBA)	Maintain/Determine Status
Striped Sparrow	CC	MA	Bunchgrass, in meadows, and within open pine woodlands (H&W)	Maintain/Determine Status
Swainson's Hawk	CC	MA	Scattered yucca, mesquite, juniper; mammalian prey (ABBA)	Maintain
Cassin's Sparrow	RC	MA	Tall, native grass, low shrubs (ABBA)	Maintain
Common Poorwill	RC	PR	Patchy grass, scattered shrubs (ABBA)	Maintain/Determine Status
Loggerhead Shrike	RC	PR	Scattered thorny trees and shrubs (ABBA)	Maintain/Determine Status

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Pyrrhuloxia	RC	PR	Mesquite thickets (ABBA)	Maintain/Determine Status
Canyon Towhee	RC	PR	Scattered, dense shrubs (ABBA)	Increase by 50%
<b>Eastern "Lillian's" Meadowlark</b>	<b>RC</b>	<b>PR</b>	<b>Scattered low shrubs, also subalpine grass (ABBA)</b>	<b>Increase by 50%</b>
<b>Rufous-crowned Sparrow</b>	<b>RC</b>	<b>PR</b>	<b>Grassy areas with rocky slopes/outcrops (ABBA)</b>	<b>Maintain/Determine Status</b>
Western Meadowlark	RC	PR	Generalist	Maintain/Determine Status

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Riparian Wetlands**

**Location:** Along water courses throughout the Region; includes low elevation riparian along desert drainages that may be dry during portions of the year and high elevation riparian in mountain foothills and canyons.

**Dominant plant species:** Low elevation riparian: Fremont cottonwood (*Populus fremontii*), Goodding Willow (*Salix gooddingii*), various mesquite species (*Prosopis* spp.), and Netleaf Hackberry (*Celtis reticulata*); high elevation riparian: Arizona Sycamore (*Plantanus wrightii*), Fremont Cottonwood, willows (*Salix* spp.), Velvet Ash (*Fraxinus pennsylvanica*), Arizona Walnut (*Juglans major*), Arizona Cypress (*Cupressus arizonica*), Netleaf Hackberry, and Bigtooth Maple (*Acer grandidentatum*).

**Physical/biological descriptions:** Influenced by monsoon rain patterns; includes high elevation riparian imbedded in forested landscapes and low elevation riparian in desertscrub habitat.

**Threats:** Groundwater pumping, erosion, urbanization, nonnative/invasive species, water pollution (mining), disturbance and habitat destruction due to OHVs, unsustainable grazing.

**Opportunities for cooperation on conservation actions:** Known as a major migratory bird corridor, improved water quantity/quality.

**Primary Conservation Needs/Actions:** Water conservation, watershed management, grazing management, fencing, erosion control, nonnative/invasive species control, recreation management.

### **Priority Species for Riparian Wetlands**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
<b>Willow “Southwestern” Flycatcher</b>	<b>RC</b>	<b>IM</b>	<b>Dense understory (esp. willow, tamarisk, seep willow) (ABBA)</b>	<b>Double</b>
<b>Bald Eagle (Southwest popn.)</b>	<b>RC</b>	<b>IM</b>	<b>Undisturbed areas with large trees, cliffs (ABBA)</b>	<b>Increase by 50%</b>
<b>Yellow-billed “Western” Cuckoo</b>	<b>RC</b>	<b>IM</b>	<b>Densely wooded, multistoried structured, native vegetation (ABBA)</b>	<b>Increase by 50%</b>
<b>Spotted Owl</b>	<b>CC</b>	<b>IM</b>	<b>Narrow, shady canyons, old-growth, uneven aged, dense canopy, rocky ledges, tree cavities (ABBA)</b>	<b>Increase by 50%</b>
<b>Gray-crowned Woodpecker</b>	<b>CC</b>	<b>MA</b>	<b>Mesic canyons, specifics unknown (?)</b>	<b>Increase by 50%</b>
<b>Aztec Thrush</b>	<b>CC</b>	<b>IM</b>	<b>Mesic slopes (R&amp;M); specifics unknown (?)</b>	<b>Increase by 50%</b>

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
<b>Wild “Gould’s” Turkey</b>	<b>RC</b>	<b>MA</b>	<b>Grassy or brushy understory, sustainable hunting (H&amp;W)</b>	<b>Double</b>
<b>Montezuma Quail</b>	<b>CC</b>	<b>MA</b>	<b>At high elevations; canyons and drainages; cottonwood/willow, sycamore (ABBA)</b>	<b>Increase by 50%</b>
Cooper’s Hawk	RC	MA	Large deciduous trees (ABBA)	Increase by 50%
<b>Northern “Apache” Goshawk</b>	<b>RC</b>	<b>MA</b>	<b>Tall trees, open canopy (ABBA)</b>	<b>Increase by 50%</b>
<b>Whiskered Screech-Owl</b>	<b>RC</b>	<b>MA</b>	<b>Tree cavities; medium-large trees, dense foliage (ABBA)</b>	<b>Increase by 50%</b>
Long-eared Owl	RC	MA	Cottonwood/willow, sycamore, high rodent abundance (ABBA)	Increase by 50%
<b>Blue-throated Hummingbird</b>	<b>RC</b>	<b>MA</b>	<b>Sycamore dominated drainages, with flower patches, especially lobelia (ABBA, R&amp;M)</b>	<b>Increase by 50%</b>
Elegant Trogon	CC	MA	Sycamore, cypress; tree cavities (R&M)	Increase by 50%
<b>Arizona Woodpecker</b>	<b>CC</b>	<b>MA</b>	<b>Excavates new cavities in dead wood (ABBA)</b>	<b>Increase by 50%</b>
Northern Beardless-Tyrannulet	RC	MA	Cottonwood/willow; tent caterpillar webs/ mistletoe for nests (ABBA)	Increase by 50%
Tufted Flycatcher	RC	MA	Well-wooded drainages (winter) (R&M)	Increase by 50%
<b>Bell’s Vireo</b>	<b>CC</b>	<b>MA</b>	<b>Dense, shrubby understory(ABBA)</b>	<b>Increase by 50%</b>
White-throated Robin	RC	MA	Gallery forests with undergrowth (R&M)	Increase by 50%
Lucy’s Warbler	CC	MA	Mesquite or other trees with cavities or exfoliating bark (ABBA)	Increase by 50%
Yellow “Sonoran” Warbler	RC	MA	Cottonwood/willow with dense understory (ABBA)	Increase by 50%
Red-faced Warbler	CC	MA	Cool, moist forested canyons, ground nester (ABBA)	Increase by 50%
Gray Hawk	RC	MA	Cottonwood/willow, sycamore; taller mesquite, hackberry (ABBA)	Maintain/Determine Status
Elf Owl	CC	MA	Densely wooded, cavities	Maintain/Determine

Species	Concern Category*	Cons. Action**	Habitat Need	30-Year Population Objective
			for nests (ABBA)	Status
Northern Pygmy-Owl	RC	MA	Wooded drainages and canyons, natural or woodpecker cavities (ABBA)	Maintain/Determine Status
Black Swift	CC	MA	Aerial, nests behind waterfalls (H&W)	Maintain/Determine Status
Violet-crowned Hummingbird	RC	MA	Sycamore, near flowers (ABBA)	Maintain/Determine Status
Magnificent Hummingbird	RC	MA	Often in cypress and sycamore (ABBA)	Maintain/Determine Status
Lucifer Hummingbird	RC	MA	Cottonwoods, mesquite, agave flowers (ABBA, R&M)	Maintain/Determine Status
Thick-billed Kingbird	CC	MA	Gallery woodlands, often mesquite (ABBA)	Maintain/Determine Status
American Dipper	RC	MA	Swift, perennial streams with rock crevices for nesting (ABBA)	Maintain/Determine Status
Fan-tailed Warbler	CC	MA	Rocky understory (H&W)	Maintain/Determine Status
Yellow Grosbeak	CC	MA	Large, dense trees (R&M), fruiting trees (H&W)	Maintain/Determine Status
Gila Woodpecker	RC	PR	Cottonwood, willow, mesquite (ABBA)	Increase by 50%
Bright-rumped Attila	RC	PR	Narrow canyons, permanent streams (R&M)	Increase by 50%
Sulphur-bellied Flycatcher	RC	PR	Sycamores, cavities natural or made by flickers (ABBA)	Increase by 50%
Cassin's Kingbird	RC	PR	Tall, clumped trees (ABBA)	Increase by 50%
<b>Brown-backed Solitaire</b>	<b>CC</b>	<b>PR</b>	<b>Mesic slopes, fruit (R&amp;M)</b>	<b>Increase by 50%</b>
Phainopepla	RC	PR	Mistletoe, cottonwood/willow, sycamore (ABBA)	Increase by 50%
<b>Painted Redstart</b>	<b>RC</b>	<b>PR</b>	<b>Diversity of deciduous and conifers, ground nester (ABBA)</b>	<b>Increase by 50%</b>
Flame-colored Tanager	RC	PR	Drainages with sycamore, walnut, maple (ABBA)	Increase by 50%
Varied Bunting	CC	PR	Dense, low shrub thickets (ABBA)	Increase by 50%
Common Ground-Dove	RC	PR	Cottonwood/willow, dense undergrowth or edge (ABBA)	Maintain/Determine Status
Western Screech-Owl	RC	PR	Mesquite, cavities (ABBA)	Maintain/Determine

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
				Status
“Stephen’s” Whip-poor-will	RC	PR	Outcrops, moist mountain drainages (ABBA)	Maintain/Determine Status
Costa’s Hummingbird	CC	PR	Flower source (ABBA)	Maintain/Determine Status
Broad-tailed Hummingbird	RC	PR	Patches of flowers (ABBA)	Maintain/Determine Status
<b>Cordilleran Flycatcher</b>	<b>RC</b>	<b>PR</b>	<b>Moist, shady canyons and drainages, ledge nester (ABBA)</b>	<b>Maintain/Determine Status</b>
Warbling Vireo	RC	PR	Sycamore, oak drainages (ABBA)	Maintain/Determine Status
<b>Virginia’s Warbler</b>	<b>CC</b>	<b>PR</b>	<b>Shrubby deciduous understory, canyons and drainages (ABBA)</b>	<b>Maintain/Determine Status</b>
Summer Tanager	RC	PR	Tall, continuous, native trees (cottonwood, willow) (ABBA)	Maintain/Determine Status
Abert’s Towhee	CC	PR	Dense understory (ABBA)	Maintain/Determine Status

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Freshwater Wetlands**

**Location:** Widely scattered throughout Arizona and Sonora; e.g., various reservoirs, Rancho Los Fresnos, Villa Verde/Ejido Ignacio Zaragoza (Sonora), St. David (Arizona).

**Dominant plant species:** Mixture of aquatic emergent vegetation, dominated by cattail (*Typha domingensis*) and rushes (*Scirpus* spp.), may include surrounding cottonwoods (*Populus* spp.) and willows (*Salix* spp.).

**Physical/biological descriptions:** Freshwater, from small seeps (<1 ha) to large cienegas, also backwaters, oxbows, marshes, lakes, and reservoirs.

**Threats:** Drought, groundwater pumping, water diversion/water extraction, habitat conversion to urban/agriculture, nonnative/invasive species (e.g., fish, frogs, aquatic plants).

**Opportunities for cooperation on conservation actions:** Known as very important for migratory waterfowl and shorebirds; NAWCA projects, U.S. Fish and Wildlife Service Refuge System.

**Primary Conservation Needs/Actions:** Promote wetland “no net loss”, grazing management, fencing, manage groundwater pumping, nonnative/invasive species control, erosion control, stakeholder participation/involvement, conservation of remaining water sources, and restoration of destroyed/degraded sites.

### **Priority Species for Freshwater Wetlands**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Snowy Plover	CC	IM	Protected sandy, gravelly shorelines	Maintain/Determine Status
Short-eared Owl	CC	MA	Wet meadows, marshes, cienegas, open, undisturbed (ABBA)	Double
“Mexican” Mallard	RC	MA	Lakes and marshes (H&W)	Increase by 50%
<b>Bald Eagle (Southwestern popn.)</b>	<b>RC</b>	<b>MA</b>	<b>Large trees, undisturbed areas (ABBA)</b>	<b>Increase by 50%</b>
Long-billed Curlew	CC	MA	Lake edges (M&P)	Increase by 50%
Northern Pintail	CC	MA	Intermittent high-elevation wetlands, marshes and shore with abundant vegetation (ABBA)	Maintain/Determine Status
Clark’s Grebe	CC	MA	Large areas of open water, emergent vegetation for nest cover (ABBA)	Maintain/Determine Status
American Avocet	CC	MA	Open, shallow water with	Maintain/Determine

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
			sparse to no vegetation; mudflats (ABBA)	Status
Northern Harrier	RC	MA	Wet meadows, marshes, cienegas; open, undisturbed (ABBA)	Maintain
Mallard	CC	PR	Dense vegetation, shallow water, abundant food (ABBA)	Maintain/Determine Status
Lesser Scaup	CC	PR	Reservoirs, below dams (winter) (ABBA)	Maintain/Determine Status

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Cliff/Rock**

**Location:** Canyons, mountains, desert outcrops throughout the Mexican Highlands.

**Dominant plant species:** Lichens, agaves (*Agave* spp.), yucca (*Yucca* spp.); scattered and sparse vegetation of the immediate area.

**Physical/biological descriptions:** Natural ledges and crevices in cliff faces, natural caves and overhangs, rocky slopes, rock outcrops, talus slopes, and open rocky ridges and hillsides; bare ground, thin soil.

**Threats:** Disturbance and habitat destruction due to recreation, mining, wind farms.

**Opportunities for cooperation on conservation actions:** Work with recreational climbers, mining companies, power producers; coordinate with peregrine surveys.

**Primary Conservation Needs/Actions:** Recreation management, especially during raptor breeding season; education/awareness; identify and protect other important nesting areas.

### **Priority Species for Cliff/Rock**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Golden Eagle	RC	IM	Rock ledges, near abundant prey; undisturbed (ABBA)	Double
Military Macaw	CC	IM	Crevices for nesting (H&W)	Increase by 50%
Black Swift	CC	MA	Aerial, nests behind waterfalls (H&W)	Maintain/Determine Status
White-throated Swift	CC	PR	Steep canyon walls, cliffs, ridgelines with expanses of open rock in various habitats (ABBA)	Maintain/Determine Status

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Urban**

**Location:** Cities and towns throughout Region.

**Dominant plant species:** Variety of native and nonnative species (including eucalyptus and palm).

**Physical/biological descriptions:** Heavily altered, impervious surface (pavement, etc.); artificial lights, low vegetation cover, water sources (e.g., pools, ponds).

**Threats:** Fragmentation, bird predation by feral animals (e.g., cats), increased predators, wildlife diseases, power lines, harassment by people, vehicle, and building collisions, invasive/non-native plants, competition from avian escapees (e.g., parrots).

**Opportunities for cooperation on conservation actions:** Most environmental organizations are located in urban areas, opportunity for environmental education and citizen science projects, working with planners to create wildlife-friendly development, habitat restoration, and tourism.

**Primary Conservation Needs/Actions:** Planned development, water conservation, greenbelts, raptor-friendly power poles, public outreach/education, native landscaping, initiate “Cats Indoors!” Program, point and non-point source pollution control.

### **Priority Species for Urban Habitat**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Gila Woodpecker	RC	PR	Columnar cactus and large exotic trees (ABBA)	Increase by 50%
Costa's Hummingbird	CC	PR	Desert landscaping, nectar sources, avoids exotic landscaping (ABBA)	Maintain/Determine Status

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Habitat: Agriculture**

**Location:** In valleys and broad flat areas throughout Region.

**Dominant plant species:** Cotton, alfalfa, grains, vineyards, citrus, pecans, etc.

**Physical/biological descriptions:** Irrigated fields, fallow fields, sod farms, alfalfa fields, field edges, ditch and canal berms, irrigation canals and run-off ponds, shelter belts, sod farms, natural edges/hedgerows, waste grain; often resulting in monocultures and low-diversity.

**Threats:** Pesticides, urban encroachment, water scarcity, abandonment (economic pressures), and wildlife conflicts with farmers.

**Opportunities for cooperation on conservation actions:** Cooperating with ranchers/farmers on various projects (wildlife-friendly, added value projects); working on shorebird, waterfowl, and winter raptor habitats projects; increase collaborative efforts; reduce pesticide use; promote organic farming; and water conservation.

**Primary Conservation Needs/Actions:** Produce guidelines to farming cooperatively with priority birds, finding common objectives; pollution control; water conservation; planned development; wildlife-friendly agriculture practices.

### **Priority Species for Agricultural Habitat**

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
Sprague's Pipit	CC	MA	Irrigated fields (R&M)	Double
Mallard	CC	MA	Near marshes, lakes	Maintain/Determine Status
"Mexican" Mallard	RC	MA	Near marshes, lakes	Maintain/Determine Status
Mountain Plover	CC	MA	Sod farms, short grass/bare fields (ABBA)	Maintain/Determine Status
Long-billed Curlew	CC	MA	Short grass fields, pastures	Maintain/Determine Status
Short-eared Owl	CC	PR	Near wet meadows, marshes, cienegas	Double
Long-eared Owl	RC	PR	Abundant rodent population (ABBA)	Increase by 50%
<b>Cassin's Kingbird</b>	<b>RC</b>	<b>PR</b>	<b>Taller trees near out-buildings, stock ponds (ABBA)</b>	<b>Increase by 50%</b>
<b>Eastern "Lilian's" Meadowlark</b>	<b>RC</b>	<b>PR</b>	<b>Scattered low shrubs, grass in fields, pastures (ABBA)</b>	<b>Increase by 50%</b>
Burrowing Owl	RC	PR	Open areas, short grass, with	Maintain/Determine

<b>Species</b>	<b>Concern Category*</b>	<b>Cons. Action**</b>	<b>Habitat Need</b>	<b>30-Year Population Objective</b>
			burrows (ABBA)	e Status
Common Ground-Dove	RC	PR	Brushy or open pastures, fields, edges (ABBA)	Maintain/Determine Status
Loggerhead Shrike	RC	PR	Edge with thorny trees and shrubs (ABBA)	Maintain/Determine Status
Western Meadowlark	RC	PR	Pastures, fallow fields (ABBA)	Maintain/Determine Status
Swainson's Hawk	CC	PR	Shelter belts, pastures, fields (breeding) (ABBA)	Maintain
Northern Harrier	RC	PR	Open fields, relatively undisturbed (ABBA)	Maintain

\* CC=Continental Concern Species; RC=Regional Concern Species

\*\*IM=Immediate Action; MA=Management Attention; PR=Long-term Planning and Responsibility

## **Focus Areas for the Mexican Highlands Region**

Focus Areas are considered important tools for conserving species of concern. A Focus Area is a location that has been identified as having significant bird populations and habitat values, and/or the potential to be restored to a condition that supports bird populations. These places on the landscape can be used to concentrate conservation activities and mobilize action. Conservation activities such as acquisition, restoration, and education can be supported and encouraged, and accomplishments can be showcased.

This Focus Area list is dynamic and will be changed based on objectives on Concern Species and their habitat needs. These lists will be augmented with areas that might not currently have priority birds but have high restoration potential. Additional Focus Areas will undoubtedly be needed because the habitat contained in all the listed Focus Areas will not likely meet the population objectives of all of the priority species.

The following is a list of the 28 Focus Areas in the Mexican Highlands/Sierra Madre Occidental Region. They are a combination of the Important Bird Areas as designated by the Arizona IBA program and the Áreas de Importancia para la Conservación de las Aves en México. Descriptions of Focus Areas can be found at <http://www.tucsonaudubon.org/azibaprogram/index.htm> for Arizona and <http://conabioweb.conabio.gob.mx/aicas/doctos/aicas.html> for Mexico. A map of the combined SJV Focus Areas will be produced at a later date and included on the SJV website and subsequent versions of the Conservation Plan.

### **Focus Areas in Arizona**

MH-AZ-1 San Pedro National Riparian Conservation Area  
MH-AZ-2 Agua Fria National Monument Riparian Corridors  
MH-AZ-3 Tuzigoot  
MH-AZ-4 Watson and Willow Lakes  
MH-AZ-5 Lower Oak Creek  
MH-AZ-6 Arivaca Cienega and Creek  
MH-AZ-7 California Gulch, Coronado National Forest  
MH-AZ-8 Chiracahua Mountains  
MH-AZ-9 Santa Rita Mountains  
MH-AZ-10 Sycamore Canyon  
MH-AZ-11 Appleton-Whittell Audubon Research Ranch  
MH-AZ-12 Huachuca Mountains  
MH-AZ-13 Upper Little Colorado River Watershed  
MH-AZ-14 Sabino and Lower Bear Creek

### **Focus Areas in Sonora**

MH-Son-1 Sistema de Sierras de la Sierra Madre Occidental – AICA-126  
MH-Son-2 Baserac-Sierra Tabaco-Bavispe - AICA-132  
MH-Son-3 Alamos-Río Mayo - AICA-128  
MH-Son-4 Cuenca de Río Yaqui - AICA-127

MH-Son-5 Mesa de Guacamayas - AICA-205

**Focus Areas in Sinaloa**

MH-Sin-1 Río Presidio-Pueblo Nuevo - AICA-77

MH-Sin-2 Pericos - AICA-237

MH-Sin-3 Parte Alta del Río Humaya - AICA-138

MH-Sin-4 Río Choix

MH-Sin-5 El Palmito

MH-Sin-6 El Mineral de Nuestra Señora

MH-Sin-7 Sierra de Tacuichamona

MH-Sin-8 Surutato

MH-Sin-9 Las Bufas - AICA-76

The AICA number following some of the Mexican Focus Areas refers to the numbering system found in the book *Áreas de Importancia para la Conservación de las Aves en México*.