

# Welcome to NatureServe Explorer!

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Common Name (Scientific Name) Birds American dipper (Cinclus mexicanus) Arizona Botteri's sparrow (Peucaea botterii arizonae) Bendire's thrasher (Toxostoma bendirei) Black-chinned sparrow (Spizella atrogularis) Black-throated gray warbler (Setophaga nigrescens) Broad-billed hummingbird (Cynanthus latirostris) Canyon towhee (Melozone fusca) Cordilleran flycatcher (Empidonax occidentalis) Costa's hummingbird (Calypte costae) Desert purple martin (Progne subis Hesperia) Elf owl (Micrathene whitneyi) Gila woodpecker (Melanerpes uropygialis) Gilded flicker (Colaptes chrysoides) Golden-crowned kinglet (Regulus satrapa) Gray flycatcher (Empidonax wrightii) Gray vireo (Vireo vicinior) Juniper titmouse (Baeolophus ridgwayi) Le Conte's thrasher (Toxostoma lecontei) Lewis's woodpecker (Melanerpes lewis) Lucy's warbler (Oreothlypis luciae) MacGillivray's warbler (Geothlypis tolmiei) Northern beardless-tyrannulet (Camptostoma imberbe) Olive-sided flycatcher (Contopus cooperi) Pacific wren (Troglodytes pacificus) Phainopepla (Phainopepla nitens) Pinyon jay (Gymnorhinus cyanocephalus) Prairie falcon (Falco mexicanus) Red-faced warbler (Cardellina rubrifrons) Red-naped sapsucker (Sphyrapicus nuchalis) Sulphur-bellied flycatcher (Myiodynastes luteiventris) Western grebe (Aechmophorus occidentalis) Yellow warbler (Setophaga petechia) Yellow-eyed junco (Junco phaeonotus) Fish Headwater chub (Gila nigra)

### **NatureServe Explorer Species Profiles**

### Invertebrates

A Caddisfly (Wormaldia planae ) Ancha Mountainsnail (Oreohelix anchana ) Fossil springsnail (Pyrgulopsis simplex ) Mayfly (Fallceon eatoni ) Monarch butterfly (Danaus plexippus ) Netwing midge (Agathon arizonicus ) Parker's cylloepus riffle beetle (Cylloepus parkeri ) Phoenix talussnail (Sonorella allynsmithi ) Richinbar talussnail (Sonorella ashmuni ) Roosevelt talussnail (Sonorella rooseveltiana ) (=Myotophallus rooseveltianus ) + (S.r. fragilis ) Sierra Ancha talussnail (Sonorella anchana ) **Mammals** Gunnison's prairie dog (Cynomys gunnisoni ) **Reptiles** Bezy's night lizard (Xantusia bezyi )



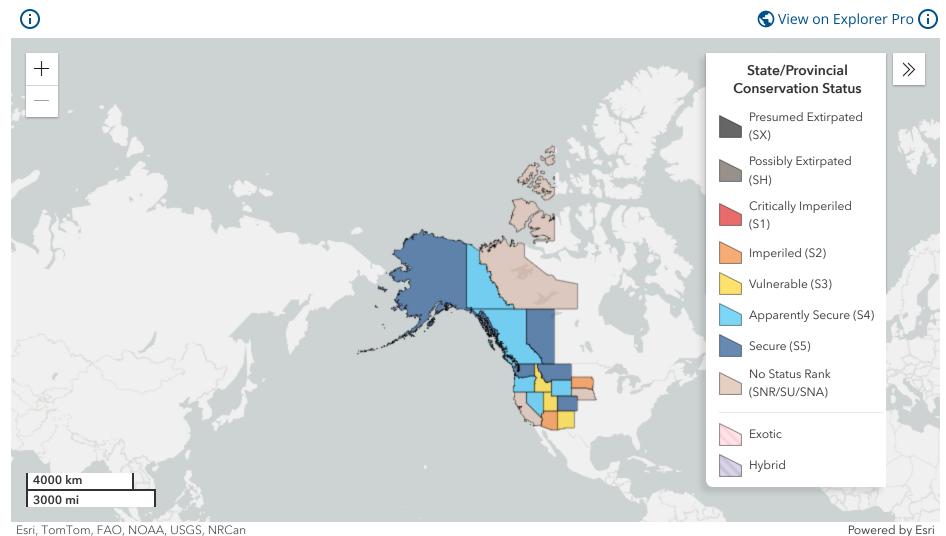


# This species has been adopted by Bruce Young!

**66** Something about the incongruity of a passerine bird seeming to find enjoyment from cavorting in frigid water makes me smile whenever I see a dipper.

Bruce Young. All Rights Reserved.

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Scientific Name: Cinclus mexicanus Swainson, 1827

Other Common Names: Cincle d'Amérique (FR), Mirlo-Acuático Norteamericano (ES)

Kingdom: Animalia Phylum: Craniata Class: Aves **Order:** Passeriformes Family: Cinclidae Genus: Cinclus

Scientific Name Reference: American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/. Concept Reference: American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/. Name Used in Concept Reference: Cinclus mexicanus NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.101202 NatureServe Element Code: ABPBH01010 Related ITIS Names: Cinclus mexicanus Swainson, 1827 (TSN 178536)

#### Infraspecies:

Cinclus mexicanus unicolor

# Conservation Status

# NatureServe Status

Global Status: G5 Global Status Last Reviewed: 12/20/2024 Rank Method Used: Ranked by calculator Reasons:

This species has a broad range and fairly large population. Although it is declining at least in the North American portion of the range, the decline is not great enough to trigger a more imperiled rank.

### National & State/Provincial Statuses

### Canada: N5

Alberta: S5, British Columbia: S4, Northwest Territories: SU, Yukon Territory: S4

**United States:** N5

Alaska: S5, Arizona: S2S3, California: SNR, Colorado: S5, Idaho: S3, Montana: S5, Navajo Nation: S2S3, Nebraska: SNRN, Nevada: S4, New Mexico: S3B,S4N, Oregon: S4, South Dakota: S2, Utah: S3S4, Washington: S5, Wyoming: S4

# **Other Statuses**

U.S. Endangered Species Act: None

#### **Comments on Endangered Species Act Statuses:**

A 90-day finding on a petition to list the DPS of American Dipper in the Black Hills of South Dakota was found to not be warranted at this time. This finding was based on the determination that this is not a valid DPS and cannot be considered a listable entity (Federal Register, 26 January 2006).

Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

General Status of Species in Canada: View on wildspecies.ca

# **NatureServe Global Conservation Status Factors**

Range Extent: >2,500,000 square km (greater than 1,000,000 square miles)

#### **Range Extent Comments:**

Thsi species occurs in western and northeastern Alaska, north-central Yukon, northern British Columbia, southwestern Alberta, south in mountains to southwestern South Dakota, south to southern California and highlands of Mexico to western Panama.

### Estimated Number of Element Occurrences: > 300 Estimated Number of Element Occurrences Comments:

There are hundreds of occurrences from across the range of the species (eBird 2024).

#### Degree of Threat: Low

#### **Threat Comments:**

This species requires swift-flowing streams and rivers, and is negatively affected by dams and other disturbances to these habitats (Feck and Hall 2004). As a top predator, it is also subject to poisoning from heavy metals such as selenium and mercury (Wayland et al. 2006, Silverthorn et al. 2017).

Long-term Trend: Increase of 10-25% Long-term Trend Comments:

The long-term trend is presumed to be declining, as inferred by the extensive damming of rivers throughout the range.

# **Short-term Trend:** Relatively Stable (<=10% change)

#### Short-term Trend Comments:

The population appears to be declining slightly, with an estimate of 27,184 (range, 2,510-52,533) fewer individuals at the end of the period 1970-2017 (Rosenberg et al. 2019).

## Global Abundance: 100,000 - 1,000,000 individuals

#### **Global Abundance Comments:**

The population in the North American portion of the range was estimated at 151,919 (range, 114,060-200,186) for the midpoint of the period 1970-2017 (Rosenberg et al. 2019), and there are additional individuals in the Central American portion of the range.

# Distribution

#### National and State/Provincial Distribution:

# Canada: AB, BC, NT, YT United States: AK, AZ, CA, CO, ID, MT, NE, NM, NN, NV, OR, SD, UT, WA, WY

# Ecology and Life History

# Length: 19 centimeters Weight: 61 grams

#### **Reproduction Comments:**

Clutch size is 3-6 in north (usually 4-5; but 2-4 in Costa Rica). Incubation, by female, lasts 15-17 days. Altricial young are tended by both adults, leave nest at 24-25 days (Terres 1980).

#### **Ecology Comments:**

Solitary except during the nesting season. Bakus (1959b) reported defense of up to 320 meters of stream in breeding season, and from 46-820 meters in nonbreeding season. Year-round density was 1.3 to 2.9 birds per kilometer of stream. In Costa Rica, pairs defend linear territories along streams during most or all of year (Stiles and Skutch 1989).

# **Mobility and Migration**

Colonial Breeder: No Non-Migrant: Yes Locally Migrant: Yes Long Distance Migrant: No Mobility and Migration Comments:

May descend to lower elevations during the winter.

# Habitat

Lacustrine Habitats: Shallow water Palustrine Habitats: Riparian Riverine Habitats: CREEK, MEDIUM RIVER, High gradient, Moderate gradient Terrestrial Habitats: Cliff Habitat Comments:

Montane streams, primarily swift-flowing, less frequently along mountain ponds and lakes, in winter occasionally to rocky seacoasts (Subtropical and Temperate zones) (AOU 1983). Found in mountains to treeline. Usually nests on a raised site overlooking water; nests on rocks in streams, cliff ledge, under waterfalls, bridges, etc.

# Phenology

Immature Phenologies: Diurnal Adult Phenologies: Diurnal

# Food

Immature Food Habits: Invertivore Adult Food Habits: Invertivore Food Comments:

Adult insects and their larvae (e.g., caddis flies, stone flies, mayflies, mosquitos, water beetles); also eats clams, snails, some trout fry (AOU 1983). Walks, swims, or dives in or under water, walks on stream bottoms, while foraging.

# Use Class: Migratory stopover

**Group Name:** Passerines **Subtype(s):** Foraging Area, Roost Site **Minimum Criteria for an Occurrence:** 

For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 kilometers Separation Distance for Suitable Habitat: 5 kilometers Separation Justification:

Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

#### Date: 2004-09-03

Author: Hammerson, G., and S. Cannings

### **Use Class: Nonmigratory**

### Group Name: Passerines

Minimum Criteria for an Occurrence:

Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

#### **Separation Barriers:**

None.

# Separation Distance for Unsuitable Habitat: 5 kilometers Separation Distance for Suitable Habitat: 5 kilometers

Separation Justification:

Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

#### Date: 2004-09-10

Author: Hammerson, G. Version Notes: These specs pertain to nonmigratory species.

# **Use Class: Breeding**

Group Name: Passerines Subtype(s): Foraging Area, Nest Site, Nesting Colony Minimum Criteria for an Occurrence:

Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

## Mapping Guidance:

Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

# Separation Distance for Unsuitable Habitat: 5 kilometers Separation Distance for Suitable Habitat: 5 kilometers Separation Justification:

Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5

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#### Cinclus mexicanus | NatureServe Explorer

km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

**Date:** 2004-09-10 **Author:** Hammerson, G.

# **Use Class: Nonbreeding**

Group Name: Passerines Subtype(s): Foraging Area, Roost Site Minimum Criteria for an Occurrence:

Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

Separation Distance for Unsuitable Habitat: 5 kilometers Separation Distance for Suitable Habitat: 5 kilometers Separation Justification:

Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 2004-09-03 Author: Hammerson, G.

# Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

# Authors and Contributors

NatureServe Conservation Status Factors Edition Date: 12/20/2024 NatureServe Conservation Status Factors Edition Authors: Young, B. E.

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# Peucaea botterii arizonae - (Ridgway, 1873)

Botteri's Sparrow

Synonym(s): Aimophila botterii arizonae (Ridgway, 1873) Taxonomic Status: Accepted

Related ITIS Name(s): Aimophila botterii arizonae (Ridgway, 1873) (TSN 730188)

Unique Identifier: ELEMENT\_GLOBAL.2.103425

Element Code: ABPBX91063

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family      | Genus   |
|----------|----------|-------|---------------|-------------|---------|
| Animalia | Craniata | Aves  | Passeriformes | Emberizidae | Peucaea |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections: ☑

**Concept Reference** 

Concept Reference: Scott, S. L. 1983. A Field Guide to the Birds of North America. The National Geographic Society, Washington, DC. 464 pp. + color plates.

Concept Reference Code: B83SCO01HQUS

Name Used in Concept Reference: Aimophila botterii arizonae

Taxonomic Comments: Formerly (e.g., AOU 1983, 1998) placed in the genus Aimophila, transferred to Peucaea by AOU (2010).

**Conservation Status** 

#### NatureServe Status

Global Status: G4T4 Global Status Last Reviewed: 28Feb2001 Global Status Last Changed: 28Feb2001 Rounded Global Status: T4 - Apparently Secure Reasons: Common and relatively widespread; however, dependent on grassland or savanna and apparently declining. Nation: United States National Status: N3?B (26Oct2000)

### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to our Distribution Data Sources to find contact information for your jurisdiction.

| United States | Arizona (S3?B), Texas (S1B) |
|---------------|-----------------------------|
|---------------|-----------------------------|

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#### **Other Statuses**

# NatureServe Global Conservation Status Factors

# Other NatureServe Conservation Status Information

## Distribution

# **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

#### Map unavailable!:

Distribution data for U.S. states and Canadian provinces is known to be incomplete or has not been reviewed for this taxon. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |        |  |  |
|---|--------|--|--|
| United States                             | AZ, TX |  |  |

#### Range Map

No map available.

| U.S. Distribution by County 📀 |                         |  |
|-------------------------------|-------------------------|--|
| State                         | County Name (FIPS Code) |  |
| ТХ                            | Presidio (48377)        |  |
| * Extirnated/possibly         | extirnated              |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 📀       |                                 |  |  |
|--|---------------------------------|--|--|
| Watershed Region 📀                     | Watershed Name (Watershed Code) |  |  |
| 13                                     | Alamito (13040202)+             |  |  |
| + Natural heritage record(s) exist for | r this watershed                |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

| Ecology & Life History  | 0        |
|---|----------|
| Economic Attributes   | 0        |
| Management Summary  | 0        |
| Population/Occurrence Delineation   | 0        |
| Population/Occurrence Viability   | 0        |
| Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).                             |          |
| The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this | <u>s</u> |
| method.   |          |

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

#### Authors/Contributors

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

#### References

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **June 8, 2018** 

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#### Citation for data on website including State Distribution, Watershed, and Reptile Range maps:

NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: June 8, 2018).

#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

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"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

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NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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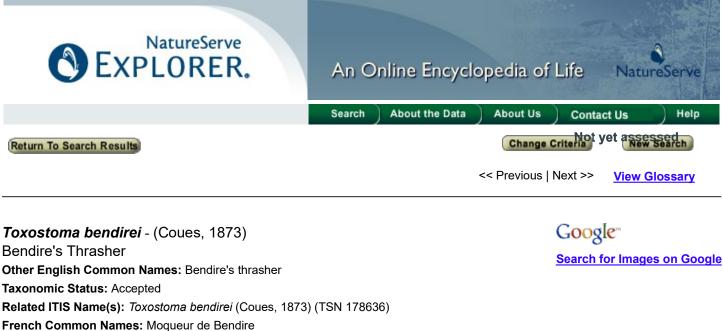
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Version 7.1 (2 February 2009) Data last updated: November 2016



Spanish Common Names: Cuitlacoche Pico Corto

Unique Identifier: ELEMENT\_GLOBAL.2.105855

Element Code: ABPBK06050

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family  | Genus     |
|----------|----------|-------|---------------|---------|-----------|
| Animalia | Craniata | Aves  | Passeriformes | Mimidae | Toxostoma |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections: ☑

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

#### Name Used in Concept Reference: Toxostoma bendirei

**Taxonomic Comments:** Appears to constitute a superspecies with T. CINEREUM (Mayr and Short 1970), an assertion borne out by the phylogenetic analysis of Zink et al. (1999). Placed in Sturnidae in Sibley and Ahlquist (1984).

**Conservation Status** 

#### **NatureServe Status**

Global Status: G4 Global Status Last Reviewed: 10Apr2016 Global Status Last Changed: 10Apr2016 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G4 - Apparently Secure Nation: United States National Status: N4B,NNRN (05Jan1997)

### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear

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on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

United States Arizona (S4), California (S3), Navajo Nation (S3S4B), Nevada (S1), New Mexico (S3B,S3N), Utah (SU)

#### **Other Statuses**

IUCN Red List Category: VU - Vulnerable

#### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** BREEDING: southeastern California (England and Laudenslayer 1989), southern Nevada, southern Utah, southern Colorado, and western and central New Mexico south to central Sonora (England and Laudenslayer 1993, AOU 1998). NON-BREEDING: southern Arizona and extreme southwestern New Mexico south through Sonora to northern Sinaloa; casual in California deserts and Central Valley (England and Laudenslayer 1993; AOU 1998; Laudenslayer, pers. comm.).

**Overall Threat Impact Comments:** Threats are largely unknown. Clearing of desert scrub habitats and harvesting of large desert cacti such as various yucca species is detrimental where the natural habitat structure is removed. Brood parasitism is probably rare: one 1934 record of brood parasitism by Brown-headed Cowbird (MOLOTHRUS ATER); but no reports of brood parasitism in 34 nest records from the North American Nest Record Card Program (England and Laudenslayer 1993).

**Short-term Trend Comments:** Population status and trends are poorly known. North American Breeding Bird (BBS) survey shows a significant and survey-wide decline (-4.0 percent average annual decline; P = 0.15) for the 30-year period from 1966-1996, but the sample size is relatively low, with occurrences reported on only 35 routes across five states (Sauer et al. 1997). A graph of BBS annual indices show this decrease to be steady and consistent, though the rate of decline perhaps lessened from 1986 onward. For the same 1966-1996 period, trend estimates show a non-significant increase in Arizona (4.1 percent average annual increase; P = 0.60; N = 15 routes) and a decline in New Mexico (-7.1 percent average annual decline; P = 0.19; N = 14 routes), but sample sizes are low for reliable estimates. Mapped trends show declines in the western and eastern portions of the species breeding range (southern Nevada, southern California, eastern Arizona and western New Mexico). Phillips et al. (1964) suggested that populations increased with desert clearing and agriculture, but observed large local variations in numbers. Relatively widespread and common breeder in northwestern and west-central regions of New Mexico in 1968. It is unknown if the lack of earlier records was due to a scarcity of observers, or if the species expanded its range, possibly in response to the spread of scattered junipers in this century (Darling 1970).

#### **Other NatureServe Conservation Status Information**

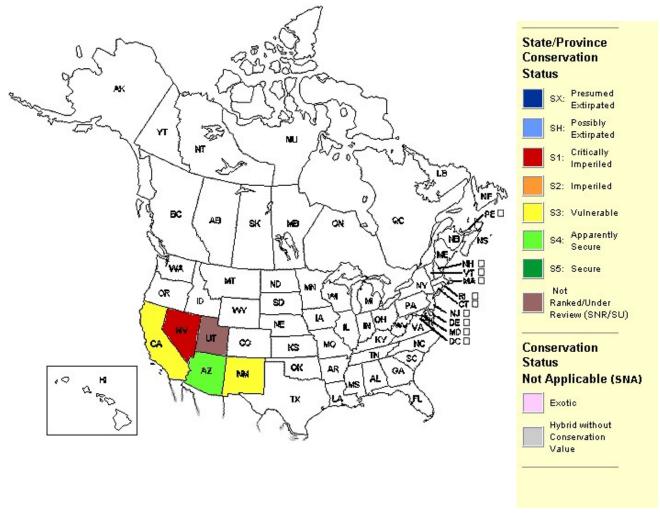
#### Distribution

**Global Range:** BREEDING: southeastern California (England and Laudenslayer 1989), southern Nevada, southern Utah, southern Colorado, and western and central New Mexico south to central Sonora (England and Laudenslayer 1993, AOU 1998). NON-BREEDING: southern Arizona and extreme southwestern New Mexico south through Sonora to northern Sinaloa; casual in California deserts and Central Valley (England and Laudenslayer 1993; AOU 1998; Laudenslayer, pers. comm.).

#### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

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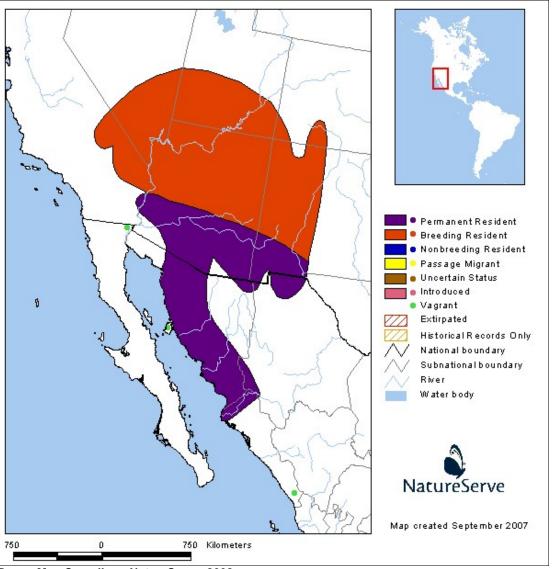


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |                        |  |  |
|---|------------------------|--|--|
| United States                             | AZ, CA, NM, NN, NV, UT |  |  |

#### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀    |   |  |
|----------------------------------|---|--|
| State                            | County Name (FIPS Code)                                 |  |
| CA                               | Kern (06029), Riverside (06065), San Bernardino (06071) |  |
| UT                               | Uintah (49047)*, Utah (49049)*                          |  |
| t Extirnated/accellul extirnated |   |  |

\* Extirpated/possibly extirpated

| U.S. Distribu         | J.S. Distribution by Watershed 📀   |  |  |
|-----------------------|--|--|--|
| Watershed<br>Region ⊘ | Watershed Name (Watershed Code)  |  |  |
| 14                    | Lower White (14050007)+*, Lower Green-Diamond (14060001)+*   |  |  |
| 15                    | Havasu-Mohave Lakes (15030101)+, Piute Wash (15030102)+  |  |  |
| 16                    | Utah Lake (16020201)+*, Ivanpah-Pahrump Valleys (16060015)+  |  |  |
| 18                    | South Fork Kern (18030002)+, Middle Kern-Upper Tehachapi- (18030003)+, Santa<br>Margarita (18070302)+, Death Valley-Lower Amargosa (18090203)+, Antelope-Fremont<br>Valleys (18090206)+, Coyote-Cuddeback Lakes (18090207)+*, Mojave (18090208)+, Southern<br>Mojave (18100100)+, Whitewater River (18100201)+, Salton Sea (18100204)+ |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

Ecology & Life History

#### Basic Description: A small bird (thrasher).

Diagnostic Characteristics: See Kaufman and Bowers (1990) for detailed information on identification.

**Reproduction Comments:** Clutch size three to four, rarely five (Ehrlich et al. 1988, England and Laudenslayer 1993). May raise multiple broods (Gilman 1915, England and Laudenslayer 1993). No information on incubation or time to fledging. **Ecology Comments:** Emlen (1974) estimated density in undisturbed creosote-bush desert near Tucson at 0.2 birds per 40 hectares; species did not occur in comparative urban study site. Estimates from BBS report average relative abundance as 0.45 birds per 25-mile route in Arizona (15 routes); 0.80 birds per route in New Mexico (12 routes); 0.48 birds per route survey-wide (35 routes; Sauer et al. 1997).

No information is available on home range. Banding recoveries suggest year-long site fidelity in southern Arizona; wintering birds in coastal California returned to same location for 4 years (England and Laudenslayer 1993).

One record of competition with western kingbird (TYRANNUS VERTICALIS) for nest site (Gilman 1915).

#### Non-Migrant: Y

#### Locally Migrant: Y

#### Long Distance Migrant: Y

**Mobility and Migration Comments:** Northern breeding populations migratory. Withdraws from Mojave and Great Basin Deserts, Colorado Plateau and Arizona/New Mexico Plateau; most move south in September and return by early February (Phillips et al. 1964, England and Laudenslayer 1993). In southern Arizona, less abundant in winter than during the breeding season; distribution in Mexico is poorly known; some records of wintering birds in coastal California (England and Laudenslayer 1993). Two anecdotal records (Scott 1888, Austin and Bradley 1965) suggest birds may move upslope after breeding, but this behavior is not confirmed (England and Laudenslayer 1993).

#### Terrestrial Habitat(s): Cropland/hedgerow, Desert, Grassland/herbaceous, Woodland - Conifer

Habitat Comments: Uses a variety of desert habitats with fairly large shrubs or cacti and open ground, or open woodland with scattered shrubs and trees, between 0 and 550 meters elevation. Species composition of vegetation varies across range. Not found in dense vegetation such as riparian woodland, although it may use edges (England and Laudenslayer 1993). Avoids uninterrupted brushy cover and continuous grassland (Phillips et al. 1964). In north and at higher elevations, found in sagebrush (ARTEMISIA sp.) and scattered junipers (JUNIPERUS sp.). At lower elevations, occurs in desert grassland and shrubland with spiny shrubs or cacti, such as cholla (OPUNTIA sp.), Joshua tree (YUCCA BREVIFOLIA), Spanish bayonet (Y. SCHIDIGERA), palo verde (CERCIDIUM sp.), mesquite (PROSOPIS sp.), catclaw (ACACIA sp.), desert-thorn (LYCIUM sp.) or AGAVE (AOU 1983, England and Laudenslayer 1993).

In Mexico, occurs in arid to semiarid, open or semi-open country and grasslands, with scattered bushes, cacti, or hedges (Howell and Webb 1995). In southeastern Arizona, found in habitat dominated by creosote bush (LARREA TRIDENTATA) and clusters of cholla (Tomoff 1974). England and Laudenslayer (1993) observed that in southern New Mexico and southern Arizona, will breed in degraded desert grassland or desert scrub where there are shrubs but little grass. Also avoids the cholla that it favors further to north; possibly due to competition with Curve-billed Thrashers (TOXOSTOMA CURVIROSTRE). Sometimes also uses agricultural and urban areas where structure resembles natural habitat (Gilman 1915, Phillips et al. 1964, Rosenberg et al. 1991).

Nests in low tree, shrub, or cactus, usually about 1-1.5 meters (sometimes 0.5-3.5 meters) above ground. Nests typically in mesquite, cholla, juniper, Joshua tree and other yucca species, but occasionally also in catclaw, palo verde, hackberry (CELTIS sp.), willow (SALIX sp.), saltbush (ATRIPLEX sp.; England and Laudenslayer 1993).

#### Adult Food Habits: Invertivore

#### Immature Food Habits: Invertivore

**Food Comments:** Diet and foraging strategies not studied in detail. Feeds on insects and other arthropods, especially caterpillars, beetles, grasshoppers, ants, termites. Forages primarily on the ground, but will also pluck fruit and glean vegetation for insects (Terres 1980, England and Laudenslayer 1993). Primarily gleans and probes; also digs with bill in leaf litter and sandy soil although does not dig as much as other thrashers; possibly avoids rocky soils and slopes that preclude digging (England and Laudenslayer 1993, USDA Forest Service 1994).

Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 25 centimeters Weight: 62 grams

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#### **Economic Attributes**

#### **Management Summary**

**Stewardship Overview:** Most of what is known about the species is anecdotal. Occurs in southwestern desert scrub habitats in relatively low densities and patchy distribution, and shows a preference for scattered large shrubs and cacti interspersed by open ground with varying degrees of sand in the soil. Habitat conversion (such as urban development and tilled agriculture) and removal of large shrubs and cacti that significantly alters habitat structure are detrimental, but there is no quantitative information on the impacts of other human activities.

**Species Impacts:** Pima Indians considered the species a small nuisance as it would dig up newly sprouting field crops (Rea 1983, cited in USDA Forest Service 1994).

**Restoration Potential:** More information is needed on habitat preferences, metapopulation dynamics, and response to habitat changes to better understand the potential for maintaining or restoring populations.

**Preserve Selection & Design Considerations:** No information available on landscape relationships or the effects of landscape changes. Anecdotal accounts indicate that the species will use grazed desert scrub, urban environments and agricultural areas where large native shrubs and cacti remain, but it is unknown what impacts degraded or fragmented habitats have on productivity or survival. Eliminated in areas with extensive urban development and large-scale agriculture (Emlen 1974; Rea 1983, cited in England and Laudenslayer 1993).

**Management Requirements:** The presence of large, scattered shrubs, cacti, or junipers with areas of open sandy ground appear to be prerequisites. Harvesting of large desert plants (e.g., Joshua trees and other yuccas), overgrazing, off-road vehicle use, or other activities that eliminate large shrubs and cacti or impacts the vegetation structure, are likely to be detrimental. No other information is available on habitat needs, effects of human activities, or management requirements.

**Monitoring Requirements:** Preference for open habitats allow it to be relatively easily surveyed. Secretive behavior, shyness, patchy distribution, and low density, however, need to be considered in survey and sampling design (USDA Forest Service 1994). Call notes are rarely heard, but the song is suggestive of a mockingbird: a "continuous sweet warble with a double quality, as if the bird were singing two songs at once" (Phillips et al. 1964). Sings from a high perch, such as shrub top, roof, or fence post (England and Laudenslayer 1993). Taped song play-backs may be used to enhance detectability (England and Laudenslayer 1989, cited in USDA Forest Service 1994).

**Management Research Needs:** Nearly all aspects of the effects of human activities on this species are unknown. Information is needed on habitat preferences throughout the seasons; potential threats; rates of brood parasitism; effects of different grazing, fire, and climate regimes; landscape relationships, particularly in relation to productivity and survival; effects of urban development, agriculture, recreation, off-road vehicle use.

**Biological Research Needs:** So little is known about basic life history that there is ample opportunity for amateur and professional biologists to make significant contributions. Information is needed on incubation and nestling periods; predators and competitors; brood parasitism rates and behavioral response; diet and foraging strategies; migration; winter range and ecology; habitat preferences; landscape relationships; and metapopulation structure and dynamics.

#### **Population/Occurrence Delineation**

Group Name: Passerines

#### Use Class: Breeding

Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not

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necessarily static.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004 Author: Hammerson, G.

# Use Class: Migratory stopover

#### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

**Date:** 03Sep2004 **Author:** Hammerson, G., and S. Cannings

### Use Class: Nonbreeding

#### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004

Author: Hammerson, G.

#### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004 Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

### **Population/Occurrence Viability**

0

0

0

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

Authors/Contributors

Management Information Edition Date: 19Oct1999

Management Information Edition Author: PAIGE, C.; REVISIONS BY M. KOENEN AND D.W. MEHLMAN

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Element Ecology & Life History Edition Date: 21Apr1994

Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **March 26, 2018** 

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#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

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"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

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#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

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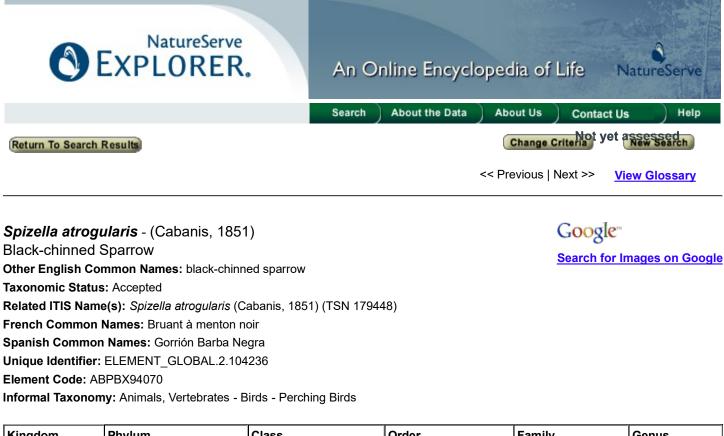
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Version 7.1 (2 February 2009) Data last updated: November 2016



| Animalia         Craniata         Aves         Passeriformes         Emberizidae         Spizella | Kingdom  | Phylum   | Class | Order         | Family      | Genus    |
|---|----------|----------|-------|---------------|-------------|----------|
|   | Animalia | Craniata | Aves  | Passeriformes | Emberizidae | Spizella |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections: ☑

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

#### Name Used in Concept Reference: Spizella atrogularis

**Taxonomic Comments:** See Zink and Dittmann (1993) for a hypothesis for evolution in the genus *Spizella*. See Dodge et al. (1995) for a comparison of phylogenies derived from two molecular data sets for the genus *Spizella*; among other results, monophyly of *Spizella* including the American tree sparrow was supported.

#### **Conservation Status**

#### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 08Dec1998 Global Status Last Changed: 04Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N5 (19Mar1997)

#### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear

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on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

| United States | Arizona (S5), California (S4), Navajo Nation (S1S2B), Nevada (S3B), New Mexico (S3B,S3N), Texas (S3B), Utah (S3B) |
|---------------|---|
|---------------|---|

# **Other Statuses**

IUCN Red List Category: LC - Least concern

# NatureServe Global Conservation Status Factors

Range Extent: 20,000-2,500,000 square km (about 8000-1,000,000 square miles)

**Range Extent Comments:** BREEDING: north-central California, southern Nevada, southwestern Utah, central Arizona, central New Mexico, western Texas, central Nuevo Leon, and southwestern Tamaulipas south to northern Baja California, southwestern California, and southeastern Arizona; and in Mexican Highlands (probably disjunct) from Durango, Coahuila to Guadalajara, Michoacan, Puebla, and Oaxaca (Tenney 1997, AOU 1998). NON-BREEDING: coastal California (casual), southern Arizona, southern New Mexico, western Texas, and Nuevo Leon south to southern Baja California and through the breeding range in central Mexico (AOU 1998).

**Overall Threat Impact Comments:** Most of upland habitat is either above current urban development or on rugged slopes not conducive to building (USDA Forest Service 1994), but the population declines evident in California foothills beg investigation of habitat changes. Local loss of breeding habitat due to mining, off-road vehicles, and overgrazing (Tenney 1997). Coastal scrub and lowland chaparral types have suffered serious losses to development in California. Depending on vegetation type, alteration of fire regimes in chaparral and shrubland habitats may have unknown impacts on the species (see Keeley and Keeley 1988). Heavy grazing on wintering grounds in southwestern U.S. and northern Mexico have reduced and degraded native grasses and forb vegetation, and this may impact winter foraging habitat (DeSante and George 1994, Tenney 1997).

**Short-term Trend Comments:** North American Breeding Bird Survey (BBS) data show steep and significant population declines for the western BBS region (-6.1% per year; n = 47 survey routes), California (-7.3% per year; n = 34), and California foothills physiographic region (-11.7% per year; n = 16), 1966-1996. These are the only BBS areas for which sample sizes are sufficient for trend analysis. The survey-wide decline appears to be a persistent and steady trend throughout the 1966 to 1996 period. Mapped trends show a local population increase in central Arizona, but sample size is low in Arizona for state-wide or physiographic region trends. Highest breeding season abundances occur in southern California, central Arizona, and in southern New Mexico/far west Texas (Sauer et al. 1997). In contrast to the BBS, winter Christmas Bird Counts (CBC) show a moderate but significant increase (1.7% per year; n = 60 survey circles), possibly focused in Arizona (2.4% per year; n = 22). Highest winter abundance occurs in southern Arizona (Sauer et al. 1996).

# Other NatureServe Conservation Status Information

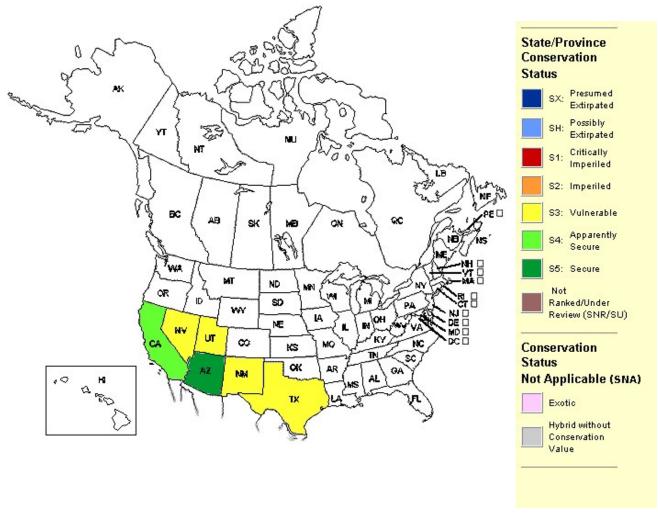
# Distribution

**Global Range:** (20,000-2,500,000 square km (about 8000-1,000,000 square miles)) BREEDING: north-central California, southern Nevada, southwestern Utah, central Arizona, central New Mexico, western Texas, central Nuevo Leon, and southwestern Tamaulipas south to northern Baja California, southwestern California, and southeastern Arizona; and in Mexican Highlands (probably disjunct) from Durango, Coahuila to Guadalajara, Michoacan, Puebla, and Oaxaca (Tenney 1997, AOU 1998). NON-BREEDING: coastal California (casual), southern Arizona, southern New Mexico, western Texas, and Nuevo Leon south to southern Baja California and through the breeding range in central Mexico (AOU 1998).

# **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

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NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |                            |  |
|---|----------------------------|--|
| United States                             | AZ, CA, NM, NN, NV, TX, UT |  |

#### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀  |                         |  |  |
|--------------------------------|-------------------------|--|--|
| State                          | County Name (FIPS Code) |  |  |
| NM                             | Bernalillo (35001)      |  |  |
| * Extinated/possibly extinated |                         |  |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed ⊘ |                                    |
|----------------------------------|------------------------------------|
| Watershed Region 📀               | Watershed Name (Watershed Code)    |
| 13                               | Rio Grande-Albuquerque (13020203)+ |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### **Ecology & Life History**

Basic Description: A small bird (sparrow).

**Reproduction Comments:** Clutch size two to five (usually two to four). Both parents tend young. Nests in loose local colonies (Rising 1996, Terres 1980).

Non-Migrant: Y

Locally Migrant: Y

Long Distance Migrant: Y

Mobility and Migration Comments: Breeding populations in northern part of range are strongly migratory, wintering in Baja California

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Sur, southern Arizona, Sonora, Chihuahua, and south. Border and interior Mexico populations mostly resident, although will move downslope. Migratory routes unknown (Tenney 1997).

Terrestrial Habitat(s): Desert, Shrubland/chaparral

Habitat Comments: BREEDING: Chaparral, sagebrush, and arid scrub; on gentle hillsides to steep, rocky slopes, or in brushy canyons; sea level to nearly 2,700 meters (AOU 1998, Rising 1996, Tenney 1997). Subspecies CANA and CAURINA (of western and central California) inhabit tall, dense chaparral on dry, slopes, often south-facing (USDA Forest Service 1994); also sagebrush (Tenney, pers. comm.). In montane chaparral, associated with chamise, ceonothus, and scrub oak-dominated habitats; in Joshua Tree National Monument uses open chaparral mixed with pinyon-juniper on steep slopes (Grinnell and Miller 1944, Miller and Stebbins 1964, USDA Forest Service 1994). In Inyo and San Bernadino Counties, California (race EVURA), reported to inhabit dense sagebrush stands in valley basins, but generally avoids open sage, preferring chaparral-covered hillsides (Grinnell and Swarth 1913). Also in other habitats such as manzanita chaparral in Arizona (Tenney, pers. comm.). See Tenney (1997) for review of shrub species associations.

Preferred shrub density and height unknown, but usually found in shrub stands too thick to easily walk through (USDA Forest Service 1994). May require periodic, repeated fires for preferred habitat (e.g., burned chaparral stands five to ten years post-fire) but this varies regionally and with vegetation type. Shows some preference for shrub stands with openings and passageways in brush, but these may be young stands, late seral, or senescent stands, depending on vegetation (see Tenney 1997). Nests in low shrubs, 15-120 cm above ground (Tenney 1997, Terres 1980).

POST-BREEDING: Birds may invade higher elevations in late summer (e.g., Grinnell and Swarth 1913).

NON-BREEDING: Generally moves downslope or south into desert grassland scrub, where grass and forb seeds are an important winter food source (Tenney, pers. comm.). May forage beneath shrub canopy or in adjacent grassy areas (Tenney 1997). Adult Food Habits: Granivore, Invertivore Immature Food Habits: Granivore, Invertivore Food Comments: Feeds on insects and small seeds. Forages in brush and on ground. Flies under and over brush in search of food. Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 15 centimeters Weight: 12 grams Economic Attributes Management Summary

**Stewardship Overview:** A shy bird that inhabits extremely brushy terrain in rugged country. Little information available. It is declining in California, and the California foothills in particular, and is listed as a species of concern on the Partners in Flight WatchList. Much of its upland habitat in California is above the current reach of urban development and is on federal lands. Further research is warranted to determine causes of population declines, the effects of changes in chaparral fire regimes, and impacts of other habitat alterations in breeding and wintering habitats.

**Preserve Selection & Design Considerations:** Most aspects of landscape and successional relations unknown. California GAP Analysis indicates that much of the distribution of chaparral types exists on either federal (non-Department of Defense) or private lands in the state (Davis et al. 1998). In southern California, much montane chaparral preferred by the species lies within National Forest lands (Los Padres, Angeles, San Bernadino, Cleveland, and Mendocino National Forests) where there are few other resource demands on chaparral habitats (USDA Forest Service 1994).

For wildlife habitat types defined in the California GAP Analysis, desert scrub is very widespread with 70,343 sq km (> 17% of land area); montane chaparral comprises 3,104 sq km (0.8% of land area); chamise-redshank chaparral 10,498 sq km (2.6% of land area); and coastal scrub 7,598 sq km (1.9% of land area). See Davis et al. (1998) for detailed information on distribution and management status of vegetation cover types in California.

**Management Requirements:** Dense, extensive shrublands required. In Texas, Wauer (1977) noted a population increase over the 30-year reestablishment of chaparral and grasslands following removal of domestic livestock.

**Monitoring Requirements:** Given the limited range and low sample sizes on the BBS and CBC, it may require a more targeted monitoring effort to determine population status and trends. This diurnal bird with a distinctive song can be surveyed by standard point-count, transect, plot, or spot-mapping methods. However, the species is usually found in steep and difficult terrain that may have limited

access and in very dense vegetation that can be impossible to walk through. Often hidden in brush and best located by voice: the male by song, female by defensive chipping when disturbed near nest or young. Sampling design should take into consideration distribution of chaparral, dry shrubland, and desert scrub favored by this species. Surveys must also take into account the apparently irruptive or intermittent nature of the species in some areas; species can be abundant for a year or more during "invasive pulses" and then become rare or disappear (see Tenney 1997).

**Management Research Needs:** Most aspects of habitat and demography relating to management and conservation are unknown. Research needed on habitat ecology at local and landscape scales, including successional and fire regime relations, and area requirements; causes of mortality; contaminants; grazing, mining, off-road vehicles and other sources of habitat alteration or degradation; causes of population declines. Factors affecting food availability, nest success, and survivorship unknown. No recent data on brood parasitism (three records known; Tenney 1997), no data on predators.

**Biological Research Needs:** Very little known about this species and virtually all aspects of its biology and ecology need further study, including details of habitat associations and habitat ecology, nest site selection, site fidelity, territory, juvenile dispersal, migration routes and winter distribution, quantitative study of diet and metabolism, social behavior, predation, susceptibility to brood parasitism, life span and survivorship, causes of mortality, response to climatic changes, and nature of "irruptive invasions" in northern California (see Tenney 1997).

#### **Population/Occurrence Delineation**

Group Name: Passerines

#### Use Class: Breeding

#### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so

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are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

#### Use Class: Migratory stopover

#### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

#### Date: 03Sep2004

Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004

Author: Hammerson, G.

#### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

#### Separation Barriers: None.

### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

#### **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

#### Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 08Dec1998

NatureServe Conservation Status Factors Author: Paige, C.

Management Information Edition Date: 08Dec1998

Management Information Edition Author: Paige, C.; REVISIONS BY M. Koenen AND D.W. MEHLMAN

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Element Ecology & Life History Edition Date: 14May1996

Element Ecology & Life History Author(s): HAMMERSON, G.; REVISIONS BY C. PAIGE

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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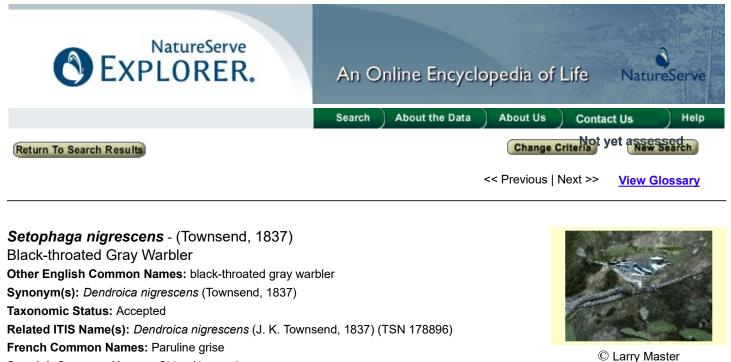
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Version 7.1 (2 February 2009) Data last updated: November 2016



Spanish Common Names: Chipe Negrogris

Unique Identifier: ELEMENT\_GLOBAL.2.106342

Element Code: ABPBX03070

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family    | Genus     |
|----------|----------|-------|---------------|-----------|-----------|
| Animalia | Craniata | Aves  | Passeriformes | Parulidae | Setophaga |

Genus Size: D - Medium to large genus (21+ species)

Check this box to expand all report sections:  $\ensuremath{\boxdot}$ 

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

### Name Used in Concept Reference: Dendroica nigrescens

**Taxonomic Comments:** Phylogenetic analyses of sequences of mitochondrial and nuclear DNA (Lovette et al. 2010) indicate that all species formerly placed in *Dendroica*, one species formerly placed in *Wilsonia* (*citrina*), and two species formerly placed in *Parula* (*americana* and *pitiayumi*) form a clade with the single species traditionally placed in *Setophaga* (*ruticilla*). The generic name *Setophaga* has priority for this clade (AOU 2011).

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 09Apr2016 Global Status Last Changed: 03Dec1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure Nation: United States National Status: N5B (05Jan1997) Nation: Canada  $\bigcirc$ 

National Status: N4N5B (08Sep2000)

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| United<br>States | Arizona (S5), California (SNRB), Colorado (S5B), Idaho (S4B), Kansas (SNA), Navajo Nation (S5B), Nebraska (SNRN),<br>Nevada (S5B), New Mexico (S3B,S4N), Oklahoma (S1N), Oregon (S5B), Texas (S3N,SHB), Utah (S4B), Washington<br>(S5B), Wyoming (S2) |
|------------------|---|
| Canada           | British Columbia (S4B)  |

### **Other Statuses**

IUCN Red List Category: LC - Least concern

## NatureServe Global Conservation Status Factors

**Range Extent Comments:** BREEDING: southwestern British Columbia, western Washington, central Oregon, southwestern Idaho, northern Utah, southwestern Wyoming, northwestern and central Colorado, south in mountains to Arizona, eastern and southern New Mexico, northern Baja California, and northeastern Sonora, Mexico (AOU 1983, Guzy and Lowther 1997). Centers of abundance based on BBS data are in eastern Utah, southeastern Arizona, the Sierra Nevada, northwestern California, western Oregon, western Washington, and southwestern British Columbia (Sauer et al. 1997). NON-BREEDING: primarily in Baja California Sur and Pacific Slope and interior of Snora, Durango, Zacatecas, and Coahuila south to central Oaxaca. In small numbers in California and along Gulf Coast of U.S. (Guzy and Lowther 1997).

**Overall Threat Impact Comments:** May have a potentially high risk of local extinction due to a low frequency of occurrence, low abundance, long-distance migration, and loss of late-successional coniferous forests (Lehmkuhl and Ruggiero 1991). TIMBER HARVEST: Impacts of the broad range of timber harvest activities are mostly unknown. GRAZING: Grazing impacts largely unknown. Grazing in riparian vegetation along Sacramento River valley may threaten wintering populations in California (USDA Forest Service 1994), presumably by damaging or removing shrubs and saplings. PREDATION: Accipiters prey on adults; jays, crows and snakes prey on eggs and young (Guzy and Lowther 1997). BROOD PARASITISM: Considered a rare brown-headed cowbird (MOLOTHRUS ATER) host (Ehrlich et al. 1988), but little studied. Total of 20 records known; parasitism rates in very limited samples in California, Arizona, and New Mexico were 10 percent to 20 percent (see Guzy and Lowther 1997). In white Mountains, California, two nests were observed that had nest layers built over a cowbird egg, but no other antiparasitic responses have been recorded (Guzy and Lowther 1997).

**Short-term Trend Comments:** Populations appear to be stable or increasing range-wide. North American Breeding Bird Survey (BBS) data show significant population increase survey-wide, 1966-1996 (2.2 percent average annual change; P < 0.05; n = 202 survey routes). All other trend estimates for 1966-1996 and 1980-1996 (British Columbia, Arizona, California, Washington, and the Cascade Mountains, Pinyon-Juniper Woodland, California Foothills, and Southern Pacific Rainforests physiographic regions) were not statistically significant (Sauer et al. 1997). Hall et al. (1997), however, reported decreasing populations from an evaluation of BBS survey routes on managed ponderosa pine habitats in Arizona and New Mexico. Mapped BBS trends show mostly positive trends throughout the range, 1966-1996, with local negative trends in western Colorado, eastern Utah, northern New Mexico, southern California, northwestern Oregon, and the northern Washington Cascades.

## **Other NatureServe Conservation Status Information**

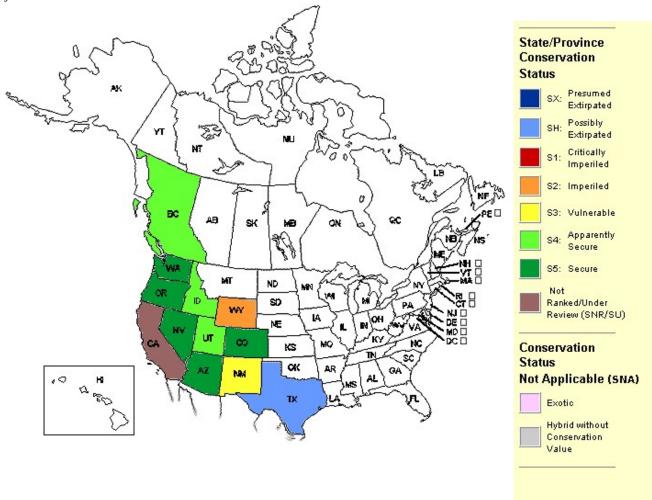
### Distribution

**Global Range:** BREEDING: southwestern British Columbia, western Washington, central Oregon, southwestern Idaho, northern Utah, southwestern Wyoming, northwestern and central Colorado, south in mountains to Arizona, eastern and southern New Mexico, northern Baja California, and northeastern Sonora, Mexico (AOU 1983, Guzy and Lowther 1997). Centers of abundance based on BBS data are in eastern Utah, southeastern Arizona, the Sierra Nevada, northwestern California, western Oregon, western Washington, and southwestern British Columbia (Sauer et al. 1997). NON-BREEDING: primarily in Baja California Sur and Pacific Slope and interior of Snora, Durango, Zacatecas, and Coahuila south to central Oaxaca. In small numbers in California and along Gulf Coast of U.S. (Guzy

and Lowther 1997).

### **U.S. States and Canadian Provinces**

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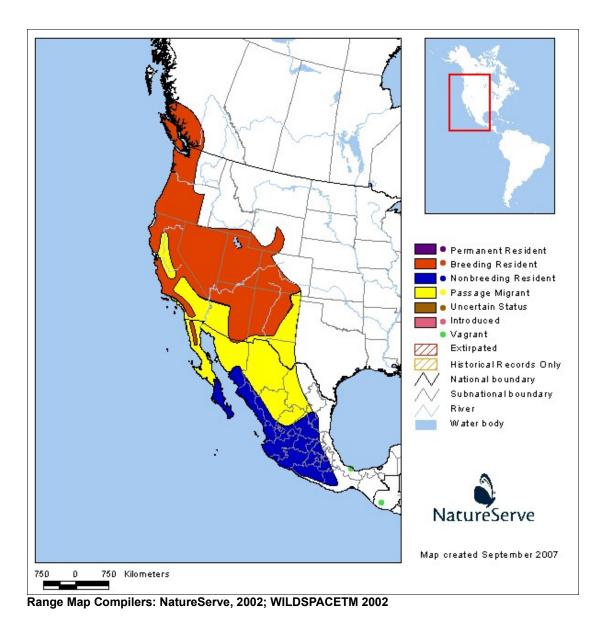


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |  |  |
|---|--|--|
| United States                             | AZ, CA, CO, ID, KS, NE, NM, NN, NV, OK, OR, TX, UT, WA, WY |  |
| Canada                                    | BC   |  |

### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



| U.S. Distribution by County 📀  |  |  |
|--|--|--|
| County Name (FIPS Code)  |  |  |
| Bannock (16005), Cassia (16031), Owyhee (16073)  |  |  |
| San Miguel (35047), Santa Fe (35049)*  |  |  |
| Box Elder (49003)*, Daggett (49009), Kane (49025), San Juan (49037), Tooele (49045), Utah (49049)  |  |  |
| Albany (56001), Big Horn (56003), Carbon (56007), Converse (56009)*, Fremont (56013), Lincoln (56023),<br>Natrona (56025), Sweetwater (56037), Uinta (56041), Washakie (56043) |  |  |
|  |  |  |

| * | Extirpated/possibly | extirpated |
|---|---------------------|------------|
|---|---------------------|------------|

| Watershed<br>Region ⊘ | Watershed Name (Watershed Code)   |  |  |
|-----------------------|---|--|--|
| 10                    | Little Wind (10080002)+, Popo Agie (10080003)+, Lower Wind (10080005)+, Badwater (10080006)+,<br>Nowood (10080008)+, Big Horn Lake (10080010)+, Dry Fork Cheyenne (10120102)+*, Upper North<br>Platte (10180002)+, Medicine Bow (10180004)+*, Middle North Platte-Casper (10180007)+, Upper<br>Laramie (10180010)+, Lower Laramie (10180011)+ |  |  |
| 13                    | Rio Grande-Santa Fe (13020201)+*, Pecos headwaters (13060001)+  |  |  |
| 14                    | Upper Colorado-Kane Springs (14030005)+, Bitter (14040105)+, Upper Green-Flaming Gorge<br>Reservoir (14040106)+, Blacks Fork (14040107)+, Muddy (14040108)+, Little Snake (14050003)+,<br>Paria (14070007)+   |  |  |

| Upper Bear (16010101)+, Spanish Fork (16020202)+, Rush-Tooele Valleys (16020304)+, Northern Great Salt Lake Desert (16020308)+*, Curlew Valley (16020309)+                 |
|--|
| Portneuf (17040208)+, Lake Walcott (17040209)+, Raft (17040210)+, Goose (17040211)+, Upper Snake-<br>Rock (17040212)+, Upper Owyhee (17050104)+, Middle Owyhee (17050107)+ |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### Ecology & Life History

Basic Description: A small bird (wood warbler).

**Reproduction Comments:** Clutch size is three to five (usually four). Incubation is done by female. Young are tended by both parents (Harrison 1978).

Ecology Comments: Seen singly or in pairs; may be seen in small groups while migrating.

Non-Migrant: N

Locally Migrant: N

Long Distance Migrant: Y

**Mobility and Migration Comments:** Winters north of the Isthmus; from California lowlands and southern Arizona through western and central Mexico, from southern Baja, southern Sonora and Coahuila south to Oaxaca (Dunn and Garrett 1997).

Palustrine Habitat(s): Riparian

**Terrestrial Habitat(s):** Forest - Conifer, Forest - Hardwood, Forest - Mixed, Shrubland/chaparral, Woodland - Conifer, Woodland - Hardwood, Woodland - Mixed

**Habitat Comments:** BREEDING: Breeds in a variety of semi-arid woodlands; dry, open forests; mixed, moist forests; brushlands; chaparral. Especially uses conifers, live oaks, and mixed pinyon-juniper woodlands (Dunn and Garrett 1997). Inhabits juniper-pinyon-oak scrub on slopes, foothills, and canyons, where (in Wyoming) it is strongly associated with the presence of pinyon pine and high seedling/sapling density and understory height (Pavlacky and Anderson 2001). Also inhabits fir forests and edges of clearings. Nests in trees or shrubs 1-10 meters above ground, sometimes up to 15 meters (Harrison 1978; M. Guzy, pers. comm.). An early observer noted that the species likes well-scattered conifers; prefers high and dry places; and does not mind marsh or river nearby if ground beneath the nest is dry (Bowles 1902).

Generally uses younger age classes in northwest forests. In Douglas-fir forests in western Washington and Oregon, Meslow and Wright (1975) found the species nesting in shrub-sapling (7-15 years old), older second growth (41-120 years) and mature (> 120 years) successional communities, and using but not nesting in 16-40 year-old second growth. In Oregon Coast Range Douglas-fir forests, Carey et al. (1991) found highest densities in young stands (40-72 years; 9.06 birds per 40 hectares two-year average) in contrast to mature (80-120 years; 2.37 birds per 40 hectares two-year average) and old-growth stands (200-250 years; 3.04 birds per 40 hectares two-year average). Young stands typically had high densities of small-diameter trees (mean 269.7 stems per hectare of trees 10-19 centimeter dbh) and low densities of large trees over 50 centimeter dbh; also few large snags and low vertical foliage density. Similarly, in Douglas-fir forests of the Washington Cascades, were detected more frequently in young stands (55-80 years; mean 0.19 birds per visit) than in mature (95-190 years; 0.02 birds per visit) or old-growth stands (300-730 years; 0.06 birds per visit; Manuwal 1991). Young stands contained the highest mean densities (70 trees per hectares) of live trees less than 50 centimeter dbh and high densities (70 per hectare) of small snags less than 19 centimeter dbh. Huff and Raley (1991) also detected birds more often in young stands than in mature and old-growth stands in the Oregon Coast Ranges and Southern Washington Cascades, but in the Oregon Cascades they found little difference between stand age classes although the species was detected on a slightly greater percentage of old-growth stands.

On Vancouver Island, British Columbia, most often found in 50- to 60-year-old stands of mixed forests; an important elementis relatively open but brushy undergrowth (Campbell et al. 2001).

In southern Idaho, uses low ridges covered with open junipers (Burleigh 1972). In California, inhabits dry, open woodlands and brushy understories of foothills and mountains; breeds in ponderosa pine (PINUS PONDEROSA), valley-foothill hardwood-conifer, montane hardwood and pinyon-juniper habitats, and prefers oak woodland or pinyon-juniper mixed with chaparral or brushy understories (USDA Forest Service 1994). In northwestern Colorado pinyon-juniper habitat, prefers late-successional woodlands and occurs in similar woodland habitat to Plumbeous Vireo (VIREO PLUMBEOUS) and Dusky Flycatcher (EMPIDONAX OBERHOLSERI; Sedgwick 1987). In the Northwest, will use stands of regenerating deciduous trees and conifers in old clearcuts and burns (Dunn and Garrett 1997). In

northern Arizona pinyon-juniper, observed to use and nest in juniper slightly more than other bird species (Balda 1969). In Mexico and northern Central America, breeds in semi-arid pine-oak and juniper woodland (Howell and Webb 1995). Breeds from 3,000 to 7,000 feet in the Sierra, up to 9,500 feet in White Mountains, California, but much lower in the Northwest (Dunn and Garrett 1997).

NON-BREEDING: In winter, uses arid mountain woodlands, including pine-oak. May use riparian habitats as travel corridors (USDA Forest Service 1994). In California, uses oaks and riparian willows and cottonwoods; in southwestern U.S., bottomland cottonwoods, willows, mesquite, and sycamores (Dunn and Garrett 1997). In Mexico and northern Central America, winters in arid to semi-humid oak and pine-oak forest and scrub (Howell and Webb 1995). In western Mexico, Hutto (1992) classified this species as a two-zone generalist that primarily uses tropical deciduous forest and thorn forest, and only 5 percent of observations were in pine-oak forest.

## Adult Food Habits: Invertivore

## Immature Food Habits: Invertivore

**Food Comments:** Feeds mainly on insects (moths, butterflies, beetles, ants, etc.); may also eat leaf galls and a few spiders. Forages among leaves in bushes and trees. May forage high in trees or lower in trees and bushes. In southwestern Oregon and northwestern California use oak trees in spring for foraging on small green caterpillars (Bowles 1902).

Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 13 centimeters Weight: 9 grams

**Economic Attributes** 

### **Management Summary**

**Stewardship Overview:** Has been little studied despite being widespread and relatively common in appropriate woodland habitats. Apparently prefers younger-aged successional stands of forest in the northwest, and in the short term, populations may be expected to increase in the region as the extensive harvest units of the 1970s and 1980s regenerate (Raphael et al. 1988, Spies et al. 1994). In pinyon-juniper habitats, however, shows a preference for mature trees and may be impacted by tree removal. Riparian areas, oak-woodlands, and chaparral are also important habitats. However, in western Douglas-fir forests are found in greatest abundance in young successional stands (Raphael et al. 1988, Carey et al. 1991, Huff and Raley 1991, Manuwal 1991). Much more information is needed to understand the species landscape relationships and ecology, particularly in response to habitat changes.

Species Impacts: An insectivore that may be beneficial in reducing insect pests.

**Restoration Potential:** This species uses a wide variety of woodlands and appears to respond positively to early successional stages of forest regeneration, so restoration potential would likely be high in a landscape of sustainable forest harvest or natural disturbance regimes. Sustaining riparian woodlands and chaparral habitats may be important to this warbler during migration and wintering. However much more detailed information is needed on the species biology to be conclusive about positive measures for restoration. **Preserve Selection & Design Considerations:** May be area sensitive. Found to be positively associated with increasing stand area in

Douglas-fir forests fragmented by timber harvest, however, no significant associations found with other measures of fragmentation (Rosenberg and Raphael 1986).

**Management Requirements:** Effects of management activities and disturbance are largely unstudied. Terborgh (1989) notes use of disturbed oak-woodland habitats on wintering grounds, but does not define type or extent of disturbance.

GRAZING: Effects of grazing activities are generally unknown. In pinyon-juniper, overstory removal to create pasture would be detrimental (Sedgwick 1987).

TIMBER HARVEST: Species is absent when forest overstory is removed. However, in an Engelmann spruce-subalpine fir forest, remained in interconnected forest remnants surrounding clearcuts four years after logging (8.30 singing males per 100 hectare; minimum width of residual stands was 413 +/- 59 meters) and occurred in similar densities to unlogged continuous forest (9.96 males per 100 hectares; Wetmore et al. 1985). The impacts of woodland fragmentation on productivity and survivorship are apparently unstudied. In pinyon-juniper habitats, tree removal may affect habitat use, as this warbler shows a preference for more mature trees in this habitat (Sedgwick 1987).

In northwestern Douglas-fir forests, however, shows a preference for younger stands, and densities are likely to be higher in young regenerating stands than in mature stands (Raphael et al. 1988, Carey et al. 1991, Huff and Raley 1991, Manuwal 1991). In the Oregon Coast Ranges, mean abundance was greater (P = 0.03) in unthinned stands than in stands commercially thinned five to fifteen years

previous, where approximately 20 to 30 percent of the number of trees per hectare had been removed (Hagar et al. 1996). In even-age Douglas fir forests regenerating from clearcutting, Marcot (1985) found that mean densities were highest in shrub/sapling plots than in pole timber and medium sawtimber plots.

FIRE: Very little information available on relationship to burns. In a seasonal study of non-breeding bird abundances in ponderosa pine (PINUS PONDEROSA) forests on the Prescott National Forest, Arizona, Blake (1982) found the species restricted to unburned sites in fall and spring migration seasons.

**Monitoring Requirements:** A diurnal songbird with very distinctive plumage, that can be adequately monitored by standard census methods. May be most often detected within 50 meters of the count station (Huff and Raley 1991). Regional variations in songs have been noted east and west of the Cascades (Dunn and Garrett 1997). Regularly detected on BBS in adequate numbers for survey-wide and several state and physiographic region-level trend estimates (Sauer et al. 1997). Nest may be located by male's scolding calls to female during nest-building (Bowles 1902).

**Management Research Needs:** Need detailed studies of response to habitat changes, including productivity and survivorship; monitoring of long-term changes in density in response to habitat alterations and succession; study of landscape and cumulative effects of habitat changes; rates of brood parasitism and behavioral response to parasitism. Information on migration and winter habitat use and ecology also needed.

**Biological Research Needs:** Nearly all aspects of the biology are poorly known. An excellent species for amateur and professional biologists to make significant contributions, especially as this warbler is relatively common and widespread and occupies a variety of woodland habitats. Studies are needed of behavior, breeding biology, wintering ecology, geographic variation in song, population dynamics, site fidelity, dispersal and migration.

### **Population/Occurrence Delineation**

Group Name: Passerines

### Use Class: Breeding

Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence,

even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004 **Author:** Hammerson, G.

### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

### Separation Barriers: None.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

### **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

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Element Ecology & Life History Edition Date: 21Mar1994

Element Ecology & Life History Author(s): HAMMERSON, G., REVISED BY S. CANNINGS

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Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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Version 7.1 (2 February 2009) Data last updated: November 2016



Cynanthus latirostris - Swainson, 1827 Broad-billed Hummingbird Taxonomic Status: Accepted Related ITIS Name(s): Cynanthus latirostris Swainson, 1827 (TSN 178073) French Common Names: Colibri circé Spanish Common Names: Colibrí Pico Ancho Unique Identifier: ELEMENT\_GLOBAL.2.103991 Element Code: ABNUC19020 Informal Taxonomy: Animals, Vertebrates - Birds - Other Birds



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| Kingdom  | Phylum   | Class | Order       | Family      | Genus     |
|----------|----------|-------|-------------|-------------|-----------|
| Animalia | Craniata | Aves  | Apodiformes | Trochilidae | Cynanthus |

Genus Size: B - Very small genus (2-5 species)

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### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Cynanthus latirostris

**Taxonomic Comments:** Howell and Webb (1995) suggested that the southern form in Guerrero, Oaxaca, and Chiapas should be treated as a distinct species, *C. doubledayi* (Doubleday's hummingbird).

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 19May2015 Global Status Last Changed: 19May2015 Ranking Methodology Used: Ranked by calculator Rounded Global Status: G5 - Secure Reasons: Fairly large range in southwestern United states and Mexico; presumed large population size; probably relatively stable; no known major threats, locally affected by habitat loss/degradation. Nation: United States

National Status: N3B (19Mar1997)

U.S. & Canada State/Province Status

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United States Arizona (S3), Navajo Nation (SNR), New Mexico (S1B,S1N), Texas (SHB,S2N)

# **Other Statuses**

IUCN Red List Category: LC - Least concern Convention on International Trade in Endangered Species Protection Status (CITES): Appendix II

# NatureServe Global Conservation Status Factors

# Range Extent: 200,000-2,500,000 square km (about 80,000-1,000,000 square miles)

**Range Extent Comments:** Breeding range extends from western Sonora, southeastern Arizona, southwestern New Mexico (Guadalupe Canyon), northern Chihuahua, western Texas (Brewster County, casually), and Tamaulipas south through Mexico (including the Tres Marias Islands) to northern Veracruz, Hidalgo, and Puebla (AOU 1998). Winter range extends from central Sonora, Chihuahua, and Tamaulipas south through the breeding range, casually north to southern Arizona (AOU 1998). The doubledayi group is resident in the Pacific lowlands of southern Guerrero, southern Oaxaca, and western Chiapas (AOU 1998).

### Number of Occurrences:

**Number of Occurrences Comments:** The number of distinct occurrences or subpopulations has not been determined using standardized criteria, but this species is represented by a large number of observation/collection sites (e.g., see GBIF database, eBird) and locations (as defined by IUCN).

### Population Size: 100,000 to >1,000,000 individuals

**Population Size Comments:** Total adult population size is unknown but presumably exceeds 100,000 and may exceed 1,000,000. This species is regarded as common throughout much of its range in Mexico (Howell and Webb 1995, Russell and Monson 1998). Rich et al. (2004) estimated global population size at 2,000,000.

**Overall Threat Impact Comments:** In the arid Southwest, loss/degradation of riparian nesting habitat is a major concern (Powers and Wethington 1999). Resident populations in Mexico might also be impacted by habitat loss, but this has not been studied (Powers and Wethington 1999).

## Short-term Trend: Relatively Stable (<=10% change)

**Short-term Trend Comments:** Trend over the past 10 years or three generations is uncertain, but area of occupancy and population size probably have been relatively stable or at least have not changed at a fast rate.

## Long-term Trend: Decline of <30% to increase of 25%

**Long-term Trend Comments:** Long-term trend is uncertain, but overall distribution and abundance may not have changed very much, or perhaps have declined somewhat.

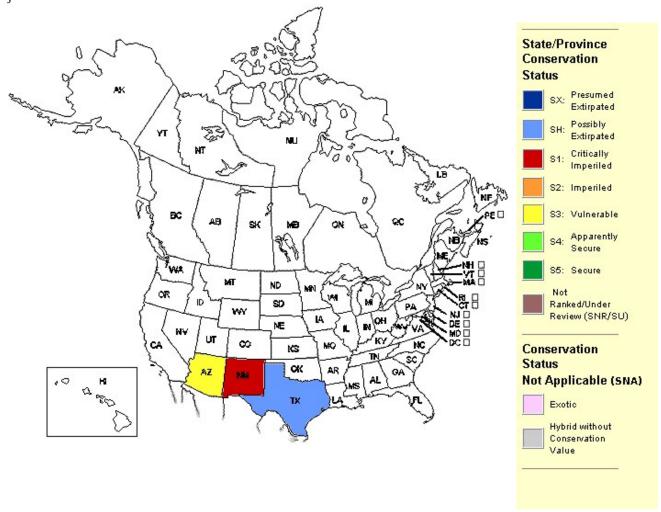
## **Other NatureServe Conservation Status Information**

### Distribution

**Global Range:** (200,000-2,500,000 square km (about 80,000-1,000,000 square miles)) Breeding range extends from western Sonora, southeastern Arizona, southwestern New Mexico (Guadalupe Canyon), northern Chihuahua, western Texas (Brewster County, casually), and Tamaulipas south through Mexico (including the Tres Marias Islands) to northern Veracruz, Hidalgo, and Puebla (AOU 1998). Winter range extends from central Sonora, Chihuahua, and Tamaulipas south through the breeding range, casually north to southern Arizona (AOU 1998). The doubledayi group is resident in the Pacific lowlands of southern Guerrero, southern Oaxaca, and western Chiapas (AOU 1998).

### **U.S. States and Canadian Provinces**

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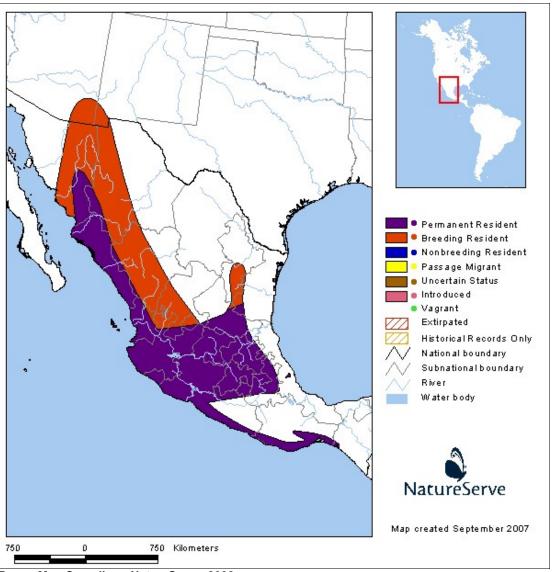


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |                |  |  |
|---|----------------|--|--|
| United States                             | AZ, NM, NN, TX |  |  |

### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 🕜        |                         |  |  |
|--------------------------------------|-------------------------|--|--|
| State                                | County Name (FIPS Code) |  |  |
| NM Dona Ana (35013), Hidalgo (35023) |                         |  |  |
| * Extirnated                         | /nossibly extirnated    |  |  |

| Exurpated/poss | abiy exirpated |
|----------------|----------------|
|                |                |

| U.S. Distribution by Watershed 📀                                 |  |  |
|--|--|--|
| Watershed Region 🕜 Watershed Name (Watershed Code)               |  |  |
| 13 El Paso-Las Cruces (13030102)+                                |  |  |
| 15 Animas Valley (15040003)+*, San Bernardino Valley (15080302)+ |  |  |
|  |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### **Ecology & Life History**

Basic Description: A hummingbird.

**Reproduction Comments:** Usually 2 eggs laid April-July in Arizona; season longer in Mexico, peaks apparently late March-early May. **Ecology Comments:** An itinerant forager in Nayarit and Jalisco, ranging widely in large, fairly consistent home ranges, possibly greater than 2 hectares (Montgomerie 1979, cited in Powers and Wethington 1999). At Volcan de Colima, defends territories around clumps of flowers (Des Granges 1978).

Non-Migrant: Y

Locally Migrant: Y

### Long Distance Migrant: Y

**Mobility and Migration Comments:** Partially migratory; found year-round in all but the most northern portion of its range; northern breeding populations move southward for winter. Generally arrives in Arizona by March; departs by September-October.

Palustrine Habitat(s): Riparian

Terrestrial Habitat(s): Forest - Hardwood, Shrubland/chaparral, Woodland - Hardwood

**Habitat Comments:** Arid scrub, open deciduous forest, semi-desert and other open situations in arid habitats (Tropical and lower Subtropical zones) (AOU 1983). In U.S., mostly limited in summer to rocky canyons in desert-like mountain habitats. Foothills, canyons, arroyos, along streams, in or near desert habitat. Nests in a small tree, shrub or vine; usually about 1-2 m above ground, dry streambed, or water (Terres 1980, Johnsgard 1983).

Adult Food Habits: Invertivore, Nectarivore

Immature Food Habits: Invertivore, Nectarivore

Food Comments: Flower nectar, spiders and insects (e.g., aphids, leafhoppers, ants, etc.), pollen grains.

Adult Phenology: Diurnal

Immature Phenology: Diurnal

Length: 10 centimeters

Weight: 3 grams

**Economic Attributes** 

### **Management Summary**

**Stewardship Overview:** No species-specific conservation measures are in place or needed for this species. However, in the arid Southwest, protection and restoration of riparian habitats used for broad-billed hummingbird nesting would benefit this and many other species (Baltosser 1989, Powers and Wethington 1998). Better information is needed on potential threats from habitat loss for resident populations in Mexico (Powers and Wethington 1998).

Biological Research Needs: Better information is needed on threat impacts and trends.

### Population/Occurrence Delineation

Group Name: Hummingbirds

### Use Class: Breeding

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** High potential for gene flow among populations of birds makes it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for hummingbirds; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .1 km

Date: 10Sep2004

Author: Hammerson, G., and S. Cannings

### Use Class: Nonbreeding

**Minimum Criteria for an Occurrence:** Evidence of recurring presence of wintering individuals (including historical); and potential recurring presence at a given location, minimally a reliable observation of 25 birds in appropriate habitat (or fewer individuals for G1-G3 species). Occurrences should be locations where the species is resident for some time; it is preferable to have observations documenting presence over at least 7 days annually. Be cautious about creating EOs for observations that may represent single events. **Separation Barriers:** None.

Separation Distance for Unsuitable Habitat: 5 km Separation Distance for Suitable Habitat: 5 km

Separation Justification: Separation distance somewhat arbitrary; a compromise between the often small home ranges of these birds, their great mobility, and the need for occurrences of reasonable size. Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .1 km Date: 10Sep2004 Author: Cannings, S., and G. Hammerson **Population/Occurrence Viability** 0 Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008). The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method. Key for Ranking Species Element Occurrences Using the Generic Approach (2008). 0 U.S. Invasive Species Impact Rank (I-Rank)  $\bigcirc$ Authors/Contributors NatureServe Conservation Status Factors Edition Date: 19May2015 NatureServe Conservation Status Factors Author: Hammerson, G. Element Ecology & Life History Edition Date: 23May1994

Element Ecology & Life History Author(s): HAMMERSON, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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Citation for data on website including State Distribution, Watershed, and Reptile Range maps: NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

# Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

# Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

# Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

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IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

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Canyon Towhee Other English Common Names: canyon towhee Synonym(s): *Pipilo fuscus* Swainson, 1827 Taxonomic Status: Accepted Related ITIS Name(s): *Pipilo fuscus* Swainson, 1827 (TSN 179293) French Common Names: Tohi des canyons Spanish Common Names: Toquí Pardo Unique Identifier: ELEMENT\_GLOBAL.2.100004 Element Code: ABPBX74040 Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family      | Genus    |
|----------|----------|-------|---------------|-------------|----------|
| Animalia | Craniata | Aves  | Passeriformes | Emberizidae | Melozone |

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### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

### Concept Reference Code: B98AOU01NAUS

### Name Used in Concept Reference: Pipilo fuscus

**Taxonomic Comments:** Mitochondrial genetic data (DaCosta et al. 2009) have shown that the genus *Pipilo* comprised two unrelated groups, one consisting of *ocai*, *chlorurus*, *maculatus*, and *erythrophthalmus*, the other of the "brown towhee" group: *fuscus*, *albicollis*, *crissalis*, and *aberti*. The same study revealed that *Melozone kieneri* forms a monophyletic group with the brown towhees, and that *M. leucotis* and *M. biarcuata* are closely related to this group. Although DaCosta et al. (2009) suggested that *kieneri*, *fuscus*, *albicollis*, *crissalis*, and *aberti* be transferred to the genus *Pyrgisoma*, thereby splitting *Melozone kieneri* from its congeners, we have taken a more conservative approach, consistent with phenotypic similarities between *M. kieneri* and *M. biarcuata* (e.g, they were treated as conspecific by Hellmayr [1938]), and merged the brown towhees into *Melozone* (AOU 2010).

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 04Dec1996 Global Status Last Changed: 04Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N5 (05Jan1997)  $\odot$ 

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| United States | Arizona (S5), Colorado (S4), Kansas (SNA), Navajo Nation (S4B), New Mexico (S5B,S5N), Oklahoma (S3), Texas<br>(S5B) |
|---------------|---|
|---------------|---|

### **Other Statuses**

IUCN Red List Category: LC - Least concern

### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** RESIDENT from western and central Arizona, northern New Mexico, southeastern Colorado, extreme northwestern Oklahoma, and western and central Texas south to northern Sinaloa (including Isla Tiburon, off Sonora), and in Mexican highlands to Oaxaca (west to Isthmus of Tehuatepec), west-central Veracruz, Puebla, and southwestern Tamaulipas. Casual in northern Arizona, southwestern Kansas, and southern Texas (AOU 1983, 1989).

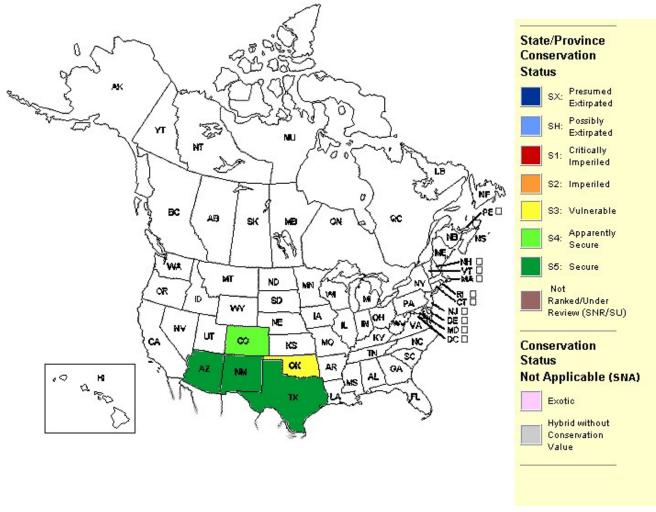
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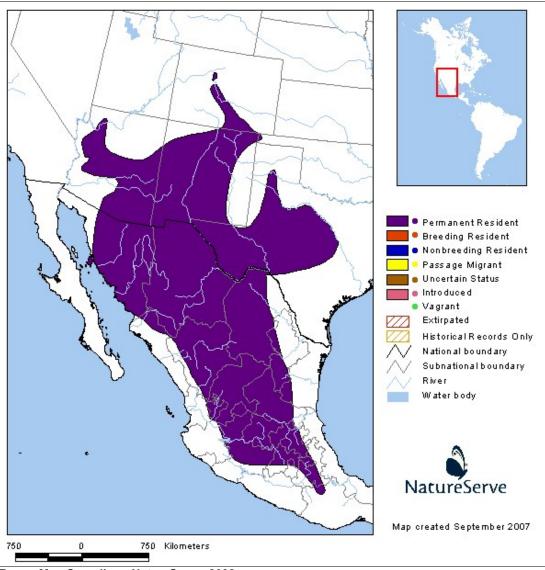


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

United States AZ, CO, KS, NM, NN, OK, TX

### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

# Ecology & Life History

General Description: See Zimmer (1988) for information on identification. Reproduction Comments: Clutch size is 2-6 (usually 3-4). Incubation, by female, lasts 11 days (Terres 1980). Young are tended by both adults, leave nest 8 days after hatching. Pair-bond may be life-long. Non-Migrant: Y Locally Migrant: N Long Distance Migrant: N Palustrine Habitat(s): Riparian Terrestrial Habitat(s): Shrubland/chaparral Habitat Comments: Dense brush, arid scrub, and riparian thickets, often in rocky areas (AOU 1989). Nests usually 1-3.5 m (sometimes up to 11 m) above ground in tree or bush (Terres 1980). Adult Food Habits: Granivore, Invertivore Immature Food Habits: Granivore, Invertivore Food Comments: Feeds on seeds, grain, and insects. Forages on the ground scratching away litter in search of food. Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 22 centimeters Weight: 54 grams

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**Economic Attributes** 

**Management Summary** 

**Population/Occurrence Delineation** 

Group Name: Passerines

### Use Class: Breeding

### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids). **Date:** 10Sep2004 **Author:** Hammerson, G.

Use Class: Migratory stopover Subtype(s): Foraging Area, Roost Site Minimum Criteria for an Occurrence: For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

#### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004 **Author:** Hammerson, G.

#### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in

extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

### **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).

The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

### Authors/Contributors

Element Ecology & Life History Edition Date: 14May1996

Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **March 26, 2018** 

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### Citation for data on website including State Distribution, Watershed, and Reptile Range maps:

NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Mammal Range Maps of North America:

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#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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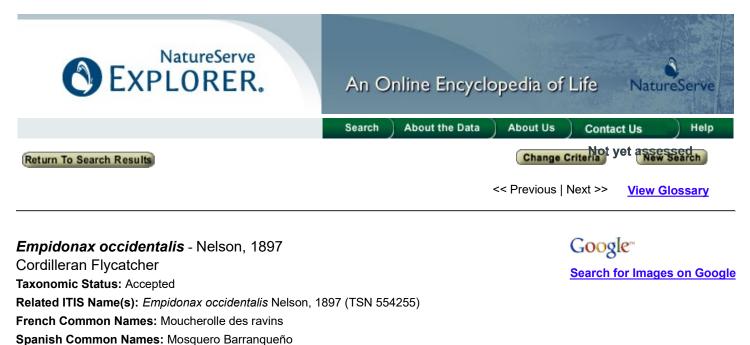
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disturbing activities are proposed on a site, the appropriate state natural heritage program(s) or conservation data center can be contacted for a site-specific review of the project area (see <u>Visit Local Programs</u>).

**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



Unique Identifier: ELEMENT GLOBAL.2.100103

Element Code: ABPAE33160

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family     | Genus     |
|----------|----------|-------|---------------|------------|-----------|
| Animalia | Craniata | Aves  | Passeriformes | Tyrannidae | Empidonax |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

### Name Used in Concept Reference: Empidonax occidentalis

**Taxonomic Comments:** Formerly considered conspecific with *E. difficilis* (AOU 1989, 1998). Referred to as *E. D. hellmayri* by Johnson and Martin (1988). Johnson and Marten (1988) examined variation in the *E. difficilis* group and concluded that *E. difficilis* and *E. occidentalis* are distinct species. Phillips (1994) argued that existing information does not justify the recognition of *E. occidentalis* and *E. difficilis* as distinct species. Johnson (1994) provided additional analyses indicating that *E. difficilis* and *E. occidentalis* warrant separate-species status. Constitutes a superspecies with *E. difficilis* and *E. flavescens* (AOU 1998).

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 07Apr2016 Global Status Last Changed: 02Dec1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure Nation: United States National Status: N5B (19Mar1997) Nation: Canada National Status: NU (08Dec2000)

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### U.S. & Canada State/Province Status

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| United<br>States | Arizona (S2S3B), California (SNR), Colorado (S5B), Idaho (S4B), Kansas (SNA), Montana (S4B), Navajo Nation (S4S5B),<br>Nebraska (S1), Nevada (S5B), New Mexico (S5B,S4N), Oregon (S3?B), South Dakota (S5B), Texas (S3B), Utah (S3S4B),<br>Washington (S3?B), Wyoming (S4B) |
|------------------|---|
| Canada           | Alberta (SU), British Columbia (SU)   |

### **Other Statuses**

IUCN Red List Category: LC - Least concern

### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** BREEDING: southeastern Washington, southwestern Alberta, northern Idaho, western Montana, Wyoming, and western South Dakota south (generally east of Cascades and Sierra Nevada) to northern California, Nevada, and central and southeastern Arizona, and in Mexican highlands to Oaxaca (west of Isthmus of Tehuantepec), Puebla, and west-central Veracruz, and east to western Nebraska (rarely), central Colorado, central New Mexico, and western Texas (AOU 1989). Centers of abundance occur in Arizona, New Mexico, Colorado, central Utah, the Black Hills region of South Dakota, and northern Idaho (Sauer et al. 1997). NON-BREEDING: southern Baja California, and northern Mexico (casually to central California and southern Arizona) south through breeding range, occurring also in lowland areas south to Isthmus of Tehuantepec; reports from Chiapas, Guatemala, and Honduras are based on E. FLAVESCENS (AOU 1989). Casual in migration in Tres Marias Islands (off Nayarit), eastern New Mexico, and southwestern Kansas (AOU 1989).

**Overall Threat Impact Comments:** Threats to the species are largely unstudied. Habitat degradation from timber harvesting, heavy grazing, or development are possible threats. Relatively tolerant of human presence around nests, but may be vulnerable to disturbance just prior to fledging (USDA Forest Service 1994). BROOD PARASITISM: Considered a rare host for brown-headed cowbirds (MOLOTHRUS ATER; Ehrlich et al. 1988), but may be more vulnerable to parasitism if habitat is fragmented and edge that favors cowbirds is increased (USDA Forest Service 1994). In Montana, 5 of 12 nests observed were parasitized; eggs were damaged, most likely by pecking by the cowbird chick (Dolan and Wright 1984).

**Short-term Trend Comments:** Range-wide, populations appear to be relatively stable, but data are limited. North American Breeding Bird Survey (BBS) data show a non-significant survey-wide population increase from 1966 to 1996 (0.6 percent average annual increase; P = 0.67; N = 116 routes) and a non-significant decline from 1980 to 1996 (-0.4 percent average annual decline; P = 0.81; N = 106 routes). Thirty-year trend estimates for state and physiographic regions are not statistically significant, although possible declines occurred in Utah, the Southern Rockies and Central Rockies. Mapped 30-year trends show declines in the central Rockies, and increases in the southern and northern Rockies. Trend estimates for the more recent period of 1980 to 1996 show significant declines in the Southern Rockies and Pinyon-Juniper Woodland physiographic regions (-4.2 percent, P = 0.12, N = 29; and -1.4 percent, P = 0.10, N = 25 respectively). Although relative abundances average 0.49 to 1.82 birds per 25-mile survey route, the species is not detected on enough survey routes to provide a strong data set for trend analysis.

### **Other NatureServe Conservation Status Information**

### Distribution

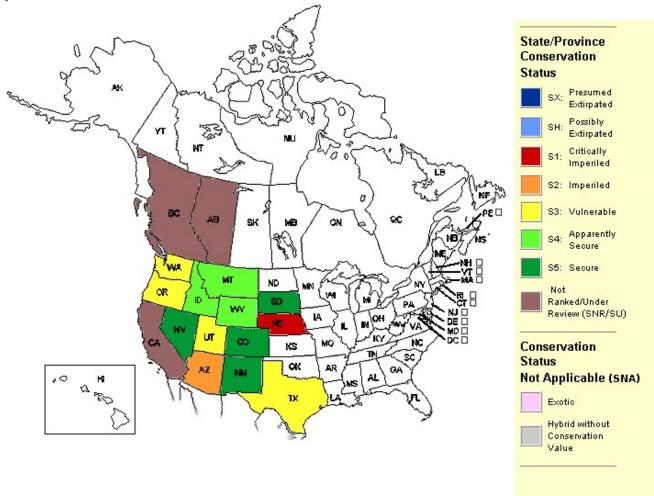
**Global Range:** BREEDING: southeastern Washington, southwestern Alberta, northern Idaho, western Montana, Wyoming, and western South Dakota south (generally east of Cascades and Sierra Nevada) to northern California, Nevada, and central and southeastern Arizona, and in Mexican highlands to Oaxaca (west of Isthmus of Tehuantepec), Puebla, and west-central Veracruz, and east to western Nebraska (rarely), central Colorado, central New Mexico, and western Texas (AOU 1989). Centers of abundance occur in Arizona, New Mexico, Colorado, central Utah, the Black Hills region of South Dakota, and northern Idaho (Sauer et al. 1997). NON-BREEDING: southern Baja California, and northern Mexico (casually to central California and southern Arizona) south through breeding range, occurring also in lowland areas south to Isthmus of Tehuantepec; reports from Chiapas, Guatemala, and Honduras are based on

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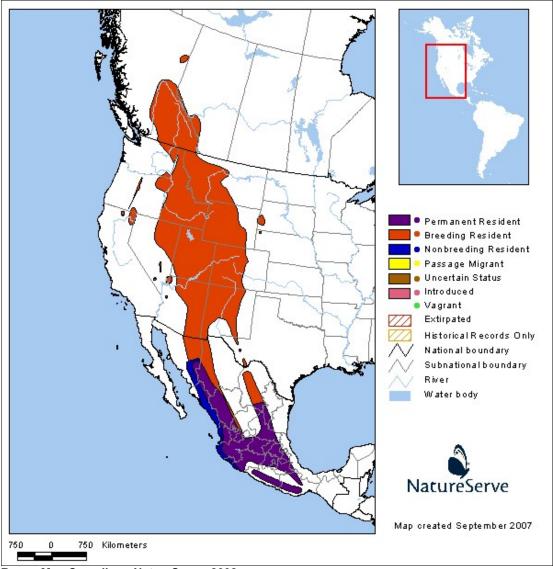


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |  |  |  |
|---|--|--|--|
| United States                             | AZ, CA, CO, ID, KS, MT, NE, NM, NN, NV, OR, SD, TX, UT, WA, WY |  |  |
| Canada                                    | AB, BC   |  |  |

### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 🕜 |   |  |
|-------------------------------|---|--|
| State                         | County Name (FIPS Code)   |  |
| ID                            | Bannock (16005), Latah (16057), Lemhi (16059), Shoshone (16079) |  |
| NE                            | NE Dawes (31045), Sioux (31165)                                 |  |
| * =                           |   |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 📀 |   |  |  |
|----------------------------------|---|--|--|
| Watershed Region                 | Watershed Name (Watershed Code)   |  |  |
| 10                               | Hat (10120108)+, Upper White (10140201)+  |  |  |
| 17                               | Upper Coeur D'alene (17010301)+, Portneuf (17040208)+, Lemhi (17060204)+,<br>Clearwater (17060306)+ |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### Ecology & Life History

Basic Description: A small bird (flycatcher).

**Reproduction Comments:** Egg dates: June-July in Colorado, July in Montana (Johnsgard 1986). Incubation 14-15 days, by female along; young fledge after 14-18 days, fed by parents another 10-11 days (Baicich and Harrison 1997).

Ecology Comments: Rich (1999) found significant correlations between the relative abundance of cordilleran flycatcher and the

abundance of warbling vireo (VIREO GILVUS), red-naped sapsucker (SPHYRAPICUS NUCHALIS), and Lincoln's sparrow (MELOSPIZA LINCOLNII), which tend to occur in similar habitats. There were weaker but significant associations with blue grosbeak (GUIRACA CAERULEA), house wren (TROGLODYTES AEDON), Bell's vireo (VIREO BELLII), and Lucy's warbler (VERMIVORA LUCIAE).

Non-Migrant: N

Locally Migrant: N

Long Distance Migrant: Y

**Mobility and Migration Comments:** Most arrive in central Colorado late in May (some as early as April), depart by late September; present in Montana usually late May-August (Niedrach and Rockwell 1939, Johnsgard 1986).

Palustrine Habitat(s): Riparian

**Terrestrial Habitat(s):** Cliff, Forest - Conifer, Forest - Hardwood, Forest - Mixed, Woodland - Conifer, Woodland - Hardwood, Woodland - Mixed

Habitat Comments: BREEDING: A riparian-dependent species that uses understory and mid-story vegetation layers (Rich 1999). Habitat is typically near a water source and well-shaded by tall trees or steep canyon walls (AOU 1989, USDA Forest Service 1994). Ranges from riparian woodlands through aspens into coniferous forest zones; extends out into sagebrush during nonbreeding season (Johnsgard 1986).

Breeds in shaded woodlands along stream corridors or moist ravines in coniferous forest, dense second-growth, aspen, and riparian woodlands, in foothills and mountain slopes; may also be found in similar types in suburban settings (Dobkin 1994, Baicich and Harrison 1997). Commonly associated with lodgepole pine (PINUS CONTORTA) forest and mixed conifer forest dominated by Douglas-fir (Hejl et al. 1995). In the Northern Rockies, depends heavily on riparian corridors and is relatively restricted to riparian bottomlands and adjacent conifer forests. It is more likely to be found in areas with greater numbers of snags, and is most frequently detected in cottonwood stands, but also in wetland, riparian shrub, Douglas-fir, cedar/grand fir (THUJA/ABIES GRANDIS), and spruce/fir (PICEA/ABIES) habitats (Hutto and Young 1999). On the Colorado Front Range, it shows a preference for Douglas-fir over other forest types; also occurs in aspen/willow (POPULUS/SALIX), ponderosa pine (PINUS PONDEROSA), and mixed forest stands (Winternitz 1976). In northern Arizona, it favors Ponderosa pine-Gambel oak stands (PINUS PONDEROSA/QUERCUS GAMBELII) over pine stands (Rosenstock 1998), and the species reaches higher densities in stands with high pine density and moderate understory oak density (Brawn and Balda 1988). In Mexico, breeds in humid to semiarid evergreen and pine-oak forest and cloud forest, often in shady arroyos; usually seen in shady understory, rarely in open areas except during migration (Howell and Webb 1995, Howell and Cannings 1992).

Constructs a cup nest in fork of a sapling or shrub, or typically against a flat surface such as in a cavity of a small tree, on a rocky ledge, in low dirt bank by stream, also among tangled tree roots, in mouths of mine tunnels, or in protected spots around buildings; nests commonly around mountain cabins (Niedrach and Rockwell 1939, Dobkin 1994, Howell and Webb 1995, Baicich and Harrison 1997).

NON-BREEDING: In winter, mostly occurs in mixed woodland and forest (Subtropical and Temperate zones). In Mexico, moves out of coniferous zones in winter (Howell and Webb 1995). In western Mexico, favors tropical deciduous forest, also occurs in second growth deciduous forest, cloud forest, and very occasionally recorded in pine-oak-fir forest (Hutto 1992).

### Adult Food Habits: Invertivore

### Immature Food Habits: Invertivore

**Food Comments:** Feeds on insects, also berries and occasionally seeds (Ehrlich et al. 1988). Most often hawks aerial insects, but also gleans insects from foliage and off the ground (USDA Forest Service 1994). In a Colorado study, Lepidoptera made up 61 percent of diet by dry weight, also consumed Coleoptera, Diptera, and Hymenoptera (Beaver and Baldwin 1975).

### Adult Phenology: Diurnal

Immature Phenology: Diurnal

**Economic Attributes** 

### **Management Summary**

**Stewardship Overview:** A bird of moist forests, montane riparian areas, and shady ravines. Formerly considered the same species as Pacific-slope flycatcher (EMPIDONAX DIFFICILIS), and together were known as the western flycatcher. The species were split in 1989 based on voice, allozyme differences, and lack of interbreeding where ranges overlap (Johnson and Marten 1988, AOU 1989, Johnson 1994). Differences in life history between the two species have not been explored. Cordilleran populations appear generally stable, although recent declines are evident in southern parts of range. Further monitoring and study are needed to better understand its

status.

**Restoration Potential:** Still a relatively common species. Should benefit from forest and riparian management that maintains stands with shrub and sapling understories, snags, and intact streambanks.

**Preserve Selection & Design Considerations:** There is little known about landscape relationships. In a study in a northwestern California Douglas-fir forest, western flycatcher (EMPIDONAX DIFFICILIS) avoided edges, yet did not respond negatively to forest fragmentation. Positive association to the proximity and length of clearcut edges and positively correlated with stands that were more insular, or contained more clearcuts and total edge (Rosenberg and Raphael 1986). Given cordilleran's association with riparian habitats throughout most of its range, the species may be adapted to patchier habitats, but its relationships to area, surrounding landscapes, and types of edge need to be further studied.

**Management Requirements:** Should benefit from maintaining moist montane riparian and forest habitats with moderate to dense canopies, shrub or sapling understories, snags, and intact streambanks, especially in mountain ravines and canyons. Overall, there is little specific information available on the effects of human activities and habitat alterations on this species. Until recently, many management studies overlooked EMPIDONAX flycatchers or lumped them together due to the difficulty of distinguishing this suite of species. Recent breeding bird studies that use trained observers more often detect cordilleran flycatcher, but information on management requirements for the species is still slim. There is a large body of literature, however, on human impacts on riparian habitats which can provide direction for maintaining the integrity of these ecosystems. For example, see Ohmart (1994) or Ohmart and Anderson (1986) for general overviews, and Idaho Partners in Flight (1998) for riparian habitat management guidelines.

TIMBER HARVEST: Harvesting in riparian corridors could be detrimental, and leaving a buffer between riparian habitats and harvest units would likely benefit the species. A summary of silvicultural studies suggests that abundances are similar in partially cut forests and in uncut forests (Hejl et al. 1995). A number of studies, however, show declines with more extensive timber harvest. In an Arizona mixed coniferous forest, for example, density declined 50 percent four years after timber harvest (most noticeably on south aspects) where the prescription included a mix of individual tree selection, group selection to reduce basal area 30 percent, and clearcut patches, but left steep slopes unharvested (Scott and Gottfried 1983). In northern Arizona ponderosa pine, uncut stands or moderately thinned stands over severely thinned stands (Szaro and Balda 1979, Brawn and Balda 1988). In the Northern Rockies, it is more likely to occur in areas with greater numbers of snags (Hutto and Young 1999). In northwestern California, observations of western flycatcher (E. DIFFICILIS or OCCIDENTALIS unknown) in a mixed forest dominated by Douglas-fir (PSEUDOTSUGA MENZIESII) and ponderosa pine (PINUS PONDEROSA) showed that density declined an average 80 percent where overstory removal reduced total tree density by 75 percent and basal area by 80 percent (Franzreb and Ohmart 1978). In western Mexico tropical deciduous forest, abundance was significantly and dramatically less in short second-growth that had been deforested for livestock production than in undisturbed forest, and somewhat less abundant in tall second-growth than in undisturbed forest (Hutto 1992).

Studies of Pacific-slope flycatcher (EMPIDONAX DIFFICILIS) show the species prefers old forests over younger stands (Raphael et al. 1988, Carey et al. 1991, Manuwal 1991). In an Oregon Cascades study, the species favored old stands and areas with decayed logs, fern and deciduous shrub cover, western hemlocks (TSUGA HETEROPHYLLA) and very large western redcedar (THUJA PLICATA); the authors suggested that older stands probably best meet the species need for open flying space for feeding (Gilbert and Allwine 1991). In mature, unmanaged forest stands, average abundances are slightly higher along streamsides than in upslope stands, but not significantly so (McGarigal and McComb 1992). These associations need to be examined for the cordilleran flycatcher as well.

GRAZING: Overgrazing can cause heavy damage to the understory of riparian habitats and delay regeneration (Ohmart 1994), which would eliminate the habitat. Often nests in low streambanks, so nesting habitat can be destroyed when livestock are allowed to break down streambanks and nests may be vulnerable to trampling (Hutto and Young 1999). Livestock presence may also encourage brownheaded cowbirds (MOLOTHRUS ATER), a brood parasite.

**Monitoring Requirements:** Can be detected with standard monitoring methods. Specialized monitoring may be needed for adequate samples. Is recorded on BBS, but more targeted monitoring for the species would provide more accurate information (Saab and Rich 1997, Hutto and Young 1999). See Rich (1999) for guidelines on assessing the occurrence of breeding birds in riparian habitats.

**Management Research Needs:** More study is needed of the effects of timber harvest, grazing, and other habitat alterations, particularly in relationship to productivity and survivorship. Winter ecology, habitat preferences, and threats need investigation. Examination of area requirements, effects of fragmentation, spatial juxtaposition of habitat other aspects of landscape ecology are needed. Further study of brood parasitism rates in relation to human alterations of habitat and behavioral response to parasitism is needed.

**Biological Research Needs:** Most aspects of demographics, life history, and ecology need better study given the recent split between cordilleran and Pacific-slope flycatcher. Need information on details of habitat relationships; wintering ecology; migratory patterns and

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location of wintering grounds for migratory populations; survivorship; diet, nutrition and energetics; disease, nest predation and other sources of mortality; rates of and response to brood parasitism; site fidelity; territory size; limiting factors. Need information on breeding biology; wintering ecology; migratory patterns and location of wintering grounds for migratory populations; life span and survivorship; physiology; diet, nutrition and energetics; disease, nest predation and other sources of mortality; rates of and response to brood parasitism; physiology; diet, nutrition and energetics; disease, nest predation and other sources of mortality; rates of and response to brood parasitism; philopatry, territory size; details of habitat relationships; limiting factors.

### **Population/Occurrence Delineation**

Group Name: Passerines

### Use Class: Breeding

### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids). **Date:** 10Sep2004 **Author:** Hammerson, G.

#### Use Class: Migratory stopover

### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

### Use Class: Nonbreeding

### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004

Author: Hammerson, G.

### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds. Separation Barriers: None. Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

### **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this</u> <u>method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

### Authors/Contributors

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Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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### Citation for Bird Range Maps of North America:

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IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

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Version 7.1 (2 February 2009) Data last updated: November 2016



Calypte costae - (Bourcier, 1839) Costa's Hummingbird Taxonomic Status: Accepted Related ITIS Name(s): Calypte costae (Bourcier, 1839) (TSN 178035) French Common Names: Colibri de Costa Spanish Common Names: Colibrí Cabeza Violeta Unique Identifier: ELEMENT\_GLOBAL.2.105238 Element Code: ABNUC47020 Informal Taxonomy: Animals, Vertebrates - Birds - Other Birds



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| Kingdom  | Phylum   | Class | Order       | Family      | Genus   |
|----------|----------|-------|-------------|-------------|---------|
| Animalia | Craniata | Aves  | Apodiformes | Trochilidae | Calypte |

Genus Size: B - Very small genus (2-5 species)

Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Calypte costae

Taxonomic Comments: Howell and Webb (1995) merged Calypte in Archilochus (AOU 1983).

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 19May2015 Global Status Last Changed: 02Dec1996 Ranking Methodology Used: Ranked by calculator

Rounded Global Status: G5 - Secure

**Reasons:** Fairly large range in southwestern North America; large population size; trend uncertain but overall probably relatively stable; locally threatened by habitat loss and alteration from human activities and exotic plants, but most of habitat remains intact.

Nation: United States

National Status: N5B,N4N (05Jan1997)

### U.S. & Canada State/Province Status

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| States Arizona (S5), California (S4), Nevada (S3B), New Mexico (S1B,S1N), Oregon (SNA) | ), Utah (S1B) |
|--|---------------|
|--|---------------|

### **Other Statuses**

IUCN Red List Category: LC - Least concern

Convention on International Trade in Endangered Species Protection Status (CITES): Appendix II

### **NatureServe Global Conservation Status Factors**

### Range Extent: 200,000-2,500,000 square km (about 80,000-1,000,000 square miles)

**Range Extent Comments:** Breeding range extends from central California (north to Monterey, Stanislaus, and Inyo counties), southern Nevada, and southwestern Utah south to southern Baja California (including the Channel Islands off California, and islands off the coast of Baja California), Sonora (including Tiburon and San Esteban islands), southern Arizona, and (probably) southwestern New Mexico; there is an isolated breeding attempt (eggs laid, nest destroyed) for southern Oregon (AOU 1998). Winter range extends from southern California and southern Arizona south to Sinaloa and Nayarit, casually north to southwestern British Columbia, Oregon, and central Nevada, and east to central and southern Texas (Hays and Kleberg counties) (AOU 1998).

### Number of Occurrences:

**Number of Occurrences Comments:** The number of distinct occurrences or subpopulations has not been determined using standardized criteria, but this species is represented by a large number of observation/collection sites (e.g., see GBIF database, eBird) and locations (as defined by IUCN).

### Population Size: >1,000,000 individuals

**Population Size Comments:** Total adult population size is unknown but very large. This species is common in much of its range. Partners in Flight (PIF 2013) estimated global population size at 3,000,000.

### Overall Threat Impact: Low

**Overall Threat Impact Comments:** The California coastal scrub habitat used by this species has been nearly eliminated in the United States (but much remains in Baja Califronia), and the species' desert scrub habitat faces local threats from urban, residential, and agricultural development and from flood control (Baltosser and Scott 1996). On the other hand, desert scrub habitat is extensive and remains largely intact. In southern California, the species has shown some adaptability to agricultural and urban development (e.g., use of feeders and exotic plants), sometimes breeding in orchards and breeding and wintering in coastal suburbs (see Baltosser and Scott 1996). Urban habitats appear to be not commonly used in regions dominated by desert scrub (see Baltosser and Scott 1996).

The most serious threat may be clearing of desert scrub, thorn forest, and tropical deciduous forest for planting South African buffelgrass (*Cenchrus ciliaris* [*Pennisetum ciliare*]) for cattle forage, primarily in Sonora. This drought-resistant grass is fire-prone, and by fueling repeated fires, can eliminate native plants that are not fire-adapted (especially cacti and trees) (see Baltosser and Scott 1996 for further documentation).

In Baja California and Sonora, cattle-grazing in desert, thorn scrub, and Cape deciduous forest is often intensive, and livestock grazing commonly occurs in desert scrub habitats on public lands in Arizona and California. Indirect effects of livestock grazing on hummingbirds are unknown. Some nectar plants (e.g., palo adán and ocotillo) resist grazing when mature, but shrub seedlings and herbs may be affected. However, traditional grazing in native habitat is a minor problem compared to buffelgrass conversion (Baltosser and Scott 1996).

In California chaparral, Costa?s Hummingbird apparently thrives in recently burned areas and probably benefits from a frequent-fire regime. In contrast, frequent fires are unnatural in desert scrub, and thus burning is of concern because many tree species used for nesting are not fire-adapted (Baltosser and Scott 1996).

Short-term Trend: Relatively Stable (<=10% change)

**Short-term Trend Comments:** Trend over the past 10 years or three generations is uncertain, but area of occupancy and population size probably have been relatively stable or at least have not changed at a fast rate.

### Long-term Trend: Decline of <30% to increase of 25%

**Long-term Trend Comments:** Long-term trend is uncertain (e.g., Breeding Bird Survey data are too weak to establish a clear trend), but overall distribution and abundance may not have changed very much, or perhaps have declined somewhat. The status of this species remains poorly known in many portions of its range, but in some areas it appears to be expanding its range, and in others there is a resurgence into historical areas of occurrence (Baltosser and Scott 1996).

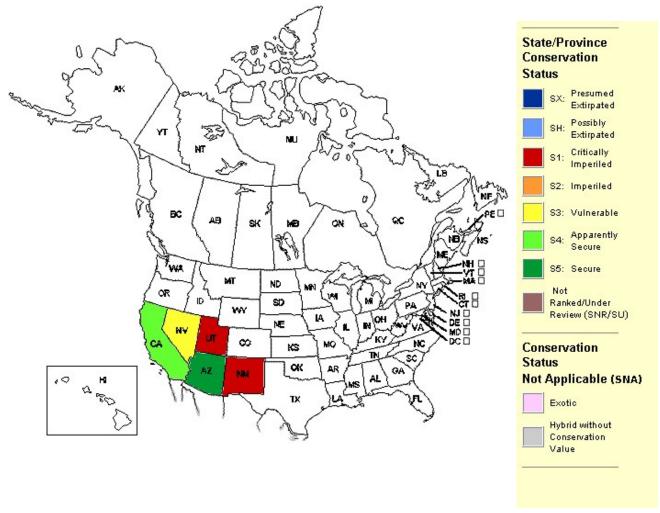
## **Other NatureServe Conservation Status Information**

### Distribution

**Global Range:** (200,000-2,500,000 square km (about 80,000-1,000,000 square miles)) Breeding range extends from central California (north to Monterey, Stanislaus, and Inyo counties), southern Nevada, and southwestern Utah south to southern Baja California (including the Channel Islands off California, and islands off the coast of Baja California), Sonora (including Tiburon and San Esteban islands), southern Arizona, and (probably) southwestern New Mexico; there is an isolated breeding attempt (eggs laid, nest destroyed) for southern Oregon (AOU 1998). Winter range extends from southern California and southern Arizona south to Sinaloa and Nayarit, casually north to southwestern British Columbia, Oregon, and central Nevada, and east to central and southern Texas (Hays and Kleberg counties) (AOU 1998).

## **U.S. States and Canadian Provinces**

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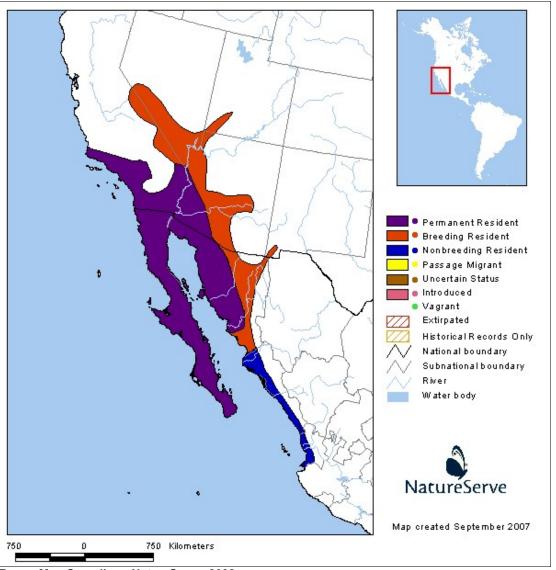


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada | State/Province Distribution |
|---------------|-----------------------------|
| United States | AZ, CA, NM, NV, OR, UT      |

### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀    |                                      |  |
|----------------------------------|--------------------------------------|--|
| State                            | County Name (FIPS Code)              |  |
| CA                               | Inyo (06027), San Bernardino (06071) |  |
| NM                               | Hidalgo (35023)                      |  |
| UT                               | Washington (49053)                   |  |
| * Extirpated/possibly extirpated |                                      |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 📀 |  |  |  |
|----------------------------------|--|--|--|
| Watershed<br>Region ⑦            | Watershed Name (Watershed Code)  |  |  |
|                                  | Upper Virgin (15010008)+, Fort Pierce Wash (15010009)+*, Lower Virgin (15010010)+*, Piute<br>Wash (15030102)+, San Bernardino Valley (15080302)+ |  |  |
| 18                               | Indian Wells-Searles Valleys (18090205)+   |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### Ecology & Life History

**Reproduction Comments:** Nesting season varies with location; begins in winter in some areas, over by late spring or early summer. Female incubates 2 eggs for 15-18 days. Young are tended by female, leave nest in 20-23 days.

Ecology Comments: Males defend large territory, often 1-1.5 ha. Home range of breeding females "probably at least 1-km radius"

5 of 9

(Baltosser and Scott 1996). Non-Migrant: Y Locally Migrant: Y

Long Distance Migrant: Y

**Mobility and Migration Comments:** Migration patterns vary geographically, but are poorly known and complicated by partial migration in some populations and annual variations in response to nectar supply and weather (Baltosser and Scott 1996). Northern breeding populations move south for winter. Birds that breed in spring in Arizona migrate probably to Pacific coast to spend summer, return to southwestern Arizona in fall. Some possibly breed in California desert, then migrate to chaparral and breed again (Johnsgard 1983).

Palustrine Habitat(s): Riparian

Terrestrial Habitat(s): Desert, Shrubland/chaparral Habitat Comments:

Habitat includes desert and semi-desert, especially washes, and arid brushy foothills and chaparral; in migration and winter, this species occurs also in adjacent mountains and in open meadows and gardens (AOU 1998). Nests are in trees, shrubs, vines, or cactus, often about 1.5 meters from the ground, sometimes near water, but often far from it. In chaparral, nests often are at breaks along edges or in tall bushes.

Adult Food Habits: Invertivore, Nectarivore Immature Food Habits: Invertivore, Nectarivore Food Comments: Feeds on nectar; also insects and spiders found in or near flowers. Nectar sources include: ocotillo, chuparosa, boxthorn, desert lavender, desert willow, sage, larkspur, etc.). Adult Phenology: Diurnal Immature Phenology: Diurnal

Length: 9 centimeters

Weight: 3 grams

**Economic Attributes** 

### **Management Summary**

**Stewardship Overview:** Preservation and restoration of natural habitats are the top management priorities (Baltosser and Scott 1996). A major challenge is to determine how to retard invasion of fire-prone exotic grasses and weeds in desert scrub (Baltosser and Scott 1996). Species-specific management efforts are not needed at the present time.

### **Population/Occurrence Delineation**

Group Name: Hummingbirds

### Use Class: Breeding

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** High potential for gene flow among populations of birds makes it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for hummingbirds; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

### Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .1 km

Date: 10Sep2004

Author: Hammerson, G., and S. Cannings

### Use Class: Nonbreeding

**Minimum Criteria for an Occurrence:** Evidence of recurring presence of wintering individuals (including historical); and potential recurring presence at a given location, minimally a reliable observation of 25 birds in appropriate habitat (or fewer individuals for G1-G3

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species). Occurrences should be locations where the species is resident for some time; it is preferable to have observations documenting presence over at least 7 days annually. Be cautious about creating EOs for observations that may represent single events. Separation Barriers: None. Separation Distance for Unsuitable Habitat: 5 km Separation Distance for Suitable Habitat: 5 km Separation Justification: Separation distance somewhat arbitrary; a compromise between the often small home ranges of these birds, their great mobility, and the need for occurrences of reasonable size. Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .1 km Date: 10Sep2004 Author: Cannings, S., and G. Hammerson 0 **Population/Occurrence Viability** Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008). The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method. Key for Ranking Species Element Occurrences Using the Generic Approach (2008). U.S. Invasive Species Impact Rank (I-Rank) 0  $\bigcirc$ Authors/Contributors NatureServe Conservation Status Factors Edition Date: 19May2015 NatureServe Conservation Status Factors Author: Hammerson, G. Element Ecology & Life History Edition Date: 19May2015 Element Ecology & Life History Author(s): Hammerson, G. Zoological data developed by NatureServe and its network of natural heritage programs (see Local Programs) and other contributors

References

and cooperators (see Sources).

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- American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.
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Version 7.1 (2 February 2009) Data last updated: November 2016



## Progne subis hesperia - Brewster, 1889

Taxonomic Status: Accepted

Related ITIS Name(s): *Progne subis hesperia* Brewster, 1889 (TSN 178466) Unique Identifier: ELEMENT\_GLOBAL.2.106448 Element Code: ABPAU01011 Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds



Search for Images on Google

KingdomPhylumClassOrderFamilyGenusAnimaliaCraniataAvesPasseriformesHirundinidaeProgne

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections:  $\ \ensuremath{\boxtimes}$ 

### **Concept Reference**

Concept Reference: American Ornithologists' Union (AOU). 1957. The A.O.U. Check-list of North American Birds, 5th ed. Port City Press, Inc., Baltimore, MD. 691 pp. Concept Reference Code: B57AOU01HQUS

Name Used in Concept Reference: Progne subis hesperia

**Conservation Status** 

### **NatureServe Status**

Global Status: G5T4 Global Status Last Reviewed: 05Jan1997 Global Status Last Changed: 05Jan1997 Rounded Global Status: T4 - Apparently Secure Nation: United States National Status: NNR

### U.S. & Canada State/Province Status

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United States

Arizona (S2S3B)

## **Other Statuses**

**NatureServe Global Conservation Status Factors** 

**Other NatureServe Conservation Status Information** 

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#### Distribution

### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

### Map unavailable!:

Distribution data for U.S. states and Canadian provinces is known to be incomplete or has not been reviewed for this taxon. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province D | Distribution |
|--------------------------------|--------------|
| United States                  | AZ           |

**Range Map** 

No map available.

| Ecology & Life History   | 0                 |
|--|-------------------|
| Economic Attributes  | 0                 |
| Management Summary   | 0                 |
| Population/Occurrence Delineation  | 0                 |
| Population/Occurrence Viability  | 0                 |
| Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u><br><u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for imp</u><br><u>method.</u><br>Key for Ranking Species Element Occurrences Using the Generic Approach (2008). | lementing this    |
| U.S. Invasive Species Impact Rank (I-Rank)   | 0                 |
| Authors/Contributors   | 0                 |
| Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u> ) and o and cooperators (see <u>Sources</u> ).  | ther contributors |

#### References

• American Ornithologists' Union (AOU). 1957. The A.O.U. Check-list of North American Birds, 5th ed. Port City Press, Inc., Baltimore, MD. 691 pp.

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### Citation for data on website including State Distribution, Watershed, and Reptile Range maps:

NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

### Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

Full metadata for the Mammal Range Maps of North America is available at: <a href="http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf">http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf</a>.

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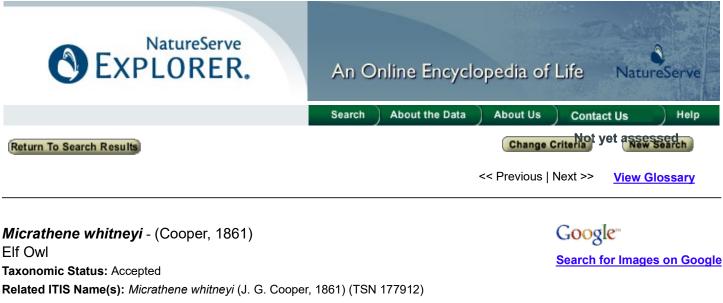
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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



French Common Names: Chevêchette des saguaros

Spanish Common Names: Tecolote Enano

Unique Identifier: ELEMENT\_GLOBAL.2.106556

Element Code: ABNSB09010

Informal Taxonomy: Animals, Vertebrates - Birds - Other Birds

| Kingdom  | Phylum   | Class | Order        | Family    | Genus      |
|----------|----------|-------|--------------|-----------|------------|
| Animalia | Craniata | Aves  | Strigiformes | Strigidae | Micrathene |

Genus Size: A - Monotypic genus

### Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Micrathene whitneyi

Taxonomic Comments: The generic name Micropallas is a junior synonym of Micrathene (Banks and Browning 1995).

**Conservation Status** 

## **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 27Nov1996 Global Status Last Changed: 27Nov1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N5B (19Mar1997)

## U.S. & Canada State/Province Status

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| United States | Arizona (S5), California (S1), Nevada (SH), New Mexico (S3B,S3N), Texas (S4B) |
|---------------|---|
|---------------|---|

### **Other Statuses**

IUCN Red List Category: LC - Least concern Convention on International Trade in Endangered Species Protection Status (CITES): Appendix II

### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** BREEDING: Extreme southern Nevada, southeastern California, central Arizona, southwestern New Mexico, western and southern Texas, Coahuila, and Nuevo Leon south to Sonora, Guanajuato, and Puebla; also southern Baja California (AOU 1998). Formerly more widespread and abundant along the Colorado River of California/Arizona (Henry and Gehlbach 1999). NON-BREEDING: southern Sinaloa, Michoacan, Morelos, and southern Texas south to Guerrero, Puebla, and northwestern Oaxaca (AOU 1998, Henry and Gehlbach 1999). RESIDENT: Socorro Island and Baja California Sur (AOU 1998, Henry and Gehlbach 1999).

### Number of Occurrences:

**Number of Occurrences Comments:** In California, reduced to 15-25 birds at 10 sites in late 1980s (California Department of Fish and Game 1990).

**Overall Threat Impact Comments:** HABITAT: Major threats are loss of riparian habitat due to invasion of salt cedar (TAMARIX CHINENSIS), agricultural clearing, flood control, de-watering, overgrazing, and bank stabilization projects. Also loss of desert scrub habitat due to agricultural conversion and urbanization (e.g., Tucson and Phoenix areas; Alcorn 1988, Haltermann et al. 1989, Henry 1998, Millsap 1988). Invasion by salt cedar has been enhanced by hydrological alterations and frequent wildfires (S. Henry, pers. comm.). PREDATION: Great horned owls (BUBO VIRGINIANUS) prey on fledglings and adults, and Mexican jays (APHELOCOMA ULTRAMARINA) will attack fledglings. Suspected predators include Cooper's hawk (ACCIPITER COOPERI), gopher snake (PITUOPHIS MELANOLEUCUS), green ratsnake (SENTICOLIS TRIASPIS), and ringtail (BASSARISCUS ASTUTUS). COMPETITION: Western screech owls (OTUS KENNICOTTII) and acorn woodpeckers (MELANERPES FORMICIVOROUS) sometimes displace elf owls from cavities, and European starlings (STURNA VULGARIS) and house sparrows (PASSER DOMESTICUS) may usurp cavities. However, because nesting cavities do not appear to be a limiting resource in the habitat studied thus far, competition with other cavity nesting species is not considered to be an important threat. HUMAN DISTURBANCE: In their quest to see an elf owl, some birders will drive owls from their cavity by pounding or rubbing on trees, playing or imitating owl vocalizations, or shining lights into nest cavities. Such disturbances may be detrimental during incubation and brooding (Henry 1998, Henry and Gehlbach 1999). PARASITES: Fly larvae (Calliphoridae) sometimes parasitize nestlings between their toes and on their body (Ligon 1968).

**Short-term Trend Comments:** Declining in California and Baja California (Haltermann et al. 1989, Henry and Gehlbach 1999). Occupied only 10 of 52 (19 percent) sites surveyed along the lower Colorado River, California in 1987. Survey sites were degraded by agricultural clearing, off-road vehicle use, and salt cedar invasion (Haltermann et al. 1989). Declines also documented in Arizona due to habitat loss (Henry and Gehlbach 1999). Not observed in the lower Rio Grande Valley, Texas, between 1894 and 1960. Not known if it was extirpated by expanding agriculture, then recolonized, or simply went undetected for 66 years (James and Hayse 1963). Expanding its range northward in the upper and lower Rio Grande Valley, Texas; northwestward to Animas Creek and the Magdalena Mountains, New Mexico; and into the Guadalupe Mountains and Edwards Plateau, Texas (Henry and Gehlbach 1999, Manning and Goetze 1991, Stacey et al. 1983).

### **Other NatureServe Conservation Status Information**

**Protection Needs:** See Millsap (1988) and California Department of Fish and Game (1990) for habitat protection recommendations (e.g., protection and restoration of riparian woodlands, protecting blocks of natural habitat in conjunction with development of desert scrub).

### Distribution

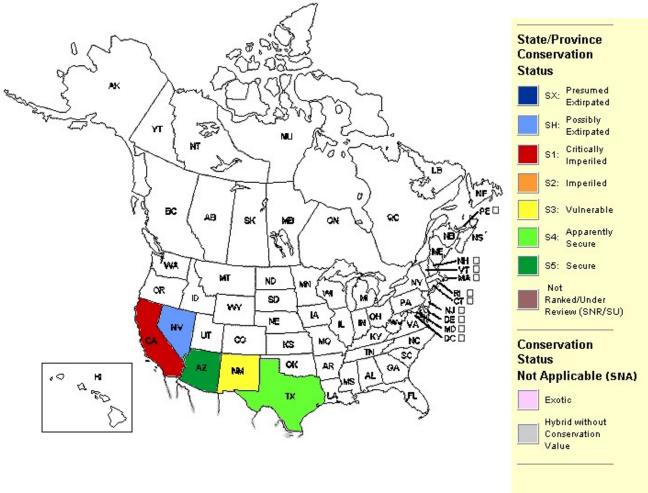
**Global Range:** BREEDING: Extreme southern Nevada, southeastern California, central Arizona, southwestern New Mexico, western and southern Texas, Coahuila, and Nuevo Leon south to Sonora, Guanajuato, and Puebla; also southern Baja California (AOU 1998). Formerly more widespread and abundant along the Colorado River of California/Arizona (Henry and Gehlbach 1999). NON-BREEDING:

2 of 12

southern Sinaloa, Michoacan, Morelos, and southern Texas south to Guerrero, Puebla, and northwestern Oaxaca (AOU 1998, Henry and Gehlbach 1999). RESIDENT: Socorro Island and Baja California Sur (AOU 1998, Henry and Gehlbach 1999).

# **U.S. States and Canadian Provinces**

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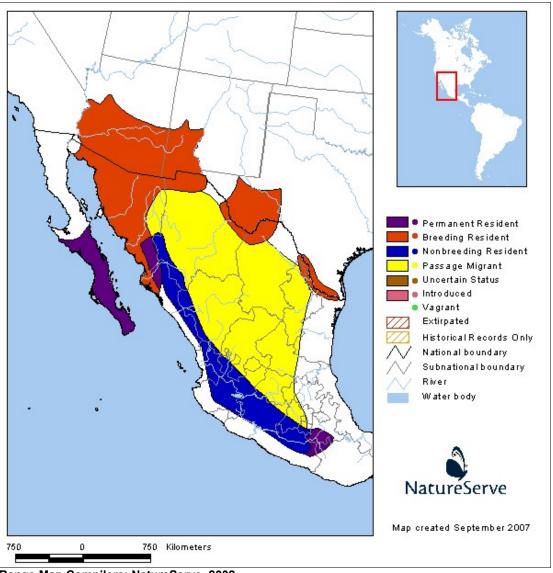


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada St | tate/Province Distribution |
|------------------|----------------------------|
| United States    | AZ, CA, NM, NV, TX         |

# Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at <a href="http://www.natureserve.org/conservation-tools/data-maps-tools.">www.natureserve.org/conservation-tools/data-maps-tools.</a>



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀    |   |  |  |  |
|----------------------------------|---|--|--|--|
| State                            | County Name (FIPS Code)                                     |  |  |  |
| CA                               | Imperial (06025), Riverside (06065), San Bernardino (06071) |  |  |  |
| NV                               | Clark (32003)*  |  |  |  |
| * Extirnated/possibly extirnated |   |  |  |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 🕜 |  |  |  |  |  |  |  |
|----------------------------------|--|--|--|--|--|--|--|
| Watershed Region                 | Watershed Name (Watershed Code)  |  |  |  |  |  |  |
| 15                               | Havasu-Mohave Lakes (15030101)+, Piute Wash (15030102)+*, Imperial Reservoir (15030104)+,<br>Lower Colorado (15030107)+* |  |  |  |  |  |  |
| 18                               | Southern Mojave (18100100)+, Salton Sea (18100204)+  |  |  |  |  |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### **Ecology & Life History**

### Basic Description: A small owl.

**Reproduction Comments:** Eggs are laid once every other day on the bare floor of cavities from early May through early June; most in late May. Occasionally, egg laying begins the last week of April, especially during years of warmer temperatures and greater rainfall. The range-wide clutch-size mode is three eggs. Desert populations have larger clutches (mean = 3.4 eggs, range = 2-5, in Chihuahuan

upland desert; mean = 3.2 eggs, range = 2-5 in Sonoran upland desert) than higher elevation populations (mean = 2.6 eggs, range = 1-4, in Arizona canyon riparian forest). Eggs are incubated only by the female after the second egg is laid; the male assists in feeding the nestlings (Henry 1998, Henry and Gehlbach 1999). Incubation lasts 21-24 days (Ligon 1968, Muller 1970).

Hatching success of eggs varies from 95 percent in canyon riparian habitat in Arizona to 38-85 percent in Chihuahuan upland desert. One clutch is produced annually, but depredated eggs are replaced. Fledging success in natural nests ranges from 94 percent in Arizona canyon riparian habitat to 78-97 percent (mean 90 percent) in Chihuahuan upland desert (Henry and Gehlbach 1999). In Texas, fledging success ranges from 96-100 percent in nest boxes (McKinney 1996). Fledglings generally leave the nest 28-33 days after hatching. Females reproduce annually beginning the year after hatching. Reproductive productivity is enhanced during years of higher rainfall and warmer temperatures due to an increased prey base (Henry and Gehlbach 1999).

**Ecology Comments:** Breeding density averages 2.2-8.3 nesting pairs per square kilometer for established populations and 0.3 pairs for colonizing populations (Henry and Gehlbach 1999). Territorial during the nesting season; multiple cavities are defended against conspecifics (Goad and Mannan 1987, Ligon 1968). Nine individuals radio-tracked in the lower Rio Grande Valley, Texas, ranged over an average of 1.0 hectare (range = 0.2-2.6 hectares) of subtropical woodland (Gamel 1997 cited in Henry and Gehlbach 1999). In Arizona, two nesting pairs used 0.2 and 0.4 hectare of canyon riparian forest, respectively (Henry and Gehlbach 1999).

Site fidelity is illustrated by the return of six nesting females to the same Chihuahuan Desert site the year following banding, the return of two after two years, and the return of one after three years (Henry and Gehlbach 1999). Maximum known age for a wild bird is 4 years, 11 months; can live up to 14 years in captivity (Henry and Gehlbach 1999).

### Non-Migrant: Y

Locally Migrant: Y

### Long Distance Migrant: Y

**Mobility and Migration Comments:** The populations inhabiting the U.S.-Mexican border are migratory and winter in the Sierra Madre region of western Mexico. Generally returns to breeding habitat in March and leaves for wintering habitat between late September and early October. In some years early spring migrants arrive in mid-February (Henry and Gehlbach 1999, Phillips 1942). Individuals breeding at higher elevations in Arizona do not return until mid-April. Migration in flocks is suggested by observations of groups of birds in late summer and in March. Males apparently migrate before females (Henry 1998, Henry and Gehlbach 1999, Ligon 1968). Migration distances, routes and stopover sites are unknown. Non-migratory populations inhabit Baja California Sur and Puebla, Mexico (Henry and Gehlbach 1999). Reportedly present year-round in Texas, though some researchers did not find this species during February searches (Johnsgard 1988).

### Palustrine Habitat(s): Riparian

Terrestrial Habitat(s): Desert, Woodland - Hardwood

### Special Habitat Factors: Standing snag/hollow tree

Habitat Comments: BREEDING: In California, nests in POPULUS-SALIX-PROSOPIS riparian forest (Halterman et al. 1989); in southern Arizona, southwestern New Mexico, and Sonora nests in OLNEYA-CERCIDEUM-PROSOPIS desert-wash woodland, POPULUS-SALIX-CELTIS riparian forest, CEREUS-CERCIDEUM-PROSOPIS upland desert, PLANTANUS-JUGLANS-FRAXINUS-ACER canyon riparian forest, and evergreen woodland; in SW Texas and Coahuila, Mexico, nests in AGAVE-ACACIA-LEUCOPHYLLUM lowland desert, PROSOPIS-ACACIA-CELTIS-CHILOPSIS desert-wash woodland, POPULUS-SALIX-FRAXINUS-JUGLANS-ACER canyon riparian forest, and QUERCUS-PINUS-JUNIPERUS evergreen woodland; and in the lower Rio Grande valley of Texas and Tamaulipas and Nuevo Leon, Mexico, nests in ACACIA-PROSOPIS-CELTIS-DIOSPYRUS-BUMELIA subtropical thorn woodland and PITHECELLOBIUM-EHRETIA-ULMUS-LEUCAENA riparian woodland (Henry and Gehlbach 1999).

In the Sonoran region, nests most often in saguaro (CEREUS GIGANTEUS) and columnar cacti, fremont cottonwood (POPULUS FREMONTII), honey mesquite (PROSOPIS GLANDULOSA), and gooding willow (SALIX GOODINGII; Goad and Mannan 1987, Halterman et al. 1987, Henry and Gehlbach 1999). In riparian habitats, nests principally in Arizona sycamore (PLANTANUS WRIGHTII), fremont cottonwood, velvet ash (FRAXINUS PENNSYLVANICA var. VELUTINA), Arizona walnut (JUGLANS MAJOR), Chihuahua pine (PINUS LEIOPHYLLA), and various evergreen oaks (QUERCUS ARIZONICA, Q. EMORYI, Q. HYPOLEUCOIDES; Henry and Gehlbach 1999, Ligon 1968, Marshall 1957).

In the Chihuahuan region of Texas, nests in yucca (YUCCA FAXONIANA, Y. ROSTRATA), agave (AGAVE HAVARDIANA, A. PARRYI), Rio Grande cottonwood (POPULUS WISLIZENII), black willow (SALIX NIGRA), evergreen oaks (QUERCUS EMORYI, Q. GRISEA) and deciduous oaks (Q. MUHLENBERGII). In the Rio Grande Valley, Texas, nests most often in eastern cottonwood (POPULUS

DELTOIDES), black willow (SALIX NIGRA), mesquite (PROSOPIS spp.) and anacua (EHRETIA ANACUA; Henry and Gehlbach 1999).

In western Arizona, most frequently encountered in riparian forests (45-88 percent of survey sites) and least frequently in pine-oak montane forest (8 percent) or oak chaparral (9 percent; Millsap 1988). Nests in cavities in trees, cacti, flowering stalks of agave and yucca, fence posts, and utility poles created by ladder-backed woodpecker (PICOIDES SCALARIS), golden-fronted woodpecker (MELANERPES AURIFRONS), acorn woodpecker, Strickland's woodpecker (PICOIDES STRICKLANDI), gila woodpecker (MELANERPES UROPYGIALIS), and gilded flicker (COLAPTES CHRYSOIDES), as well as in bird boxes (Henry and Gehlbach 1999, Johnsgard 1988, McKinney 1996). When woodpecker cavities are randomly oriented, select nesting cavities randomly (Goad and Mannan 1987, Korol and Hutto 1984).

In Arizona, nest height averages 6.3 meters (range = 3.4-10.9 meters) above the ground in saguaro cacti and 10.3 meters (range = 5.3-18.4 meters) above the ground in riparian canyon habitat (Goad and Mannan 1987, Ligon 1968).

NON-BREEDING: In winter, may roost in bush or shrubby tree. In SENOCEREUS-NEOBUXBAUMIA tropical deciduous forest and LEMAIREOCEREUS semi-arid grassy savanna in Mexico (Henry and Gehlbach 1999).

# Adult Food Habits: Invertivore

## Immature Food Habits: Invertivore

**Food Comments:** A sit-and-wait predator, hunts from low perches which it changes frequently. Prey captured with feet or beak in the air or on the ground. Also chases prey on the ground, and probes flowers and foliage for prey (Henry and Gehlbach 1999, Ligon 1968, Marshall 1957). Water is obtained principally through prey (Ligon 1968). Feeds primarily on invertebrates, especially insects (moths [Lepidoptera], beetles [Coleoptera], and crickets [Orthoptera] predominate), but also whip scorpions (Uropygi), scorpions (Scorpionida), and spiders (Araneae). Occasionally preys on lizards (SCELOPORUS and COPHOSAURUS spp.), small snakes (LEPTOTYPHLOPS spp.), and young kangaroo rats (DIPODOMYS spp.; Earhart and Johnson 1970, Henry and Gehlbach 1999, Ligon 1968). Caches large prey items in the nest cavity.

Adult Phenology: Crepuscular, Nocturnal

Immature Phenology: Crepuscular, Nocturnal

**Phenology Comments:** Peak feeding periods (at least while young being fed): around dusk and dawn, with some foraging throughout the night (Ligon 1968).

Length: 15 centimeters

Weight: 41 grams

**Economic Attributes** 

### **Management Summary**

**Stewardship Overview:** Declining in California and Baja California, and to a lesser extent in Arizona. Principal threat is habitat loss, particularly of riparian forests due to habitat/hydrological alterations and subsequent invasion by salt cedar (TAMARIX CHINENSIS). Habitat preservation/restoration is the best form of management. Nest boxes can be used to supplement natural cavities when cavity density is low. Best monitored by imitating vocalizations or playing taped vocalizations from mid- to late-April during the first quarter through full moon.

**Restoration Potential:** In the early 1980s, 12 young were released into Piaute Canyon, San Bernardino County, California (Cade and Dague 1983, Henry 1998). Birds, however, were not detected during a 1987 survey (S. Henry, pers. comm.). Reintroduction efforts along lower Colorado River also have shown little success due to lack of available habitat (California Department of Fish and Game 1990). Reintroduction should be preceded by habitat restoration (S. Henry, pers. comm.).

**Preserve Selection & Design Considerations:** Suitable nest cavities are an essential component of the breeding habitat. A preserve less than 2.6 square kilometers is unlikely to be suitable over the long-term in the breeding range (S. Henry, pers. comm.).

**Management Requirements:** Maintain, restore, and manage riparian habitats in breeding range (Millsap 1988). Tolerates low-density development when native vegetation is left relatively intact; therefore, an effort should be made to incorporate native vegetation in housing developments (S. Henry, pers. comm.).

**Monitoring Requirements:** Responds by vocalizing or by approaching humans imitating vocalizations or playing taped vocalizations. Best results are obtained from mid- to late-April during the first quarter through full moon (Henry and Gehlbach 1999). Nest success can be monitored by repeated visits to the nest; however, an effort should be made not to disturb birds or attract predators (S. Henry, pers. comm.).

Management Research Needs: Need long-term monitoring to assess natural variations in population size. Studies are needed to

0

assess wintering habitat requirements, winter diets, and winter interactions with other species. Migration distances, routes and stopover points need to be determined. The extent to which owls can co-exist with humans in urbanized areas needs study. Interactions with sympatric cavity-nesting birds, particularly competition for cavities, needs additional study (Henry and Gehlbach 1999). **Biological Research Needs:** Ecological factors limiting populations at the northern and western limits of the range need to be determined (Millsap 1988).

### **Population/Occurrence Delineation**

Group Name: Small and Medium Owls

### Use Class: Breeding

### Subtype(s): Nest site

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

### Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is not intended to delineate demographically independent populations or metapopulations (such units would be quite large) but rather serves to circumscribe breeding occurrences that are of practical size for conservation/management use.

Separation distance is larger than three times the diameter of an average home range for these volant species; based the diameter of larger home ranges of males, e.g. those of Northern Pygmy-Owls given below.

Ferruginous Pygmy-Owl: post-fledging families used 9.3 to about 60 hectares until the young dispersed (Proudfoot and Johnson 2000).

Northern Pygmy-Owl: territory in Colorado estimated to be about 75 hectares (Rashid 1999, cited in Holt and Petersen 2000); home ranges of breeding males in Washington 170-230 hectares (A. Giese, pers. comm., cited in Holt and Petersen 2000); home ranges of males in Sweden averaged 231 hectares (Kullberg 1995).

Northern Saw-whet Owl: Two breeding males had home ranges of 142 and 159 hectares (Cannings 1987). Most breeding habitat probably supports a maximum of about 1 pair/square kilometer, often much less (Cannings 1993); singing males can be as close as about 250 meters apart (Swengel 1990).

Elf Owl: home ranges smaller, range 0.2-2.6, mean 1.0 hectares (Gamel 1997).

Flammulated Owl males had mean home ranges of about 14 hectares in Colorado (Linkhart 1984) and about 16 hectares in Oregon (during the incubation period; Goggans 1986). DNA data indicate very low differentiation among populations in different mountain ranges in New Mexico and Utah; evidently the species exhibits long-distance natal dispersal and frequent intermountain dispersal (Arsenault et al. 2005).

Whiskered Screech-Owls had home ranges about 1550 meters long, along permanent creek (Gehlbach and Gehlbach 2000).

Burrowing Owl: In Saskatchewan, the average home range was about 1.2 kilometers in diameter (Haug and Oliphant 1990).

Long-eared Owl: In Wyoming, breeding home range in riparian habitat varied from 34-106 hectares and averaged 51 hectares (Craighead and Craighead 1956).

Short-eared Owl: Breeding territories average 64 -74 hectares (Holt 1992, Clark 1975).

### Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .6 km

**Inferred Minimum Extent Justification:** Conservatively based on an average home range of 27 hectares for a Ferruginous Pygmy-Owl family (Proudfoot and Johnson 2000). A breeding male Northern Saw-whet Owl spent most of its active time in a core area of only 27

hectares (Cannings 1987).

Long-eared Owl: May use an IE of 0.8 km, which is the diameter of an average home range (Craighead and Craighead 1956).

Short-eared Owl: May use an IE of 0.9 km, which is based on an average breeding home range of 65 hectares.

### Date: 26Feb2005

Author: Cannings, S., and G. Hammerson Notes: Contains owls in the genera *Otus*, *Glaucidium*, *Aegolius*, *Asio* and *Athene*.

### Use Class: Nonbreeding

**Minimum Criteria for an Occurrence:** Evidence of recurring presence of wintering individuals (including historical); and potential recurring presence at a given location. Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 20 days annually. Be cautious about creating EOs for observations that may represent single events.

### Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance larger than three times the diameter of an average home range for these volant species; based the diameter of larger home ranges of males, e.g. those of Northern Pygmy-Owls: in Washington 170-230 hectares (A. Giese, pers. comm., cited in Holt and Petersen 2000); in Sweden, averaged 231 hectares (Kullberg 1995).

Whiskered Screech-Owls had home ranges about 1550 meters long, along permanent creek (Gehlbach and Gehlbach 2000).

### Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .6 km

**Inferred Minimum Extent Justification:** Conservatively based on a home range of 27 hectares; for example, a breeding male Northern Saw-whet Owl spent most of its active time in a 27-hectare core area (Cannings 1987).

Date: 16Apr2002

Author: Cannings, S.

### Use Class: Roost

**Minimum Criteria for an Occurrence:** Evidence of recurring, nonbreeding, communal roosting at a given location; reliable observation of multiple individuals roosting in a distinct habitat patch in multiple years. To avoid creating EOs for ephemeral situations, there should be evidence of communal roosting over at least two different (though not necessarily consecutive) nonbreeding seasons.

### Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is arbitrary. Pertinent biologically based separation criteria do not exist. **Date:** 25Oct2012

Author: Hammerson, G.

### **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).

The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

### Authors/Contributors

### Management Information Edition Date: 30Nov1999

Management Information Edition Author: PALIS, J.; REVISIONS BY M. KOENEN AND D.W. MEHLMAN

**Management Information Acknowledgments:** The author thanks Susanna Henry for her thoughtful review of a draft of the abstract and sharing some references. Funding for the preparation of this abstract was provided through the Great Plains Bird Conservation Planning Team, supported by The Nature Conservancy's Wings of the Americas, Ecoregional Conservation, and Great Plains Programs.

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## Element Ecology & Life History Edition Date: 10Sep1992 Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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# Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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Version 7.1 (2 February 2009) Data last updated: November 2016



# Melanerpes uropygialis - (Baird, 1854) Gila Woodpecker Other English Common Names: Gila woodpecker Taxonomic Status: Accepted Related ITIS Name(s): Melanerpes uropygialis (S. F. Baird, 1854) (TSN 178198) French Common Names: Pic des saguaros Spanish Common Names: Carpintero del Desierto Unique Identifier: ELEMENT\_GLOBAL.2.105515 Element Code: ABNYF04150 Informal Taxonomy: Animals, Vertebrates - Birds - Other Birds



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| Kingdom  | Phylum   | Class | Order      | Family  | Genus      |  |  |  |
|----------|----------|-------|------------|---------|------------|--|--|--|
| Animalia | Craniata | Aves  | Piciformes | Picidae | Melanerpes |  |  |  |
|          |          |       |            |         |            |  |  |  |

Genus Size: D - Medium to large genus (21+ species)

Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

### Name Used in Concept Reference: Melanerpes uropygialis

**Taxonomic Comments:** Considered conspecific with *M. hypopolius* by some authors. Hybridizes locally with *M. aurifrons* in western Mexico. Sometimes placed in the genus Centurus (AOU 1983).

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 02Dec1996 Global Status Last Changed: 02Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N5 (05Jan1997)

### U.S. & Canada State/Province Status

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jurisdiction to obtain the most current data. Please refer to our Distribution Data Sources to find contact information for your jurisdiction.

United States Arizona (S5), California (S1), New Mexico (S2B,S2N)

### **Other Statuses**

IUCN Red List Category: LC - Least concern

### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** RESIDENT: southeastern California, extreme southern Nevada, central Arizona and southwestern New Mexico south through Baja California and central mainland of Mexico (AOU 1983). Near sea level to 1200 m.

**Overall Threat Impact Comments:** HABITAT: Threatened by habitat loss and degradation throughout its range. In the southwestern U.S., loss and fragmentation of riparian woodland to development and other human uses has significantly impacted this species. Few healthy native woodlands remain, which force birds into less than ideal habitats. (Remsen 1978). In the lower Colorado River valley, reduction of suitable native habitat is thought to restrict viability of local populations (Rosenberg et al. 1991). Development continues to negatively impact this species throughout the Sonoran Desert (Kerpez and Smith 1990a and 1990b). Riparian woodlands are among the most severely threatened habitats in the state of Arizona, which encompasses the core of the Gila Woodpecker's U.S. range. Similarly, in New Mexico, habitat destruction, particularly the clearing of cottonwoods, is the principal threat to the species in the state. (NMDGF 1994). Riparian areas have been heavily used by humans throughout history because of the availability of water and the retreats they offered from the surrounding desert. In recent times, dams, water pumping and diversions, clearing for agriculture or development, grazing, recreation, wood cutting, and other human induced disturbances have severely impacted and fragmented riparian communities (Szaro 1989). Information is lacking, but it is likely that these land-use patterns are relatively consistent throughout the arid regions of this species' range. COMPETITION: Competition with other species for nest holes is thought to be a factor in population declines, especially in the California population. Competition between starlings and Gila Woodpeckers will probably become more severe and widespread with time as starling numbers continue to increase and spread.

**Short-term Trend Comments:** North American Breeding Bird Survey (BBS) show a non-significant decline of -2.5% / year (P = 0.22) in Arizona and -2.1% / year (P = 0.36) survey-wide from 1980-1999. Not adequately monitored in California and New Mexico to determine population trends. BBS data for 1982-1991 suggest a drop in Gila Woodpecker numbers, with 12 of 15 routes showing declines (P < 0.01). Percentage change was negative (-3.0%) for species' (North American) range, but not significantly so (P < 0.10) (Edwards and Schnell 2000) Formerly common along the Colorado River north of the Mexican border. Rosenberg et al. (1991) reports that although formerly more common and widespread in lower Colorado River valley (Coues 1866, Grinnell 1944), had become restricted to relatively few areas where some tall trees were retained in native habitats. About 200 breeding individuals estimated to occur on California side of lower Colorado River valley in 1983 (Rosenberg et al. 1991). The total population in riparian habitats in Arizona estimated to be about 650 birds in 1976, 600 in 1983, and 561 in 1986. (Edwards and Schnell 2000). Van Rossem (1933) and Grinnel and Miller (1944) though this species was spreading north in Imperial Valley from Colorado Delta in se California, probably in response to tree planting in the valley. More recently, has declined significantly in southeast California (Rosenberg et al. 1991, Kaufman 1996). Declines in Colorado River valley and Imperial Valley may be tied in part to clearing of woodlands and probably to nest-site competition with European Starlings (Garrett and Dunn 1981, Edwards and Schnell 2000)

# **Other NatureServe Conservation Status Information**

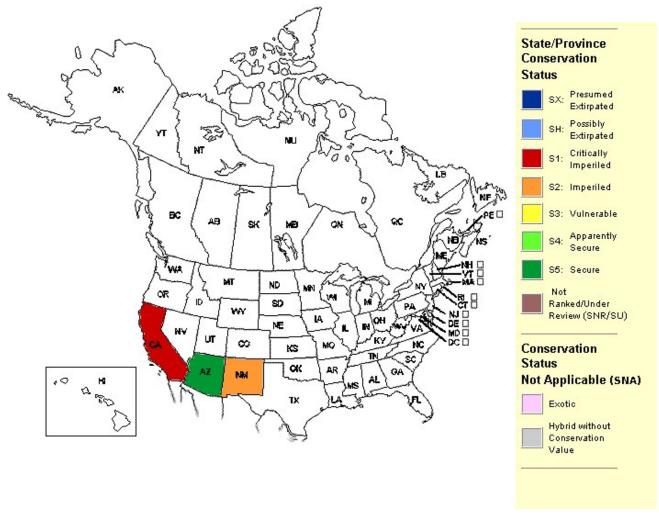
#### Distribution

**Global Range:** RESIDENT: southeastern California, extreme southern Nevada, central Arizona and southwestern New Mexico south through Baja California and central mainland of Mexico (AOU 1983). Near sea level to 1200 m.

# **U.S. States and Canadian Provinces**

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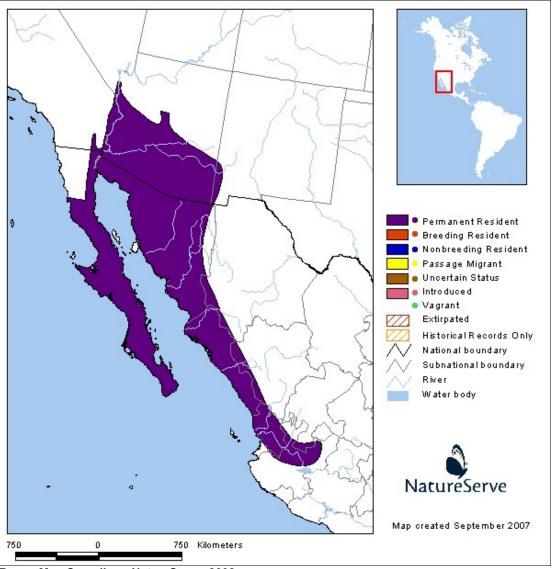


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/P | rovince Distribution |
|-----------------------|----------------------|
| United States         | AZ, CA, NM           |

# Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Dis | tribution by County 📀                                       |
|----------|---|
| State    | County Name (FIPS Code)                                     |
| CA       | Imperial (06025), Riverside (06065), San Bernardino (06071) |
| NM       | Grant (35017), Hidalgo (35023)                              |
|          |   |

\* Extirpated/possibly extirpated

| U.S. Distribut        | ion by Watershed 📀   |
|-----------------------|--|
| Watershed<br>Region ⊘ | Watershed Name (Watershed Code)  |
| 13                    | Playas Lake (13030201)+  |
| 15                    | Havasu-Mohave Lakes (15030101)+, Imperial Reservoir (15030104)+, Lower Colorado (15030107)+, Upper Gila-Mangas (15040002)+, Animas Valley (15040003)+, San Bernardino Valley (15080302)+ |
| 18                    | Salton Sea (18100204)+   |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

# Ecology & Life History

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**Reproduction Comments:** Apparently a monogamous and solitary breeder. Highly defensive against all avian intruders (Gillman 1915), particularly Gilded Flickers and European Starlings with which it competes for nest cavities (Erlich et al. 1988). Breeding season from April through July, with peak activity in April and May, usually ending in June-August.

Digs nest cavity in saguaro cactus (CARNEGIEA GIGANTIA) and Cordon (PACHYCEREUS PRINGLEI) cacti (Robbins et al. 1983), and to a lesser extent in cottonwoods (POPULUS), and willow (SALIX) (Bent 1939). Along the lower Colorado River, some nests found in honey mesquite (PROSOPIS GLANDULOSA) or screwbean (P. PUBESCENS; Anderson et al. 1982). Rarely nests in oaks and paloverde (CERCIDIUM SP.; Bent 1939), and in blue fan palm (ERYTHEA ARMATA) in one northern Baja California at locality without large cacti (Cornett 1986). In southern Arizona, Kerpez and Smith (1990a) report the greatest number of nests found in saguaro cacti in arroyos, where Gila Woodpeckers forage; fewer nests found in cacti on hillsides, ridgetops, or desert flats.

Does not nest in saguaros less than 4 (Karol and Hutto 1984) or 5 m tall in southern Arizona (Kerpez and Smith 1990a). Saguaro used for nesting are taller and more likely to have branches than randomly chosen saguaros. Nests rarely excavated above about 7 m (Karol and Hutto 1984, Smith 1990b), but rarely as low as 1 m (Edwards and Schnell 2000)

Nest hole excavated by both sexes in a living cactus or dead tree. Holes in living cacti can be used only after they have dried out. (Winkler et al. 1995), typically several months. May occupy the same nesting hole for more than one season until it is appropriated by an owl, kestrel, snake or large lizard. Non-randomly place nest holes on saguaro cacti in order to regulate its internal temperature. In cooler environments nest holes are often on the south-facing side, whereas on hotter environments the nest is placed on the north-facing side (Karol and Hutto 1984, Inouye et al. 1981). Nest holes are frequently excavated in live cactus after the nesting season to facilitate their drying.

Clutch size is three to five (Short 1982), rarely six eggs, with fewer eggs in second clutch (Bent 1939). Incubation poorly studied but reported to be 13 -14 days (Baicich and Harrison 1997). Both sexes incubate. Both males and females feed young (Edwards and Schnell 2000). Young leave nest about four weeks of age and are fed by adults for an extended period of time. Family grounds may remain together while adults renest. (Edwards and Schnell 2000). Can fly at approx. one month and in most cases a second brood fledges by late June. Family groups stay in territory after nesting until the young disperse or are driven away prior to the next breeding attempt. (Winkler et al. 1995). Sometimes 2-3 broods if food is abundant (Baicich and Harrison 1997). Brood parasitism not known to occur in this species.

**Ecology Comments:** Holes produced by this woodpecker provide quarters many other bird species, mammals and reptiles, which also compete with it for nest sites (Winkler et al. 1995). Nesting cavities are utilized by American Kestrel, Elf Owl, Ferruginous Pygmy-Owl, Western Screech-Owl, Brown-crested Flycatcher, Purple Martin, Cactus Wren, lizards, snakes, rats, mice, etc. In Arizona, European Starling has had negative impact on Gila Woodpecker due to saguaro nest site competition, especially in area near agriculture and large lawns (Kerpez and Smith 1990b).

Declines in Gila Woodpecker numbers could have a negative impact on the entire bird and wildlife community that nests in saguaro cacti. Also, declines might directly affect survival of the saguaro itself because the woodpeckers may be important pollinators of the cacti (Edwards and Schnell 2000)

Non-Migrant: Y

Locally Migrant: N

# Long Distance Migrant: N

**Mobility and Migration Comments:** Largely non-migratory. Some individuals move short distances north or to higher elevation during the winter (Kaufman 1996).

Palustrine Habitat(s): Riparian

Terrestrial Habitat(s): Desert, Shrubland/chaparral, Suburban/orchard

Special Habitat Factors: Standing snag/hollow tree

**Habitat Comments:** Breeds throughout arid regions of southwestern U.S. and northwestern Mexico in arid lowland scrub, arid montane scrub, tropical deciduous forest, gallery forest, second-growth scrub, and secondary forest. Frequents deserts that have large cacti or trees suitable for nesting, dry subtropical forests, riparian woodlands, and plantations. Found in river bottoms with mesquite or cottonwood groves and dry washes (Baicich and Harrison 1997, Edwards and Schnell 2000, AOU 1998). From sea level to 1,000 m, occasionally to >1,600 m, higher in Aquascalientes (Selander and Giller 1963). In the few areas where it meets Golden-fronted Woodpecker (M. AURIFRONS), it seems to prefer drier, more desert-like habitats, whereas the Golden-fronted favors riparian woods (Selander and Giller 1963). Cover vegetation may be a significant habitat requirement. Cottonwoods and other desert riparian trees, and date palms supply cover in California. Saguaros are important habitat elements outside of California, but are scarce within the state and are not so important. Areas with parasitic berry-bearing mistletoe (PHORADENDRON SP.), particularly when on mesquite, are favored.

(Edwards and Schnell 2000).

In California, found in riparian woodlands, cottonwood groves, parklands and residential neighborhoods that have tall trees all year round. Also found in orchard-vineyard and urban habitats, particularly in shade trees and date palm groves. In otherwise suitable areas in se. California, availability of excavatable tree trunks for nesting seems to be the primary factor determining presence of this woodpecker (Grinnell and Miller 1944).

In Arizona, found in desert habitats, especially with saguaro and other large cacti, semidesert, riparian woodland (cottonwood-willow, mesquite) and towns, in arid regions (Tropical and lower Subtropical zones) (AOU 1998). Density is positively correlated with the number of large saguaro cacti and negatively correlated with the slope of the area. Inhabits cottonwood-dominated habitat along lower Colorado River in winter and summer; almost absent in summer from areas dominated by screwbean mesquite (PROSOPIS PUBESCENS) and from areas without snags (Brush et al. 1983). Gila Woodpeckers did not occur in isolated cottonwood groves of less than 50 ac (20ha) in Arizona (Rosenberg et al. 1991).

In New Mexico, confined to lower elevation woodlands, especially those dominated by mature cottonwoods and/or sycamores, along stream courses (Hubbard 1987). In NE Baja California, found along streams in cottonwoods (POPULUS DELTOIDES) and willows (SALIX SP.) at Rancho Rosarito and sparingly at El Palmarito in scattered palms along an arroyo (Short and Banks 1965). However, also found in two Baja California localities without saguaro where likely nesting in desert fan palms (ERYTHEA ARMATA, Cornett 1986). Adult Food Habits: Frugivore, Invertivore

# Immature Food Habits: Frugivore, Invertivore

**Food Comments:** Forages primarily on bark and on large branches (e.g. trunks ) in inner portion of trees (Rosenberg et al. 1982), cacti, and bushes (Short 1982), pecking, probing (inserting bill in crevices, fruits or flowers), and gleaning insects and other food items from vegetation and occasionally from the ground. (Edwards and Schnell 2000). Gila Woodpeckers probe and glean more often than Ladderbacked Woodpeckers (Brush et al. 1983) Visits saguaro flowers and fruiting plants most often during cooler hours, when sun is less than direct. During hotter portions of day, forages in interior portions of foliage.

Essentially omnivorous. Eats the fruit of saguaro and other cacti (Baicich and Harrison 1997) which are an important food source during the summer. Feeds on a variety of insects (e.g. ants, grasshoppers, beetles, grubs), sometimes taking worms, small lizards, eggs of other bird species (including chicken eggs, Edwards and Schnell 2000) berries, corn in fields, honey (Short 1982), and occasionally comes to bird feeders for suet. Cicadas may be a high proportion of the diet (Rosenberg et al. (1982). Mistletoe and lycium berries frequently consumed.

Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 24 centimeters Weight: 70 grams

**Economic Attributes** 

#### **Management Summary**

**Stewardship Overview:** Commonly breeds in the southwestern U.S. and western Mexico in desert scrub and riparian forest where large cactus or snags are available for excavation. Regional declines due to destruction and degradation of desert and riparian habitats. Stewardship needs include better monitoring, especially where human impacts are increasing and protection of high quality riparian and desert habitat is key to maintaining populations. Evidence suggests that riparian forests tracts > 20 ha should be protected. Reducing impacts to riparian areas and initiating restoration efforts are essential components of a successful management strategy.

**Restoration Potential:** Riparian habitat restoration projects have been shown to benefit this species. However, the success of these projects depends largely upon restoring natural flow regimes to rivers and eliminating destructive land uses over large stretches of river, an often difficult task. Improved management techniques in urbanized and natural areas will be required. Protection of key habitat parcels will be essential.

**Preserve Selection & Design Considerations:** Maintain large patches of riparian cottonwood groves (> 20 ha) Isolated mature cottonwood-willow groves smaller than this size will likely be devoid of woodpeckers. In general, the smaller the habitat patch, the less likely this species will be present (Edwards and Schnell 2000).

**Management Requirements:** RIPARIAN HABITAT: Successful management will include preservation of high quality riparian and desert communities and allow regeneration of sycamore and cottonwood groves, and should be expected to benefit this species throughout its

range. Floodplains that still undergo a natural flooding cycle are of high priority because floods create the conditions needed for the growth of tree and shrub seedlings (Askins 2000).

Likely to benefit from riparian forest revegetation efforts when trees reach size suitable for nesting (California Department of Fish and Game). Restoration efforts in the Colorado River Valley have included planting a diversity of native plants, and girdling cottonwoods that were several years, creating dead trees that have been excavated and used by Gila Woodpeckers and other cavity nesting birds.

Arizona's Partner's in Flight Bird Conservation Plan (Latta et al. 1999) suggests that management for other priority species (e.g., Common Black-hawk, BUTEOGALLUS ANTHRACINUS) using similar habitat components in Low Elevation Riparian Habitat are likely to benefit Gila Woodpecker, and suggest several categories of action including:

1. Avoid or minimize water diversions that decrease or eliminate perennial flow.

2. Avoid flood-control practices that reduce water availability to riparian habitat.

3. Reduce or avoid activity such as riparian travel, work, grazing, etc. in areas that have less than 2 year-old seedlings becoming established.

4. Locate urban development away from riparian areas and associated floodplain.

5. Work with land owners to restore, establish and maintain habitat through conservation easements, incentive programs, etc.

General guidelines for improving riparian habitat (Latta et al. 1999) also include:

1. Manage for large, contiguous blocks of habitat (>20 ha) in conjunction with removal of competing exotic species (i.e. saltcedar) (Laymon and Halterman 1987).

2. Avoid channelization of rivers.

3. Allow regeneration of sycamore and cottonwood groves.

4. Closely monitor grazing impacts on cottonwood and willow seedlings in riparian systems and reduce or remove grazing when seedlings are being impacted.

5. Maintain flow regimes that mimic natural level and timing of high and low water to allow accumulation of sediments and subsequent establishment of seedlings.

6. Promote natural regeneration from seed sources. Augment with plantings (>15 ha) when necessary (Laymon and Halterman 1987).

7. Limit or eliminate use of pesticides adjacent to riparian areas; if used, apply locally to avoid drift into adjacent habitat (i.e. not broad applications).

DESERT/URBAN HABITAT: Successful management will include conservation of core areas of high quality habitat. Edwards and Schnell (2000) highlight the importance of Sonoran Desert habitat in areas such as Saguaro National Monument, Organ Pipe Cactus National Monument, and Cabeza Prieta National Wildlife Refuge (all in Arizona), as well as state and county parks. Conservation of these sites will benefit this and other desert species.

Efforts should be made to maintain native vegetation where possible in urban areas. Mills et al. (1989) found that in Tucson, Arizona, densities of birds in urban areas with a high percentage of native vegetation (29 birds / sq. km) was higher than in urban areas with a high percentage of exotic vegetation (16 birds /sq. km), natural desert areas with native vegetation and no houses (9 birds / sq. km), as well as with urban parks and cemeteries with exotic vegetation and no houses (5 birds / sq. km). Tweit and Tweit (1986) noted that residential development at density of 2 houses / ha did not reduce Gila Woodpecker densities if native vegetation was maintained.

Emlen (1974) and Mills et al. (1989) even found higher Gila Woodpecker numbers on urban than nonurban sites in Tucson, AZ. (Edwards and Schnell 2000)

Most importantly, maintaining habitat in urbanized area means giving special attention to preserving large saguaros (Tweit and Tweit 1986). Adequate saguaro reproduction and survival are critical to ensure that large saguaros remain available as future nest sites for Gila Woodpeckers (Kerpez and Smith 1990a). Tweit and Tweit (1986) evaluated effects of urban development in Tucson area of Arizona, where urban sites varied widely in composition of vegetation cover from almost entirely exotic to almost entirely native vegetation. As few palm trees found on their sites; they concluded that abundance of this species outside riparian areas is determined by the number of saguaros available for nesting and roosting. In addition, they found that numbers of Gila Woodpeckers were not substantially higher in areas with restricted development (i.e., about 2 houses / ha).

**Monitoring Requirements:** Develop a monitoring program to determine current population trends. Establishment of monitoring programs is especially important is southeast California, northwest Mexico and other areas where human populations and impacts to the Gila Woodpecker habitat are increasing (Edwards and Schnell 2000).

**Management Research Needs:** There are no ongoing management programs targeted at this species. The following research needs relevant to management were described by Edwards and Schnell (2000):

1. Describe various aspects breeding including pair formation, incubation, hatching, parental care, departure dates and growth of young.

2. Investigate demographic parameters such as life span and causes of mortality.

3. Further investigate the effects of human development on Gila Woodpecker. Relationships appear complex and human populations are increasing throughout much of its range.

Other research that might improve management:

1. Determine if commonly used levels of pesticides are harmful to Gila Woodpecker. Are safe levels being exceeded?

2. Determine if breeding habitat requirements differ on a regional basis.

3. Determine if revegetated sites have the same occupancy rate as naturally regenerated areas - all other characteristics being relatively equal (stand age, spp. composition, stand size etc.).

4. Determine if revegetated sites (natural or anthropomorphic) have the same occupancy rate as unaltered sites - all other characteristics being relatively equal (stand age, spp. composition stand size etc.).

5. Identify prey base - Is there any difference (quality or quantity) in different habitat types and across their range? **Biological Research Needs:** Edwards and Schnell (2000) describe several gaps in our knowledge. A detailed multivariate examination of morphologic geographic variation or molecular comparison may improve our understanding of this species systematics and variation. Most populations appear resident, but further study into seasonal movement and habitat use are warranted. Also needed are multi-season, quantitative studies of food habits. Further information is needed on range of vocalizations and basic call types, phenology of vocalizations, daily patterns of vocalizing, and basic behavior including hopping, climbing, and flight (Edwards and Schnell (2000).

#### **Population/Occurrence Delineation**

Group Name: Woodpeckers

#### Use Class: Breeding

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** The high potential for gene flow among populations of birds separated by fairly large distances makes it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for woodpeckers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart.

Territories generally smaller than non-breeding home ranges. Territories/home ranges: Red-headed Woodpecker, summer territories 3.1-8.5 hectares (Venables and Collopy 1989), winter territories smaller (0.17 hectare to 1 hectare (Williams and Batzli 1979, Venables and Collopy 1989, Moskovits 1978); Lewis's Woodpecker, 1.0-6.0 hectares (Thomas et al. 1979); Golden-fronted Woodpecker, summer ranges larger than breeding territories, ranging from 15.4 to 41.7 hectares (average 24.9, Husak 1997); Gila Woodpecker, pair territories ranged from 4.45 to 10.0 hectares (n = 5) (Edwards and Schnell 2000); Nuttall's Woodpecker, about 65 hectares (0.8 kilometers diameter; Miller and Bock 1972); Hairy Woodpecker: breeding territories averaged 2.8 hectares, range 2.4 to 3.2 hectares (Lawrence 1967); Black-backed Woodpecker, home ranges 61-328 hectares (Goggans et al. 1988, Lisi 1988, Dixon and Saab 2000); White-headed Woodpecker, mean home ranges 104 and 212 hectares on old-growth sites and 321 and 342 hectares on fragmented sites (Dixon 1995a,b); Williamson's Sapsucker, home ranges 4-9 hectares (Crockett 1975).

Fidelity to breeding site: high in Red-headed Woodpeckers--15 of 45 banded adults returned to vicinity following year (Ingold 1991); one adult moved 1.04 kilometers between breeding seasons (Belson 1998).

Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .2 km

Inferred Minimum Extent Justification: Based on a conservatively small home range of 3 hectares.

Date: 10Sep2004

Author: Cannings, S., and G. Hammerson

# **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

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Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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Version 7.1 (2 February 2009) Data last updated: November 2016



Colaptes chrysoides - (Malherbe, 1852) Gilded Flicker Other English Common Names: gilded flicker Synonym(s): Colaptes auratus chrysoides Taxonomic Status: Accepted Related ITIS Name(s): Colaptes chrysoides (Malherbe, 1852) (TSN 554081) French Common Names: Pic chrysoïde Spanish Common Names: Carpintero Collarejo Unique Identifier: ELEMENT\_GLOBAL.2.105351 Element Code: ABNYF10040 Informal Taxonomy: Animals, Vertebrates - Birds - Other Birds



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| Kingdom  | Phylum   | Class | Order      | Family  | Genus    |
|----------|----------|-------|------------|---------|----------|
| Animalia | Craniata | Aves  | Piciformes | Picidae | Colaptes |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections:  $\square$ 

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Colaptes chrysoides

Taxonomic Comments: Formerly included in C. auratus (see AOU 1995).

**Conservation Status** 

# **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 02Dec1996 Global Status Last Changed: 02Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: NNR

# U.S. & Canada State/Province Status

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jurisdiction to obtain the most current data. Please refer to our Distribution Data Sources to find contact information for your jurisdiction.

United States Arizona (S5), California (S1), Nevada (S1)

# **Other Statuses**

IUCN Red List Category: LC - Least concern

# NatureServe Global Conservation Status Factors

**Range Extent Comments:** RESIDENT from southeastern California, northeastern Baja California, and central Arizona south to southern Baja California and through Sonora to northern Sinaloa (AOU 1983).

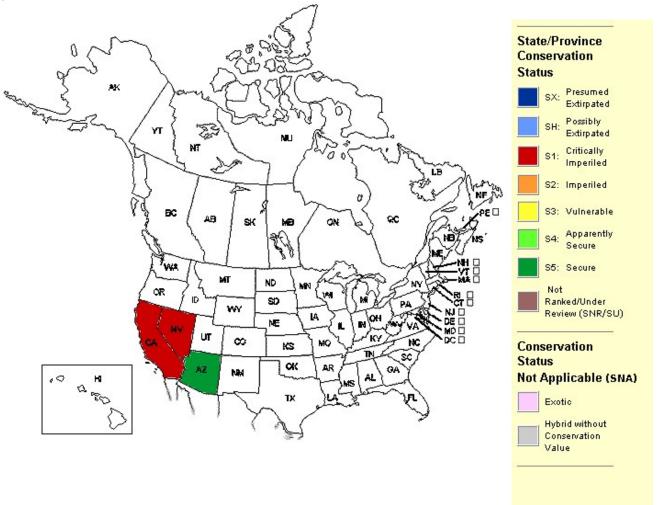
# **Other NatureServe Conservation Status Information**

### Distribution

**Global Range:** RESIDENT from southeastern California, northeastern Baja California, and central Arizona south to southern Baja California and through Sonora to northern Sinaloa (AOU 1983).

# **U.S. States and Canadian Provinces**

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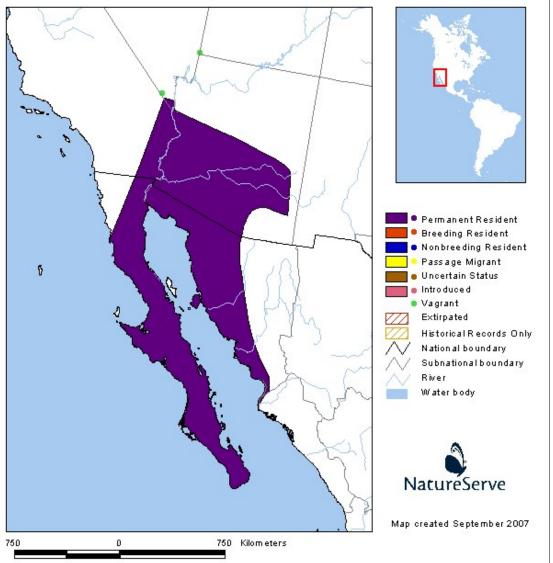
NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for

common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/P | Province Distribution |
|-----------------------|-----------------------|
| United States         | AZ, CA, NV            |

# Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| State | County Name (FIPS Code)                                     |
|-------|---|
| CA    | Imperial (06025), Riverside (06065), San Bernardino (06071) |

\* Extirpated/possibly extirpated

| U.S. Distribution by V | Vatershed 📀   |
|------------------------|---|
| Watershed Region       | Watershed Name (Watershed Code)   |
| 15                     | Piute Wash (15030102)+, Imperial Reservoir (15030104)+, Lower Colorado (15030107)+*         |
| 16                     | Ivanpah-Pahrump Valleys (16060015)+   |
| 18                     | Death Valley-Lower Amargosa (18090203)+, Mojave (18090208)+, Southern<br>Mojave (18100100)+ |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### Ecology & Life History

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**Reproduction Comments:** Incubation by both sexes, lasts 11-12 days. Nestlings are altricial. Young are tended by both adults; leave nest 25-28 days after hatching.

Ecology Comments: Cavities excavated by flickers are used by many species of secondary cavity users.

Non-Migrant: Y

Locally Migrant: N

Long Distance Migrant: N

Palustrine Habitat(s): Riparian

Terrestrial Habitat(s): Desert, Woodland - Hardwood

Special Habitat Factors: Standing snag/hollow tree

**Habitat Comments:** "Stands of giant cactus (saguaro), Joshua tree and riparian groves of cottonwood and tree willows in warm desert lowlands and foothills" (AOU 1995). Nesting density positively correlated with volume of ironwood (OLNEYA) in southern Arizona (Kerpez and Smith 1990), where it did not nest in saguaros less than 5 m tall (Kerpez and Smith 1990).

Adult Food Habits: Herbivore, Invertivore

Immature Food Habits: Herbivore, Invertivore

**Food Comments:** Feeds on insects (ants, beetles, wasps, grasshoppers, grubs, etc). Feeds on the ground or catches insects in the air. Also eats fruits, berries, and seeds (Terres 1980).

| Adult | Pheno | logy: | Diurnal |
|-------|-------|-------|---------|
|-------|-------|-------|---------|

Immature Phenology: Diurnal

Length: 32 centimeters

Weight: 142 grams

**Economic Attributes** 

**Management Summary** 

**Population/Occurrence Delineation** 

Group Name: Woodpeckers

#### Use Class: Breeding

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** The high potential for gene flow among populations of birds separated by fairly large distances makes it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for woodpeckers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart.

Territories generally smaller than non-breeding home ranges. Territories/home ranges: Red-headed Woodpecker, summer territories 3.1-8.5 hectares (Venables and Collopy 1989), winter territories smaller (0.17 hectare to 1 hectare (Williams and Batzli 1979, Venables and Collopy 1989, Moskovits 1978); Lewis's Woodpecker, 1.0-6.0 hectares (Thomas et al. 1979); Golden-fronted Woodpecker, summer ranges larger than breeding territories, ranging from 15.4 to 41.7 hectares (average 24.9, Husak 1997); Gila Woodpecker, pair territories ranged from 4.45 to 10.0 hectares (n = 5) (Edwards and Schnell 2000); Nuttall's Woodpecker, about 65 hectares (0.8 kilometers diameter; Miller and Bock 1972); Hairy Woodpecker: breeding territories averaged 2.8 hectares, range 2.4 to 3.2 hectares (Lawrence 1967); Black-backed Woodpecker, home ranges 61-328 hectares (Goggans et al. 1988, Lisi 1988, Dixon and Saab 2000); White-headed Woodpecker, mean home ranges 104 and 212 hectares on old-growth sites and 321 and 342 hectares on fragmented sites (Dixon 1995a,b); Williamson's Sapsucker, home ranges 4-9 hectares (Crockett 1975).

Fidelity to breeding site: high in Red-headed Woodpeckers--15 of 45 banded adults returned to vicinity following year (Ingold 1991); one adult moved 1.04 kilometers between breeding seasons (Belson 1998).

Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .2 km

Inferred Minimum Extent Justification: Based on a conservatively small home range of 3 hectares.

Date: 10Sep2004

Author: Cannings, S., and G. Hammerson

# Population/Occurrence Viability

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).

The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

### Authors/Contributors

Element Ecology & Life History Edition Date: 01May1996 Element Ecology & Life History Author(s): HAMMERSON, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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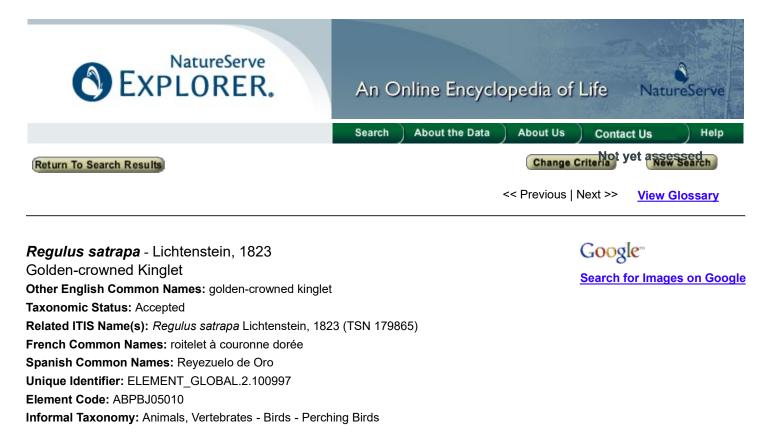
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Version 7.1 (2 February 2009) Data last updated: November 2016



| Kingdom  | Phylum   | Class | Order         | Family    | Genus   |
|----------|----------|-------|---------------|-----------|---------|
| Animalia | Craniata | Aves  | Passeriformes | Regulidae | Regulus |

Genus Size: B - Very small genus (2-5 species)

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#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

#### Name Used in Concept Reference: Regulus satrapa

**Taxonomic Comments:** Formerly in family Muscicapidae; returned to Regulidae by AOU (1997). See Banks and Browning (1995) for brief comments on generic nomenclature.

#### **Conservation Status**

#### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 09Apr2016 Global Status Last Changed: 03Dec1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure Reasons: Widespread and common. Nation: United States National Status: N5 (19Mar1997) Nation: Canada National Status: N5 (13Feb2012) -

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# U.S. & Canada State/Province Status

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| - | United<br>States | Alabama (S5N), Alaska (S4S5), Arizona (S3), Arkansas (S4N), California (SNR), Colorado (S4), Connecticut (S2B),<br>Delaware (SNA), District of Columbia (S3S4N), Florida (SNRN), Georgia (S5), Idaho (S5), Illinois (S1), Indiana (SNA), Iowa<br>(S4N), Kansas (S5N), Kentucky (S5N), Louisiana (S5N), Maine (S5B,S5N), Maryland (S2B), Massachusetts (S2B,S5N),<br>Michigan (S5), Minnesota (SNRB,SNRN), Mississippi (S5N), Missouri (SNRN), Montana (S5), Navajo Nation (S2B,S3N),<br>Nebraska (SNRN), Nevada (S4S5N), New Hampshire (S5), New Jersey (S4B,S4N), New Mexico (S4B,S4N), New York<br>(S5B), North Carolina (S3S4B,S5N), North Dakota (SNA), Ohio (SNA), Oklahoma (S3N), Oregon (S4), Pennsylvania<br>(S3S4B,S5N), Rhode Island (S1B), South Carolina (S4), South Dakota (S4B,S4N), Tennessee (S3B,S4N), Texas (S4N),<br>Utah (S4), Vermont (S5B), Virginia (S2B,S5N), Washington (S4S5B,S4S5N), West Virginia (S4B,S4N), Wisconsin (S3B),<br>Wyoming (S3B,S4N) |
|---|------------------|--|
| С |                  | Alberta (S5), British Columbia (S5B), Labrador (S2), Manitoba (S4B), New Brunswick (S5), Newfoundland Island (S5B),<br>Northwest Territories (SU), Nova Scotia (S4), Ontario (S5B), Prince Edward Island (S5), Quebec (S4S5B), Saskatchewan  |

# Other Statuses

### IUCN Red List Category: LC - Least concern

(S4B), Yukon Territory (S3B)

# **NatureServe Global Conservation Status Factors**

### Range Extent: >2,500,000 square km (greater than 1,000,000 square miles)

**Range Extent Comments:** BREEDING: southern Alaska to Newfoundland, south to central California, southern Utah, southeastern Arizona, southern New Mexico, southern Manitoba, northern Wisconsin, northern Ohio, New York, in mountains to eastern Tennessee and western North Carolina, northern Maryland, northern New Jersey, and southern Maine; also in highlands through Mexico to western Guatemala; isolated populations in South Dakota, Illinois, and Indiana (Ingold and Galati 1997, AOU 1998). NON-BREEDING: south-coastal Alaska and southern Canada south to northern Baja California, southwestern U.S., Guatemala, central Tamaulipas, Gulf Coast, and Florida (AOU 1998).

#### Number of Occurrences: 81 to >300

Number of Occurrences Comments: Widespread and range is expanding.

# Population Size: 10,000 to >1,000,000 individuals

**Population Size Comments:** In California alone estimated to have close to 5 million individuals. Density highest in western part of range. In winter (December - early January) highest densities occur west of Cascade Mountains in Washington, Oregon, and northern California; in East, highest winter density in coastal plains from northern Virginia to South Carolina, through Mississippi and extending along Arkansas - Louisiana border (Ingold and Galati 1997).

**Overall Threat Impact Comments:** Northern part of range may be limited by severe winters. Up to 100 percent mortality estimated locally during severe storms (Ingold and Galati 1997). HABITAT: Habitat changes such as forest thinning, lumber activities, and spruce die-off may reduce local populations. Breeding densities also known to decline in burned and logged areas, habitats with open canopies, hardwood forests, and pure stands of eastern hemlock (TSUGA MERTENSIANA) and lodgepole pine (PINUS CONTORTA). Probably has benefited from spruce reforestation in the eastern United States. No information available about the effects of tropical deforestation (Ingold and Galati 1997). PARASITISM: Uncommon host to brown-headed cowbird (MOLOTHRUS ATER). Have been known to feed young cowbirds; male may chase cowbird from territory (Ingold and Galati 1997).

# Short-term Trend: Relatively Stable (<=10% change)

**Short-term Trend Comments:** Regional variation. North American Breeding Bird Survey documented 2.7 percent annual decline in western part of range for 1966 - 1994. Significant increase (6.1 percent per year) in eastern part of range for the same period. For 1966 - 1994, four states and three Canadian provinces showed population increases (only New York was significant); three states and two provinces showed decrease (only California, Oregon, and Washington were significant; Ingold and Galati 1997). Raphael et al. (1988, cited in Ingold and Galati 1997) estimated that the population in the mid-1980s was 45 percent below historical level.

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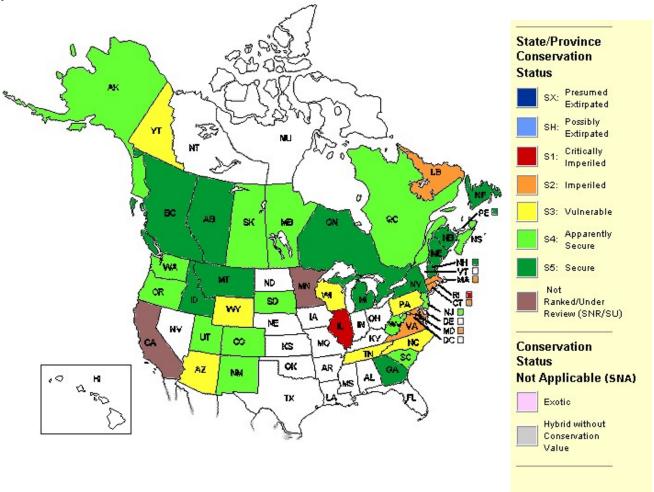
# **Other NatureServe Conservation Status Information**

#### Distribution

**Global Range:** (>2,500,000 square km (greater than 1,000,000 square miles)) BREEDING: southern Alaska to Newfoundland, south to central California, southern Utah, southeastern Arizona, southern New Mexico, southern Manitoba, northern Wisconsin, northern Ohio, New York, in mountains to eastern Tennessee and western North Carolina, northern Maryland, northern New Jersey, and southern Maine; also in highlands through Mexico to western Guatemala; isolated populations in South Dakota, Illinois, and Indiana (Ingold and Galati 1997, AOU 1998). NON-BREEDING: south-coastal Alaska and southern Canada south to northern Baja California, southwestern U.S., Guatemala, central Tamaulipas, Gulf Coast, and Florida (AOU 1998).

# **U.S. States and Canadian Provinces**

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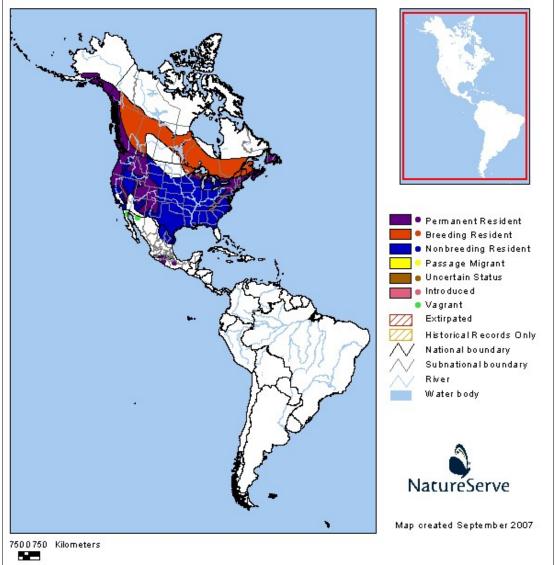
NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

U.S. & Canada State/Province Distribution

| United | AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, |
|--------|---|
| States | NH, NJ, NM, NN, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY                              |
| Canada | AB, BC, LB, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT  |

# Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002; WILDSPACETM 2002

| U.S. [ | Distribution by County 📀   |
|--------|--|
| State  | County Name (FIPS Code)  |
| СТ     | Fairfield (09001)*, Hartford (09003)*, Litchfield (09005), Tolland (09013)*, Windham (09015)*  |
| ID     | Ada (16001), Latah (16057), Shoshone (16079), Valley (16085)   |
| MD     | Carroll (24013)*, Garrett (24023)  |
| RI     | Providence (44007)   |
|        | Bland (51021)*, Grayson (51077), Highland (51091), Russell (51167), Smyth (51173), Tazewell (51185)*,<br>Washington (51191), Wythe (51197)   |
|        | Albany (56001), Big Horn (56003), Campbell (56005), Carbon (56007), Converse (56009), Crook (56011), Fremont (56013), Johnson (56019), Laramie (56021)*, Lincoln (56023), Natrona (56025), Park (56029), Sheridan (56033), Sublette (56035), Teton (56039) |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 📀 |  |  |  |
|----------------------------------|--|--|--|
| Watershed<br>Region 🕜            | Watershed Name (Watershed Code)  |  |  |
| 01                               | Farmington (01080207)+, Narragansett (01090004)+, Quinebaug (01100001)+*, Shetucket (01100002)+*,<br>Housatonic (01100005)+*, Saugatuck (01100006)+*   |  |  |
| 02                               | Lower Susquehanna (02050306)+*, South Branch Potomac (02070001)+, North Branch<br>Potomac (02070002)+  |  |  |
| 05                               | Youghiogheny (05020006)+, Upper New (05050001)+, Middle New (05050002)+*   |  |  |
| 06                               | North Fork Holston (06010101)+, South Fork Holston (06010102)+, Upper Clinch (06010205)+   |  |  |
| 10                               | Gallatin (10020008)+, Yellowstone Headwaters (10070001)+*, Clarks Fork Yellowstone (10070006)+*,<br>Upper Wind (10080001)+, Little Wind (10080002)+, Popo Agie (10080003)+, Nowood (10080008)+, Big<br>Horn Lake (10080010)+, Dry (10080011)+, North Fork Shoshone (10080012)+, South Fork<br>Shoshone (10080013)+, Shoshone (10080014)+, Little Bighorn (10080016)+, Upper Tongue (10090101)+,<br>Crazy Woman (10090205)+, Clear (10090206)+, Little Powder (10090208)+, Upper Belle<br>Fourche (10120201)+, Redwater (10120203)+, Upper North Platte (10180002)+, Medicine<br>Bow (10180004)+, Little Medicine Bow (10180005)+, Sweetwater (10180006)+*, Middle North Platte-<br>Casper (10180007)+, Glendo Reservoir (10180008)+, Upper Laramie (10180010)+, Lower<br>Laramie (10180011)+, Horse (10180012)+, Cache La Poudre (10190007)+, Crow (10190009)+, Upper<br>Lodgepole (10190015)+ |  |  |
| 14                               | Upper Green (14040101)+, New Fork (14040102)+*, Blacks Fork (14040107)+, Little Snake (14050003)+  |  |  |
| 16                               | Central Bear (16010102)+*  |  |  |
| 17                               | Upper Coeur D'alene (17010301)+, Snake headwaters (17040101)+, Gros Ventre (17040102)+, Greys-<br>Hobock (17040103)+, Salt (17040105)+, Lower Henrys (17040203)+, Teton (17040204)+, Boise-<br>Mores (17050112)+, North Fork Payette (17050123)+, Clearwater (17060306)+   |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### **Ecology & Life History**

Basic Description: A small bird (kinglet).

**Reproduction Comments:** In northern Minnesota, begins nesting in mid-May; second clutch may be initiated in late June-early July (Galati 1991). Clutch size 5-11 (usually 8-9) (Terres 1980). Female incubates, about 14-15 days. Males feeds incubating female and fledglings from first brood. Young tended by both parents (both are required for successful nest), fledge at 18-19 days (may climb out of nest a couple days earlier), become independent about 2 months after egg laying; single pair may raise two broods in a single season (Galati 1991).

**Ecology Comments:** Territory size in northern Minnesota was 2.1-6.2 acres (mean 4.1 acres) (Galati 1991). Hatching and fledging success were high in Minnesota; the most frequent sources of nesting mortality were predation on nests (e.g., by red squirrel or gray jay), starvation of nestings due to loss of one or both parents, and faulty or infertile eggs (Galati 1991). Population declines occur after exceptionally cold winters. Commonly associates with chickadees, brown creepers, and downy woodpeckers during the nonbreeding period.

Non-Migrant: Y

Locally Migrant: Y

Long Distance Migrant: Y

Mobility and Migration Comments: Northern breeding populations migrate south for winter.

**Terrestrial Habitat(s):** Forest - Conifer, Forest - Hardwood, Forest - Mixed, Shrubland/chaparral, Woodland - Conifer, Woodland - Hardwood, Woodland - Mixed

Habitat Comments: Coniferous forest and woodland (especially spruce), in migration and winter also deciduous woodland, scrub and brush (AOU 1983). Nests usually in an evergreen, most often in crown 9-18 m above ground; average about 15 m in northern Minnesota (Terres 1980, Galati 1991).

Adult Food Habits: Invertivore

### Immature Food Habits: Invertivore

**Food Comments:** Feeds primarily on insects and their eggs (e.g., bark beetles, scale insects, aphids). Also drinks tree sap (Terres 1980) and eats some fruit and seeds (rare according to Galati 1991). Young are fed various insects and other small arthropods and sometimes small snails (Galati 1991). In Maine, winter diet appeared to consist primarily of geometrid caterpillars (Heinrich and Bell 1995, Wilson Bulletin 107:558-561). Forages among branches of trees, gleaning from foliage and bark. Often obtains prey while clinging

to or hanging from foliage (Keast and Saunders 1991). Sometimes uses short flight to capture flying insect. Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 10 centimeters Weight: 6 grams Economic Attributes Management Summary Monitoring Requirements: See Galati (1991) for information on nest study methods. Population/Occurrence Delineation Group Name: Passerines

#### Use Class: Breeding

#### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

#### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with

versatile foraging habits (e.g., most corvids). **Date:** 10Sep2004 **Author:** Hammerson, G.

Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

# Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

# Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004 **Author:** Hammerson, G.

# Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

## Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

**Notes:** These specs pertain to nonmigratory species.

### **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this</u> <u>method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

# Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 29Oct1999 NatureServe Conservation Status Factors Author: M. KOENEN; Revisions by D.W. MEHLMAN Element Ecology & Life History Edition Date: 19Apr1996 Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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## **Use Guidelines & Citation**

#### **Use Guidelines and Citation**

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **June 10, 2018** 

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**Citation for data on website including State Distribution, Watershed, and Reptile Range maps:** NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: June 10, 2018 ).

#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

### Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

Full metadata for the Mammal Range Maps of North America is available at: <a href="http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf">http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf</a>.

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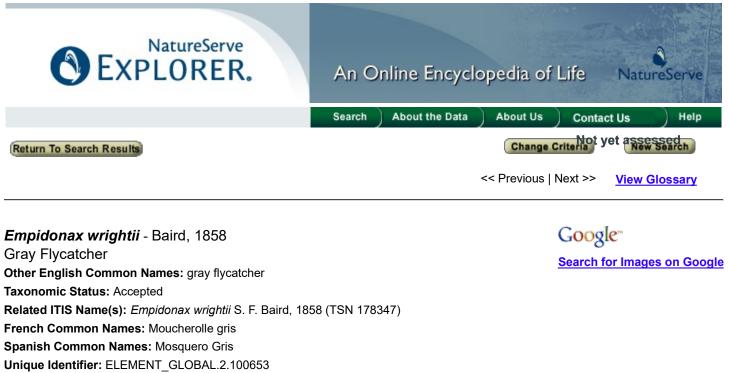
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Version 7.1 (2 February 2009) Data last updated: November 2016

11 of 11



Element Code: ABPAE33100

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family     | Genus     |
|----------|----------|-------|---------------|------------|-----------|
| Animalia | Craniata | Aves  | Passeriformes | Tyrannidae | Empidonax |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections:  $\Box$ 

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

# Name Used in Concept Reference: Empidonax wrightii

**Taxonomic Comments:** Formerly known as *E. griseus*. *E. oberholseri* was formerly known as *E. wrightii*; all records of *E. wrightii* prior to 1939 and most prior to 1957 pertain to *E. oberholseri* (AOU 1983). Banks and Browning (1995) rejected Oberholser's (1974) use of the name *E. obscurus* for this species.

# **Conservation Status**

# **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 07Apr2016 Global Status Last Changed: 02Dec1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure Nation: United States National Status: N5B (19Mar1997) Nation: Canada National Status: N3B (12Dec2000) 0

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# U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

| United | Arizona (S5), California (SNR), Colorado (S5B), Idaho (S3B), Montana (S4B), Navajo Nation (S4S5B), Nevada (S4B), |
|--------|--|
| States | New Mexico (S3B,S5N), Oregon (S4), Texas (S3B), Utah (S4S5B), Washington (S2S3B), Wyoming (S4B,S4N)              |
| Canada | British Columbia (S3B)   |

### **Other Statuses**

Committee on the Status of Endangered Wildlife in Canada (COSEWIC): Not at Risk (01Apr1992) IUCN Red List Category: LC - Least concern

#### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** BREEDING: extreme southern British Columbia (Cannings 1992) and south-central Idaho south to southern California, southern Nevada, central Arizona, south-central New Mexico, and locally western Texas (Terres 1980, AOU 1983). NON-BREEDING: southern California, central Arizona, south to Baja California and south-central mainland of Mexico (Terres 1980).

**Overall Threat Impact Comments:** Reasons for decline of wintering birds in southern California unknown. Would be vulnerable to land clearing, but generally found in very arid environments that are not usually converted to agriculture (USDA Forest Service 1994). Clearing of pinyon-juniper for mining of coal and oil shale deposits or in favor of grassland for livestock grazing, or widespread harvesting could be detrimental (O'Meara et al. 1981, cited in Sterling 1999). Levels of predation or brood parasitism unknown. Chipmunks and jays have been observed destroying nests. Other mortality factors unknown.

**Short-term Trend Comments:** North American Breeding Bird Survey (BBS) shows a survey-wide significantly increasing trend of 10.2 percent average per year (n = 89), 1966-1996; a nonsignificant decline of -1.0 percent average per year (n = 22), 1966-1979; and a significant increase from 1980 to 1996 of 10.0 percent average per year (n = 84). Data for Oregon reflect strong long-term increase of 7.9 percent average per year (n = 29), 1966-1996. Sample sizes too low for accurate trend estimates in other states (Sauer et al. 1997). Christmas Bird Count (CBC) data for 1959 to 1988 show a significant survey wide increase of 4.3 percent average per year, and a significant increase in Arizona (4.6 percent average per year, n = 28). Trend for California apparently stable over the period (nonsignificant increase of 0.2 percent average per year, n = 21; Sauer et al. 1996). Reportedly declining as a wintering bird in southern California; extensions in Washington and California at western edges of breeding range noted in the 1970s (USDA Forest Service 1994).

#### **Other NatureServe Conservation Status Information**

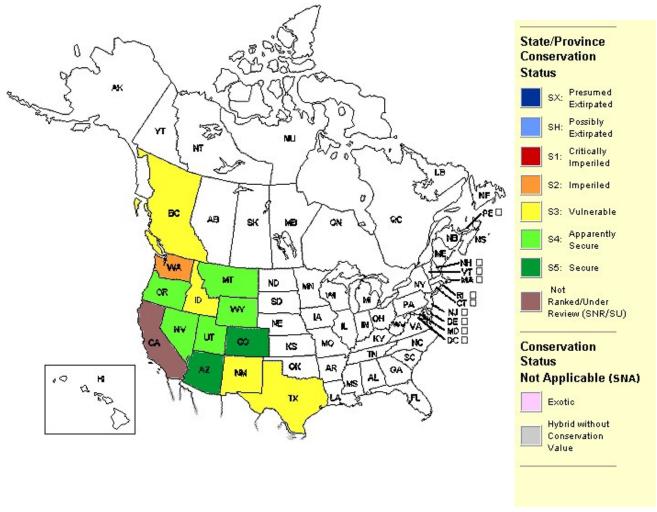
#### Distribution

**Global Range:** BREEDING: extreme southern British Columbia (Cannings 1992) and south-central Idaho south to southern California, southern Nevada, central Arizona, south-central New Mexico, and locally western Texas (Terres 1980, AOU 1983). NON-BREEDING: southern California, central Arizona, south to Baja California and south-central mainland of Mexico (Terres 1980).

# **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

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NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

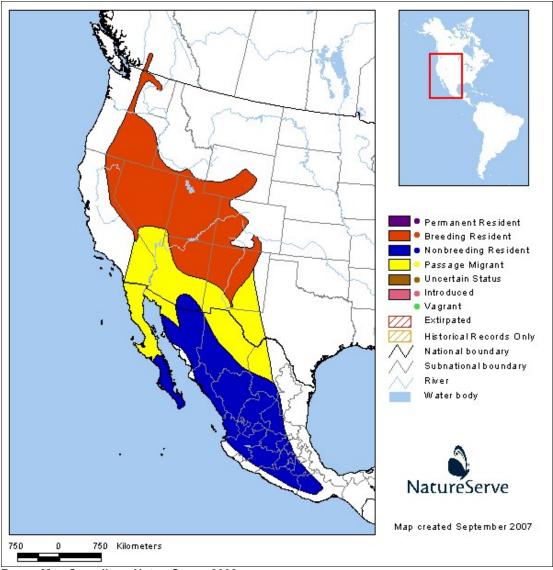
U.S. & Canada State/Province Distribution United States AZ, CA, CO, ID, MT, NM, NN, NV, OR, TX, UT, WA, WY

# Range Map

BC

Canada

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀    |  |  |
|----------------------------------|--|--|
| State                            | County Name (FIPS Code)  |  |
| ID                               | Bannock (16005), Cassia (16031), Clark (16033), Owyhee (16073) |  |
| UT                               | Tooele (49045)   |  |
| * Extirnated/acceptly extirnated |  |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 📀 |  |  |  |
|----------------------------------|--|--|--|
| Watershed<br>Region ⊘            | Watershed Name (Watershed Code)  |  |  |
| 16                               | Rush-Tooele Valleys (16020304)+, Curlew Valley (16020309)+   |  |  |
|                                  | Portneuf (17040208)+, Lake Walcott (17040209)+, Raft (17040210)+, Goose (17040211)+, Upper<br>Snake-Rock (17040212)+, Beaver-Camas (17040214)+, Upper Owyhee (17050104)+, Middle<br>Owyhee (17050107)+ |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

# Ecology & Life History

Basic Description: A small bird (flycatcher).

**Reproduction Comments:** Clutch size is three to four. Incubation by female lasts 14 days. Nestlings are altricial and downy, tended by both parents, leave nest in 16 days, fed by parents for 14 more days.

**Ecology Comments:** A breeding population of approximately 25 pairs per 100 hectares has been reported in Oregon (Bureau of Land Management, no date). **Non-Migrant:** N

Non-Migrant: N

Locally Migrant: N

Long Distance Migrant: Y

Mobility and Migration Comments: Arrives in northern part of nesting range in U.S. in April- May (Terres 1980).

#### Palustrine Habitat(s): Riparian

Terrestrial Habitat(s): Desert, Shrubland/chaparral, Woodland - Conifer, Woodland - Mixed

**Habitat Comments:** BREEDING: Arid woodland and brushy areas (AOU 1998). Most commonly associated with pinyon-juniper woodland. In Wyoming, strongly associated with the presence of pinyon pine and higher than expected juniper overstory cover (Pavlacky and Anderson 2001). In western Great Basin, nests in tall big sagebrush shrublands (Ryser 1985). Less frequently found in open ponderosa pine or pine-oak woodland. In the last three decades has expanded its range northward into Washington and British Columbia, where it uses open stands of small to medium (up to 15 m high) ponderosa pines exclusively; these stands usually have a scattered shrub or young pine understory (Cannings 1992). Usually builds nest in fork or branch of a shrub or juniper (Ehrlich et al. 1988). NON-BREEDING: In migration and winter also in arid scrub, riparian woodland, and mesquite (AOU 1998). See also Sterling (1999).

Adult Food Habits: Invertivore

Immature Food Habits: Invertivore

**Food Comments:** Apparently eats small insects (beetles, grasshoppers, moths, etc.). Forages by darting out from a perch to catch insects in the air. Also catches insects on the ground.

Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 15 centimeters

Weight: 13 grams

**Economic Attributes** 

#### **Management Summary**

**Stewardship Overview:** Virtually no studies are available to shed light on management needs. A fairly common inhabitant of pinyonjuniper and sagebrush, particularly in the Great Basin. Population trends significantly increasing across West, but sample sizes very low for reliable estimates.

**Restoration Potential:** Still a common species in appropriate habitat. Preferred habitat is widespread. Would likely respond positively to restoration of pinyon-juniper and tall sagebrush habitats.

**Management Requirements:** Management requirements mostly unknown. Appears relatively common and population increasing in west without special management efforts. May be adversely affected by extensive timber harvest especially if large shrubs removed. Maintain large statured sagebrush and other shrubs (Sterling 1999).

A positive response reported to heavy grazing in Nevada (Page et al. 1978, cited in Saab et al. 1995); declined in response to moderate grazing in Idaho big sagebrush (Reynolds and Trost 1981, cited in Saab et al. 1995). May colonize open, arid second growth of Ponderosa or lodgepole pine after logging (USDA Forest Service 1994). May benefit from increase and invasion of juniper, but this is not quantified. O'Meara et al. (1981, cited in Sterling 1999) recommended chaining methods: limit clearing widths to 200 meters, use light chain (less than 30 kilograms per link), and cease chaining during winter.

**Monitoring Requirements:** Not readily detectible by geographically broad surveys such as BBS. Call very similar to dusky flycatcher (EMPIDONAX OBERHOLSERI), which may confuse observers. Sings at dawn, then emits call notes through most of day; usually silent in winter. Otherwise, not particularly secretive (USDA forest Service 1994).

**Management Research Needs:** All areas of species' ecology beg study. Existing breeding biology information comes from small sample sizes (Sterling 1999). Information needed on habitat relationships in breeding, migration and winter; landscape relations (fragmentation and edge effects, spatial analysis); effects of land management activities (grazing, pinyon-juniper clearing, logging) in preferred habitats; and impact of predation and brood parasitism. Reason for range expansion is unknown. **Biological Research Needs:** Most aspects of life history and ecology are unknown.

#### **Population/Occurrence Delineation**

Group Name: Passerines

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### Use Class: Breeding

### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

## Use Class: Migratory stopover

### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

### Use Class: Nonbreeding

### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004 **Author:** Hammerson, G.

### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

### Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

### Population/Occurrence Viability

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

## Authors/Contributors

## Management Information Edition Date: 28Dec1998

Management Information Edition Author: PAIGE, C.; REVISIONS BY D. KWAN, M. KOENEN, AND D.W. MEHLMAN Management Information Acknowledgments: Support for the preparation of this abstract was provided by the National Fish and Wildlife Foundation's Neotropical Migratory Bird Conservation Initiative, through challenge grant number 97-270 to The Nature Conservancy, Wings of the Americas Program. Matching funds for this grant were donated by Canon U.S.A., Inc. Element Ecology & Life History Edition Date: 24Jan1995

Element Ecology & Life History Author(s): HAMMERSON, G., MINOR REVISIONS BY S. CANNINGS

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

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### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

### Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere: "Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

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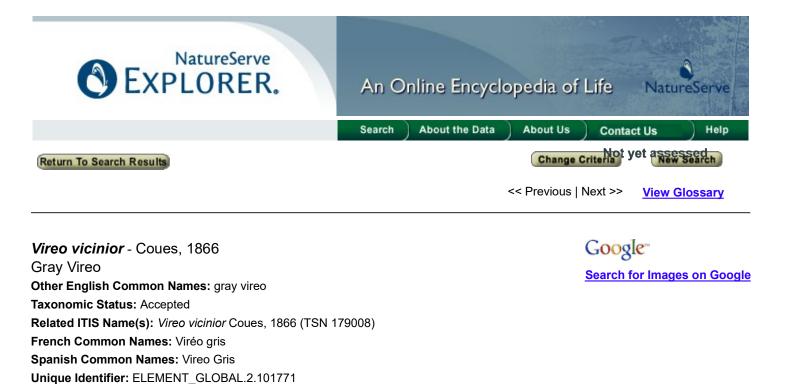
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Version 7.1 (2 February 2009) Data last updated: November 2016



Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Animalia         Craniata         Aves         Passeriformes         Vireonidae         Vireo | Kingdom  | Phylum   | Class | Order         | Family     | Genus |
|---|----------|----------|-------|---------------|------------|-------|
|   | Animalia | Craniata | Aves  | Passeriformes | Vireonidae | Vireo |

Genus Size: D - Medium to large genus (21+ species)

Check this box to expand all report sections: ☑

#### **Concept Reference**

Element Code: ABPBW01140

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Vireo vicinior

**Taxonomic Comments:** See Johnson et al. (1988) and Murray et al. (1994) for analyses of the phylogenetic relationships among vireos.

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 12Aug2015 Global Status Last Changed: 12Aug2015 Ranking Methodology Used: Ranked by calculator Rounded Global Status: G5 - Secure Reasons: Fairly large range in southwestern United States and northwestern Mexico; population size estimated at around 400,000; apparently stable or perhaps slowly increasing; no major threats, but potentially/locally affected by livestock grazing, changes in fire regime, and cowbird parasitism; breeding range is projected to increase with ongoing climate change. Nation: United States National Status: N5B (12Aug2015)

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## U.S. & Canada State/Province Status

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| United States | Arizona (S4), California (S2), Colorado (S2B), Navajo Nation (S4B), Nevada (S3B), New Mexico (S4B,S3N), Texas                    |
|---------------|--|
| United States | Arizona (S4), California (S2), Colorado (S2B), Navajo Nation (S4B), Nevada (S3B), New Mexico (S4B,S3N), Texas (S4B), Utah (S3?B) |

### **Other Statuses**

IUCN Red List Category: LC - Least concern

### NatureServe Global Conservation Status Factors

Range Extent: 20,000-2,500,000 square km (about 8000-1,000,000 square miles)

**Range Extent Comments:** This species breeds lfrom southern California, southern Nevada, central Utah, southwestern and southeastern Colorado, and north-central New Mexico south to northwestern Baja California, southeastern Arizona, southeastern New Mexico, western Texas, and northwestern Coahuila (AOU 1998; C. Rustay, pers. comm.). Center of abundance during the breeding season, based on North American Breeding Bird Survey (BBS), is in northern Arizona and southern Utah (Sauer et al. 1997). Nonbreeding range includes central and southern Baja California, southwestern Arizona (rarely), Sonora (including Tiburón and San Esteban islands), and (rarely) western Texas (Big Bend region) (AOU 1998). Winter range extent is smaller than breeding range extent.

### Number of Occurrences:

**Number of Occurrences Comments:** Number of distinct occurrences has not been determined using standardized criteria, but this species is represented by a large number of recent observation sites (e.g., see eBird data) and locations (as defined by IUCN).

#### Population Size: 100,000 - 1,000,000 individuals

**Population Size Comments:** Total adult population size is uncertain but relatively large. Partners in Flight (2013) estimated global population size at 400,000.

### Overall Threat Impact: Low

**Overall Threat Impact Comments:** Pinyon-juniper woodland habitat of this species is subject to grazing and clearing to increase grassland (livestock grazing habitat), mesquite and desert scrub habitats are grazed and cleared for development, and chaparral habitats have undergone extensive conversion in urban areas of southern California.

Habitat fragmentation or the presence of livestock may facilitate brown-headed cowbird brood parasitism and presumably are detrimental (USDA Forest Service 1994). This species is regarded as a common host for the cowbird, but rates of parasitism and impacts on productivity are unknown. Some authors have suggested that declines in California and Arizona resulted from brood parasitism (DeSante and George 1994) as the cowbird was originally limited to the Great Plains until it expanded west with the spread of domestic livestock. However, Breeding Bird Survey data (increasing trend) suggest that gray viroes are not now being detrimentally affected by cowbird parasitism to any significant degree.

This species may be negatively affected by livestock grazing where shrub cover is diminished or removed. Wauer (1977) noted that gray vireo abundance increased after grazing ceased and woody plants gradually increased in Big Bend National Park. On the other hand, the species may benefit to some degree from increases in arid scrubland resulting from overgrazing of livestock in areas previously dominated by grasslands (Raitt and Pimm 1978).

Changes in fire regime that bring about an increase in fire extent or frequency may be detrimental by reducing or degrading habitat (USDA Forest Service 1994). Such changes potentially may result from ongoing climate change and other factors.

According to van Riper et al. (2014), the breeding range is projected to increase by 58-71 percent between 2010 and 2099 as a result of ongoing climate.

Short-term Trend: Relatively Stable (<=10% change)

**Short-term Trend Comments:** Breeding Bird Survey (BBS) data for 2003-2013 indicate a relatively stable or slowly increasing trend. However, the species was recorded at a low abundance level (average of fewer than 1 bird per route), so the results must be intepreted with caution.

## Long-term Trend: Decline of <30% to relatively stable

Long-term Trend Comments: Long-term trend (past 200 years) is uncertain, but distribution and abundance likely declined to a small degree as a result of habitat changes. North American Breeding Bird Survey (BBS) data indicate that survey-wide trend over the past several decades was relatively stable or slowly increasing. However, the species was recorded at a low abundance level (average of fewer than 1 bird per route), so the results must be intepreted with caution.

## **Other NatureServe Conservation Status Information**

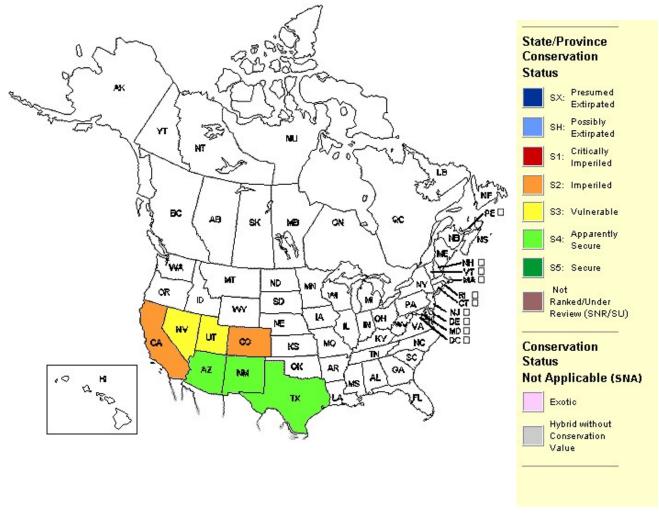
### Distribution

**Global Range:** (20,000-2,500,000 square km (about 8000-1,000,000 square miles)) This species breeds lfrom southern California, southern Nevada, central Utah, southwestern and southeastern Colorado, and north-central New Mexico south to northwestern Baja California, southeastern Arizona, southeastern New Mexico, western Texas, and northwestern Coahuila (AOU 1998; C. Rustay, pers. comm.). Center of abundance during the breeding season, based on North American Breeding Bird Survey (BBS), is in northern Arizona and southern Utah (Sauer et al. 1997). Nonbreeding range includes central and southern Baja California, southwestern Arizona (rarely), Sonora (including Tiburón and San Esteban islands), and (rarely) western Texas (Big Bend region) (AOU 1998). Winter range extent is smaller than breeding range extent.

## **U.S. States and Canadian Provinces**

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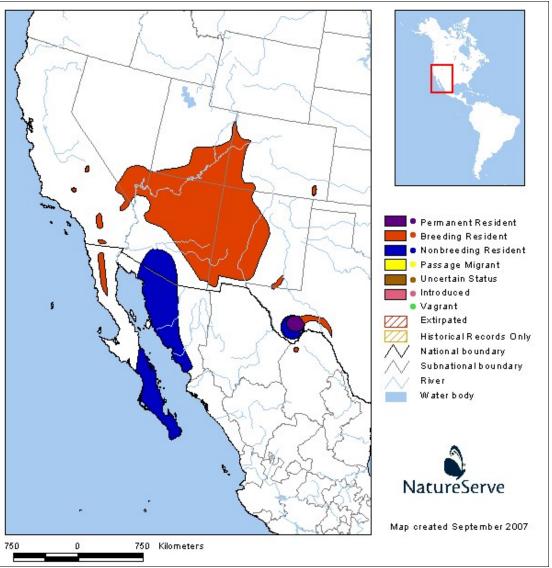


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State  | Province Distribution    |
|----------------------|--------------------------|
| United States AZ, CA | , CO, NM, NN, NV, TX, UT |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| State | County Name (FIPS Code)   |
|-------|---|
| AZ    | Apache (04001), Navajo (04017)  |
| CA    | Inyo (06027)*, Kern (06029)*, San Bernardino (06071)  |
|       | Delta (08029), Dolores (08033), Eagle (08037), Fremont (08043), Garfield (08045), Huerfano (08055)*, La<br>Plata (08067), Las Animas (08071), Mesa (08077), Moffat (08081), Montezuma (08083), Montrose (08085),<br>Otero (08089), Ouray (08091), Prowers (08099)*, Rio Blanco (08103), Routt (08107), San Miguel (08113) |
|       | Bernalillo (35001), Catron (35003), Chaves (35005), Dona Ana (35013), Eddy (35015), Hidalgo (35023)*,<br>Mckinley (35031), Otero (35035), Rio Arriba (35039), San Juan (35045), San Miguel (35047), Sandoval (35043),<br>Santa Fe (35049), Sierra (35051), Socorro (35053)  |
| UT    | Washington (49053)  |

| Watershed<br>Region ⊘ | Watershed Name (Watershed Code)  |
|-----------------------|--|
| 11                    | Upper Arkansas (11020002)+, Upper Arkansas-Lake Meredith (11020005)+, Huerfano (11020006)+*, Upper<br>Arkansas-John Martin (11020009)+*, Purgatoire (11020010)+, Upper Canadian (11080003)+, Upper<br>Canadian-Ute Reservoir (11080006)+ |

| 13 | Rio Grande-Santa Fe (13020201)+, Jemez (13020202)+, Rio Grande-Albuquerque (13020203)+, Rio<br>Puerco (13020204)+, Arroyo Chico (13020205)+, Rio Salado (13020209)+, Jornada Del<br>Muerto (13020210)+, Caballo (13030101)+, El Paso-Las Cruces (13030102)+, Tularosa<br>Valley (13050003)+, Salt Basin (13050004)+, Pecos headwaters (13060001)+*, Rio Penasco (13060010)+,<br>Upper Pecos-Black (13060011)+  |
|----|--|
| 14 | Colorado headwaters (14010001)+, Colorado headwaters-Plateau (14010005)+, Lower<br>Gunnison (14020005)+, Uncompahange (14020006)+, Westwater Canyon (14030001)+, Upper<br>Dolores (14030002)+, San Miguel (14030003)+, Lower Dolores (14030004)+, Upper Green-Flaming Gorge<br>Reservoir (14040106)+, Lower White (14050007)+, Upper San Juan (14080101)+, Animas (14080104)+,<br>Middle San Juan (14080105)+, Mancos (14080107)+, Lower San Juan-Four Corners (14080201)+,<br>Mcelmo (14080202)+, Montezuma (14080203)+, Chinle (14080204)+, Lower San Juan (14080205)+ |
| 15 | Upper Virgin (15010008)+, Carrizo Wash (15020003)+, Polacca Wash (15020013)+, Jadito<br>Wash (15020014)+, Moenkopi Wash (15020018)+, Piute Wash (15030102)+, Animas Valley (15040003)+*,<br>San Francisco (15040004)+, San Bernardino Valley (15080302)+*  |
| 16 | Ivanpah-Pahrump Valleys (16060015)+*   |
| 18 | South Fork Kern (18030002)+*, Owens Lake (18090103)+*, Eureka-Saline Valleys (18090201)+*, Upper<br>Amargosa (18090202)+*, Death Valley-Lower Amargosa (18090203)+*, Antelope-Fremont<br>Valleys (18090206)+*, Mojave (18090208)+*, Southern Mojave (18100100)+*   |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### Ecology & Life History

Basic Description: A small bird (vireo).

**Reproduction Comments:** Clutch size is 3-5 (usually 4; Bailey 1928; Terres 1980). Both sexes incubate and tend young; incubation takes 13-14 days; young fledge in 13-14 days (Ehrlich et al. 1988).

**Ecology Comments:** Territories observed by Barlow (1977) ranged from 2.4 to 8 hectares in the northern Chihuahuan Desert and in Yavapai County, central Arizona. Barlow (1997) noted a singing male every 300 meters over a distance of 15 kilometers.

May be a principle seed disperser for B. MICROPHYLLA, and the close overlap between their ranges suggests a possible mutualism (Bates 1992a). Feeds on its fruit which are available in quantity from September through April. Both males and females defend territories in winter, and individuals will return to the same winter territory in successive years; nine territories were 0.3-1.4 hectares (mean 0.9 hectares; Bates 1992b).

Non-Migrant: N

Locally Migrant: Y

Long Distance Migrant: Y

**Mobility and Migration Comments:** This species is mostly a short-distance migrant that cavates most of its breeding range for winter. It arrives in nesting areas in California in March; in Arizona and Texas usually in April (Terres 1980); moves out of northern Arizona by mid to late September; may arrive on wintering grounds as early as August 25 (Phillips et al. 1964). Winters from southwestern Arizona mountains into Mexico to southern Sonora and southern Baja California (Phillips et al. 1964). Several wintering individuals also confirmed in the Big Bend region, Texas (Barlow and Wauer 1971).

**Terrestrial Habitat(s):** Desert, Shrubland/chaparral, Woodland - Conifer, Woodland - Hardwood, Woodland - Mixed **Habitat Comments:** Breeding habitats include warm/hot, semi-arid, shrubby habitats, especially mesquite and brushy pinyon-juniper woodlands; also chaparral and desert scrub. Thorn scrub, oak-juniper woodland, pinyon-juniper, juniper-cholla, mesquite, dry chaparral (Bent 1950, AOU 1983). Builds cup nest suspended from forked twig in a shrub or tree 0.5 to 2 meters tall (Ehrlich et al. 1988); nest usually 0.5-3.5 meters above ground.

In New Mexico, breeding occurs in rocky hills covered with sparse bushes and scrub, in juniper, hackberry (*Celtis* spp.) and Grave's oak (*Q. gravesi*; Bailey 1935, Barlow 1977). In northwestern New Mexico, found at elevations from 5800 - 7200 feet in broad-bottomed canyons (flat or gently sloped valleys) below or near ridge-top/rock outcrop/cliff head walls of canyons or gently sloped bowls in pinyon-juniper woodland (Reeves 1998). The pinyon-juniper is sometimes dense canopied woods and at other times widely-spaced trees creating parkland. Trees are generally mature ranging from 12 to 25 feett in height. Other shrubs species include Utah Serviceberry (*Amelanchier utahensis*) and Antelope brittlebrush (*Purshia tridentata*). There is often considerable bare soil between herbaceous plants forming ground cover. At the upper elevation, ponderosa pine (*Pinus ponderosa*) is sparsely situated among pinyons and junipers (Reeves 1998).

In Arizona, gray vireos frequent juniper (*Juniperus* spp.) habitats of Upper Sonoran Zone, also mesquite (*Prosopis* spp.); usually they prefer large juniper or chaparral with scattered trees (Phillips 1964). In southern Nevada, these birds occur in pinyon, juniper and sagebrush (*Artemisia* spp.) with additions of mountain mahogany (*Cercocarpus ledifolius*), Gambel oak (*Quercus gambelii*), Mexican manzanita (*Arctostaphylos pungens*), squaw apple (PERAPHYLLUM RAMOSISSIMUM), and cliffrose (COWANIA STANSBURYANA; Johnson 1972, cited in USDA Forest Service 1994). In Big Bend National Park, Texas, gray vireos occur in lower chaparral between 1219 and 1676 meters (4000 to 5500 feet elevation); they nest in Gregg's ash (FRAXINUS GREGGII) and evergreen sumac (RHUS VIRENS; Barlow 1977, Wauer 1977). In Joshua Tree National Monument and eastern Mojave Desert, California, they occurred in pinyon-juniper or pinyon-juniper mixed with sagebrush. In southern California (San Jacinto area), habitat includes chaparral dominated by chamise (ADENOSTOMA FASCICULATUM) or redshanks (A. SPARSIFOLIUM); also scrub oak, manzanita (ARCTOSTAPHYLOS spp.), CEONOTHUS, pinyon, and sagebrush. In Laguna Mountains, California, gray virees were recorded in chamise and CEONOTHUS GREGGII (USDA Forest Service 1994).

In migration and winter, gray vireos occur in habitats to those used during the breeding season; also desert and arid scrub, chaparral, brushy scrub in pinyon-juniper woodland, semi-open areas with scattered scrub and semi-open arid brushland (AOU 1983, Terborgh 1989, Howell and Webb 1995). Winter range closely overlaps the range of one species of elephant tree, BURSERA MICROPHYLLA, throughout the coastal deserts surrounding the Gulf of California. A study in Sonora, Mexico, found heavy dependence on B. MICROPHYLLA fruits, which are available in quantity from September through April. Only one disjunct wintering population occurs outside the range of B. MICROPHYLLA (Bates 1992a), in the Chisos Mountains, Big Bend National Park, Texas, in habitat dominated by Texas persimmon (DIOSPYROS TEXANA) mixed with honey mesquite (PROSOPIS JULIFLORA), whitethorn acacia (ACACIA CONSTRICTA) and other shrubs (Barlow and Wauer 1971).

Adult Food Habits: Invertivore

### Immature Food Habits: Invertivore

**Food Comments:** When breeding, feeds on insects (e.g., Orthoptera, Coleoptera; Terres 1980). Will sometimes scratch on ground like a towhee. Contents of two stomachs examined included caterpillars, a moth, a stink-bug (PRIONOSOMA PODOPIOIDES), a tree-hopper (PLATYCENTRUS ACUTICORNIS), a tree cricket (OECANTHUS), dobson flies (CHAULIODES), a cicada (TIBICINOIDES HESPERIUS), and a long-horned grasshopper (Chapin 1925, cited in Bent 1950). In winter in the coastal desert of Sonora, Mexico, feeds almost entirely on the fruit of one species of elephant tree (BURSERA MICROPHYLLA), although insects were also found in stomach contents (Bates 1992a).

Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 14 centimeters Weight: 13 grams

**Economic Attributes** 

### **Management Summary**

**Stewardship Overview:** Poorly known, providing ample opportunity for amateur and professional naturalists to contribute to a better understanding of ecology and management needs. Has a relatively limited distribution and low abundance in the semi-arid shrublands of southwest uplands. It has apparently declined in California and Arizona, possibly due to cowbird brood parasitism. Loss of chaparral to development, clearing or grazing in pinyon-juniper woodlands, or other habitat changes on breeding or wintering grounds could be affecting the species, but impacts are entirely unstudied. Heavily dependent on the fruit of elephant trees (BURSERA MICROPHYLLA) during the winter.

**Species Impacts:** Impacts of the species are unknown. Elephant trees (B. MICROPHYLLA) may depend on gray vireo and only one or a few other bird species to disperse seeds.

**Restoration Potential:** The vireo and its principal habitats are still widely distributed throughout the southwest, so there is opportunity to conserve the species while it still occurs throughout most of its historic range. However, without better understanding the causes of decline, restoration solely though habitat protection may be fruitless, particularly if brood parasitism or large-scale cumulative changes are at play.

**Preserve Selection & Design Considerations:** Landscape use has not been examined, although in California it shows a preference for unbroken chaparral and does not favor edges (USDA Forest Service 1994). Barlow (1977) suggests that large tracts of undisturbed habitat are required to support individual pairs, given the size of territories he observed in Texas and Arizona. In addition, habitat fragmentation increases vulnerability to cowbird brood parasitism.

Management Requirements: Very little is known about management requirements or sensitivity to land management activities. Not all

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seemingly suitable habitat is occupied, and the details of habitat preferences are unstudied. Requires semi-arid shrub habitats, either extensive shrubland or scattered shrubs among pinyon-juniper woodlands. May prefer shrublands that are mature or late in post-fire succession (USDA Forest Service 1994). Shrub cover that creates a continuous layer of twig growth from 0.3 to 1.5 meters above the ground is a common habitat factor (Grinnell and Miller 1944, cited in USDA Forest Service 1994). In Arizona and Texas, territories were near a water supply available during at least part of the breeding season (Barlow 1977). However, in New Mexico, several populations are not near water sources and do not seem to require water (C. Rustay, pers. comm.). On wintering grounds in Sonora, Mexico, depends heavily on the fruits of elephant trees (BURSERA MICROPHYLLA; Bates 1992a) and could be affected by changes to this habitat. Prolonged drought and habitat clearing (e.g., for development or to increase pasture land) are detrimental (Barlow 1977). **Monitoring Requirements:** A diurnal songbird with a distinctive and persistent song that can be monitored by standard point count or transect monitoring methods. Call note is unusual: a clear chatter (Phillips et al. 1964). The loud and persistent song, however, may cause observers to overestimate abundance (Grinnell and Swarth 1913, cited in USDA Forest Service 1994). May be more often heard than seen, preferring to remain at mid-levels in dense brush. Preference for steep slopes and dense, shrubby vegetation presents problems for access and can make sampling difficult, and it may not be accurately sampled from roads or trails (USDA Forest Service 1994). Its distribution is generally patchy and random sampling may not provide accurate information about abundance (USDA Forest Service 1994).

**Management Research Needs:** Information is needed on brood parasitism rates, behavioral response to parasitism, and its effects on productivity. Need more information on habitat use and an understanding of landscape relationships and effects of habitat fragmentation. Also need investigation of the effects of grazing, off-road recreation, and changes in fire regime, climate, or environmental contaminants. The species wintering ecology and threats or changes to BURSERA MICROPHYLLA habitats on winter grounds need study.

### Population/Occurrence Delineation

Group Name: Passerines

### Use Class: Breeding

### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

## Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004

Author: Hammerson, G.

### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

### Separation Barriers: None.

## Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

## Population/Occurrence Viability

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

## Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 12Aug2015

NatureServe Conservation Status Factors Author: Hammerson, G.

Management Information Edition Date: 30Sep1999

Management Information Edition Author: PAIGE, C.; REVISIONS BY M. KOENEN AND D.W. MEHLMAN

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Element Ecology & Life History Edition Date: 12Aug2015

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### Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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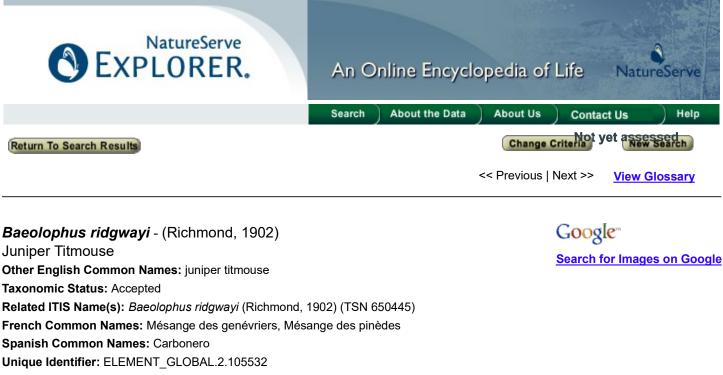
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Version 7.1 (2 February 2009) Data last updated: November 2016



Element Code: ABPAW01120

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom P  | hylum    | Class | Order         | Family  | Genus      |
|------------|----------|-------|---------------|---------|------------|
| Animalia C | Craniata | Aves  | Passeriformes | Paridae | Baeolophus |

Genus Size: B - Very small genus (2-5 species)

Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 2000. Forty-second supplement to the American Ornithologists' Union Check-list of North American Birds. The Auk 117:847-858

Concept Reference Code: A00AOU01NAUS

Name Used in Concept Reference: Baeolophus ridgwayi

**Taxonomic Comments:** Formerly considered part of *B. inornatus*, but *B. ridgwayi* split off by AOU (1997). Renamed *B. griseus* (griseus was original subspecific epithet given by Ridgway) in AOU (1998), but returned to *B. ridgwayi* by AOU (2000) because of previous nomenclatural difficulties. Constitutes a superspecies with *B. inornatus* (AOU 1998).

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 20Aug1997 Global Status Last Changed: 20Aug1997 Rounded Global Status: G5 - Secure Nation: United States National Status: N5 (20Aug1997)

## U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your

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jurisdiction to obtain the most current data. Please refer to our Distribution Data Sources to find contact information for your jurisdiction.

| United | Arizona (S5), California (SNRN), Colorado (S4), Idaho (S2), Navajo Nation (S5), Nevada (S5B), New Mexico (S4B), |
|--------|---|
| States | Oklahoma (S4?), Oregon (S3), Texas (S2B), Utah (S4S5), Wyoming (S1)   |

# **Other Statuses**

IUCN Red List Category: LC - Least concern

# NatureServe Global Conservation Status Factors

**Range Extent Comments:** RESIDENT: south-central Oregon, Nevada, southeastern Idaho, southwestern Wyoming, and south-central Colorado south (east of Sierra Nevada) to southeastern California, central and southeastern Arizona, extreme northeastern Sonora, southern New Mexico, and extreme western Texas (AOU 1998).

# Other NatureServe Conservation Status Information

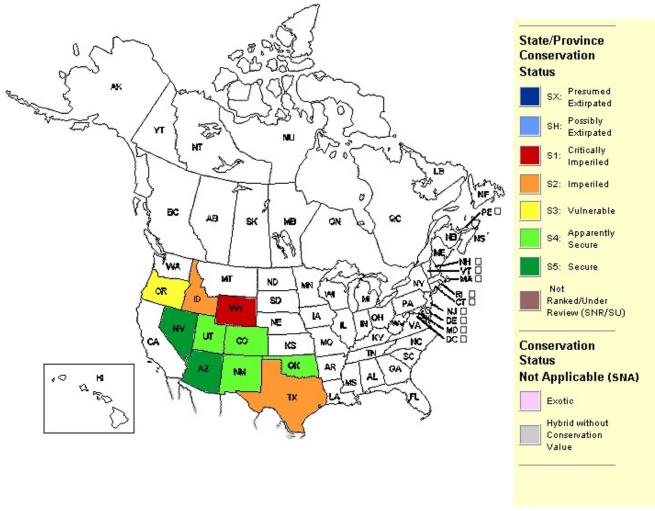
# Distribution

**Global Range:** RESIDENT: south-central Oregon, Nevada, southeastern Idaho, southwestern Wyoming, and south-central Colorado south (east of Sierra Nevada) to southeastern California, central and southeastern Arizona, extreme northeastern Sonora, southern New Mexico, and extreme western Texas (AOU 1998).

## **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

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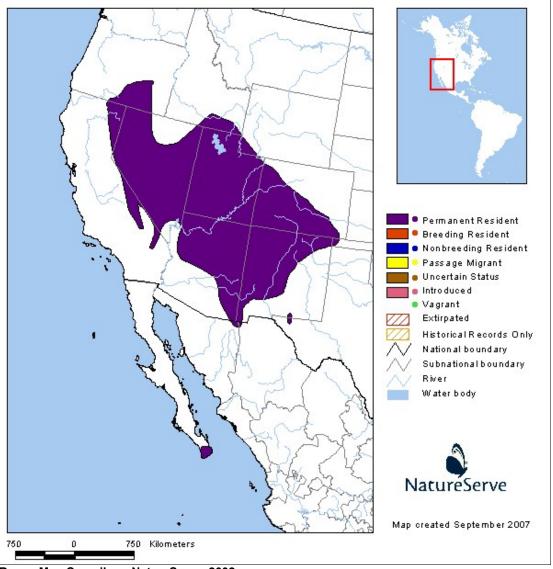
NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year.

Endemism: occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |  |  |  |  |  |
|---|--|--|--|--|--|
| United States                             | AZ, CA, CO, ID, NM, NN, NV, OK, OR, TX, UT, WY |  |  |  |  |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀 |   |  |
|-------------------------------|---|--|
| State                         | County Name (FIPS Code)   |  |
| ID                            | Bannock (16005), Cassia (16031), Oneida (16071)                     |  |
| OK                            | Cimarron (40025)*   |  |
| WY                            | Carbon (56007), Fremont (56013)*, Sweetwater (56037), Uinta (56041) |  |
| * Extirne                     | ated/passibly avtirpated  |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 📀 |  |  |  |  |
|----------------------------------|--|--|--|--|
| Watershed<br>Region ⊘            | Watershed Name (Watershed Code)  |  |  |  |
| 10                               | Upper Wind (10080001)+*  |  |  |  |
| 11                               | Upper Cimarron (11040002)+*  |  |  |  |
| 14                               | Upper Green-Slate (14040103)+, Big Sandy (14040104)+*, Bitter (14040105)+, Upper Green-Flaming<br>Gorge Reservoir (14040106)+, Blacks Fork (14040107)+, Muddy (14040108)+, Great Divide closed<br>basin (14040200)+*, Little Snake (14050003)+ |  |  |  |
| 16                               | Curlew Valley (16020309)+  |  |  |  |
| 17                               | Portneuf (17040208)+, Lake Walcott (17040209)+, Raft (17040210)+, Goose (17040211)+, Upper Snake-Rock (17040212)+  |  |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

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# Ecology & Life History

Basic Description: A small bird (titmouse).

**Ecology Comments:** Unlike most parids, exhibits pair territoriality in the non-breeding season. This behavior is associated with the species' dependence on large seeds (juniper and pinyon pine) and acorns, rather than arthropods (Christman 2001). **Non-Migrant:** Y

Locally Migrant: N

Long Distance Migrant: N

Terrestrial Habitat(s): Woodland - Conifer

## Special Habitat Factors: Standing snag/hollow tree

Habitat Comments: ALL SEASONS: Pinyon-juniper woodlands (AOU 1998). In Wyoming, preferred pinyon-juniper woodlands with high overstory juniper cover and senescent trees (Pavlacky and Anderson 2001). BREEDING: Nest constructed in natural tree cavity, in old woodpecker hole, or bird box; 1-11 m above ground.

**Economic Attributes** 

**Management Summary** 

**Population/Occurrence Delineation** 

Group Name: Passerines

### Use Class: Breeding

## Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so

are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

## Use Class: Migratory stopover

### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

## Date: 03Sep2004

Author: Hammerson, G., and S. Cannings

### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004

Author: Hammerson, G.

## Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

## Separation Barriers: None.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

## **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008). The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

## Authors/Contributors

# Element Ecology & Life History Edition Date: 30Sep1997

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

# References

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NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

### Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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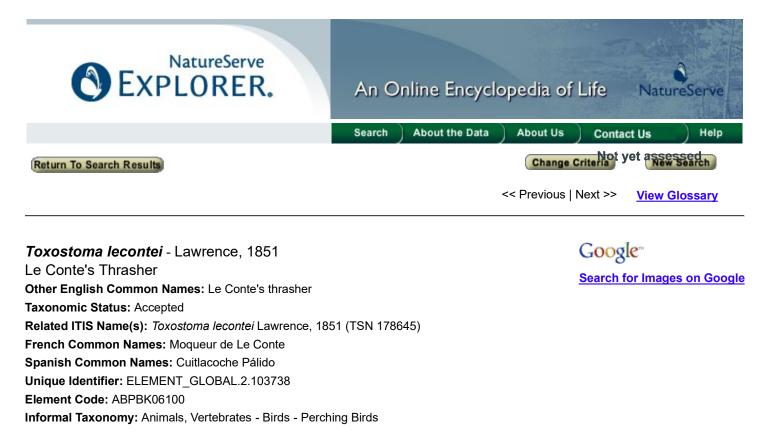
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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



| Kingdom  | Phylum   | Class | Order         | Family  | Genus     |
|----------|----------|-------|---------------|---------|-----------|
| Animalia | Craniata | Aves  | Passeriformes | Mimidae | Toxostoma |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

### Name Used in Concept Reference: Toxostoma lecontei

**Taxonomic Comments:** Zink et al. (1997) examined patterns of mtDNA and colorimetric variation and concluded that *T. lecontei* arenicola (Rosalia Thrasher) of west-central Baja California should be treated as a distinct species (*T. arenicola*) (see AOU 1998); they also recommended that *T. l. macmillanorum* of the San Joaquin Valley, California, not be recognized as a valid taxon. This species was placed in the family Sturnidae by Sibley and Ahlquist (1984). For a discussion of the phylogeny of the genus *Toxostoma* using morphometric, allozyme, and mitochondrial DNA evidence, see Zink et al. (1999).

### **Conservation Status**

### **NatureServe Status**

Global Status: G4 Global Status Last Reviewed: 31Dec2008 Global Status Last Changed: 31Dec2008 Rounded Global Status: G4 - Apparently Secure Reasons: Moderate range in the southwestern United States and northwestern Mexico; population size is relatively large but distribution is patchy; ongoing habitat loss due to agriculture and urbanization. Nation: United States

National Status: N4 (31Dec2008)

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## U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

| United States | Arizona (S3), California (S3), Nevada (S2) |
|---------------|--|
|               |  |

### **Other Statuses**

IUCN Red List Category: LC - Least concern

### **NatureServe Global Conservation Status Factors**

### Range Extent: 20,000-2,500,000 square km (about 8000-1,000,000 square miles)

**Range Extent Comments:** Range includes southwestern San Joaquin Valley, California; Mojave Desert of California, Nevada, extreme southwestern Washington County, Utah; lower Sonoran deserts of southeastern California and western Arizona; western Sonora; eastern Baja California Norte south and across mountains to the west coast (but excluding the apparently isolated population along the Pacific side of central Baja California at approximately 26-29 degrees north latitude; see Zink et al. 1997). Large areas within this range are unoccupied. Elevational range is from below sea level in death Valley to 1,600 meters, mostly 0-1,150 meters (Sheppard 1996).

### Number of Occurrences: 21 - 300

**Number of Occurrences Comments:** The number of distinct occurrences (subpopulations) has not been determined using standardized criteria, but certainly several dozen occurrences exist. In the United States, some 250 localities are known (locality= 3 km diameter area) where an individual has been seen.

#### Population Size: 100,000 - 1,000,000 individuals

**Population Size Comments:** This thrasher is uncommon over most of its range (Sheppard 1996). Rich et al. (20040 estimated global population at 190,000, but data quality for this estimate are poor.

In California, 50,000 pairs extant; 1,500-2,000 birds in the San Joaquin Valley.

#### **Overall Threat Impact: Medium**

**Overall Threat Impact Comments:** Habitat has been lost to agriculture and urbanization, especially in the San Joaquin Valley, near Los Angeles, Coachella and Imperial valleys, Las Vegas area, and near Phoenix.

Currently, the only regionally threatened population is the one in the San Joaquin Valley. Degradation, fragmentation, and loss of habitat to agriculture, irrigation, urbanization, oil and gas development, fire (removes required shrub cover), and over-grazing by sheep or cattle are the primary reasons for the decline of the San Joaquin Valley population.

Fragile habitat is easily altered by vehicular (ATV, etc.) traffic.

Pesticide use in the past may have negatively affected reproduction in some areas (Sheppard 1996).

Illegal shooting may kill some birds near urban areas (Sheppard 1996).

#### Short-term Trend: Decline of <30% to relatively stable

**Short-term Trend Comments:** Area of occupancy and population size likely are still declining with ongoing habitat loss and degradation, but the rate of recent decline is unknown.

Breeding Bird Survey data are collected too late to detect peak breeding in this species (Sheppard 1996).

#### Long-term Trend: Decline of 30-50%

Long-term Trend Comments: Based on false-infrared satellite imagery of 243 historic localities in the United States as of 1993, at least

0

62 (26%) no longer had suitable habitat patches within 3 km; all 24 known sites in Mexico appeared to have Le Conte's Thrashers in general vicinity (Sheppard 1973, 1996; R. Zink, unpubl. data).

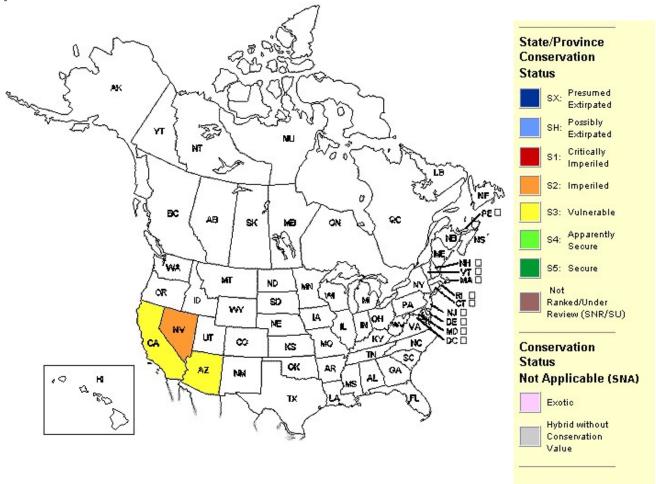
## **Other NatureServe Conservation Status Information**

### Distribution

**Global Range:** (20,000-2,500,000 square km (about 8000-1,000,000 square miles)) Range includes southwestern San Joaquin Valley, California; Mojave Desert of California, Nevada, extreme southwestern Washington County, Utah; lower Sonoran deserts of southeastern California and western Arizona; western Sonora; eastern Baja California Norte south and across mountains to the west coast (but excluding the apparently isolated population along the Pacific side of central Baja California at approximately 26-29 degrees north latitude; see Zink et al. 1997). Large areas within this range are unoccupied. Elevational range is from below sea level in death Valley to 1,600 meters, mostly 0-1,150 meters (Sheppard 1996).

## **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.



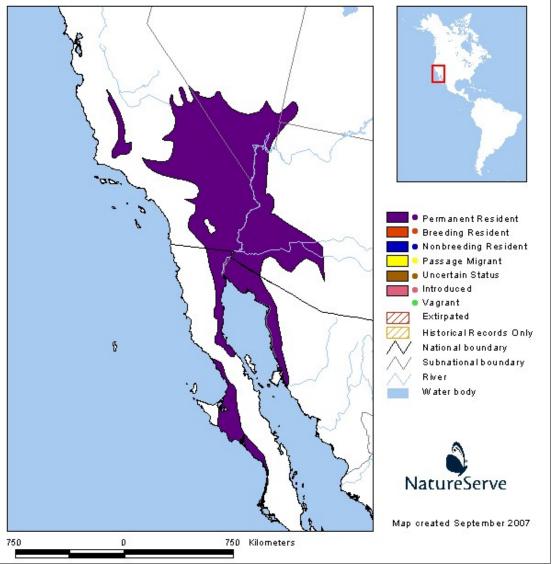
NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year.

Endemism: occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |            |  |
|---|------------|--|
| United States                             | AZ, CA, NV |  |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| State | County Name (FIPS Code)  |
|-------|--|
| AZ    | Maricopa (04013), Pima (04019), Yuma (04027)   |
|       | Fresno (06019)*, Imperial (06025), Inyo (06027), Kern (06029), Los Angeles (06037), Riverside (06065), San<br>Bernardino (06071) |
|       | pated/possibly extirpated  |

| U.S. Distribution by Watershed 📀 |                                 |
|----------------------------------|---------------------------------|
| Watershed<br>Region ⊘            | Watershed Name (Watershed Code) |

| 15 | Havasu-Mohave Lakes (15030101)+, Imperial Reservoir (15030104)+, Lower Gila-Painted Rock<br>Reservoir (15070101)+, Centennial Wash (15070104)+, Lower Gila (15070201)+, Tenmile<br>Wash (15070202)+, San Cristobal Wash (15070203)+, Tule Desert (15080103)+  |
|----|---|
| 18 | South Fork Kern (18030002)+, Middle Kern-Upper Tehachapi- (18030003)+, Upper Poso (18030004)+*,<br>Tulare-Buena Vista Lakes (18030012)+, Owens Lake (18090103)+, Death Valley-Lower<br>Amargosa (18090203)+*, Panamint Valley (18090204)+, Indian Wells-Searles Valleys (18090205)+,<br>Antelope-Fremont Valleys (18090206)+, Coyote-Cuddeback Lakes (18090207)+, Mojave (18090208)+,<br>Southern Mojave (18100100)+, Whitewater River (18100201)+*, San Felipe Creek (18100203)+*, Salton<br>Sea (18100204)+ |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### Ecology & Life History

Basic Description: Mimic thrush, Mimidae

**General Description:** A pale thrasher with dark eyes, mainly sandy gray with a darker tail and tawny undertail coverts; dark bill is long and decurved; average length 28 cm (NGS 1983).

**Diagnostic Characteristics:** Differs from other thrashers in having much paler plumage and/or eyes that are dark rather than pale. **Reproduction Comments:** Eggs are laid February-June. Both sexes incubate 3, sometimes 2-4, eggs. Young are tended by both adults.

**Ecology Comments:** Home ranges in saltbush-cholla scrub averaged 40 hectares. Breeding territories were considerably smaller, averaging 6 hectares; defended most actively from early December to early February (Sheppard 1970).

Occupied habitat generally has at least 0.25 pairs per sq km, with most areas having not more than 2-5 pairs per sq km (see Sheppard 1996).

Habitat Type: Terrestrial Non-Migrant: Y Locally Migrant: N

Long Distance Migrant: N

Mobility and Migration Comments: Immatures may wander up to 10 km in rare cases.

### Terrestrial Habitat(s): Desert

Habitat Comments: Habitat consists of sparsely vegetated desert flats, dunes, alluvial fans, or gently rolling hills having high proportion of one or more species of saltbush or shadscale (*Atriplex* spp.) and/or cylindrical cholla cactus (*Opuntia* spp.) 0.9-1.9 meters high (Sheppard 1996). Other desert habitats with similar structural profiles but lacking saltbush/shadscale or cholla cactus also are used (Sheppard 19960. This species rarely occurs in habitats consisting entirely of creosotebush (*Larrea*) (Sheppard 1996). Majority of shrubs rarely exceed 2.5 meters in height, except for isolated desert trees, yuccas (*Yucca* spp.), or tall, thin shrubs (e.g., ocotillo [*Fouquieria*]) (Sheppard 1996). Accumulated leaf litter under most plants are important as diurnal cover for most arthropod prey (Sheppard 1996). Surface water rarely exists anywhere within several kilometers of most territories except temporarily following infrequent rains (Sheppard 1996). Nests usually are in shaded locations in thick, dense, and thorny desert shrubs or small trees or cholla cactus, sometimes in artificial sites, up to 3.5 meters above ground (mean around 0.8 meters) (Harrison 1978, Sheppard 1996).
Adult Food Habits: Carnivore, Frugivore, Invertivore

Immature Food Habits: Carnivore, Frugivore, Invertivore

**Food Comments:** Diet includes insects, spiders, scorpions, small fruits, and seeds; sometimes lizards and small snakes; food may be obtained in the open or removed from leaf litter or dug from the ground under shrubs (Sheppard 1996).

Adult Phenology: Diurnal

Immature Phenology: Diurnal

Length: 28 centimeters

Weight: 62 grams

**Economic Attributes** 

#### **Management Summary**

**Preserve Selection & Design Considerations:** If suitable habitat is to be preserved, minimum size must be on the order of 1000 ha to support reasonably viable population of 250 birds.

**Population/Occurrence Delineation** 

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### Group Name: Passerines

### Use Class: Breeding

Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004 Author: Hammerson, G.

### Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

**Date:** 03Sep2004 **Author:** Hammerson, G., and S. Cannings

# Use Class: Nonbreeding

# Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

# Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004

Author: Hammerson, G.

#### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

# Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

# Date: 10Sep2004

Author: Hammerson, G.

**Notes:** These specs pertain to nonmigratory species.

# Population/Occurrence Viability

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this</u> method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

# Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 31Dec2008 NatureServe Conservation Status Factors Author: Hammerson, G., and J. M Sheppard Element Ecology & Life History Edition Date: 30Dec2008 Element Ecology & Life History Author(s): Hammerson, G., and S. Cannings

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **March 26, 2018** 

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Citation for data on website including State Distribution, Watershed, and Reptile Range maps: NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

#### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

Full metadata for the Mammal Range Maps of North America is available at: <a href="http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf">http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf</a>.

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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



Spanish Common Names: Carpintero de Lewis

Unique Identifier: ELEMENT\_GLOBAL.2.106409

Element Code: ABNYF04010

Informal Taxonomy: Animals, Vertebrates - Birds - Other Birds

| AnimaliaCraniataAvesPiciformesPicidaeMelanerpes | Kii | ngdom  | Phylum   | Class | Order      | Family  | Genus      |
|---|-----|--------|----------|-------|------------|---------|------------|
|   | An  | imalia | Craniata | Aves  | Piciformes | Picidae | Melanerpes |

Genus Size: D - Medium to large genus (21+ species)

Check this box to expand all report sections: ☑

# **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Melanerpes lewis

Taxonomic Comments: Often has been placed in the monotypic genus Asyndesmus (AOU 1983).

**Conservation Status** 

# **NatureServe Status**

Global Status: G4 Global Status Last Reviewed: 09Apr2016 Global Status Last Changed: 14Feb2001 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G4 - Apparently Secure Reasons: Large range in western U.S. and adjacent southern Canada, but distribution can be spotty; apparently declining in abundance, and may have declined 60 per cent or more since the 1960s. Vulnerable to loss of nesting sites (large snags) such as may result from logging, urban and agricultural development; and to degradation of riparian habitats by drought and overgrazing. Nation: United States National Status: N4B,N4N (14Feb2001) Nation: Canada National Status: N2 (03Jan2013)

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# U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

| United<br>States | Arizona (S4), California (S4), Colorado (S4), Idaho (S3B), Kansas (SNA), Montana (S2B), Navajo Nation (S4), Nebraska (S2), Nevada (S3), New Mexico (S3B,S3N), Oklahoma (S2), Oregon (S2S3B), South Dakota (S3B,S3N), Utah (S3), Washington (S2S3), Wyoming (S2) |
|------------------|---|
| Canada           | British Columbia (S2B)  |

#### **Other Statuses**

# Canadian Species at Risk Act (SARA) Schedule 1/Annexe 1 Status: T (05Jun2003)

Committee on the Status of Endangered Wildlife in Canada (COSEWIC): Threatened (25Apr2010)

**Comments on COSEWIC:** Designated Special Concern in April 1999. Status re-examined and confirmed in November 2001. Status re-examined and designated Threatened in April 2010.

In Canada, this woodpecker breeds only in British Columbia. Its population is small, with fewer than 1000 individuals, and there is evidence of ongoing declines in parts of its Canadian range where it has been monitored over time. The global population (Canada and the USA) is also showing significant declines. Threats include habitat loss and degradation from increasing urban and agriculture development, and fire suppression. Recent surveys have shown the species to be far less numerous than previously believed. **IUCN Red List Category:** LC - Least concern

#### NatureServe Global Conservation Status Factors

Range Extent: 20,000-2,500,000 square km (about 8000-1,000,000 square miles)

**Range Extent Comments:** BREEDING: southern British Columbia, southwestern Alberta, Montana, southwestern South Dakota and northwestern Nebraska south to south-central California, central Arizona, southern New Mexico, and eastern Colorado; locally distributed and sporadic within range (AOU 1983, Tobalske 1997). NON-BREEDING: mainly from northern Oregon, southern Idaho, central Colorado, south-central Nebraska south irregularly to northern Mexico, southern New Mexico, and western Texas (AOU 1983).

Number of Occurrences: 81 to >300

Number of Occurrences Comments: Actual number of element occurences is unknown.

Population Size: Unknown

Population Size Comments: No estimates of total population size (Tobalske 1997).

**Overall Threat Impact Comments:** Vulnerable to processes that result in a permanent loss of large snags (nesting sites) or degradation of foraging habitat. Such habitat alteration evidently is the reason for the declines that have occurred in coastal areas of British Columbia and Washington. Drought and overgrazing pose continued threats to riparian habitats in arid regions (Ehrlich et al. 1992). Fire suppression encourages the replacement of ponderosa pine (PINUS PONDEROSA) forests by Douglas-fir (PSEUDOTSUGA MENZIESII), and leads to denser, closed-canopy forest stands. Will decline with fire suppression in ponderosa pine/Douglas fir stands compared to regular fire intervals of 10-30 years (Saab and Dudley 1998). May be most sensitive to destruction of specialized winter habitat (Sousa 1983). Sousa (1983) also suggested that European Starlings (STURNUS VULGARIS) may usurp nesting habitat.

# Short-term Trend: Decline of 10-30%

**Short-term Trend Comments:** On the basis of Breeding Bird Survey and Christmas Bird Count data, overall population may have declined by approximately 60 per cent (Tobalske 1997). Populations tend to be scattered and irregular and are considered rare, uncommon, or irregularly common throughout range; local abundance may be cyclical or irregular (Tobalske 1997). In the past century, populations have apparently declined in British Columbia by more than 50 percent and decreased in Oregon, California, and Utah (DeSante and George 1994). BBS data indicate a significant decline in the United States for the period 1966-1999 (-3.6 per cent average annual or 67 per cent overall decline; P = 0.00; N = 64 survey routes) and nonsignificant declining trend between 1980 and

1996 (-1.7 per cent; P = 0.22; N = 53; Sauer et al. 2000). Similar significant, negative trends are present survey-wide, and for the Western BBS Region and for US Fish and Wildlife Service Region 1. Washington State posted a significant decline averaging -8.4 per cent annually for the same period (P = 0.01, N = 10). Overall, however, BBS sample sizes are relatively low for robust trend analysis (Sauer et al. 2000). Significant declines have occurred in coastal areas of Washington and the species is extirpated from coastal British Columbia (S. Cannings, D. Paulson pers. comm.). Christmas Bird Count (CBC) data show nonsignificant declining trends survey-wide and in California, Colorado, and Oregon, and a nonsignificant increase in Arizona, for the period from 1959 to 1988 (Sauer et al. 1996). Ehrlich et al. (1992) suggest that populations appear to have stabilized recently, but those in riparian habitats in arid regions continue to be vulnerable to drought, overgrazing, and other habitat degradations.

# **Other NatureServe Conservation Status Information**

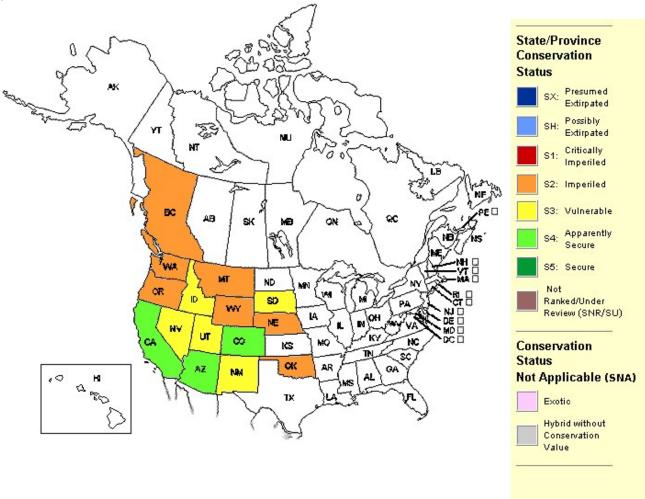
#### Distribution

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**Global Range:** (20,000-2,500,000 square km (about 8000-1,000,000 square miles)) BREEDING: southern British Columbia, southwestern Alberta, Montana, southwestern South Dakota and northwestern Nebraska south to south-central California, central Arizona, southern New Mexico, and eastern Colorado; locally distributed and sporadic within range (AOU 1983, Tobalske 1997). NON-BREEDING: mainly from northern Oregon, southern Idaho, central Colorado, south-central Nebraska south irregularly to northern Mexico, southern New Mexico, and western Texas (AOU 1983).

# **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.



NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for

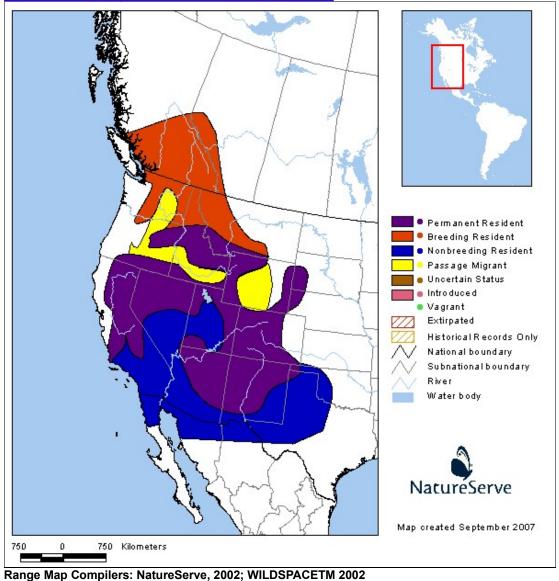
common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

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|  |   |            |            |   |  |

| U.S. & Canad  | U.S. & Canada State/Province Distribution                      |  |  |  |
|---------------|--|--|--|--|
| United States | AZ, CA, CO, ID, KS, MT, NE, NM, NN, NV, OK, OR, SD, UT, WA, WY |  |  |  |
| Canada        | BC   |  |  |  |

# Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



| U.S. Distribution by County 🕜 |  |
|-------------------------------|--|
| State County Name (FIPS Code) |  |

| CO | Archuleta (08007), Baca (08009)*, Bent (08011), Boulder (08013), Chaffee (08015), Conejos (08021),<br>Costilla (08023), Crowley (08025), Custer (08027)*, Delta (08029), Dolores (08033), Douglas (08035)*,<br>Eagle (08037), El Paso (08041), Elbert (08039), Fremont (08043), Garfield (08045), Gunnison (08051),<br>Hinsdale (08053), Huerfano (08055), Jackson (08057), Jefferson (08059), La Plata (08067), Larimer (08069), Las<br>Animas (08071), Mesa (08077), Mineral (08079), Montezuma (08083), Montrose (08085), Otero (08089),<br>Pitkin (08097), Prowers (08099)*, Pueblo (08101), Rio Blanco (08103), Routt (08107), Saguache (08109), San<br>Miguel (08113), Weld (08123)* |
|----|--|
| ID | Bear Lake (16007), Camas (16025), Cassia (16031), Clark (16033), Lemhi (16059)   |
| MT | Big Horn (30003), Carter (30011), Cascade (30013), Deer Lodge (30023), Flathead (30029), Granite (30039), Jefferson (30043), Lake (30047), Lewis and Clark (30049), Lincoln (30053), Missoula (30063), Powder River (30075), Powell (30077), Ravalli (30081), Sanders (30089)  |
| NE | Dawes (31045)  |
| OK | Cimarron (40025)*  |
| OR | Baker (41001), Columbia (41009)*, Crook (41013)*, Deschutes (41017), Grant (41023), Jackson (41029),<br>Jefferson (41031), Klamath (41035), Lake (41037), Lane (41039), Malheur (41045), Multnomah (41051)*,<br>Union (41061)*, Wallowa (41063)*, Wasco (41065)*, Wheeler (41069)  |
| SD | Custer (46033), Fall River (46047), Meade (46093)  |
| UT | Box Elder (49003), Cache (49005), Daggett (49009), Davis (49011), Duchesne (49013), Garfield (49017)*,<br>Grand (49019), Juab (49023)*, Millard (49027)*, Morgan (49029)*, Rich (49033), Salt Lake (49035)*, San<br>Juan (49037), Sanpete (49039), Summit (49043)*, Tooele (49045)*, Uintah (49047), Utah (49049),<br>Wasatch (49051)*, Washington (49053), Weber (49057)  |
| WA | Asotin (53003)+, Chelan (53007)+, Ferry (53019)+, Garfield (53023)+, King (53033)+, Klickitat (53039)+,<br>Lincoln (53043)+, Okanogan (53047)+, Stevens (53065)+, Yakima (53077)+  |
| WY | Albany (56001), Converse (56009), Crook (56011)*, Fremont (56013)*, Johnson (56019), Laramie (56021)*,<br>Natrona (56025), Park (56029), Platte (56031), Sweetwater (56037), Teton (56039), Uinta (56041)*,<br>Weston (56045)  |

\* Extirpated/possibly extirpated

# U.S. Distribution by Watershed ⊘

| Watershed<br>Region ⑦ | Watershed Name (Watershed Code)  |
|-----------------------|--|
| 10                    | Boulder (10020006)+, Upper Missouri (10030101)+, Upper Missouri-Dearborn (10030102)+, Yellowstone<br>Headwaters (10070001)+, Clarks Fork Yellowstone (10070006)+*, Little Wind (10080002)+*, Popo<br>Agie (10080003)+*, Lower Wind (10080005)+*, Shoshone (10080014)+*, Upper Tongue (10090101)+, Lower<br>Tongue (10090102)+, South Fork Powder (10090203)+*, Crazy Woman (10090205)+, Clear (10090206)+,<br>Upper Little Missouri (10110201)+, Boxelder (10110202)+, Angostura Reservoir (10120106)+,<br>Beaver (10120107)+, Middle Cheyenne-Spring (10120109)+, Upper Belle Fourche (10120201)+*, Lower<br>Belle Fourche (10120202)+, Redwater (10120203)+*, Upper White (10140201)+, Upper North<br>Platte (10180002)+, Little Medicine Bow (10180005)+, Sweetwater (10180006)+*, Middle North Platte-<br>Casper (10180007)+, Glendo Reservoir (10180008)+, Upper Laramie (10180010)+, Lower<br>Laramie (10180011)+, Middle South Platte-Cherry Creek (10190003)+*, Clear (10190004)+, St.<br>Vrain (10190005)+, Big Thompson (10190006)+, Cache La Poudre (10190007)+, Crow (10190009)+*,<br>Kiowa (10190010)+*, Bijou (10190011)+, Upper Lodgepole (10190015)+ |
| 11                    | Arkansas Headwaters (11020001)+, Upper Arkansas (11020002)+, Fountain (11020003)+,<br>Chico (11020004)+, Upper Arkansas-Lake Meredith (11020005)+, Huerfano (11020006)+,<br>Apishapa (11020007)+, Horse (11020008)+, Upper Arkansas-John Martin (11020009)+,<br>Purgatoire (11020010)+, Two Butte (11020013)+, Cimarron headwaters (11040001)+, Upper<br>Cimarron (11040002)+*   |
| 13                    | Alamosa-Trinchera (13010002)+, San Luis (13010003)+, Saguache (13010004)+, Upper Rio<br>Grande (13020101)+, Rio Chama (13020102)+  |
| 14                    | Colorado headwaters (14010001)+, Roaring Fork (14010004)+, Colorado headwaters-Plateau (14010005)+,<br>Upper Gunnison (14020002)+, Tomichi (14020003)+, North Fork Gunnison (14020004)+, Lower<br>Gunnison (14020005)+, Uncompahange (14020006)+*, Upper Dolores (14030002)+, San<br>Miguel (14030003)+, Lower Dolores (14030004)+, Upper Colorado-Kane Springs (14030005)+*, Upper<br>Green-Slate (14040103)+, Upper Green-Flaming Gorge Reservoir (14040106)+, Blacks Fork (14040107)+*,<br>Muddy (14040108)+*, Upper Yampa (14050001)+, Upper White (14050005)+, Lower White (14050007)+,<br>Lower Green-Diamond (14060001)+, Ashley-Brush (14060002)+*, Duchesne (14060003)+, Lower Green-<br>Desolation Canyon (14060005)+, Willow (14060006)+, Price (14060007)+, Upper San Juan (14080101)+,<br>Piedra (14080102)+, Animas (14080104)+, Middle San Juan (14080105)+, Mancos (14080107)+,<br>Mcelmo (14080202)+*   |
| 15                    | Upper Virgin (15010008)+   |

| 16 | Upper Bear (16010101)+, Bear Lake (16010201)+, Middle Bear (16010202)+, Little<br>Bear-Logan (16010203)+, Upper Weber (16020101)+*, Lower Weber (16020102)+, Utah Lake (16020201)+*,<br>Spanish Fork (16020202)+, Provo (16020203)+*, Jordan (16020204)+*, Southern Great Salt Lake<br>Desert (16020306)+*, Northern Great Salt Lake Desert (16020308)+, Upper Sevier (16030001)+*, Lower<br>Sevier (16030005)+*   |
|----|--|
| 17 | Upper Kootenai (17010101)+, Fisher (17010102)+, Upper Clark Fork (17010201)+, Flint-Rock (17010202)+,<br>Blackfoot (17010203)+, Middle Clark Fork (17010204)+, Bitterroot (17010205)+, North Fork<br>Flathead (17010206)+, Stillwater (17010210)+, Swan (17010211)+, Lower Flathead (17010212)+, Lower<br>Clark Fork (17010213)+, Franklin D. Roosevelt Lake (17020001), Kettle (17020002), Colville (17020003),<br>Chief Joseph (17020005), Okanogan (17020006), Similkameen (17020007), Methow (17020008), Lake<br>Chelan (17020009), Upper Columbia-Entiat (17020010), Wenatchee (17020011), Upper Crab (17020013),<br>Upper Yakima (17030001), Naches (17030002), Snake headwaters (17040101)+, Gros Ventre (17040102)+,<br>Greys-Hobock (17040103)+, Goose (17040211)+*, Upper Snake-Rock (17040212)+,<br>Beaver-Camas (17040214)+, South Fork Boise (17050113)+, Upper Malheur (17050116)+,<br>Willow (17050119)+, Burnt (17050202)+, Powder (17050203)+*, Imnaha (17060102)+*, Lower Snake-<br>Asotin (17060103), Upper Grande Ronde (17060104)+*, Wallowa (17060105)+*, Lower Grande<br>Ronde (17060106)+, Lemhi (17060204)+, Middle Columbia-Hood (17070105)+, Klickitat (17070106), Upper<br>John Day (17070201)+, North Fork John Day (17070202)+, Lower John Day (17070204)+, Upper<br>Deschutes (17070301)+, Lower Crooked (17070305)+*, Lower Deschutes (17070306)+, Trout (17070307)+*,<br>Upper Willamette (1709003)+, Lower Willamette (17090012)+*, Upper Rogue (17100307)+, Middle<br>Rogue (17100308)+, Skykomish (17110009), Duwamish (17110013), Silvies (17120002)+, Summer<br>Lake (17120005)+ |
| 18 | Williamson (18010201)+*, Upper Klamath Lake (18010203)+*, Upper Klamath (18010206)+, Goose Lake (18020001)+  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### Ecology & Life History

**Basic Description:** Medium sized woodpecker, 26-28 cm in length (Tobalske 1997). Head, back, wings, and tail are greenish black. Underside with prominent silvery gray collar on upper breast and pinkish or salmon red lower breast and belly. Face is dark red. Juveniles more brownish black on back, lacking extensive gray, red, and pink coloration of adults (but highly variable).

**Reproduction Comments:** Life-long pair bond. Clutch size is five to nine (usually six to seven). Incubation, by both sexes, lasts 13-14 days. Young can fly 28-34 days after hatching (Terres 1980, Ehrlich et al. 1988).

**Ecology Comments:** May compete with acorn woodpeckers (MELANERPES FORMICIVORUS) for acorn crop (Terres 1980). Will aggressively defend food caches from all comers. Territorial in immediate space around nest sites toward Red-headed Woodpeckers (MELANERPES ERYTHROCEPHALUS) and other Lewis's Woodpeckers; however, may nest semi-gregariously where several nest cavities are close together (Bock 1970, Bock et al. 1971, Tobalske 1997). Breeding season territories reported to vary between 1 and 6 hectares in the Blue Mountains of Washington and Oregon (Thomas et al. 1979). Foraging home ranges broadly overlap and large numbers of birds may forage together where there is a local abundance of food (Tobalske 1997). Local areas of higher abundance occur in northern Arizona, Washington, Oregon and northern California in summer (Sauer et al. 1997); California, Arizona and northern New Mexico in winter (Sauer et al. 1996).

#### Non-Migrant: Y

Locally Migrant: Y

#### Long Distance Migrant: Y

**Mobility and Migration Comments:** Populations in the northern half of the breeding range move southward for winter; present year-round in rest of breeding range although some birds migrate out. Movements likely vary in magnitude from year to year, probably in relation to food availability. Nomadic flocks have been observed in fall and winter (Tobalske 1997; see also Hadow 1973). **Palustrine Habitat(s):** Riparian

**Terrestrial Habitat(s):** Savanna, Suburban/orchard, Woodland - Conifer, Woodland - Hardwood, Woodland - Mixed **Special Habitat Factors:** Standing snag/hollow tree

**Habitat Comments:** BREEDING: Open forest and woodland, often logged or burned, including oak, coniferous forest (primarily ponderosa pine [PINUS PONDEROSA], riparian woodland and orchards, less commonly in pinyon-juniper (PINUS spp.-JUNIPERUS spp.; AOU 1983). Distribution closely associated with open ponderosa pine forest in western North America, and is strongly associated with fire-maintained old-growth ponderosa pine (Diem and Zeveloff 1980, Tobalske 1997, Saab and Dudley 1998).

Important habitat features include an open tree canopy, a brushy understory with ground cover, dead trees for nest cavities; dead or

downed woody debris, perch sites, and abundant insects. Uses open ponderosa pine forests, open riparian woodlands dominated by cottonwood (POPULUS spp.), and logged or burned pine. Also uses oak (QUERCUS spp.) woodlands, orchards, pinyon-juniper woodlands, other open coniferous forests, and agricultural lands. Apparently prefers open ponderosa pine at high elevations and open riparian forests at lower elevations (Bock 1970, Tobalske 1997). In Blue Mountains, Oregon, showed a preference for open stands near water (Thomas et al. 1979). Because catches insects from air, perches near openings or in open canopy are important for foraging habitat (Bock 1970, Tobalske 1997).

Often use burned pine forests, although suitability of postfire habitats varies with the age, size, and intensity of the burn, density of remaining snags, and the geographic region. Birds may move to unburned stands once young fledge (Block and Brennan 1987, Tobalske 1997, Saab and Dudley 1998). Have been generally considered a species of older burns rather than new ones, moving in several years post-fire once dead trees begin to fall and brush develops, five to thirty years after fire (Bock 1970, Block and Brennan 1987, Caton 1996, Linder and Anderson 1998). However, on a two- to four-year-old burn in Idaho it was the most common cavity-nester, and occurred in highest nesting densities ever recorded for the species (Saab and Dudley 1998). As habitat suitability declines, however, numbers decline. For example, in Wyoming, was more common in a seven-year-old burn than in a twenty-year-old burn (Linder and Anderson 1998). Overall, suitable conditions include an open canopy, availability of nest cavities and perches, abundant arthropod prey, and a shrubby understory (Linder and Anderson 1998, Saab and Dudley 1998).

NESTING: Unlike other woodpeckers, is not morphologically well-adapted to excavate cavities in hard wood. Tends to nest in a natural cavity, abandoned northern flicker (COLAPTES AURATUS) hole, or previously used cavity, 1-52 meters above ground. Sometimes will excavate a new cavity in a soft snag (standing dead tree), dead branch of a living tree, or rotting utility pole (Harrison 1979, Tobalske 1997). Mated pair may return to the same nest site in successive years. On partially-logged burns with high nesting densities in Idaho, nest sites were characterized by the presence of large, soft snags and an average of 62 snags per hectare that had more than 23 centimeter dbh (Saab and Dudley 1998).

NON-BREEDING: In late summer, wandering flocks move from valleys into mountains or from breeding habitat to orchards. In winter, uses oak woodlands, nut and fruit orchards. An important habitat feature in many wintering areas is the availability of storage sites for grains or mast, such as tree bark (e.g. bark of mature cottonwood trees) or power poles with dessication cracks (Bock 1970, Tobalske 1997). In southwestern Arizona and southeastern California, may use scrub oak, pecan orchards, and cottonwoods, but more study is needed in this area (Bock 1970). In Mexico, uses open and semi-open woodlands, especially those with oaks (Howell and Webb 1995). Adult Food Habits: Invertivore

# Immature Food Habits: Invertivore

**Food Comments:** Feeds on adult emergent insects (e.g., ants, beetles, flies, grasshoppers, tent caterpillars, mayflies) in summer, ripe fruit and nuts in fall and winter. Opportunistic and may respond to insect outbreaks and grasshopper swarms by increasing breeding densities. Unlike other woodpeckers, does not bore for insects but will flycatch and glean insects from tree branches or trunks; also drops from perch to capture insects on the ground. Especially favors acorns and commercial nuts and fruit in fall and winter, and caches food in natural crevices such as tree bark and dessication cracks in utility poles, tailoring food to fit crevices. Also eats huckleberry, twinberry, currant, mountain ash and chokecherries (Bock 1970, Tobalske 1997). In some areas, wintering birds rely more on insects than on cached food (Hadow 1973).

Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 27 centimeters Weight: 116 grams

**Economic Attributes** 

# **Management Summary**

**Stewardship Overview:** Favors open forests and is closely associated with old-growth ponderosa pine (PINUS PONDEROSA) and mature riparian cottonwood (POPULUS spp.) forests throughout the West. Populations are thought to have widely declined with logging of ponderosa pine, loss of the open park-like quality of mature ponderosa pine to fire suppression and subsequent forest succession, and loss and degradation of cottonwood riparian habitats. Populations can be locally erratic and transitory, moving with the abundance and availability of insects and mast fruits, although individuals may return to same nest site in consecutive years. Unlike other woodpeckers, feeds by flycatching or gleaning, so an abundance of flying insects and the availability of perches with an open canopy or next to open areas are important habitat characteristics. Large, soft snags are critical for nest cavities. See Bock (1970) and Tobalske

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(1997) for detailed reviews of species' ecology.

Species Impacts: An occasional orchard pest (Ehrlich et al. 1988).

**Restoration Potential:** Still locally and erratically common, but due to the widespread loss of preferred habitats and indications of steep population declines up to the 1990s, deserves conservation attention to prevent the species from becoming threatened. Restoration will depend on ability to protect large, soft snags from loss, and to maintain and restore open-canopied ponderosa pine (PINUS PONDEROSA) forests and riparian cottonwood (POPULUS spp.) forests similar to pre-European-settlement habitats. Because it is closely associated with fire-dependent habitats, is opportunistic in following food resources, and local abundances are erratic, any conservation efforts must consider ecological processes and habitat management on landscape and regional scales.

**Preserve Selection & Design Considerations:** Habitat degradation and fragmentation that results in the loss of mature ponderosa pine (PINUS PONDEROSA), oaks (QUERCUS spp.), or riparian cottonwood is detrimental. However, land management activities that create openings and edges for foraging could be beneficial (USDA Forest Service 1994). Breeds in cottonwood riparian forest, a severely threatened habitat. The importance of riparian habitat as a corridor is unknown. Is closely associated with post-fire habitats and fire-maintained open-canopy stands of ponderosa pine. Relationship to fire regimes, however, need further study. Is opportunistic and erratic, feeding where insects and nuts are locally abundant. May not be very sensitive to patch size and habitat connectivity, but landscape relationships need study.

**Management Requirements:** Maintaining open, park-like stands of ponderosa pine (PINUS PONDEROSA) forest and cottonwood forests, with snags, mature trees, shrubby understory, and a productive insect fauna would benefit the species.

FOREST MANAGEMENT: Large-scale removal of large dead trees, ponderosa pine, cottonwood, and other favored tree species would be detrimental. Favors open stands, however, and prescribed fire, selective cutting, and management that maintains an open canopy and retains soft-wooded, large snags would be beneficial. Cottonwood (POPULUS spp.) forests should be managed to maintain mature trees and snags and allow for the regeneration of cottonwood stands through periodic flooding and substrate-scouring (Tobalske 1997).

Thomas et al. (1979) presumed a linear relationship between abundance and snag densities, and suggested that maximum woodpecker density could be maintained in ponderosa pine forest by retaining 249 snags per hectare, at least 30.5 centimeter dbh and at least 9.1 meters tall. However, in Idaho ponderosa pine/Douglas-fir (PSEUDOTSUGA MENZIESII) forests, Saab and Dudley (1998) predict that populations should respond positively to high intensity fires or to prescribed fire combined with stand management for an open canopy and partial snag retention. In forests that experienced high-intensity wildfires, were more abundant and successful in salvage-logged sites that retained at least 60 trees per hectare more than 23 centimeter dbh and at least 13 trees per hectare more than 53 centimeter dbh than in unlogged burned stands with significantly greater tree densities (Saab and Dudley 1998). The investigators recommended: (1) retaining clumps of trees rather than uniformly-distributed trees; (2) managing for snag recruitment; (3) retaining more large snags greater than 53 centimeter dbh in post-fire habitats for longevity of habitat suitability (Saab and Dudley 1998). Optimum snag densities and tree canopy closures need to be further studied.

**Monitoring Requirements:** A diurnal bird with distinctive plumage and flight pattern. Requires specialized, habitat-specific monitoring due to its quiet habits, erratic distribution and generally low densities on breeding and wintering grounds (USDA Forest Service 1994, Saab and Rich 1997).

**Management Research Needs:** A determination of the current status, population trend, and the reasons for declines in recent decades is a high priority. Further study is needed of relationships with landscape patterns, fire regimes, and stand-level habitat characteristics throughout the range. Need a better understanding of threats to the species, demographic patterns, and winter and migration habitat use. Information is needed on abundance and reproductive success across gradients of habitat quality in all parts of its range, similar to work in Idaho by Saab and Dudley (1998). Competition by starlings (STURNUS VULGARIS) for nest sites has not been confirmed. Effects of habitat alterations, pesticides, and encroachment of human development need study.

**Biological Research Needs:** Geographic variations, migration routes, nutrition and energetics, predation and competition, life span and survivorship, causes of mortality, juvenile dispersal, and behavior need further study.

#### Population/Occurrence Delineation

Group Name: Woodpeckers

# Use Class: Breeding

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

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Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** The high potential for gene flow among populations of birds separated by fairly large distances makes it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for woodpeckers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart.

Territories generally smaller than non-breeding home ranges. Territories/home ranges: Red-headed Woodpecker, summer territories 3.1-8.5 hectares (Venables and Collopy 1989), winter territories smaller (0.17 hectare to 1 hectare (Williams and Batzli 1979, Venables and Collopy 1989, Moskovits 1978); Lewis's Woodpecker, 1.0-6.0 hectares (Thomas et al. 1979); Golden-fronted Woodpecker, summer ranges larger than breeding territories, ranging from 15.4 to 41.7 hectares (average 24.9, Husak 1997); Gila Woodpecker, pair territories ranged from 4.45 to 10.0 hectares (n = 5) (Edwards and Schnell 2000); Nuttall's Woodpecker, about 65 hectares (0.8 kilometers diameter; Miller and Bock 1972); Hairy Woodpecker: breeding territories averaged 2.8 hectares, range 2.4 to 3.2 hectares (Lawrence 1967); Black-backed Woodpecker, home ranges 61-328 hectares (Goggans et al. 1988, Lisi 1988, Dixon and Saab 2000); White-headed Woodpecker, mean home ranges 104 and 212 hectares on old-growth sites and 321 and 342 hectares on fragmented sites (Dixon 1995a,b); Williamson's Sapsucker, home ranges 4-9 hectares (Crockett 1975).

Fidelity to breeding site: high in Red-headed Woodpeckers--15 of 45 banded adults returned to vicinity following year (Ingold 1991); one adult moved 1.04 kilometers between breeding seasons (Belson 1998).

# Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .2 km

Inferred Minimum Extent Justification: Based on a conservatively small home range of 3 hectares.

Date: 10Sep2004

Author: Cannings, S., and G. Hammerson

# Population/Occurrence Viability

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this</u> method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

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Element Ecology & Life History Author(s): HAMMERSON, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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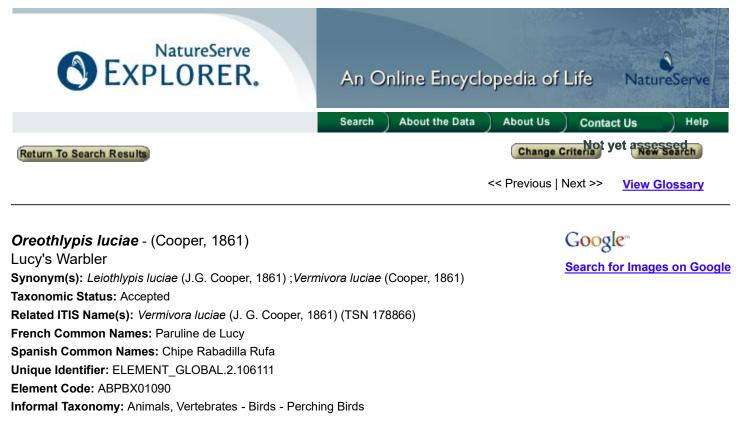
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Version 7.1 (2 February 2009) Data last updated: November 2016



| Animalia Craniata Aves Passeriformes Parulidae Oreothlypis | Kingdom  | Phylum   | Class | Order         | Family    | Genus       |
|--|----------|----------|-------|---------------|-----------|-------------|
|  | Animalia | Craniata | Aves  | Passeriformes | Parulidae | Oreothlypis |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections: ☑

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Vermivora luciae

Taxonomic Comments: Formerly (AOU 1983, 1998) placed in the genus Vermivora, transferred to Oreothlypis by AOU (2010).

**Conservation Status** 

#### NatureServe Status

Global Status: G5 Global Status Last Reviewed: 03Dec1996 Global Status Last Changed: 03Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N5B (19Mar1997)

#### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

 $\odot$ 

United States Arizona (S5), California (S2S3), Navajo Nation (S3B), Nevada (S2S3B), New Mexico (S3B,S4N), Texas (S3B), Utah (S2S3B)

# **Other Statuses**

IUCN Red List Category: LC - Least concern

# NatureServe Global Conservation Status Factors

Range Extent: 20,000-2,500,000 square km (about 8000-1,000,000 square miles)

**Range Extent Comments:** BREEDING: southeastern California, southern Nevada, Utah, southwestern Colorado (accidental, or formerly) south to northeastern Baja California, southern Arizona and northern Sonora, and east to extreme western Texas. NON-BREEDING: western Mexico, from Jalisco south to Guerrero (AOU 1983) and sparingly north to southern Sinaloa and Durango.

# **Other NatureServe Conservation Status Information**

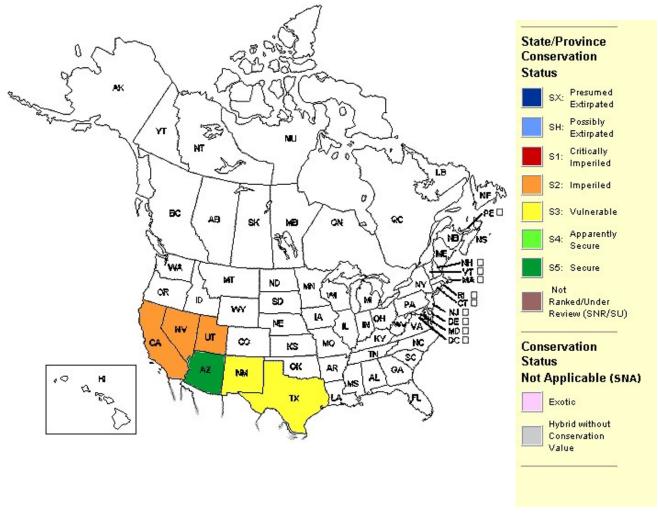
#### Distribution

0

**Global Range:** (20,000-2,500,000 square km (about 8000-1,000,000 square miles)) BREEDING: southeastern California, southern Nevada, Utah, southwestern Colorado (accidental, or formerly) south to northeastern Baja California, southern Arizona and northern Sonora, and east to extreme western Texas. NON-BREEDING: western Mexico, from Jalisco south to Guerrero (AOU 1983) and sparingly north to southern Sinaloa and Durango.

# **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

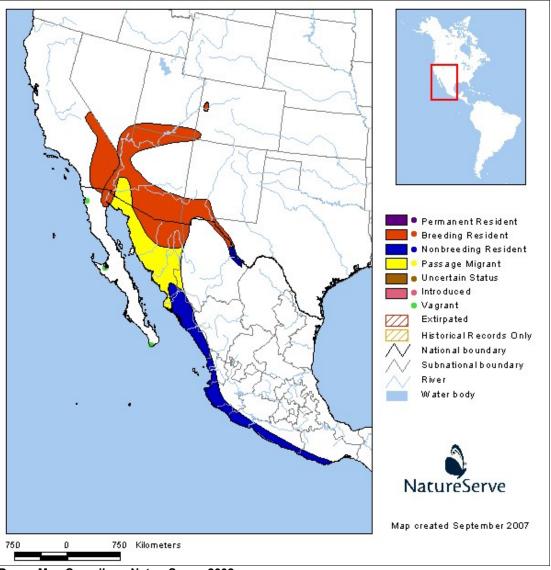


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distributio |                            |  |
|--|----------------------------|--|
| United States                            | AZ, CA, NM, NN, NV, TX, UT |  |

# Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀     |   |  |
|-----------------------------------|---|--|
| State                             | State County Name (FIPS Code)             |  |
| CA                                | Imperial (06025)*, San Bernardino (06071) |  |
| UT Kane (49025), San Juan (49037) |   |  |
| * Evtinated/noseibly evtinated    |   |  |

#### \* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 📀 |   |  |
|----------------------------------|---|--|
| Watershed Region ②               | Watershed Name (Watershed Code)                         |  |
| 14                               | Paria (14070007)+, Montezuma (14080203)+                |  |
| 15                               | Piute Wash (15030102)+, Imperial Reservoir (15030104)+* |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

# Ecology & Life History

0

Reproduction Comments: Clutch size 3-7 (usually 4-5) (Harrison 1978). Female may desert nest if disturbed. Female has been observed doing most of the work of nest building. Possibly 2 broods/season (Bureau of Land Management, no date). Ecology Comments: Eggs/young preyed on by lizards, snakes, woodrats, and Gila woodpeckers. Non-Migrant: N Locally Migrant: N

Long Distance Migrant: Y Mobility and Migration Comments: Arrives in Arizona by late March (Terres 1980). Palustrine Habitat(s): Riparian Terrestrial Habitat(s): Desert, Shrubland/chaparral, Woodland - Hardwood Special Habitat Factors: Standing snag/hollow tree Habitat Comments: BREEDING: Deserts, mesquite along streams, riparian woodlands (willows and cottonwoods). Nests in tree cavity, behind bark, in abandoned woodpecker hole or verdin nest. NON-BREEDING: During migration and winter: dry washes, riparian forest, and thorn forest. Adult Food Habits: Invertivore Immature Food Habits: Invertivore Food Comments: Feeds primarily on insects. Forages in foliage and flowers, in mesquites and other desert vegetation. Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 11 centimeters Weight: 7 grams **Economic Attributes Management Summary Population/Occurrence Delineation** Group Name: Passerines

#### Use Class: Breeding

Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

# Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to

locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

# Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

# Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

# Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

# Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004 **Author:** Hammerson, G.

#### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

**Notes:** These specs pertain to nonmigratory species.

#### **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this <u>method.</u> Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

#### Authors/Contributors

Element Ecology & Life History Edition Date: 05Oct1989 Element Ecology & Life History Author(s): HAMMERSON, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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# Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

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# Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

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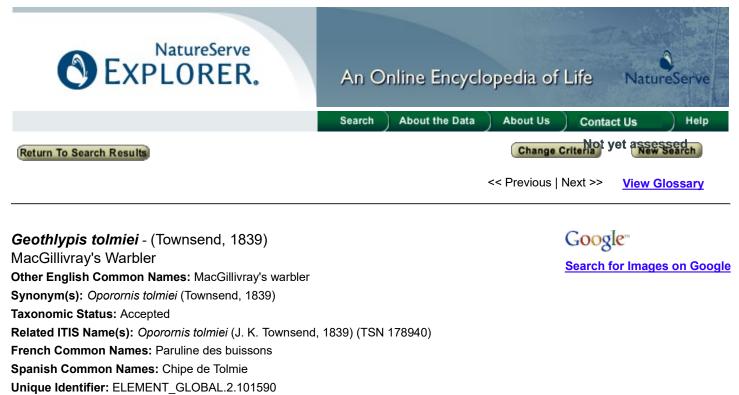
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Version 7.1 (2 February 2009) Data last updated: November 2016



Element Code: ABPBX11040

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family    | Genus      |
|----------|----------|-------|---------------|-----------|------------|
| Animalia | Craniata | Aves  | Passeriformes | Parulidae | Geothlypis |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections:  $\ensuremath{\boxtimes}$ 

# **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Oporornis tolmiei

**Taxonomic Comments:** Phylogenetic analyses of sequences of mitochondrial and nuclear DNA (Escalante et al. 2009, Lovette et al. 2010) indicate that several species often placed in *Oporornis (tolmiei, philadelphia, and formosa)* are more closely related to *Geothlypis* species than to *Oporornis* sensu stricto (cf. Lowery and Monroe 1968).

*O. tolmiei* and *O. philadelphia* are closely related and are considered conspecific by some authors; they appear to hybridize in central Alberta (AOU 1983). Study of plumage, skeletal, and vocal characteristics supported recognition of *tolmiei* and *philadelphia* as separate species (Pitocchelli 1990).

**Conservation Status** 

# **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 07Apr2016 Global Status Last Changed: 03Dec1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure 0

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Reasons: Large breeding range in western North America; large population size; apparently undergoing a slow, long-term decline, likely due to habitat degradation. Nation: United States National Status: N5B (19Mar1997) Nation: Canada

National Status: N5B (28Jul2000)

# U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

| United<br>States | Alaska (S4B), Arizona (S4), California (SNRB), Colorado (S4B), Idaho (S5B), Kansas (SNA), Montana (S5B), Navajo<br>Nation (S4B), Nebraska (SNRN), Nevada (S4B), New Mexico (S5B,S5N), Oklahoma (S2N), Oregon (S4B), South Dakota<br>(S3B), Texas (S4), Utah (S4S5B), Washington (S4S5B), Wyoming (S5B,S5N) |
|------------------|--|
| Canada           | Alberta (S4), British Columbia (S4S5B), Saskatchewan (S4B), Yukon Territory (S3B)  |

# **Other Statuses**

IUCN Red List Category: LC - Least concern

# **NatureServe Global Conservation Status Factors**

Range Extent: 200,000 to >2,500,000 square km (about 80,000 to >1,000,000 square miles)

**Range Extent Comments:** Breeding range extends from southeastern Alaska and southern Yukon southward through western Canada and western United States, mainly in mountains, to southern California, southeastern Arizona, and southern New Mexico, and east to the Black Hills of South Dakota; also southeastern Coahuila and Nuevo Leon (Pitocchelli 1995, AOU 1998). The species is less common and populations are more disjunct toward the southern limits of the range (Pitocchelli 1995).

Winter range extends from southern Baja California, southern Sonora, Chihuahua, Coahuila, and Nuevo Leon south to western Panama (AOU 1998), primarily along the Pacific slope and highlands from northern Mexico through Panama, usually in central plateaus and mountain ranges (Pitocchelli 1995).

Number of Occurrences: 81 to >300 Number of Occurrences Comments: This species is represented by a large number of occurrences.

Population Size: >1,000,000 individuals

**Population Size Comments:** Total adult population size is unknown but likely exceeds, 1,000,000. Rich et al. (2004) estimated population size at 5,400,000.

Number of Occurrences with Good Viability/Integrity: Many to very many (41 to >125) Viability/Integrity Comments: Many occurrences appear to have at least good estimated viability.

# Overall Threat Impact: Low

**Overall Threat Impact Comments:** Activities such as intensive grazing, water developments, recreation or urban development, and intensive agriculture that remove or degrade brush and seedling/sapling vegetation in riparian habitats, ecotones, bogs, wet-meadows, and forests or woodlands may be detrimental to local populations. Widespread loss and degradation of western riparian habitats probably affects the species but is unstudied.

Intensive grazing that reduces or eliminates willows and other brush and sapling vegetation along streamsides, in bogs, wet meadows, and moist woodlands is detrimental (Pitocchelli 1995; USDA Forest Service 1994). Nests may also be vulnerable to trampling by livestock. The species may be declining in southern Alberta due to grazing and agriculture; it has disappeared in some areas, but is still common in protected provincial parks (Pitocchelli 1995).

In Utah, the species was less abundant in campgrounds and picnic sites developed in riparian areas where shrub/sapling density was half that of non-campground riparian sites (Blakesley and Reese 1988).

In northern California, there is evidence of an historical increase in Douglas-fir forests since development in the 19th century, due to an increase in younger seral stages and brushy second-growth, but the species may decline in future as these forests mature (Raphael et al. 1988).

This species likely has benefited from logging and mining in boreal Canada and the United States, and current clearcut logging practices will continue to open new breeding habitat (Pitocchelli 1995). However, many companies have begun replacing spruce forests with pine forests, which prevent dense, lush undergrowth that MacGillivray's Warbler and other boreal species need for breeding; massive generation of such unproductive habitat may cause long-term problems for boreal forest species such as MacGillivray's Warbler (Pitocchelli 1995). MacGillivray's Warbler may also benefit from development in Central America that creates more second growth and disturbed habitats (Pitocchelli 1995).

#### Short-term Trend: Decline of <30% to relatively stable

Short-term Trend Comments: BBS data suggest that this species is undergoing a slow decline.

#### Long-term Trend: Unknown

**Long-term Trend Comments:** Trend over the past 200 years is unknown. Breeding Bird Survey (BBS) data indicate a significant survey-wide decline averaging 0.8% per year for 1966-2007 and a significant decline averaging 1.0% per year for 1980-2007; this amounts to a 28% decline from 1966 to 2007. BBS abundance (average number of birds per route) declined from 3.9-4.7 in the 1960s and 1970 to 3.1-3.7 in 2000-2007, so the decline amounts to about 1 bird or less per route. Based on BBS data, mapped trends for 1966-2003 indicate that most areas of decline were in British Columbia, Washington, Oregon, northern California, and New Mexico, whereas most increases were in interior regions and southern California.

#### **Other NatureServe Conservation Status Information**

#### Distribution

**Global Range:** (200,000 to >2,500,000 square km (about 80,000 to >1,000,000 square miles)) Breeding range extends from southeastern Alaska and southern Yukon southward through western Canada and western United States, mainly in mountains, to southern California, southeastern Arizona, and southern New Mexico, and east to the Black Hills of South Dakota; also southeastern Coahuila and Nuevo Leon (Pitocchelli 1995, AOU 1998). The species is less common and populations are more disjunct toward the southern limits of the range (Pitocchelli 1995).

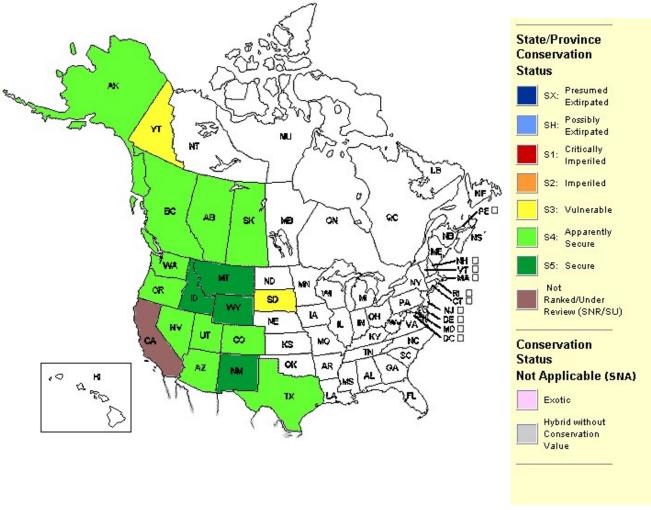
Winter range extends from southern Baja California, southern Sonora, Chihuahua, Coahuila, and Nuevo Leon south to western Panama (AOU 1998), primarily along the Pacific slope and highlands from northern Mexico through Panama, usually in central plateaus and mountain ranges (Pitocchelli 1995).

# **U.S. States and Canadian Provinces**

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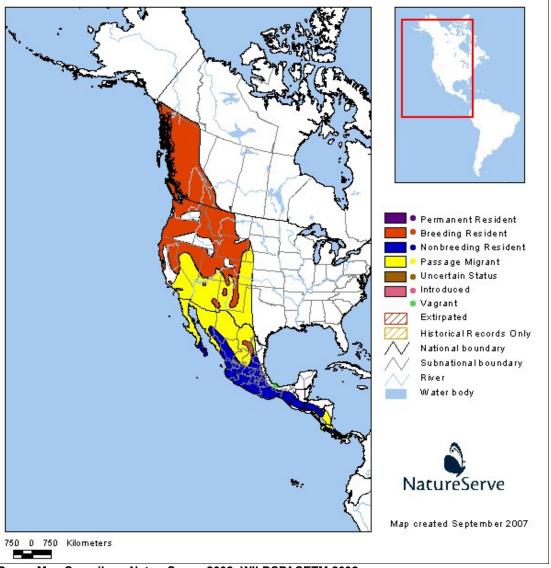


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |  |  |
|---|--|--|
| United States                             | AK, AZ, CA, CO, ID, KS, MT, NE, NM, NN, NV, OK, OR, SD, TX, UT, WA, WY |  |
| Canada                                    | AB, BC, SK, YT   |  |

# Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



| Range Map Compilers: NatureSe | erve, 2002; WILDSPACETM 2002 |
|-------------------------------|------------------------------|
|-------------------------------|------------------------------|

| U.S. [  | U.S. Distribution by County 📀   |  |  |
|---------|---|--|--|
| State   | County Name (FIPS Code)   |  |  |
| AZ      | Apache (04001), Navajo (04017)  |  |  |
|         | Ada (16001), Bannock (16005), Blaine (16013), Cassia (16031), Latah (16057), Lemhi (16059), Shoshone (16079),<br>Valley (16085) |  |  |
| * Extir | * Extirpated/possibly extirpated  |  |  |

 U.S. Distribution by Watershed ②

 Watershed Region ③
 Watershed Name (Watershed Code)

 14
 Lower San Juan-Four Corners (14080201)+, Chinle (14080204)+

 15
 Moenkopi Wash (15020018)+

 17
 Upper Coeur D'alene (17010301)+, Portneuf (17040208)+, Goose (17040211)+, Little Wood (17040221)+, Boise-Mores (17050112)+, North Fork Payette (17050123)+, Lemhi (17060204)+, Clearwater (17060306)+

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

# **Ecology & Life History**

Basic Description: A small bird (wood warbler).

**Reproduction Comments:** Courtship occurs in late April and early May (Bent 1953). Clutch size is three to six (usually four). Incubation, by female, lasts 11 days. Young are tended by both adults, leave nest when 8-9 days old.

**Ecology Comments:** Densities vary with habitat quality, elevation, season, and location (Pitocchelli 1995). Breeding densities recorded in western Oregon ranged from 0.56 birds per hectare (Morrison and Meslow 1983) to 0.73 males per hectare (Morrison 1981); in Utah, from 0.83 to 1.21 males per hectare, increasing with vegetation cover (Blakesley and Reese 1988); in Washington 0.26 birds per hectare (Miller et al. 1972, cited in Pitocchelli 1995); in Wyoming 0.16 to 0.33 territorial pairs per hectare (Finch 1989a). On wintering grounds in western Mexico, Hutto (1981) recorded 8.5 birds per hectare in evergreen forest edge, 5.6 birds per hectare in thornscrub, 5.0 birds per hectare in plantation, 2.8 birds per hectare in second growth, and 1 bird per hectare in mangrove. Territory size not reported. Site fidelity observed on breeding site in Oregon (Klimkiewicz and Futcher 1989, cited in Pitocchelli 1995) and on wintering sites in El Salvador (n = 4) and Mexico (n = 1; Loftin 1977).

This warbler is preyed on by accipiters, small mammals and snakes (Zeiner et al. 1990, cited in USDA Forest Service 1994). Females respond to intruders with distraction displays and feigning injury when near nest or fledglings (Jewett et al. 1953, cited in Pitocchelli 1995). On the Mogollon Rim, Arizona, a nest predation rate of 49 percent reported in snowmelt drainages of mixed pine-oak woodland (Martin 1993).

Non-Migrant: N

Locally Migrant: N

#### Long Distance Migrant: Y

**Mobility and Migration Comments:** Migrants arrive in southern winter range mid-September, depart by mid-May (Stiles and Skutch 1989).

#### Palustrine Habitat(s): Riparian, SCRUB-SHRUB WETLAND

**Terrestrial Habitat(s):** Forest - Conifer, Forest - Mixed, Shrubland/chaparral, Woodland - Conifer, Woodland - Mixed **Habitat Comments:** Breeding habitat consists of dense shrubby areas, such as coniferous forest undergrowth and edge, brushy hillsides, riparian thickets, and chaparral (AOU 1998), often in cut-over or burned areas. Nests are generally low, 0.6-1.5 meters above ground, in bushes, saplings, clump of ferns, etc. (Terres 1980).

In Centennial Mountains, Idaho, this species is associated with xeric willow (*Salix* sp.) communities with mixed grasses and forbs, willow-conifer habitats, and willow riparian communities (Douglas et al. 1992). In montane habitats of Colorado, it is associated with riparian aspen-willow and spruce aspen communities (Winternitz 1976). In Montana, it bred in a cottonwood (*Populus trichocarpa*)/Ponderosa Pine (*Pinus ponderosa*) riparian area with 58 percent ground cover, 61 percent bush cover, 31 percent mid-canopy cover, 36 percent bush volume, 23 percent canopy volume, 4 trees less than 10 centimeters dbh per 10 meter radius plot, and 6 shrubs per 10 meter radius plot (Mosconi and Hutto 1982). On National Forests in northern Idaho and western Montana, it was most abundant in clearcuts and riparian shrubland; followed by seed tree and shelterwood harvest units; marsh/wetland, cottonwood/aspen and spruce-fir habitats; and group-select harvest units (Hutto 1995).

In southeastern Wyoming, this warbler is narrowly associated with mid-elevation (2,290 - 2,530 meters) shrub willow and thin-leaf alder (*Alnus tenuifolia*) riparian communities. It prefers habitats with few trees (less than 10 trees per 100 square meters); dense shrub cover (mean distance to nearest shrub less than 2.0 meters); high percentage of willow species (more than 70 percent of shrubs); high foliage density of small shrubs (0.3-1 meter height interval); moist sites (more than 5.5 percent water cover); and dense grass cover (more than 65 percent cover; Finch 1989a, 1989b).

In California, breeding habitat includes seedling valley-foothill riparian, seedling and dense canopy (60-100 percent) sapling montane riparian, and seedling and dense canopy (60-100 percent) sapling aspen. Shrubs are essential for breeding, and presence of streams, bogs, wetlands, or other aquatic habitats is preferred (Timossi 1990, cited in USDA Forest Service 1994).

In migration and winter, MacGillivray's warbler occurs in open woodland undergrowth, scrubby areas, and thickets (AOU 1998). It is moderately common in undergrowth of humid to semi-arid forest and edge, river-edge, woodland edge, dense scrubby woodland and shrublands, second growth, and gardens and parks (Edwards 1972, Howell and Webb 1995). Insectivorous passerines migrating through Arizona use riparian habitats in higher densities than adjacent non-riparian habitats; they were observed in both xeric mesquite shrubland and in riparian forest with *Populus*- and *Salix*-dominated overstory (Stevens et al. 1977). Adult Food Habits: Invertivore

Immature Food Habits: Invertivore

Food Comments: This isectivorous warbler forages close to the ground in dense vegetation. It gleans foliage and branches, and probes ground litter; young may take sap from sapsucker wells in willows (USDA Forest Service 1994). Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 13 centimeters

Weight: 10 grams

**Economic Attributes** 

#### **Management Summary**

**Stewardship Overview:** Relatively common and widespread, but deserves attention for its close association with dense brush in moist woodlands, shrubby riparian habitats, and early successional stages of cut-over or burned forests. It appears to have increased and expanded in the northern parts of its range where timber harvest practices have created extensive brushy second-growth stands. However, may be of local concern in riparian habitats where willow communities and shrubby understories are degraded or eliminated, particularly in the more arid areas of its range.

**Species Impacts:** Most likely exclusively an insectivore in the breeding range; may play a positive role in control of insects in riparian and early seral forest habitats during this season, but this is unstudied.

**Restoration Potential:** A relatively common species and has apparently increased where favorable habitat has increased, such as early seral stands in northern California forests. Potential for increasing populations is high where it is possible to restore willow (SALIX sp.) and other shrubby riparian habitats.

**Preserve Selection & Design Considerations:** Much of the habitat in northern and upland forests is found on federal lands (National Forests and National Parks). There is greater concern for conservation of riparian habitats throughout the West that have undergone extensive alteration due to agriculture, water developments, grazing and urban development. Optimum patch sizes and most aspects of landscape relationships are unknown. Patch size would presumably depend on habitat quality given the species' geographic variation in density. Preference for riparian and moist brushy habitats suggest they may use riparian corridors for travel. Although use brushy ecotones, they may respond more to vegetation structure than to edge itself (USDA Forest Service 1994).

**Management Requirements:** TIMBER HARVEST: Has increased and extended its range in northern California Douglas-fir (PSEUDOTSUGA MENZIESII) forests that have undergone extensive timber harvesting, creating stands of shrubby second-growth (Morrison and Meslow 1983). This pattern likely holds for most northern conifer forests in its range (Pitocchelli 1995). Populations in forested regions will undoubtedly fluctuate and will probably increase in the short- and medium-term with trends in timber harvest practices and the availability of such brushy seral habitats. No information available on effects of timber harvesting in cottonwood (POPULUS sp.) riparian or aspen (POPULUS TREMULOIDES), but practices that reduce shrubs, seedlings, and saplings likely have adverse effects.

GRAZING: Intensive grazing that reduces or eliminates brush and shrubs, particularly in riparian habitats, is undoubtedly detrimental, but the details on response to different grazing regimes or habitat parameters is unknown. Most available studies examined only species presence/absence and lack treatment replicates, either comparing a single grazed plot with a single ungrazed plot, or comparing several plots within a single riparian zone. In cottonwood (POPULUS TRICHOCARPA) and Ponderosa pine (PINUS PONDEROSA) riparian woodland of western Montana, were absent on a heavily-grazed site but bred on a lightly-grazed site; percent ground cover, bush cover, mid-canopy cover, bush volume, canopy volume, and numbers of trees and shrubs differed significantly between the sites (Mosconi and Hutto 1982). Grazing had a negative effect on species presence in aspen communities in California and Nevada (Page et al. 1978 cited in Saab et al. 1995) and aspen (POPULUS TREMULOIDES)/willow (SALIX sp.) communities in Nevada (Medin and Clary 1991).

FIRE: No direct information is available on the effects of wildland or prescribed fire on this species. Burns that result in the regeneration of brush and deciduous saplings in forest stands and riparian habitats should be beneficial.

PESTICIDES: Cholinesterase (ChE) inhibitors (organophosphates and carbamates) used as insecticides can disrupt bird nervous systems, resulting in death. In a Montana and Oregon study, 78 percent of birds sampled (n = 14) showed a 23 percent to 51 percent depression in ChE activity in the brain when exposed to acephate insecticide (Orthene, O-methyl S-methyl N-acetylphosphoramidothioate) sprayed on forests at 1.13 kilograms per hectare. This pesticide caused a marked response in 13 other passerine species as well. No ChE response reported from MacGillivray's in plots sprayed with carbaryl or tricholorfon, though it is unclear from the data whether the species was collected on those plots (Zinkl et al. 1977). Pesticide effects on population, reproduction, development, and survival unknown.

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**Management Research Needs:** Largely unstudied and many contributions could be made to the understanding of its biology. Little is known about courtship, parental care, mate fidelity, philopatry, survivorship, migration routes, extent of wintering range, non-breeding habitat requirements and diet, or non-breeding social structure and behavior. Further information needed on relations to management practices, including logging, grazing, and activities that alter stream vegetation (such as water developments, agriculture, and housing developments). Sensitivity to different grazing regimes in various riparian and shrub habitats grazing deserves further study. Landscape relations (patch size, area sensitivity, use of corridors) unknown. More work needed on vulnerability to predation and parasitism in relation to landscape patterns. Use of stopover habitats, threats on wintering grounds unknown. Sensitivity to most pesticides and herbicides unknown.

#### **Population/Occurrence Delineation**

#### Group Name: Passerines

#### Use Class: Breeding

#### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

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Date: 10Sep2004 Author: Hammerson, G.

# Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.
Date: 03Sep2004
Author: Hammerson C

Author: Hammerson, G.

### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

#### **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).

The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

#### Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 19Mar2009

NatureServe Conservation Status Factors Author: Hammerson, G.

Management Information Edition Date: 11Mar1999

Management Information Edition Author: PAIGE, C.; REVISIONS BY M. KOENEN AND D.W. MEHLMAN

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Element Ecology & Life History Edition Date: 19Mar2009

Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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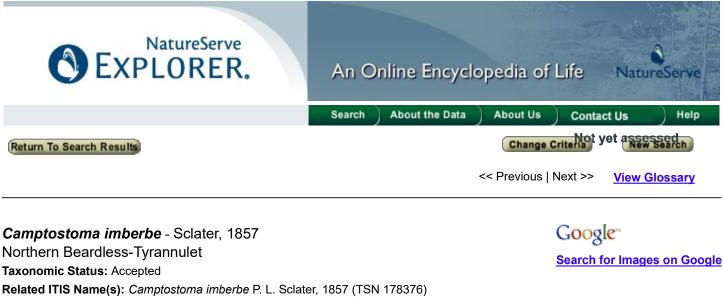
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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



French Common Names: Tyranneau imberbe

Spanish Common Names: Mosquero Lampiño

Unique Identifier: ELEMENT\_GLOBAL.2.104221

Element Code: ABPAE04010

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family     | Genus       |
|----------|----------|-------|---------------|------------|-------------|
| Animalia | Craniata | Aves  | Passeriformes | Tyrannidae | Camptostoma |

Genus Size: B - Very small genus (2-5 species)

Check this box to expand all report sections:

#### Concept Reference

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Camptostoma imberbe

**Taxonomic Comments:** This species and *C. obsoletum* are considered conspecific by some authors and constitute a superspecies (AOU 1998).

**Conservation Status** 

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 02Dec1996 Global Status Last Changed: 02Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N4 (19Mar1997)

### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

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United States

Arizona (S4), New Mexico (S1B,S1N), Texas (S3B)

### **Other Statuses**

IUCN Red List Category: LC - Least concern

### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** BREEDING: southeastern Arizona, southwestern New Mexico (Guadalupe Canyon), southern Texas, northwestern and northeastern Mexico south along both slopes of Middle America to western Nicaragua and northern Costa Rica. NON-BREEDING: northern Mexico south throughout breeding range (AOU 1983).

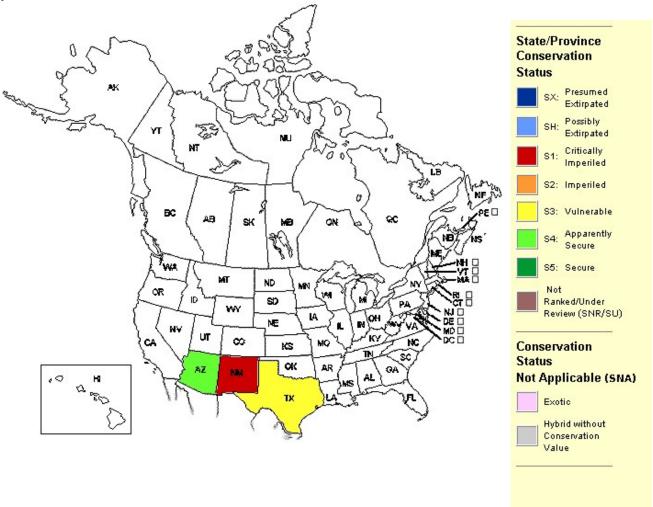
### **Other NatureServe Conservation Status Information**

#### Distribution

**Global Range:** BREEDING: southeastern Arizona, southwestern New Mexico (Guadalupe Canyon), southern Texas, northwestern and northeastern Mexico south along both slopes of Middle America to western Nicaragua and northern Costa Rica. NON-BREEDING: northern Mexico south throughout breeding range (AOU 1983).

### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.



NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for

common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State | Province Distribution |
|---------------------|-----------------------|
| United States       | AZ, NM, TX            |

### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀 |  |  |  |
|-------------------------------|--|--|--|
| State                         | County Name (FIPS Code)  |  |  |
| AZ                            | Cochise (04003), Gila (04007), Graham (04009), Pima (04019), Pinal (04021), Santa Cruz (04023) |  |  |
| NM                            | Hidalgo (35023)  |  |  |
| * Extirn                      | ated/passibly avtirpated   |  |  |

\* Extirpated/possibly extirpated

0

0

| U.S. Distribution by Watershed ②  |    |
|---|----|
| Watersalereritage record(s) exist for this watershed<br>Watershed Name (Watershed Code)<br>Regionated/possibly extirpated   |    |
| 15 Upper San Pedro (15050202)+, Lower San Pedro (15050203)+, Upper Santa Cruz (15050301)+,  |    |
| Ecology & Life History (15050302)+, Brawley Wash (15050304)+, Upper Salt (15060103)+, Rio De La   | 0  |
| Basic Description: A small bird (flycatcher).   |    |
| Reproduction Comments: Clutch size 2-3.   |    |
| Non-Migrant: Y  |    |
| Locally Migrant: Y  |    |
| Long Distance Migrant: N  |    |
| Mobility and Migration Comments: Found year-round throughout most of its range; populations at northern tip of breeding range   | ÷  |
| move south for winter.  |    |
| Palustrine Habitat(s): Riparian   |    |
| Terrestrial Habitat(s): Shrubland/chaparral, Woodland - Hardwood  |    |
| Habitat Comments: Arid scrub, thickets, mesquite, forest edge, and open riparian woodland (Tropical and Subtropical zones) (AC  | JU |
| 1983). Often near streams in sycamore, mesquite, and cottonwood groves (NGS 1983). Nests in trees, often near water. Nests in   |    |
| globular clump among mistletoe. May nest at base of palmetto fans (Terres 1980).  |    |
| Adult Food Habits: Invertivore  |    |
| Immature Food Habits: Invertivore   |    |
| Food Comments: During the summer flys out from perch and catches insects in the air. During the winter often forages by gleaning the view of the summer flys out from perch and catches insects in the air. | ıg |
| from twigs; also feeds on small berries (Terres 1980).  |    |
| Adult Phenology: Diurnal  |    |
| Immature Phenology: Diurnal   |    |
| Length: 11 centimeters  |    |
| Weight: 7 grams   |    |
| Economic Attributes   | 0  |
| Management Summary  | 0  |
| Population/Occurrence Delineation   | 0  |
|   |    |

#### Use Class: Breeding

Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the

likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids). **Date:** 10Sep2004

Author: Hammerson, G.

#### Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

Use Class: Nonbreeding Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at

a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

# Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004

Author: Hammerson, G.

# Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

### **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008). The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

### Authors/Contributors

Element Ecology & Life History Edition Date: 17Mar1994

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#### Element Ecology & Life History Author(s): HAMMERSON, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **June 10, 2018** 

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NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: June 10, 2018 ).

#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

#### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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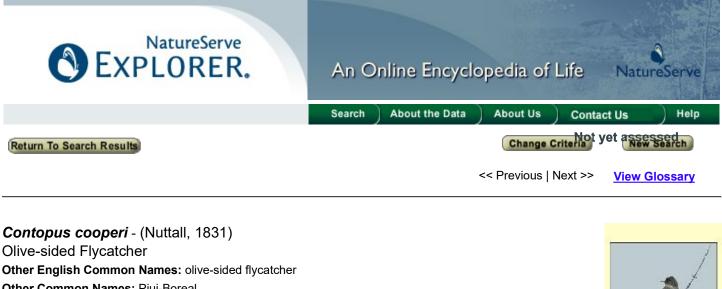
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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



Other Common Names: Piui-Boreal Synonym(s): Contopus borealis Taxonomic Status: Accepted Related ITIS Name(s): Contopus cooperi (Nuttall, 1831) (TSN 554221) French Common Names: moucherolle à côtés olive Spanish Common Names: Pibí Boreal Unique Identifier: ELEMENT\_GLOBAL.2.102228 Element Code: ABPAE32010 Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family     | Genus    |
|----------|----------|-------|---------------|------------|----------|
| Animalia | Craniata | Aves  | Passeriformes | Tyrannidae | Contopus |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Contopus cooperi

**Taxonomic Comments:** Formerly placed in monotypic genus *Nuttallornis* (AOU 1998). Formerly known as *C. borealis*, but changed to *C. cooperi* following Banks and Browning (1995) and AOU (1997).

**Conservation Status** 

### **NatureServe Status**

Global Status: G4

Global Status Last Reviewed: 07Apr2016

Global Status Last Changed: 02Nov2000

Ranking Methodology Used: Ranked by inspection

Rounded Global Status: G4 - Apparently Secure

**Reasons:** Large breeding range in wooded areas of Canada, Alaska, and the western and northeastern U.S.; still secure in many areas, but a large, significant decline (a loss of 68% from 1966-2000) has occurred in recent decades, due probably to habitat changes in the breeding range and/or in migration and wintering areas. **Nation:** United States

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National Status: N4B (28Mar2001) Nation: Canada National Status: N4B (26Sep2011)

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| United<br>States | Alabama (SNA), Alaska (S4S5B), Arizona (S4), Arkansas (SNA), California (S4), Colorado (S3S4B), Connecticut (S2B),<br>Delaware (SNA), District of Columbia (S1N), Florida (SNA), Georgia (SNRN), Idaho (S3B), Illinois (SNA), Indiana (SNA),<br>Iowa (S3N), Kansas (SNA), Kentucky (SNA), Louisiana (SNA), Maine (S4B), Maryland (SHB), Massachusetts (SHB,S2N),<br>Michigan (S4B), Minnesota (SNRB), Mississippi (SNA), Missouri (SNA), Montana (S4B), Navajo Nation (S2?B), Nebraska<br>(SNRN), Nevada (S2B), New Hampshire (S3B), New Jersey (SNA), New Mexico (S3B,S4N), New York (S3B), North Carolina<br>(SNA), North Dakota (SNA), Ohio (SH), Oklahoma (S2N), Oregon (S3B), Pennsylvania (SXB), Rhode Island (SNA), South<br>Dakota (SUB), Tennessee (S1), Texas (S3B,S4N), Utah (S3S4B), Vermont (S4B), Virginia (SHB), Washington (S3B), West<br>Virginia (S1B), Wisconsin (S2B), Wyoming (S4B) |
|------------------|--|
| Canada           | Alberta (S3), British Columbia (S3S4B), Labrador (S2S3), Manitoba (S3S4B), New Brunswick (S3S4B), Newfoundland Island<br>(S3S4B), Northwest Territories (SUB), Nova Scotia (S3B), Ontario (S4B), Prince Edward Island (S3B), Quebec (S3),<br>Saskatchewan (S4B,S4M), Yukon Territory (S2S3B)   |

#### **Other Statuses**

#### Canadian Species at Risk Act (SARA) Schedule 1/Annexe 1 Status: T (23Feb2010)

#### Committee on the Status of Endangered Wildlife in Canada (COSEWIC): Threatened (30Nov2007)

**Comments on COSEWIC:** Reason for Designation: This songbird has shown a widespread and consistent population decline over the last 30 years; the Canadian population is estimated to have declined by 79% from 1968 to 2006 and 29% from 1996-2006. The causes of this decline are uncertain.

Status History: Designated Threatened in November 2007. **IUCN Red List Category:** NT - Near threatened

### **NatureServe Global Conservation Status Factors**

### Range Extent: >2,500,000 square km (greater than 1,000,000 square miles)

**Range Extent Comments:** Breeding range extends from western, southern, and central Alaska and southern Yukon eastward to southern Labrador, south to northern Baja California, Arizona, New Mexico, the Guadalupe mountains of western Texas, and central Saskatchewan south through central Minnesota, northeastern Ohio, and Massachusetts, locally in Appalachians south to Tennessee and North Carolina (AOU 1983, Altman and Sallabanks 2000). During the northern winter, the range includes mountains of South America, mainly in the Andes from Colombia and Venezuela to southeastern Peru; in small numbers in Central America and southern Mexico (AOU 1983, Stiles and Skutch 1989); also in Amazonian and southeastern Brazil (Willis et al. 1993).

### Number of Occurrences: 81 to >300

Number of Occurrences Comments: This species is represented by a large number of occurrences.

### Population Size: 10,000 to >1,000,000 individuals

**Population Size Comments:** Total population estimated at 1,200,000, but suspected inaccurate (Rosenberg 2004a and b). Greatest densities occur in the Sierra Nevada, where 9.28 per Breeding Bird Survey (BBS) route are recorded on average (1966-2003; Sauer et al. 2004). Over the entire BBS survey area in North America, an average of 1.22 are recorded per route per year (Sauer et al. 2004).

### Overall Threat Impact: Medium

Overall Threat Impact Comments: Causes of decline are not well known.

WINTERING HABITAT AVAILABILITY: As a neotropical migrant that may spend only three to four months of the year on its North American breeding grounds, this flycatcher is at risk from deforestation on its wintering grounds in Central and South America. Forest

land in Middle America is being cleared at a high rate (Terborgh 1980). In California, Marshall (1988) found that some forest birds breeding on Redwood Mountain in Tulare County in the 1930s were no longer present in the 1980s. Although portions of virgin giant sequoia forest within Kings Canyon National Park remained, the flycatcher had disappeared. Marshall (1988) speculated that the disappearance from suitable, unchanged habitat was caused by the destruction of corresponding forests in Central America, where these birds maintain their winter territories.

NESTING HABITAT AVAILABILITY/QUALITY: Olive-sided flycatchers prefer openings with dead standing trees; these areas are naturally found near water (mountain tarns, backwaters of lakes and rivers, beaver flows), burns (both natural and those set by aboriginal peoples), and blowdowns. Many studies in western North America conclude that this species is more abundant in some types of logged forest (especially those with suitable structural features retained) than it is in unlogged stands (Altman and Sallabanks 2000). Fichtel (1985) felt that continued logging in Vermont probably created habitat by creating openings in the forest. Hall (1983) observed that recently lumbered and burned areas supported flycatchers in West Virginia. However, the continuing increase in availability of logged forest openings is at odds with the documented overall decline in numbers of this species. Perhaps logged forest, although attractive to flycatchers, is an 'ecological trap' (Altman and Sallabanks 2000) and is actually a low quality breeding habitat. This hypothesis is supported by preliminary study in western Oregon, where nest success was substantially higher in postfire habitat than it was in several types of harvested forests (Altman and Sallabanks 2000). Fire suppression throughout the breeding range undoubtedly limits the acreage of available habitat; large areas of dense, second growth forests growing up following cutting or fires are being maintained as closed canopy forests through intensive fire control. A likely threat to habitat in the southern Appalachians is acid precipitation and insect damage. A forest dominated by dead trees would not support these flycatchers (Peterson and Fichtel 1992).

OTHER FACTORS: Pesticide applications to control blackflies, mosquitoes, or injurious forest insects could have a severe local impact upon the prey base of this flycatcher, both in North America and on its wintering grounds, but this hypothesis lacks documentation. This species apparently is a rare host to the brown-headed cowbird, with just three records of cowbird parasitism (Friedmann 1963, Terres 1980).

### Short-term Trend: Decline of 10-30%

**Short-term Trend Comments:** North American Breeding Bird Survey (BBS) data indicate declines since 1966 across much of North American range; from 1966 - 2003, population has declined by -3.5% per year based on data from 776 routes (Sauer et al. 2004); significant overall decline of -3.6%/year from 1980 to 2003 (Sauer et al. 2004). Declines are relatively similar across range, although they appear to be more severe in the central and eastern regions of the continent (Sauer et al. 2000).

### Long-term Trend:

Long-term Trend Comments: Until 1986, when 20-year analyses of BBS data became available, there appeared to be no detectable decline of this bird in North America. The lack of concern expressed by experienced field observers may have resulted from difficulty in detecting population trends for a species that is locally or patchily distributed even within the center of its range, and absent from vast expanses of apparently ideal habitat. In Ontario, for example, Cheskey (1987) found little evidence to suggest that the distribution or abundance had changed significantly within the past century. Abundance estimates suggest that this bird is thinly distributed throughout its range in the province, although it can reach densities of 100 pairs per sq km in some areas (Cheskey 1987). Trends in states in the Northeastern U.S. are discussed by Peterson and Fichtel (1992).

### **Other NatureServe Conservation Status Information**

**Inventory Needs:** Further information on winter distribution is needed. The BBS is apparently the only ongoing monitoring program that begins to adequately address monitoring needs. In some states flycatchers occur on too few BBS routes to allow a meaningful assessment of state population trends. Established BBS routes not presently being run within the bird's range should be reactivated to ensure continuity in the collection of population trend data. A study might also be made on Breeding Bird Census plots where the bird is known to occur. Such an effort might allow a better understanding of any changes detected, much as Hall (1984) did with other neotropical migrants in West Virginia.

Future state Breeding Bird Atlases should be coordinated to take place simultaneously in all states and provinces, using a common block size and mapping system, and universal codes for breeding criteria. This effort should attempt to survey all blocks in each state or province. A scale of abundance for each species within every block should be employed, as was done in Ontario (Cadman et al. 1987).

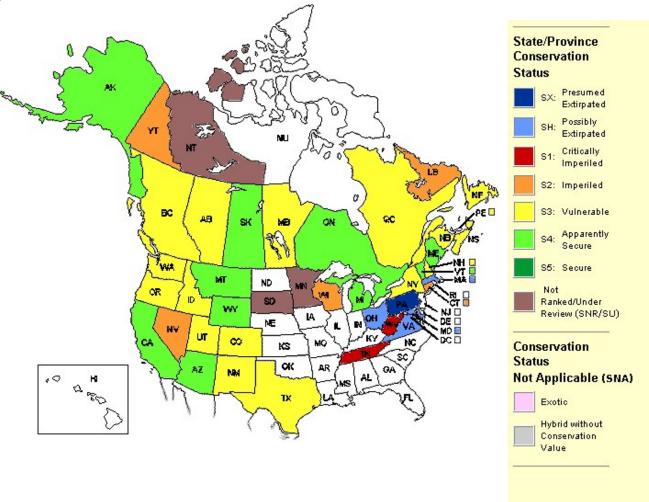
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#### Distribution

**Global Range:** (>2,500,000 square km (greater than 1,000,000 square miles)) Breeding range extends from western, southern, and central Alaska and southern Yukon eastward to southern Labrador, south to northern Baja California, Arizona, New Mexico, the Guadalupe mountains of western Texas, and central Saskatchewan south through central Minnesota, northeastern Ohio, and Massachusetts, locally in Appalachians south to Tennessee and North Carolina (AOU 1983, Altman and Sallabanks 2000). During the northern winter, the range includes mountains of South America, mainly in the Andes from Colombia and Venezuela to southeastern Peru; in small numbers in Central America and southern Mexico (AOU 1983, Stiles and Skutch 1989); also in Amazonian and southeastern Brazil (Willis et al. 1993).

### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.



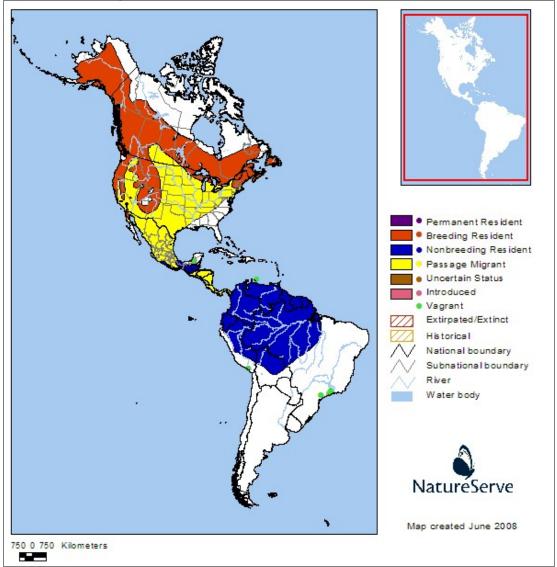
NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

#### U.S. & Canada State/Province Distribution

| United | AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, |
|--------|---|
| States | NH, NJ, NM, NN, NV, NY, OH, OK, OR, PAP, RI, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY                                 |
| Canada | AB, BC, LB, MB, NB, NF, NS, NT, ON, PE, QC, SK, YT  |

### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe 2008

| U.S.  | J.S. Distribution by County 📀<br>State County Name (FIPS Code)   |  |  |  |  |
|-------|--|--|--|--|--|
| State |  |  |  |  |  |
| AK    | Anchorage (02020), Bethel (CA) (02050), Denali (02068), Fairbanks North Star (02090), Haines (02100),<br>Juneau (02110), Kenai Peninsula (02122), Ketchikan Gateway (02130)*, Kodiak Island (02150), Lake and<br>Peninsula (02164), Matanuska-Susitna (02170), Nome (CA) (02180), North Slope (02185), Northwest<br>Arctic (02188), Prince of Wales-Outer Ketchikan (CA) (02201), Sitka (02220), Skagway-Hoonah-Angoon<br>(CA) (02232), Southeast Fairbanks (CA) (02240), Valdez-Cordova (CA) (02261), Wade Hampton (CA) (02270),<br>Wrangell-Petersburg (CA) (02280), Yakutat (02282), Yukon-Koyukuk (CA) (02290) |  |  |  |  |
| СТ    | Litchfield (09005)*  |  |  |  |  |
| ID    | Ada (16001), Cassia (16031), Latah (16057), Shoshone (16079), Valley (16085)   |  |  |  |  |
| MD    | Allegany (24001)*, Garrett (24023)*  |  |  |  |  |

| SD | Lawrence (46081)*, Pennington (46103)*  |
|----|---|
| ΤN | Sevier (47155)*   |
| WI | Ashland (55003), Bayfield (55007), Douglas (55031), Florence (55037), Iron (55051), Langlade (55067), |
|    | Taylor (55119), Vilas (55125)   |

\* Extirpated/possibly extirpated

|                       | ution by Watershed 🕐  |
|-----------------------|---|
| Watershed<br>Region 🕜 | Watershed Name (Watershed Code)   |
| )1 I                  | Farmington (01080207)+*, Housatonic (01100005)+*  |
| )2 I                  | North Branch Potomac (02070002)+*   |
| )4 I                  | Beartrap-Nemadji (04010301)+, Bad-Montreal (04010302)+, Menominee (04030108)+   |
| )5                    | Youghiogheny (05020006)+*   |
| D6 I                  | Lower French Broad (06010107)+*, Tuckasegee (06010203)+*  |
| ł                     | Namekagon (07030002)+, Upper Chippewa (07050001)+, Flambeau (07050002)+, South Fork<br>Flambeau (07050003)+, Lower Chippewa (07050005)+, Upper Wisconsin (07070001)+, Lake<br>Dubay (07070002)+   |
| 10 I                  | Rapid (10120110)+*  |
|                       | Upper Coeur D'alene (17010301)+, Raft (17040210)+, Goose (17040211)+, Upper Snake-Rock (17040212)+<br>Boise-Mores (17050112)+, North Fork Payette (17050123)+, Clearwater (17060306)+   |
|                       | Southeast Mainland (1901010)+, Ketchikan (19010102)+*, Prince of Wales (19010103)+,<br>Mainland (19010201)+, Kuiu-Kupreanof-Mitkof-Etolin-Zarembo-Wrangell Isla (19010202)+, Baranof-<br>Chichagof Islands (19010203)+, Admiralty Island (19010204)+, Lower Iskut (19010205)+, Lynn<br>Canal (19010301)+, Glacier Bay (19010302)+, Chilkat-Skagway Rivers (19010303)+, Taku<br>River (19010304)+, Yakutat Bay (19010401)+, Bering Glacier (19010402)+, Icy Strait-Chatham<br>Strait (19010500)+, Upper Copper River (19020101)+, Middle Copper River (19020102)+, Chitina<br>River (19020103)+, Lower Copper River (19020104)+, Eastern Prince William Sound (19020201)+, Western<br>Prince William Sound (19020202)+, Prince William Sound (19020203)+, Lower Kenai<br>Peninsula (19020402)+, Upper Kenai Peninsula (19020302)+, Anchorage (19020401)+,<br>Matansuka (19020402)+, Upper Susitna River (19020501)+, Chultina River (19020505)+, Redoubt-Trading<br>Bays (19020601)+, Shelikof Straight (19020702)+, Cook Inlet (19020800)+, Egegik Bay (19030203)+,<br>Naknek (19030204)+, Lake Iliamna (19030206)+, Takotna River (19030403)+, Stony River (19030405)+,<br>Middle Fork Kuskokwim River (19040103)+, Fortymile River (19040104)+, Sheenjek River (19040203)+,<br>Black River (19040204)+, Porcupine Flats (19040205)+, Grass River (19040206)+, Middle Fork-North Fork<br>Chandalar Rivers (19040301)+, Christian River (19040503)+, Ceresk (190400504)+, Salcha<br>River (19040505)+, Chena River (19040506)+, Tanana River (19040507)+, Nenana River (19040506)+,<br>Tolovana River (19040507)+, Kantishna River (19040503)+, Delta River (19040504)+, Salcha<br>River (19040505)+, Chena River (19040506)+, Tanana River (19040507)+, Nenana River (19040508)+,<br>Tolovana River (19040601)+, South Fork Koyukuk River (19040507)+, Nenana River (19040603)+, Kanuti<br>River (19040604)+, Allakaket River (19040605)+, Dulbi River (19040607)+, Konukuk Flats (19040608)+,<br>Kateel River (19040603)+, Nowita River (19040702)+, Melozina River (19040607)+, Ramparts to<br>Ruby (19040704)+, Galena (19040705)+, Anvik River (19040801)+, Upper Innoko River (19040802 |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### **Ecology & Life History**

**Basic Description:** Large flycatcher; 18-20 cm in length (Altman and Sallabanks 2000). Deep brownish olive-gray on back (darkest on crown), olive-gray sides and flanks, and white on throat, center of breast, and belly. White tuft above wing on side of rump (not always visible). Wings are dark with indistinct pale grayish wing-bars. Upper mandible is blackish and lower mandible is pale with a dark tip. Juveniles more brownish on back and buff wing-bars.

**General Description:** A rather large (18-20 cm) flycatcher, large-headed, with a proportionately short tail. Plumage is brownish-olive above (browner on juveniles) with a dull white to yellowish throat, breast, and belly. The streaked or mottled chest patches are darker. Sexes are similar, but may be separable in the hand by wing chord length, 96-109 mm (females) and 103-117 mm (males) (Pyle et al.

1987).

The juvenal plumage, "...essentially like the adult in color pattern, but darker above and brighter below" (Bent 1942), is acquired by a complete postnatal molt. Banders recognize a combination juvenal/hatching year plumage from June to November with "upperparts dark brown; wing bars distinct, brownish-buffy or brownish-white; [and] flight feathers relatively fresh" (Pyle et al. 1987).

An after-hatching-year plumage between January and October consists of grayish-olive upperparts, indistinct, pale grayish-olive wing bars, and worn flight feathers. From April to August, breeding males have a cloacal protuberance, and breeding females have a brood patch (Pyle et al. 1987).

EGGS: creamy white, buff, or pink, and lightly wreathed on the broad end with brown or gray blotches (Harrison 1978).

NEST: a loosely formed cup of twigs and grasses, sometimes comprised of lichens of the genus USNEA, and lined with finer plant materials and hair.

VOCALIZATIONS: The song is a loud, ringing whistle, rather easily imitated, delivered by the male generally from the top of an upright dead snag or living tree (balsam fir (*Abies balsamea*), spruce (*Picea* spp.), tamarack (*Larix laricina*), or other pointed tree), often the tallest in the area. Most observers use the mnemonic "quick-three-beers" of (Peterson 1980) to recall the song. The song is often heard as a foreshortened "free beer." The call is a trebled "pip-pip-pip" (Peterson 1980). Oologist V. Burtch told Bent (1942) that these notes "...seemed to be made mostly by the female in the vicinity of the nest and that all the nests he found were located after hearing these notes."

Head (1903) described another vocalization as being "more like a twitter, and was uttered during excitement, chiefly when the young were learning to fly. It sounded like 'why, why,' repeated very rapidly a number of times. Sometimes this note was given as a prelude to the real song." Bent (1942) also describes a two-syllabled song, similar to the eastern wood-pewee's [*Contopus sordidulus*] in quality: "The notes may be whistled as `too-wee' in ascending pitch, slightly suggesting the [rufous-sided] towhee's [*Pipilo erythrophthalmus*] notes."

**Diagnostic Characteristics:** In the hand, can be separated from the wood-pewees (*Contopus sordidulus* and *C. virens*) by the longer (96-117 mm) wing, and from Greater Pewee (*C. pertinax*) by plumage, tail length (63-74 mm), and by the horn-colored to blackish lower mandible.

**Reproduction Comments:** Courtship includes territorial fights between males, and males pursuing females across the canopies of coniferous forests. Courtship continues for at least two weeks until nest sites are chosen and pairing is completed (Bent 1942).

Reported egg dates include the following (see Wright 199, Altman 1999): late May to early July in California; late May through late July in northwestern Oregon; early June to mid-July in western Washington; late May through mid-July in British Columbia; mid-June through mid-July in Colorado; early June through early July in Massachusetts; mid-June through late July in Maine; early to late June in Ontario and New York; mid-June through early July in Nova Scotia. In central Alaska, first clutches were initiated from late May through mid-June.

Clutch size is usually 3-4. Incubation, by the female, lasts 14-19 days. Young leave the nest 15-23 days after hatching. Most fledging occurs in early to mid July, though young from renesting efforts may fledge late in July. In New York State records of unfledged juveniles on 22 June and fledglings from 10-24 July, and in Oregon most young fledged in 19-21 days (Altman 1999). In Alaska fledging recorded at 19-20 days after hatching of first egg for 2 nests (Wright 1997). Fledglings depend on parents for up to about a week after leaving the nest.

Renesting following loss of first clutch is common, second clutches may be smaller, three or even two eggs.

**Ecology Comments:** Considered an indicator species of the coniferous forest biome throughout North America, although occasionally found in mixed deciduous/coniferous forests. Usually territorial in non-breeding areas (Stiles and Skutch 1989) and may display strong year-to-year site fidelity on breeding (Wright 1997) and wintering grounds (Marshall 1988, Altman 1997). In a study of 16 insectivorous, aerially-foraging neotropical flycatcher species, including the olive-sided flycatcher, that are seasonally sympatric in the humid Caribbean lowlands of Costa Rica, Sherry (1984) found that migrants are more opportunistic while wintering than the syntopic year-round residents.

Non-Migrant: N Locally Migrant: N

Long Distance Migrant: Y

**Mobility and Migration Comments:** Olive-sided flycatchers make the longest migrations of any flycatcher nesting in North America. They arrive in nesting areas usually in May (or sometimes as late as early June). Spring arrivals appear during the second and third weeks of May in Vermont (Fichtel 1985) and even into June in neighboring New York (Bull 1974, Peterson 1988). Most depart the northeastern United States by mid-September. They are present in Alaska from the middle of May to early September (Kessel and Gibson 1978); mean arrival date for males in Fairbanks for 1995 and 1996 was 24-26 May (range 11 May-8 June), with females arriving 7-9 days later (range 22 May - 10 June; Wright 1997).

Migrants move regularly through most of the western U.S. and Middle America, less commonly in the eastern U.S., casually along the southern Atlantic coast and in peninsular Florida (AOU 1983), although Duncan (1988) found this species to be a rare, but regular, fall migrant in extreme northwest Florida. Possibly because of their dependence upon flying insects as prey, these birds arrive rather late on their breeding grounds from South America.

Migrants move through Costa Rica late August-late October and mid-March to early June (Stiles and Skutch 1989). Individuals often return to the same wintering area in successive years.

Palustrine Habitat(s): Bog/fen, FORESTED WETLAND, Riparian

Terrestrial Habitat(s): Forest - Conifer, Forest - Hardwood, Forest - Mixed, Woodland - Conifer, Woodland - Hardwood, Woodland - Mixed

**Habitat Comments:** BRIEF SUMMARY: Olive-sided flycatchers breed in various forest and woodland habitats: taiga, subalpine coniferous forest, mixed coniferous-deciduous forest, burned-over forest, spruce or tamarack bogs and other forested wetlands, and along the forested edges of lakes, ponds, and streams Most nesting sites contain dead standing trees, which are used as singing and feeding perches. Nests are placed most often in conifers, on horizontal limbs 2-15 meters from the ground. During the northern winter, this species occurs in a variety of forest, woodland, and open situations with scattered trees, especially where tall dead snags are present.

BREEDING: in forest and woodland, especially in burned-over areas with standing dead trees, in taiga, subalpine coniferous forest and mixed coniferous-deciduous forest (AOU 1983). In Ontario, they nest in spruce or tamarack bogs, along the forested edges of beaver (*Castor canadensis*) ponds and rivers, and in burned-over forests (Cheskey 1987). In New York, however, where forest fires have been suppressed for much of this century, they favor small bog ponds and quaking bogs, swampy edges of lakes, marshy streams, backwaters of rivers, and beaver meadows. Most nesting sites contain dead standing trees, which are used as singing and feeding perches, and are bordered by forest (Peterson 1988). Birds also use small mountaintop ponds. Forests surrounding these sites are usually coniferous or mixed with deciduous trees. Black spruce (*Picea mariana*) is frequently mentioned as occurring at northern sites, and red spruce (*P. rubens*) at sites farther south, along with balsam fir, tamarack, and eastern hemlock (*Tsuga canadensis*) (Peterson 1988).

Forbush (1927) and Griscom and Snyder (1955) mentioned that in southern New England, pitch pine (*Pinus rigida*) habitats, including pine barrens, are preferred for nesting. Nesting occurs in swamps and open woods or small clearings where fire, flooding or timber harvesting have left standing dead trees (Forbush 1927). High elevation spruce-fir forests are used in the mountains of Virginia and North Carolina (Bailey 1913, Potter et al. 1980).

Nests are placed most often in conifers (Harrison 1978, 1979), on horizontal limbs from two to 15 m from the ground (Harrison 1979, Peck and James 1987). In Ontario, nests were found in black and white spruce (*Picea glauca*) (14 nests), jack pine (*Pinus banksiana*) (two nests), and balsam fir (one nest) (Peck and James 1987). Adirondack nests were built on an outer branch from 7.6-13.7 m high in balsam fir or spruce (Peterson 1988). Even though the nest is bulky, it is well concealed and rather difficult to find.

NON-BREEDING: Includes a variety of forest, woodland, and open situations with scattered trees, especially where tall dead snags are present (AOU 1983). Primary habitat is mature, evergreen montane forest (Altman 1997). Migrants in Costa Rica occur almost anywhere, in exposed snags and open branches; in winter mostly around edges and clearings, or broken canopy of highland forest and semi-open areas (Stiles and Skutch 1989).

Adult Food Habits: Invertivore

### Immature Food Habits: Invertivore

**Food Comments:** Forages primarily by hovering or sallying forth, concentrating on prey available via aerial attack. Generally launches these aerial attacks from a high, exposed perch atop a tree or snag. Like others in the flycatching guild, this bird is a passive searcher, looking for easy to find prey, but is also an active pursuer, attacking prey difficult to capture (Eckhardt 1979, Terres 1980). The diet is made up almost entirely of flying insects, and this bird has a special fondness for wild honeybees and other Hymenoptera (Beal 1912, Forbush 1927, Bent 1942, Terres 1980). During breeding season in Central Alaska, most frequently preyed upon yellow-jacket wasps (*Vespulla* spp) and dragonflies (Odonata, *Sympetrum* spp and others) (Wright in Altman and Sallabanks 2000).

Immature Phenology: Diurnal Length: 19 centimeters Weight: 32 grams

**Economic Attributes** 

#### **Management Summary**

**Stewardship Overview:** Nests along the edges of lakes, rivers, and beaver meadows and in open forest sites that have been cleared or burned. In northern New England and the mountains of Virginia and North Carolina, they nest in coniferous sites of spruce, fir, and hemlock, mixed with deciduous trees, while in southern New England, they nest in pine habitats. Snags are an important habitat component used for singing and feeding perches, from which they forage for insects. BBS routes since 1966 have indicated a significant annual decline of 2.6% in the eastern U.S., and approaching 6.1% across the entire North American range. Reforestation and suppression of forest fires in northern New England and loss of habitat to suburban sprawl in the Northeast are possible causes for the decline, although habitat disruption along migration routes and on their wintering grounds in the mountains of Central and South America could contribute significantly to population declines. Further information is needed on the status of wintering populations and habitat. Known breeding areas in the Northeast should be managed by selective patch cutting or burning and also by retaining standing dead trees.

**Restoration Potential:** The potential for restoration of peripheral populations in urban, coastal and southern portions of its range is unknown, but may be worthy of investigation. Restoration efforts might include habitat manipulation, such as selective use of small patch clearcuts or wildfire, beaver restoration or flooding or girdling of trees where there were once historic populations or where vestigial populations remain. Retention of snags should be a consideration during timber harvesting operations in known inhabited areas. Recovery of beaver populations in the Northeast has provided breeding habitat via the creation of forest openings and greater amounts of pond shore habitat with tall, standing dead trees. Provided that beaver populations do not plummet as they once did, these habitats should persist. The potential for recovery of the population in the Northeast, assuming that declines are real, is less certain, since the real problem of breeding numbers may lie in the deforestation of the American tropics. Without addressing the problems on the wintering grounds, any recovery efforts directed solely at the breeding grounds may be too narrow to succeed (Peterson and Fichtel 1992). **Preserve Selection & Design Considerations:** Large blocks of montane spruce-fir or lowland boreal forest habitat will be necessary to ensure breeding habitat. At least 20 ha may be necessary to sustain a single territorial pair. Natural processes (e.g., fire and creation of

beaver impoundments) and management (e.g., small patch clearcuts) are important for maintenance of proper breeding habitat. Public ownership of these lands, or conservation easements or management agreements to protect suitable forest habitats will be necessary (Peterson and Fichtel 1992).

**Management Requirements:** In the northeastern U.S., known breeding areas should be managed by selective patch cutting or burning and also by retaining standing dead trees; maintaining beaver populations should result in the creation of favorable habitat conditions (Peterson and Fichtel 1992). In western North America, silvicultural practices should probably mimic natural disturbances; examples include clearcuts that leave snags and trees and selection cuts. After a fire, some standing, dead trees should be retained or some areas should be left unsalvaged. Trees to be retained should have varying heights, with some at or above the canopy of the surrounding forest (Altman 1997).

**Monitoring Requirements:** The BBS is apparently the only ongoing monitoring program that begins to adequately address monitoring needs. In some states flycatchers occur on too few BBS routes to allow a meaningful assessment of state population trends. Established BBS routes not presently being run within the bird's range should be reactivated to ensure continuity in the collection of population trend data. A study might also be made on Breeding Bird Census plots where the bird is known to occur. Such an effort might allow a better understanding of any changes detected, much as Hall (1984) did with other neotropical migrants in West Virginia.

**Management Research Needs:** Even in Canada, where the flycatcher is considered widespread or fairly common, its distribution can be quite thin or widely scattered (Peterson and Fichtel 1992). The reason for the sparse occurrence in the far north is unknown, but lack of preferred prey, climate, or ancestral ranges may be factors. Whatever the cause, the limiting factor for the presence in the far north

does not appear to be lack, loss, or destruction of habitat, although hydroelectric projects pose a possible danger. A better understanding of both the ultimate and proximate factors affecting habitat selection is needed. Site specific studies involving banding/color banding of individual birds are needed to gain information on movements, longevity, causes of mortality, and other aspects of the natural history.

A standardized wintering bird census network, which will cover a variety of habitats, elevations and disturbance regimes throughout Central and South America and the Caribbean, is urgently needed. Although the flycatcher is known to winter over a wide area, census work could clarify whether the majority of the wintering population is concentrated in a particular region. Banding studies are necessary to reveal where specific breeding populations winter. Studies of winter habitat preferences should be undertaken to identify what management approaches are necessary to sustain populations on the wintering grounds.

Future state Breeding Bird Atlases should be coordinated to take place simultaneously in all states and provinces, using a common block size and mapping system, and universal codes for breeding criteria. This effort should attempt to survey all blocks in each state or province. A scale of abundance for each species within every block should be employed, as was done in Ontario (Cadman et al. 1987). **Biological Research Needs:** Even in Canada, where this species is considered widespread or fairly common, its distribution can be quite thin or widely scattered (Peterson and Fichtel 1992). The reason for the sparse occurrence in the far north is unknown. Whatever the cause, the limiting factor for the presence in the far north does not appear to be lack, loss, or destruction of habitat, although hydroelectric projects pose a possible danger. A better understanding of both the ultimate and proximate factors affecting habitat selection is needed. Site specific studies involving banding/color banding of individual birds are needed to gain information on movements, longevity, causes of mortality, and other aspects of the natural history.

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### **Population/Occurrence Delineation**

Group Name: Passerines

### Use Class: Breeding

### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004 Author: Hammerson, G.

#### Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during

migration should be documented under the 'migratory stopover' location use class.

# Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004

Author: Hammerson, G.

### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

### **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

### Authors/Contributors

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Version 7.1 (2 February 2009) Data last updated: November 2016



Pacific Wren Other English Common Names: Pacific wren Taxonomic Status: Accepted French Common Names: Troglodyte de Baird Unique Identifier: ELEMENT\_GLOBAL.2.866836 Element Code: ABPBG09090 Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

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| Kingdom  | Phylum   | Class | Order         | Family        | Genus       |
|----------|----------|-------|---------------|---------------|-------------|
| Animalia | Craniata | Aves  | Passeriformes | Troglodytidae | Troglodytes |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections:

#### **Concept Reference**

Concept Reference: American Ornithologists' Union (AOU). Chesser, R.T., R.C. Banks, F.K. Barker, C. Cicero, J.L. Dunn, A.W. Kratter, I.J. Lovette, P.C. Rasmussen, J.V. Remsen, Jr., J.D. Rising, D.F. Stotz, and K. Winker. 2010. Fifty-first supplement to the American Ornithologists' Union Check-list of North American Birds. The Auk 127(3):726-744.

Concept Reference Code: A10AOU01EHUS

Name Used in Concept Reference: Troglodytes pacificus

Taxonomic Comments: Troglodytes pacificus was formerly included in T. troglodytes (Linnaeus 1758) [Eurasian Wren], but here considered specifically distinct on the basis of differences in vocalizations (Kroodsma 1980, Hejl et al. 2002) and mitochondrial DNA (Drovetski et al. 2004) (AOU 2010).

#### **Conservation Status**

### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 10Apr2016 Global Status Last Changed: 03Dec1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure Nation: United States National Status: NNR Nation: Canada National Status: NNR

U.S. & Canada State/Province Status

1 of 8

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| Inited States | Alaska (S5), Arizona (S1B,S2N), California (SNR), Idaho (S5), Montana (S3), Nevada (S1), New Mexico (S3N),<br>Oregon (S4), Utah (S3N), Washington (S5) |
|---------------|--|
| Canada        | Alberta (SNR), British Columbia (S5B), Yukon Territory (SNA)   |

### **Other Statuses**

IUCN Red List Category: LC - Least concern

### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** Breeds from the Alaska Pacific coast (from the Aleutians east, including the Pribilof Islands) and coastal and central British Columbia (including Queen Charlotte and Vancouver islands) south to central California (San Luis Obispo County, and the western slope of the central Sierra Nevada), northeastern Oregon, central Idaho, northern Utah, western Montana, and southwestern Alberta. Reports of singing birds in northern Arizona, northern New Mexico, and the Rocky Mountains of Colorado are presumed to refer to this species, but confirmation is required.

Winters in breeding area and south to southern California, southern Arizona, and southern New Mexico (rare). Sight reports from Sonora probably represent *pacificus* rather than *hiemalis*, but confirmation is required.

Accidental in northern Alaska (Point Barrow).

### **Other NatureServe Conservation Status Information**

#### Distribution

**Global Range:** Breeds from the Alaska Pacific coast (from the Aleutians east, including the Pribilof Islands) and coastal and central British Columbia (including Queen Charlotte and Vancouver islands) south to central California (San Luis Obispo County, and the western slope of the central Sierra Nevada), northeastern Oregon, central Idaho, northern Utah, western Montana, and southwestern Alberta. Reports of singing birds in northern Arizona, northern New Mexico, and the Rocky Mountains of Colorado are presumed to refer to this species, but confirmation is required.

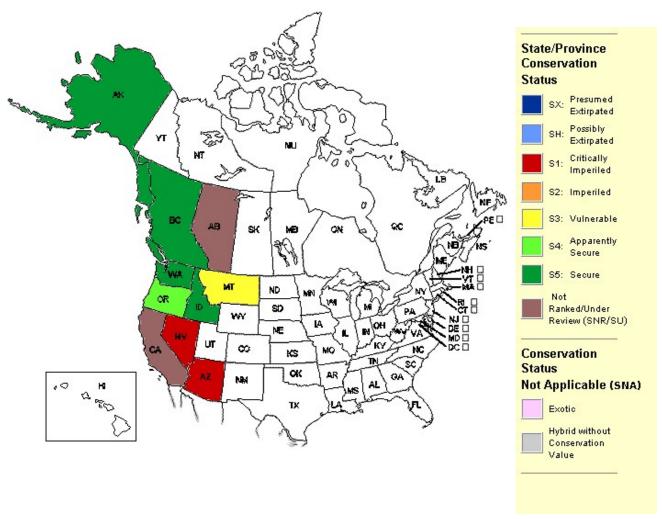
Winters in breeding area and south to southern California, southern Arizona, and southern New Mexico (rare). Sight reports from Sonora probably represent *pacificus* rather than *hiemalis*, but confirmation is required.

Accidental in northern Alaska (Point Barrow).

### **U.S. States and Canadian Provinces**

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NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |  |  |
|---|--|--|
| United States                             | AK, AZ, CA, ID, MT, NM, NV, OR, UT, WA |  |
| Canada                                    | AB, BC, YT                             |  |

## Range Map

No map available.

| U.S. I | U.S. Distribution by County 📀   |  |  |
|--------|---|--|--|
| State  | State County Name (FIPS Code)   |  |  |
| AK     | Kodiak Island (02150)   |  |  |
| ID     | Cassia (16031), Franklin (16041), Latah (16057), Shoshone (16079)   |  |  |
| MT     | Beaverhead (30001), Broadwater (30007), Fergus (30027), Flathead (30029), Gallatin (30031), Glacier (30035),      |  |  |
|        | Granite (30039), Jefferson (30043), Judith Basin (30045), Lake (30047), Lewis and Clark (30049), Lincoln (30053), |  |  |
|        | Madison (30057), Meagher (30059), Mineral (30061), Missoula (30063), Park (30067), Powell (30077),                |  |  |
|        | Ravalli (30081), Sanders (30089), Sweet Grass (30097), Teton (30099)  |  |  |

\* Extirpated/possibly extirpated

| U.S. Distribu         | ution by Watershed 📀  |
|-----------------------|---|
| Watershed<br>Region 🕜 | Watershed Name (Watershed Code)   |
| 09                    | St. Marys (09040001)+, Belly (09040002)+  |
| 10                    | Ruby (10020003)+, Big Hole (10020004)+, Boulder (10020006)+, Gallatin (10020008)+, Upper<br>Missouri (10030101)+, Smith (10030103)+, Sun (10030104)+, Belt (10030105)+, Two<br>Medicine (10030201)+, Cut Bank (10030202)+, Teton (10030205)+, Judith (10040103)+,<br>Flatwillow (10040203)+, Upper Yellowstone (10070002)+  |
| 16                    | Middle Bear (16010202)+   |
| 17                    | Upper Kootenai (17010101)+, Fisher (17010102)+, Yaak (17010103)+, Lower Kootenai (17010104)+,<br>Moyie (17010105)+, Elk (17010106)+, Upper Clark Fork (17010201)+, Flint-Rock (17010202)+,<br>Blackfoot (17010203)+, Middle Clark Fork (17010204)+, Bitterroot (17010205)+, North Fork<br>Flathead (17010206)+, Middle Fork Flathead (17010207)+, Flathead Lake (17010208)+, South Fork<br>Flathead (17010209)+, Stillwater (17010210)+, Swan (17010211)+, Lower Flathead (17010212)+, Lower<br>Clark Fork (17010213)+, Upper Coeur D'alene (17010301)+, Upper Snake-Rock (17040212)+,<br>Lochsa (17060303)+, Clearwater (17060306)+, Upper North Fork Clearwater (17060307)+ |
| 19                    | Kodiak-Afognak Islands (19020701)+  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### **Ecology & Life History**

**Economic Attributes** 

**Management Summary** 

#### **Population/Occurrence Delineation**

Group Name: Passerines

#### Use Class: Breeding

#### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study,

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Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids). **Date:** 10Sep2004

Author: Hammerson, G.

#### Use Class: Migratory stopover

#### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

## Separation Distance for Unsuitable Habitat: 5 km Separation Distance for Suitable Habitat: 5 km

Separation Justification: Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need

for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004 **Author:** Hammerson, G.

#### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

#### Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

### **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).

The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

### Authors/Contributors

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

#### References

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- American Ornithologists' Union (AOU). 2010. Fifty-first Supplement to the American Ornithologists' Union Check-list of North American Birds. The Auk 127(3):726-744.
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**Citation for data on website including State Distribution, Watershed, and Reptile Range maps:** NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

## Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

## Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

## Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

## Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

Full metadata for the Mammal Range Maps of North America is available at: <a href="http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf">http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf</a>.

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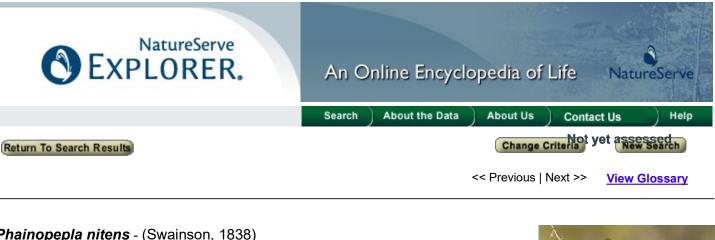
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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



Phainopepla nitens - (Swainson, 1838)
Phainopepla
Taxonomic Status: Accepted
Related ITIS Name(s): Phainopepla nitens (Swainson, 1838) (TSN 179877)
French Common Names: Phénopèple luisant
Spanish Common Names: Capulinero Negro
Unique Identifier: ELEMENT\_GLOBAL.2.104859
Element Code: ABPBP03010
Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds



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| Kingdom  | Phylum   | Class | Order         | Family         | Genus       |
|----------|----------|-------|---------------|----------------|-------------|
| Animalia | Craniata | Aves  | Passeriformes | Ptilogonatidae | Phainopepla |

Genus Size: A - Monotypic genus

Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Phainopepla nitens

**Conservation Status** 

## **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 09Apr2016 Global Status Last Changed: 03Dec1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure Nation: United States National Status: N5 (19Mar1997)

## U.S. & Canada State/Province Status

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United States Arizona (S5), California (SNR), Navajo Nation (S1B), Nevada (S2B), New Mexico (S4B,S4N), Texas (S4B), Utah (S1)

# **Other Statuses**

IUCN Red List Category: LC - Least concern

# NatureServe Global Conservation Status Factors

**Range Extent Comments:** BREEDS: central California, southern Nevada, southern Utah, southern New Mexico, and western Texas south to southern Baja California and central mainland of Mexico. WINTERS: southern California, southern Nevada, central Arizona, southern New Mexico, western and southern Texas south to northwestern Oaxaca, Pueblo and west-central Veracruz, Mexico (AOU 1983).

# Other NatureServe Conservation Status Information

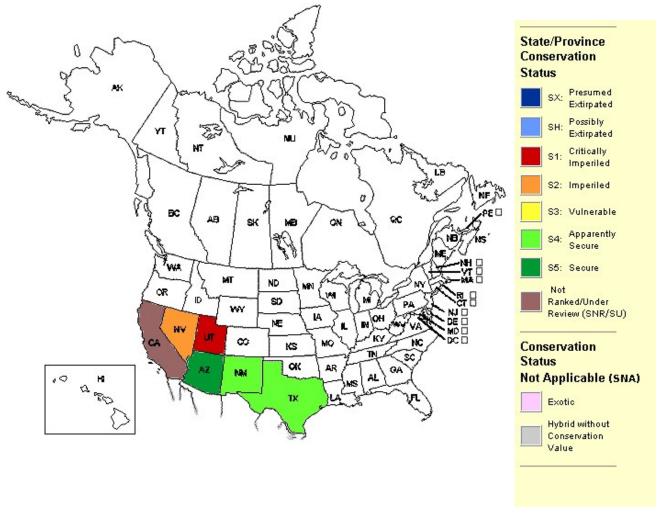
# Distribution

**Global Range:** BREEDS: central California, southern Nevada, southern Utah, southern New Mexico, and western Texas south to southern Baja California and central mainland of Mexico. WINTERS: southern California, southern Nevada, central Arizona, southern New Mexico, western and southern Texas south to northwestern Oaxaca, Pueblo and west-central Veracruz, Mexico (AOU 1983).

# **U.S. States and Canadian Provinces**

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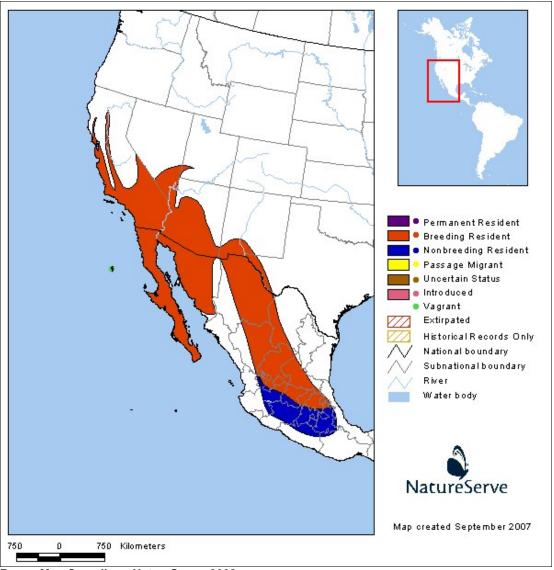


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distributio |               |                            |
|--|---------------|----------------------------|
|  | United States | AZ, CA, NM, NN, NV, TX, UT |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀               |  |
|---|--|
| State County Name (FIPS Code)               |  |
| Coconino (04005), Navajo (04017)            |  |
| Clark (32003), Lincoln (32017), Nye (32023) |  |
| JT Kane (49025)*, Washington (49053)        |  |
| _   |  |

Extirpated/possibly extirpated

| U.S. Distribu         | ition by Watershed 🕜   |
|-----------------------|--|
| Watershed<br>Region ⊘ | Watershed Name (Watershed Code)  |
| 14                    | Lower Lake Powell (14070006)+*   |
| 15                    | Kanab (15010003)+*, Lake Mead (15010005)+*, Grand Wash (15010006)+, Upper Virgin (15010008)+,<br>Fort Pierce Wash (15010009)+, Lower Virgin (15010010)+*, White (15010011)+*, Muddy (15010012)+,<br>Meadow Valley Wash (15010013)+, Las Vegas Wash (15010015)+, Middle Little Colorado (15020008)+,<br>Corn-Oraibi (15020012)+, Polacca Wash (15020013)+, Jadito Wash (15020014)+, Canyon<br>Diablo (15020015)+, Havasu-Mohave Lakes (15030101)+, Piute Wash (15030102)+ |
| 16                    | Sand Spring-Tikaboo Valleys (16060014)+, Ivanpah-Pahrump Valleys (16060015)+   |
| 18                    | Upper Amargosa (18090202)+   |

+ Natural heritage record(s) exist for this watershed
\* Extirpated/possibly extirpated

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## Ecology & Life History

**Reproduction Comments:** Breeds March-April in Colorado Desert, late May-July in coastal oak and riparian woodlands; 1-3 broods/year. Usually 2-3 eggs are incubated by both sexes (possibly mainly by male) for 14-15 days. Young are tended by both sexes, leave nest in 18 days.

**Ecology Comments:** Travels in small flocks, except when nesting. Average territory size is 0.4 ha in desert, 0.03 ha in woodlands (Walsberg 1977).

Non-Migrant: Y

Locally Migrant: Y

Long Distance Migrant: Y

**Mobility and Migration Comments:** Population in northern part of range migrates southward for winter. In California some birds that breed in desert in March-April migrate in April-May to wetter coastal areas and breed again late May-July (Walsberg 1977). Resident in Sonoran Desert October-April; occupies semiarid habitats to north, east, and west of Sornoran Desert late spring through fall. **Palustrine Habitat(s):** Riparian

Terrestrial Habitat(s): Desert, Shrubland/chaparral, Woodland - Hardwood, Woodland - Mixed

**Habitat Comments:** Desert scrub, mesquite, juniper and oak woodland, tall brush, riparian woodland and orchards (Tropical to Temperate zones) (AOU 1983). Nests in trees or shrubs from 1-15 m above ground. Nest built mostly by male. **Adult Food Habits:** Frugivore, Invertivore

Immature Food Habits: Frugivore, Invertivore

Food Comments: Feeds on berries of mistletoe (espec. in desert), juniper, elder, and buckthorn. Also eats many insects.

Adult Phenology: Diurnal

Immature Phenology: Diurnal

Length: 20 centimeters

Weight: 24 grams

**Economic Attributes** 

**Management Summary** 

**Population/Occurrence Delineation** 

Group Name: Passerines

#### Use Class: Breeding

Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004 Author: Hammerson, G.

### Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during

migration should be documented under the 'migratory stopover' location use class.

# Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004

Author: Hammerson, G.

## Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

Separation Barriers: None.

## Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

## **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u> <u>Key for Ranking Species Element Occurrences Using the Generic Approach (2008).</u>

U.S. Invasive Species Impact Rank (I-Rank)

## Authors/Contributors

Element Ecology & Life History Edition Date: 09May1988 Element Ecology & Life History Author(s): Hammerson, G.  $\bigcirc$ 

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Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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#### **Use Guidelines and Citation**

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**.

#### Note: This report was printed on March 26, 2018

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**Citation for data on website including State Distribution, Watershed, and Reptile Range maps:** NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018 ).

#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Mammal Range Maps of North America:

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#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

#### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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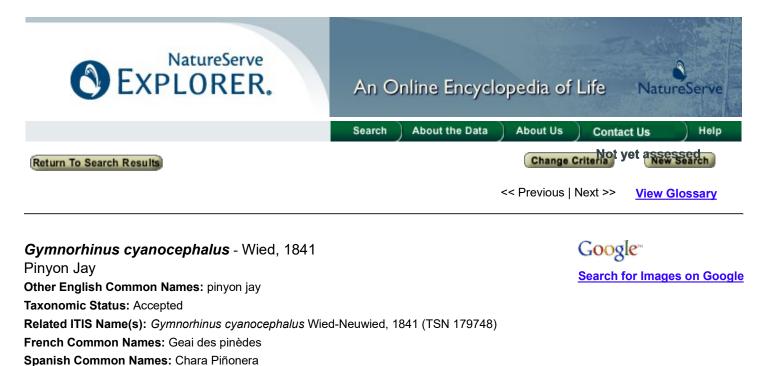
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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



Unique Identifier: ELEMENT\_GLOBAL.2.101291

Element Code: ABPAV07010

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family   | Genus       |
|----------|----------|-------|---------------|----------|-------------|
| Animalia | Craniata | Aves  | Passeriformes | Corvidae | Gymnorhinus |

Genus Size: A - Monotypic genus

Check this box to expand all report sections: ☑

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Gymnorhinus cyanocephalus

**Conservation Status** 

## **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 02Dec1996 Global Status Last Changed: 02Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N5 (05Jan1997) Nation: Canada National Status: NH (20Nov2000)

## U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your

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jurisdiction to obtain the most current data. Please refer to our Distribution Data Sources to find contact information for your jurisdiction.

| States | Arizona (S5), California (SNR), Colorado (S5), Idaho (S1), Montana (S3), Navajo Nation (S5), Nebraska (S3), Nevada (S3S4), New Mexico (S3B,S3N), Oklahoma (S2), Oregon (S3S4), South Dakota (S4B,S4N), Texas (SNA), Utah (S4), Washington (SNA), Wyoming (S5B,S5N) |
|--------|--|
|--------|--|

## **Other Statuses**

IUCN Red List Category: VU - Vulnerable

### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** Resident: central Oregon, east-central Montana, western South Dakota, south to northern Baja California, Nevada, Arizona, New Mexico, and western Oklahoma. Occurs irregularly to southern Washington, northern Idaho, southwestern Saskatchewan, throughout Great Basin, Nebraska, Kansas, central Texas, and northern mainland of Mexico (Terres 1980).

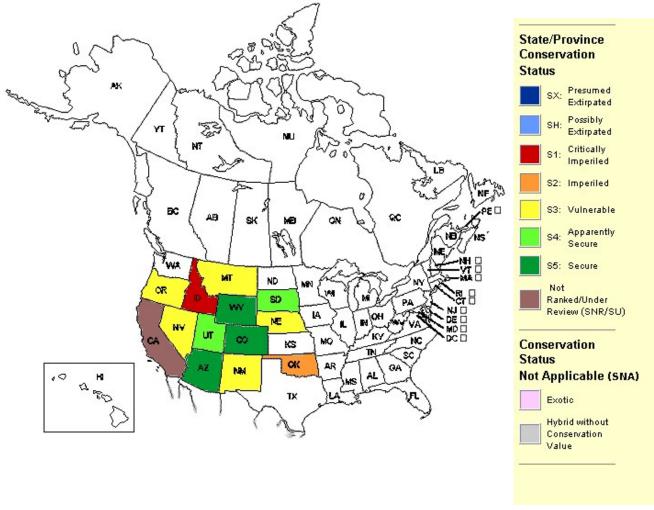
### **Other NatureServe Conservation Status Information**

#### Distribution

**Global Range:** Resident: central Oregon, east-central Montana, western South Dakota, south to northern Baja California, Nevada, Arizona, New Mexico, and western Oklahoma. Occurs irregularly to southern Washington, northern Idaho, southwestern Saskatchewan, throughout Great Basin, Nebraska, Kansas, central Texas, and northern mainland of Mexico (Terres 1980).

## **U.S. States and Canadian Provinces**

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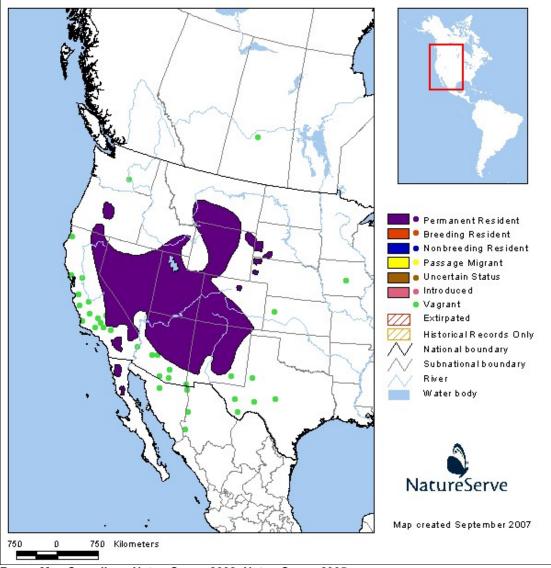


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |  |  |  |
|---|--|--|--|
| United States                             | AZ, CA, CO, ID, MT, NE, NM, NN, NV, OK, OR, SD, TX, UT, WA, WY |  |  |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002; NatureServe, 2005

## U.S. Distribution by County 🕝

| State   | County Name (FIPS Code)   |
|---------|---|
| ID      | Bannock (16005), Cassia (16031), Oneida (16071), Power (16077)  |
|         | Big Horn (30003), Blaine (30005), Broadwater (30007), Carbon (30009), Carter (30011), Chouteau (30015),<br>Custer (30017), Fergus (30027), Gallatin (30031), Garfield (30033), Jefferson (30043), Lewis and Clark (30049),<br>Musselshell (30065), Park (30067), Petroleum (30069), Phillips (30071), Powder River (30075), Rosebud (30087),<br>Stillwater (30095), Sweet Grass (30097), Wheatland (30107), Yellowstone (30111) |
| NM      | Bernalillo (35001), Los Alamos (35028), San Juan (35045), Santa Fe (35049)  |
| OK      | Cimarron (40025)*   |
| * Evtir | nated/nossibly extirnated   |

Extirpated/possibly extirpated

| U.S. Distrib          | U.S. Distribution by Watershed 📀  |  |
|-----------------------|---|--|
| Watershed<br>Region 🕜 | Watershed Name (Watershed Code)   |  |
|                       | Jefferson (10020005)+, Boulder (10020006)+, Madison (10020007)+, Upper Missouri (10030101)+,<br>Bullwhacker-Dog (10040101)+, Fort Peck Reservoir (10040104)+, Big Dry (10040105)+, Upper<br>Musselshell (10040201)+, Middle Musselshell (10040202)+, Box Elder (10040204)+, Lower<br>Musselshell (10040205)+, Yellowstone Headwaters (10070001)+, Upper Yellowstone (10070002)+, Upper<br>Yellowstone-Lake Basin (10070004)+, Stillwater (10070005)+, Clarks Fork Yellowstone (10070006)+, Upper<br>Yellowstone-Pompeys Pillar (10070007)+, Pryor (10070008)+, Big Horn Lake (10080010)+,<br>Shoshone (10080014)+, Upper Tongue (10090101)+, Lower Tongue (10090102)+, Middle |  |

|    | Powder (10090207)+, Lower Powder (10090209)+, Mizpah (10090210)+, Lower Yellowstone-<br>Sunday (10100001)+, Rosebud (10100003)+, Upper Little Missouri (10110201)+, Boxelder (10110202)+ |
|----|--|
| 11 | Cimarron headwaters (11040001)+*, Upper Cimarron (11040002)+*  |
| 13 | Upper Rio Grande (13020101)+, Rio Grande-Santa Fe (13020201)+, Rio Grande-Albuquerque (13020203)+  |
| 14 | Upper San Juan (14080101)+, Middle San Juan (14080105)+  |
| 16 | Lower Bear-Malad (16010204)+, Curlew Valley (16020309)+  |
| 17 | American Falls (17040206)+, Portneuf (17040208)+, Lake Walcott (17040209)+, Raft (17040210)+,<br>Goose (17040211)+   |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### **Ecology & Life History**

Reproduction Comments: Nests when and where adequate numbers of pine seeds are available. Clutch size is 3-6 (usually 3-4). Incubation, by female (fed by male), lasts 15-17 days. Young are tended by both adults (and sometimes by young of previous nestings), leave nest in about 3 weeks (Harrison 1978). Adults remain paired throughout the year. Breeds in loose scattered colonies. In Arizona, pair bonds apparently monogamous, perennial, lasted average of 2.5 years; males initiated breeding at average age of 2 years, females at 1.6 years; deserted females incapable of rearing offspring (Marzluff and Balda 1988).

Ecology Comments: Complex social organization; gregarious. Lives in loose flocks of multiple breeding pairs and their offspring from previous nesting seasons. The flock has an established home range but may wander to other areas in search of food. During nesting season flocks of yearlings may form. Nesting success often is low due to predation or severe weather.

#### Non-Migrant: Y

Locally Migrant: N

Long Distance Migrant: N

Mobility and Migration Comments: Does not migrate, but may wander long distances in search of food when seed crop is low (Ryser 1985). Flocks may also move altitudinally in search of food.

Palustrine Habitat(s): Riparian

Terrestrial Habitat(s): Shrubland/chaparral, Woodland - Conifer

Habitat Comments: Pinyon-juniper woodland, less frequently pine; in nonbreeding season, also occurs in scrub oak and sagebrush (AOU 1983). Nests in shrubs or trees (e.g., pine, oak, or juniper), about 1.5-9 m above ground.

Adult Food Habits: Frugivore, Granivore, Invertivore

Immature Food Habits: Frugivore, Granivore, Invertivore

Food Comments: Eats pinyon and other pine seeds, berries, small seeds, and grain. Also insects (larvae, nymphs, and adults); beetles, grasshoppers, caterpillars, ants, etc. May eat bird eggs, hatchlings. Communally caches large numbers of seeds.

Adult Phenology: Diurnal

Immature Phenology: Diurnal

Colonial Breeder: Y

Length: 27 centimeters

Weight: 103 grams

**Economic Attributes** 

**Management Summary** 

**Population/Occurrence Delineation** 

Group Name: Passerines

#### Use Class: Breeding

Subtype(s): Foraging Area, Nest Site, Nesting Colony

Minimum Criteria for an Occurrence: Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

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For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids). **Date:** 10Sep2004

Author: Hammerson, G.

Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

Separation Distance for Suitable Habitat: 5 km

Separation Justification: Separation distance somewhat arbitrary but intended to define occurrences of managable size for

conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

# Date: 03Sep2004

Author: Hammerson, G., and S. Cannings

## Use Class: Nonbreeding

### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004

Author: Hammerson, G.

## Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

## Separation Barriers: None.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

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Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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## Use Guidelines and Citation

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**Citation for data on website including State Distribution, Watershed, and Reptile Range maps:** NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018 ).

## Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

## Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

## Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

## Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

## Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

## Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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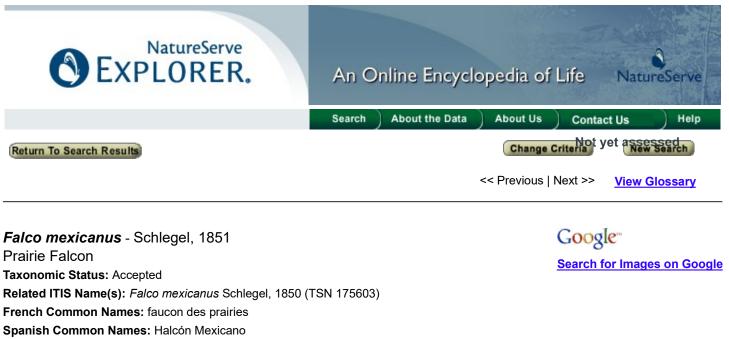
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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



Unique Identifier: ELEMENT\_GLOBAL.2.106120

Element Code: ABNKD06090

Informal Taxonomy: Animals, Vertebrates - Birds - Raptors

| Kingdom  | Phylum   | Class | Order         | Family     | Genus |
|----------|----------|-------|---------------|------------|-------|
| Animalia | Craniata | Aves  | Falconiformes | Falconidae | Falco |

Genus Size: D - Medium to large genus (21+ species)

Check this box to expand all report sections: ☑

#### Concept Reference

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

## Name Used in Concept Reference: Falco mexicanus

**Taxonomic Comments:** See Olsen et al. (1989) for a study of relationships within the genus *Falco* based on electrophoretic patterns of feather proteins.

**Conservation Status** 

## **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 07Apr2016 Global Status Last Changed: 22Nov1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure Reasons: Large range in western and central North America; mostly stable, with some local declines. Nation: United States National Status: N5B,N5N (05Jan1997) Nation: Canada National Status: N3N4B,N3N4N (16Feb2012) 0

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| United<br>States | Arizona (S4), Arkansas (SNA), California (S4), Colorado (S4B,S4N), Idaho (S4B,S3N), Kansas (SNA), Minnesota (SNA),<br>Missouri (SNA), Montana (S4), Navajo Nation (S4), Nebraska (S3), Nevada (S4), New Mexico (S4B,S4N), North Dakota<br>(S3), Oklahoma (S3), Oregon (S4), South Dakota (S3S4B,S4N), Texas (S3B), Utah (S4), Washington (S3B,S3N), Wyoming<br>(S4B,S4N) |
|------------------|--|
| Canada           | Alberta (S3), British Columbia (S1S2B), Manitoba (SNA), Saskatchewan (S3B,S3M,S3N)   |

## **Other Statuses**

Committee on the Status of Endangered Wildlife in Canada (COSEWIC): Not at Risk (01Apr1996) IUCN Red List Category: LC - Least concern Convention on International Trade in Endangered Species Protection Status (CITES): Appendix II

## **NatureServe Global Conservation Status Factors**

## Range Extent: 20,000-2,500,000 square km (about 8000-1,000,000 square miles)

**Range Extent Comments:** BREEDING: southeastern British Columbia, southern Alberta, southern Saskatchewan, and northern North Dakota south to Baja California, southern Arizona, southern New Mexico, western and northern Texas, Chihuahua, Coahuila, Durango, and San Luis Potosi (AOU 1983, Lanning and Hitchcock 1991, Steenhof 1998); formerly also northwestern Missouri. NON-BREEDING: from breeding range in southern Canada south to Baja California and central Mexico (AOU 1983, Steenhof 1998). Most abundant in winter in the Great Basin and the central and central-southern latitudes of the Great Plains (Root 1988).

## Population Size: 10,000 to >1,000,000 individuals

**Population Size Comments:** An estimated 5000-6000 pairs attempted to breed annually in the late 1970s (Palmer 1988). Estimated number of breeding pairs in Canada in the early 1990s was 500 (Kirk et al. 1995).

Overall Threat Impact Comments: HUMAN DISTURBANCE: The effect of direct human disturbance depends on a number of factors, including the type of activity, proximity to the nest or roost site, time of year and duration of the activity (Steenhof 1998). Falcons are most sensitive just prior to egg laying. In certain cases, disturbance has negative effects (Platt 1974, Boyce 1982) while in others, there appears to be no significant effect (Edwards 1968, Holthuijzen 1989). Birds also seem able to habituate to aircraft (Harmata et al. 1978, Ellis et al. 1991) and even simulated sonic booms (Ellis et al. 1991). However, large-scale and complex disturbances, such as military tank training, can disrupt foraging behavior and efficiency (Steenhof 1998). Prolonged disturbance is more harmful than periodic, shortterm disturbance (Bednarz 1984). GRAZING: The effects of livestock grazing are neither simple nor well understood. The removal of vegetation may impact prev populations, especially in drought years (Steenhof 1998). Grazing also increases the invasion of sites by exotic invasive plants, such as cheatgrass (Bromus tectorum), which increase fire return intervals and accelerate the loss of native vegetation (Steenhof 1998, Wisdom et al. 2000). On the other hand, grazing removes vegetation which in some cases may make prey more available to falcons (Anderson and Squires 1997). However, this short-term, local benefit may be offset by negative effects at larger scales and in longer time frames. INVASIVE EXOTICS: In Idaho, home ranges had a lower cover of exotic annual grasses, primarily cheatgrass, than expected by chance (Marzluff et al. 1997). ENERGY DEVELOPMENT: Prairie Falcons appear to be relatively tolerant of oil and gas (Harmata 1991, Squires et al. 1993) and coal development (Phillips et al. 1990) in foraging areas, except where nest sites are destroyed or direct human disturbance is excessive. Falcons forage in spaces among oil wells where well densities were 1.5 wells per sq km (Anderson and Squires 1997). But the latter site was remote and not frequented by humans. This implies that it is direct human disturbance, not development per se, that is most harmful. RELATIONSHIPS WITH OTHER SPECIES: Falcons are notably tolerant of the Common Raven (Corvus corax) throughout its range (Cade, 1987, Steenhof 1998). Falcons frequently lay eggs in old raven stick nests. As raven populations and distribution are increasing, this may be a management factor deserving more attention. Golden Eagles (Aquila chrysaetos, Red-tailed Hawks (Buteo jamaicensis) and Great Horned Owls (Bubo virginianus) typically are not tolerated by falcons near nesting territories (Platt 1974, Harmata et al. 1978, Kaiser 1986, Holthuijzen 1989). These species prey on Prairie Falcon adults and nestlings. Peregrine Falcons often attack Prairie Falcons that enter a peregrine's territory (Porter and White 1973, Walton 1978). Thus, management actions to benefit these other raptor species may be detrimental to Prairie Falcon populations. SHOOTING: Shooting is the most commonly reported source of adult mortality (Webster 1944, Enderson 1964, van Tighem 1967). Shooting near nests also may cause adults to leave the nests temporarily, exposing eggs or nestlings to additional mortality (Harmata et

al. 1978). PREDATORS: Mammalian predators, primarily coyotes (Canis latrans) and bobcats (Lynx rufus), are the main predators of falcon nests where nests are accessible (Steenhof 1998). DISEASE: Rock Doves (Columba livia) infected with trichomoniasis and herpesvirus can spread the infections to falcons when Rock Doves are consumed (Aini et al. 1993, Steenhof 1998). The impact of these diseases on falcon populations is not known. ELECTROCUTION: Electrocution is apparently uncommon (Steenhof 1998). FALCONRY: Legally harvested in 19 states (Conway et al. 1995). Although state agencies set harvest guidelines, these often are established without adequate data or analysis of population impacts. Steenhof (1998) states that the low level of harvest, about 0.2% of the population annually, probably does not affect overall population size. However, adults disturbed by harvest show lower inter-year territory fidelity (Conway et al. 1995). COLLISIONS: Collisions with wires, and fences in particular, cause some mortality, particularly during the fast, low foraging flights (Boyce 1982, Beauvais et al. 1992). Falcons also collide with vehicles. STOCK TANKS: Adults have been known to drown in stock watering tanks (Enderson 1964). ECTOPARASITES: Several ectoparasites contribute to nestling mortality and subsequent reproductive failure (review in Steenhof 1998). PESTICIDES: Susceptible to eggshell thinning from DDE (Noble and Elliot 1990) and may have had more recent reproductive failure as a result of hexachlorobenzene and DDE (Jarman et al. 1996). Although Prairie Falcons eat more mammals than birds, the species may be vulnerable to organophosphates and carbamates where it feeds on birds in agricultural areas (Kirk and Banasch 1996). Heptachlor epoxide and mercury residues also have been detected in falcons. These chemicals are used to treat wheat seeds and were presumable picked up by birds such as Horned Larks. Neither contaminant was thought to be high enough to affect the population level in the study area (Fyfe et al. 1969, 1976).

### Short-term Trend: Relatively Stable (<=10% change)

**Short-term Trend Comments:** Appears secure overall, although there have been local declines. In Canada, Woodsworth and Freemark (1982) concluded that populations were increasing in the early 1980s; trend was reported as "stable" by Kirk et al. (1995).

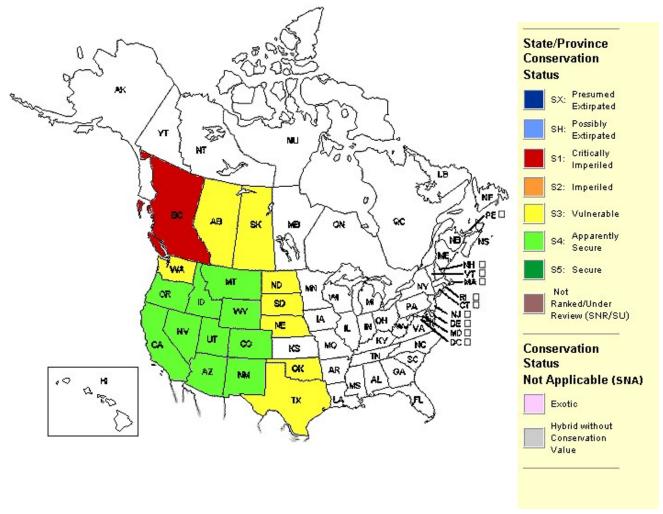
### **Other NatureServe Conservation Status Information**

### Distribution

**Global Range:** (20,000-2,500,000 square km (about 8000-1,000,000 square miles)) BREEDING: southeastern British Columbia, southern Alberta, southern Saskatchewan, and northern North Dakota south to Baja California, southern Arizona, southern New Mexico, western and northern Texas, Chihuahua, Coahuila, Durango, and San Luis Potosi (AOU 1983, Lanning and Hitchcock 1991, Steenhof 1998); formerly also northwestern Missouri. NON-BREEDING: from breeding range in southern Canada south to Baja California and central Mexico (AOU 1983, Steenhof 1998). Most abundant in winter in the Great Basin and the central and central-southern latitudes of the Great Plains (Root 1988).

## **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

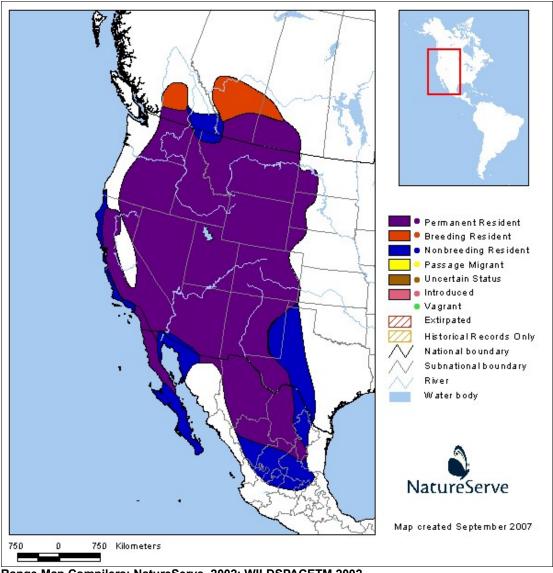


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |  |  |  |  |
|---|--|--|--|--|
| United States                             | AR, AZ, CA, CO, ID, KS, MN, MO, MT, ND, NE, NM, NN, NV, OK, OR, SD, TX, UT, WA, WY |  |  |  |
| Canada                                    | AB, BC, MB, SK   |  |  |  |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002; WILDSPACETM 2002

| U.S. | Distribution by County 🕜   |  |  |  |  |  |
|------|--|--|--|--|--|--|
|      | State County Name (FIPS Code)  |  |  |  |  |  |
| AZ   | Apache (04001)   |  |  |  |  |  |
| CA   | Alameda (06001), Amador (06005)*, Colusa (06011)*, Contra Costa (06013), Fresno (06019), Imperial (06025)*,<br>Inyo (06027)*, Kern (06029), Kings (06031)*, Lake (06033), Lassen (06035), Los Angeles (06037),<br>Madera (06039)*, Mariposa (06043)*, Merced (06047), Modoc (06049), Mono (06051), Monterey (06053),<br>Napa (06055), Plumas (06063)*, Riverside (06065)*, San Benito (06069), San Bernardino (06071), San<br>Diego (06073), San Luis Obispo (06079), Santa Barbara (06083)*, Santa Clara (06085), Sierra (06091)*,<br>Siskiyou (06093), Stanislaus (06099), Tehama (06103)*, Tuolumne (06109), Ventura (06111)*, Yolo (06113) |  |  |  |  |  |
| ID   | Ada (16001), Bonneville (16019), Butte (16023), Canyon (16027), Cassia (16031), Clark (16033), Custer (16037),<br>Elmore (16039), Franklin (16041), Gooding (16047), Idaho (16049), Jefferson (16051), Lemhi (16059),<br>Lincoln (16063), Nez Perce (16069), Oneida (16071), Owyhee (16073), Power (16077), Teton (16081)  |  |  |  |  |  |
| ND   | Billings (38007), Dunn (38025), Golden Valley (38033), McKenzie (38053), Mercer (38057), Slope (38087)   |  |  |  |  |  |
| NE   | Banner (31007), Box Butte (31013), Cheyenne (31033), Dawes (31045), Garden (31069), Morrill (31123), Scotts<br>Bluff (31157), Sheridan (31161), Sioux (31165)  |  |  |  |  |  |
| NM   | Mckinley (35031), San Juan (35045)   |  |  |  |  |  |
| ОК   | Beaver (40007)*, Blaine (40011)*, Cimarron (40025), Dewey (40043)*, Harper (40059), Major (40093),<br>McClain (40087), Tillman (40141)   |  |  |  |  |  |
| SD   | Custer (46033), Fall River (46047), Harding (46063), Jackson (46071), Meade (46093), Pennington (46103),<br>Shannon (46113)*   |  |  |  |  |  |

| <ul> <li>WA Adams (53001)+, Asotin (53003)+, Benton (53005)+, Columbia (53013)+, Douglas (53017)+, Franklin (53)</li> <li>Garfield (53023)+, Grant (53025)+, Kittitas (53037)+, Klickitat (53039)+, Lincoln (53043)+, Okanogan (53)</li> <li>Spokane (53063)+, Walla Walla (53071)+, Whitman (53075)+, Yakima (53077)+</li> <li>WY Albany (56001), Big Horn (56003)*, Campbell (56005)*, Carbon (56007), Converse (56009)*, Crook (560</li> <li>Fremont (56013), Goshen (56015)*, Hot Springs (56017), Johnson (56019)*, Laramie (56021)*, Lincoln (56015)*, Lincoln (56015)*, Lincoln (56017), Johnson (56019)*, Laramie (56021)*, Lincoln (56017), Lin</li></ul> |         |
|--|---------|
| Fremont (56013), Goshen (56015)*, Hot Springs (56017), Johnson (56019)*, Laramie (56021)*, Lincoln (   |         |
| Natrona (56025), Niobrara (56027)*, Park (56029)*, Platte (56031)*, Sheridan (56033)*, Sublette (56035)<br>Sweetwater (56037), Teton (56039), Uinta (56041)*, Washakie (56043)   | 56023), |

\* Extirpated/possibly extirpated

#### U.S. Distribution by Watershed 🕜 Watershed Watershed Name (Watershed Code) Region [ 10 Yellowstone Headwaters (10070001)+\*, Clarks Fork Yellowstone (10070006)+\*, Upper Wind (10080001)+, Little Wind (10080002)+, Popo Agie (10080003)+\*, Lower Wind (10080005)+\*, Badwater (10080006)+\*, Upper Bighorn (10080007)+, Nowood (10080008)+, Big Horn Lake (10080010)+\*, Dry (10080011)+\*, North Fork Shoshone (10080012)+\*, South Fork Shoshone (10080013)+\*, Shoshone (10080014)+\*, Upper Tongue (10090101)+\*, Middle Fork Powder (10090201)+\*, Upper Powder (10090202)+\*, South Fork Powder (10090203)+\*, Salt (10090204)+\*, Crazy Woman (10090205)+\*, Clear (10090206)+\*, Middle Powder (10090207)+\*, Little Powder (10090208)+\*, Lower Yellowstone (10100004)+, Lake Sakakawea (10110101)+, Upper Little Missouri (10110201)+\*, Middle Little Missouri (10110203)+, Lower Little Missouri (10110205)+, Lance (10120104)+\*, Angostura Reservoir (10120106)+, Hat (10120108)+, Middle Cheyenne-Spring (10120109)+, Middle Cheyenne-Elk (10120111)+, Upper Belle Fourche (10120201)+\*, Lower Belle Fourche (10120202)+\*, Redwater (10120203)+\*, Knife (10130201)+, North Fork Grand (10130301)+, South Fork Grand (10130302)+, Upper Moreau (10130305)+, Bad (10140102)+, Upper White (10140201)+, Middle White (10140202)+, Niobrara Headwaters (10150002)+, Upper Niobrara (10150003)+, Upper North Platte (10180002)+, Pathfinder-Seminoe Reservoirs (10180003)+\*, Medicine Bow (10180004)+, Little Medicine Bow (10180005)+, Sweetwater (10180006)+, Middle North Platte-Casper (10180007)+, Glendo Reservoir (10180008)+\*, Middle North Platte-Scotts Bluff (10180009)+, Upper Laramie (10180010)+, Lower Laramie (10180011)+\*, Horse (10180012)+\*, Pumpkin (10180013)+, Cache La Poudre (10190007)+\*, Lone Tree-Owl (10190008)+\*, Crow (10190009)+, Upper Lodgepole (10190015)+\*, Lower Lodgepole (10190016)+, Sidney Draw (10190017)+ 11 Cimarron headwaters (11040001)+\*, Upper Cimarron (11040002)+, Upper Cimarron-Liberal (11040006)+\*, Upper Cimarron-Bluff (11040008)+\*, Lower Cimarron-Eagle Chief (11050001)+, Lower Cimarron-Skeleton (11050002)+\*, Upper Beaver (11100101)+, Lower Beaver (11100201)+, Middle North Canadian (11100301)+\*, Blue-China (11130102)+, West Cache (11130203)+, Middle Washita (11130303)+ 14 Upper Green (14040101)+, New Fork (14040102)+, Upper Green-Slate (14040103)+, Big Sandy (14040104)+, Bitter (14040105)+, Upper Green-Flaming Gorge Reservoir (14040106)+, Blacks Fork (14040107)+, Muddy (14040108)+\*, Great Divide closed basin (14040200)+, Muddy (14050004)+\*, Chaco (14080106)+, Lower San Juan (14080205)+ Upper Puerco (15020006)+, Havasu-Mohave Lakes (15030101)+\*, Piute Wash (15030102)+\*, Imperial 15 Reservoir (15030104)+\* 16 Upper Bear (16010101)+\*, Middle Bear (16010202)+, Lower Bear-Malad (16010204)+, Curlew Valley (16020309)+, Ivanpah-Pahrump Valleys (16060015)+\* 17 Chief Joseph (17020005), Okanogan (17020006), Methow (17020008), Upper Columbia-Entiat (17020010), Moses Coulee (17020012), Upper Crab (17020013), Banks Lake (17020014), Lower Crab (17020015), Upper Columbia-Priest Rapids (17020016), Upper Yakima (17030001), Naches (17030002), Lower Yakima, Washington (17030003), Snake headwaters (17040101)+\*, Gros Ventre (17040102)+\*, Greys-Hobock (17040103)+, Salt (17040105)+\*, Idaho Falls (17040201)+, Teton (17040204)+, Willow (17040205)+, Lake Walcott (17040209)+, Raft (17040210)+, Upper Snake-Rock (17040212)+, Beaver-Camas (17040214)+, Birch (17040216)+, Little Lost (17040217)+, Big Lost (17040218)+, Big Wood (17040219)+, C. J. Idaho (17050101)+, Bruneau (17050102)+, Middle Snake-Succor (17050103)+, Upper Owyhee (17050104)+, South Fork Owyhee (17050105)+, Middle Owyhee (17050107)+, Jordan (17050108)+, Lower Boise (17050114)+, Lower Snake-Asotin (17060103), Lower Snake-Tucannon (17060107), Palouse (17060108), Rock (17060109), Lower Snake (17060110), Upper Salmon (17060201)+, Pahsimeroi (17060202)+, Middle Salmon-Panther (17060203)+, Lower Salmon (17060209)+, Middle Columbia-Lake Wallula (17070101), Middle Columbia-Hood (17070105) 18 Lost (18010204)+, Butte (18010205)+\*, Upper Klamath (18010206)+, Shasta (18010207)+\*, Scott (18010208)+\*, Goose Lake (18020001)+\*, Upper Pit (18020002)+, Lower Pit (18020003)+\*, Upper Stony (18020115)+\*, Upper Cache (18020116)+, East Branch North Fork Feather (18020122)+\*, Middle Fork Feather (18020123)+\*, Thomes Creek-Sacramento River (18020156)+\*, Upper Putah (18020162)+, South

Fork Kern (18030002)+\*, Middle Kern-Upper Tehachapi- (18030003)+, Upper Dry (18030009)+, Upper King (18030010)+\*, Tulare-Buena Vista Lakes (18030012)+, Middle San Joaquin-Lower (18040001)+, Middle San Joaquin-Lower (18040002)+, San Joaquin Delta (18040003)+, Upper San Joaquin (18040006)+\*, Upper Merced (18040008)+\*, Upper Stanislaus (18040010)+, Upper Mokelumne (18040012)+\*, Panoche-San Luis Reservoir (18040014)+, Suisun Bay (18050001)+, San Pablo Bay (18050002)+\*, San Francisco Bay (18050004)+, Pajaro (18060002)+\*, Carrizo Plain (18060003)+, Estrella (18060004)+\*, Salinas (18060005)+, Central Coastal (1806006)+\*, Cuyama (18060007)+\*, Carmel (18060012)+\*, Santa Clara (18070102)+\*, Santa Margarita (18070302)+\*, San Luis Rey-Escondido (18070303)+\*, San Diego (18070304)+\*, Cottonwood-Tijuana (18070305)+, Surprise Valley (18080001)+, Madeline Plains (18080002)+\*, Honey-Eagle Lakes (18080003)+, Mono Lake (18090101)+, Crowley Lake (18090102)+\*, Eureka-Saline Valleys (18090201)+\*, Upper Amargosa (18090202)+\*, Panamint Valley (18090204)+\*, Indian Wells-Searles Valleys (18090205)+\*, Antelope-Fremont Valleys (18090206)+, Coyote-Cuddeback Lakes (18090207)+, Mojave (18090208)+, Southern Mojave (18100100)+, Whitewater River (18100201)+\*, Carrizo Creek (18100202)+, San Felipe Creek (18100203)+, Salton Sea (18100204)+\*

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### **Ecology & Life History**

Basic Description: A brown falcon.

**General Description:** A medium-sized falcon with pointed wings, a hooked bill, and conspicuous (in flight) dark patches near the body on the underside of the wings (axillaries and coverts); adults are pale brown above, whitish with heavy spotting below; head has narrow dark streak extending downward from each eye; immatures are buffy below; average length 39-50 cm, wingspan 89-109 cm (NGS 1983).

**Diagnostic Characteristics:** Differs from all other North American falcons in having dark patches in the "wingpits." Paler above than peregrine falcon (*Falco peregrinus*) and merlin (*Falco columbarius*). Lacks the heavy dark wedge on the side of the face of the peregrine falcon.

**Reproduction Comments:** Laying may begin as early as February in Texas and Mexico; March in California, Washington, Arizona, and Oregon; April in Montana and Wyoming. Clutch size usually is 4-5. Incubation lasts 29-33 days, mostly by female (male brings food). Young are tended by both parents, remain at nest site 36-41 days. First breeds usually at 2 years (sometimes 1 year).

**Ecology Comments:** Annual mortality estimated at 74% in immatures, 25% in adults (see Evans 1982). Recorded nesting density: 23 pairs on 26 kilometers of cliffs in Colorado, 101 pairs in 72 kilometers along Snake River, Idaho (see Palmer 1988).

Defend relatively small areas around the nest site. These may extend 300 - 400 meters around the typical cliff nest and about 100 meters above the site (Ogden and Hornocker 1977, Harmata et al. 1978, Kaiser 1986).

Foraging areas are large, overlapping and not defended (Haak 1982, Squires 1986, Hunt 1993). Steenhof (1998) reports nesting season home ranges from six studies that ranged from 59 - 314 square kilometers.

Where nesting cliffs are suitable and continuous, will nest at higher densities than most other large North American falcons (Steenhof 1998). At higher densities, nest sites tend to be visually isolated from one another (Anderson and Squires 1997). Densities of nesting falcons ranged from 0.2 pair per kilometer of linear cliff in Montana (DuBois 1984) to 0.66 pair per km in southwestern Idaho, with some stretches of canyon in Idaho having 4.3 pair per kilometer (Steenhof 1988).

Winter home ranges are much smaller than breeding season home ranges but still averaged over 30 square kilometers in Colorado (Beauvais et al. 1992). Winter roosts may be far from winter foraging areas, much as nest sites may be far from breeding season foraging areas.

Fidelity to breeding territories is very high in some areas. Runde (1987) reports an average 88% return rate in Colorado, Wyoming, and Alberta with Alberta females returning at a very high rate (96%). Return rates in Idaho, where nest sites and mates are at high densities, were substantially lower. Habitat Type: Terrestrial Non-Migrant: Y Locally Migrant: Y Long Distance Migrant: Y Mobility and Migration Comments: Some birds winter in breeding range, some migrate south as far as central Mexico, and, in the

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mountains, some birds migrate to lower elevations. See Palmer (1988) for details.

Terrestrial Habitat(s): Alpine, Cliff, Cropland/hedgerow, Desert, Grassland/herbaceous

**Habitat Comments:** Primarily open situations, especially in mountainous areas, steppe, plains or prairies (AOU 1983). Typically nests in pot hole or well-sheltered ledge on rocky cliff or steep earth embankment, 10 to more than 100 meters above base. May nest in manmade excavations on otherwise unsuitable cliffs (Cade 1982). Vertical cliffs with rock structure overhanging the site are preferred. Nests typically are placed on south-facing aspects, with overhangs offering some protection from solar radiation. May use old nest of raven, hawk, eagle, etc. Commonly changes nest site within territory in successive years (see Palmer 1988). In Mojave Desert, remote nests had higher productivity than did nests that were closer to human activity (Boyce 1988).

During winter, falcons use a number of other habitats that are not typical of those used during the breeding season. Dryland wheat fields, irrigated winter wheat and other irrigated croplands also are used for foraging in winter (Enderson 1964, White and Roseneau 1970, Parker 1972, Beauvais et al. 1992). In all cases, large patches with low vegetation stature characterize the habitats used. Depend on Horned Larks (Enderson 1964) and grassland species in general (Schmutz et al. 1991) for prey. Early successional stages, low vegetation height and large percentages of bare ground are an inferred requirement.

The use of forested habitat during migration by some Canadian birds (Schmutz et al. 1991) appears to be rare, but use of these habitats is little studied.

Adult Food Habits: Carnivore

## Immature Food Habits: Carnivore

**Food Comments:** Primarily feeds opportunistically on mammals (especially ground squirrels), lizards, and birds, generally up to size of quail and rabbits. In southwestern Idaho, reproduction is closely linked to the abundance of the ground squirrel *Spermophilus mollis*. Even following a prolonged crash in ground squirrel populations, and in the absence of important alternate prey, falcons continued to seek ground squirrels (Steenhof and Kochert 1988). Had a much more specialized diet than other raptors in southwestern Idaho and variation among individuals was low (Steenhof 1998). Ground squirrel populations fluctuate with drought cycles, thus potentially affecting productivity and population trends (Van Horne et al. 1997).

In winter, often takes Horned Larks (Eremophila alpestris) on fields of winter wheat. Young may take large insects.

Usually captures prey on or near ground; rapidly pursues birds in flight (see Palmer 1988 for many details). May cache prey in vegetation, on ledge, or in small crevice or cavity; caching most common during early brood rearing. Length: 50 centimeters Weight: 975 grams

## Economic Attributes

Economic Comments: Harvested for use in falconry in several states.

## Management Summary

**Stewardship Overview:** Prairie Falcons nest successfully in a wide array of landscapes and open, low-stature vegetation types as long as two main features are available: suitable nest sites, primarily cliffs; and an adequate prey base, primarily ground squirrels. Large home ranges during the breeding season (59 - 314 square kilometers) and wintering season (30 square kilometers) dictate management based at the landscape level, not at the site level. Nesting birds are relatively tolerant of human activities that do not occur close to the nest and that are not persistent. Loss of ground squirrel populations and their habitats may be the single biggest factor impacting falcon populations.

**Restoration Potential:** Will use artificial nest sites excavated or blasted into cliff faces. Construction of artificial nest sites has been effective where natural sites are limited but other features of the cliff and the surrounding landscape, particularly the prey base, are suitable (Fyfe and Armbruster 1977, Boyce et al. 1980, Mayer and Licht 1995). As nesting densities frequently are limited by site availability (Squires 1986), this provides a management tool to attract falcons into areas with insufficient nest sites. Prairie Falcons also use "high walls" that can be left behind following coal strip mining (Anderson and Squires 1997). This practice creates artificial cliffs where none existed before. Artificial nest sites should be on south-facing exposures and 2/3 of the way up the cliff face. The floor area of the site should be 7000 sq cm, with a 5-10% slope toward the front. Other characteristics are given by Runde and Anderson (1986), Runde (1987) and Anderson and Squires (1997).

Falcons can be bred in captivity but the reintroduction of captive Prairie Falcons has been very limited (Granger 1977, Anderson and

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Squires 1997). All evidence is that such extreme measures are not needed or useful at this time, given the many other characteristics of the species that make it amenable to a variety of habitat management actions.

**Preserve Selection & Design Considerations:** NEST SITES: Will use a variety of landscapes and vegetation types if suitable nest sites are available. The most common type of nest site is a cliff, ledge, rock cavity, isolated rock outcrop or similar site. However, some birds will use trees, power poles or even buildings (Steenhof 1998).

NEST SITE AREA REQUIREMENTS: The size of the nest site territory is not as important from a spatial management standpoint as is the size of the areas required for foraging. Some stretches of canyon in Idaho have nesting densities as high as 4.3 pairs per kilometer (Steenhof 1998). This density might serve as an upper limit for management objectives in areas that are suitable for nesting falcons.

FORAGING AREA REQUIREMENTS: Foraging areas are large, overlapping and not defended (Haak 1982, Squires 1986, Hunt 1993). Steenhof (1998) reports nesting season home ranges from six studies that ranged from 59-314 square kilometers.

Populations are strongly dependent on populations of ground squirrels during the breeding season, especially SPERMOPHILUS species. Thus, maintaining healthy source populations of Prairie Falcons is directly dependent on managing habitat for ground squirrels. The ground squirrels almost uniformly thrive in early successional vegetation. Popular secondary prey species, Horned Lark (EREMOPHILA ALPESTRIS) and Western Meadowlark (STURNELLA NEGLECTA), also are common in low stature, early successional types. Falcons take most prey on or near the ground by "strafing" wherein birds fly fast at only 3-6 m above the ground and surprise prey items (Phipps 1979, Squires et al. 1989, Steenhof 1998). Thus, falcons must have clear vision of the ground level, unobstructed by tall and/or dense vegetation (Brown and Amadon 1968, Haak 1982, Peterson 1988, Squires 1986, Squires et al. 1993). Many North American habitat types generally meet this description: shrub-steppe desert, grasslands, tundra, and arid plains. Periods of higher than average precipitation may affect foraging efficiency in some vegetation types when vegetation grows taller and more dense (Steenhof 1998).

Core use areas in Alberta had lower proportions of irrigated cropland than expected by chance (Hunt 1993) and prey biomass is lower in agricultural lands. This suggests that fragmentation caused by this factor at least, may have adverse effects. Simulations for southwestern Idaho (Steenhof 1998) predicted that loss of as little as 15% of the land to agricultural conversion could reduce falcon productivity below replacement levels. Although large-scale agricultural development is implicated in population declines in several areas (reviewed in Steenhof 1998), small-scale agriculture may benefit falcon populations when it provides edge for prey populations (Harmata 1991, Hunt 1993, Marzluff et al. 1997).

During winter, and in some geographic areas during the breeding season, individuals hunted most often from perches (Enderson 1964, Phipps 1979) or by soaring (Kaiser 1986). This suggests that in some cases, birds could persist in smaller habitat patches, other factors being equal.

High levels of site fidelity suggest that in many nesting areas, it is important to protect the nesting territory and adjacent foraging sites with permanent, long-term strategies and not force birds to move among years or expect them to disperse and breed successfully elsewhere when habitat conditions deteriorate. Although data on fidelity to winter sites is much more limited, those data also suggest a strong site fidelity. Thus, identification and proper management of winter sites also may be important.

**Management Requirements:** NEST SITES: Because nest sites are relatively specialized and because site fidelity is high, the protection of nest sites obviously is a high priority. In geographic areas where inventories for nesting falcons have not been conducted, topographic maps will provide excellent information on cliffs that might support breeding birds. All known and potential nesting cliffs should be considered for conservation action.

GROUND SQUIRREL PREY POPULATIONS: Ground squirrel prey populations are as essential to falcons as are good nest sites. Ground squirrel populations can be lost or greatly reduced when habitat is altered by conversion to agricultural lands, improper livestock grazing, invasion of exotic vegetation or by other activities. As reviewed above, certain small-scale agricultural conversions may be beneficial to ground squirrels but large-scale conversions are almost certainly detrimental. Poisoning of ground squirrel populations has been underway for many years in many geographic areas and this activity likely has contributed to severely reduced populations of several ground squirrel species (Wisdom et al. 2000). Management to protect, enhance and restore ground squirrel populations in key areas should be considered.

FORAGING AREA REQUIREMENTS: The large breeding season and winter foraging areas (30 - 314 sq km) give us a clear perspective on the geographic scale of areas where falcons are to be conserved. Although falcons do not use all the areas within these large home ranges, land managers truly must think in terms of managing landscapes, not sites.

HUMAN DISTURBANCE: Limiting the types and levels of human activities near nests has been a common management strategy, particularly among federal land management agencies. Suter and Joness (1981) recommended buffer zones of 1 km around nests while Becker and Ball (1981) recommended 400 m. Holthuijzen et al. (1990) found that blasting need not be restricted at distances greater than 125 meters from occupied nests. Land management agencies use quasi-standardized distances for oil and gas development, coal development and other activities. Birds can tolerate some development in foraging habitat if nest sites are not overly disturbed (Anderson and Squires 1997). Where nesting falcons occur in high densities, permanent protection of the nesting cliffs, with sufficient buffers, should be sought.

GRAZING: The effects of livestock grazing are not simple and likely vary by region, soil type, vegetation type and many other factors.

Thus, it is necessary to study the relationships among the grazing programs, the vegetation and the prey populations to determine the best course of action on any particular site.

INVASIVE EXOTICS: Fire management, livestock management and other actions to slow or stop the spread of invasive exotic plants is critical to the future quality of Prairie Falcon foraging habitat in southern Idaho and other areas susceptible to dominance by weedy species (Marzluff et al. 1997, Wisdom et al. 2000). Direct habitat restoration likely will be required in some areas to augment and rebuild falcon foraging habitat.

ENERGY DEVELOPMENT: Where coal, oil and gas development has occurred, it may be direct human disturbance (see above) more than the physical alteration of the land that impacts falcons. Thus, buffer zones and seasonal restrictions of the timing of human activity and site occupancy may be the most critical factors to manage.

In the United States, management of oil and gas, coal, oil shale, phosphate and other leasable minerals is regulated under the Mineral Leasing Act of 1920 (43 CFR 3000). The best opportunity to protect habitat comes during federal land use planning (USDA Forest Service 2000, USDI Bureau of Land Management 2000a, b). Objectives, standards and guidelines can be incorporated into the Management Situation Analysis and for coal, the Unsuitability Criteria. Where necessary for maximum protection, plans can allocate areas to No Surface Disturbance or Unsuitability. Another opportunity to protect habitat from the adverse effects of these developments occurs during the leasing process. A Notice of Intent is required for exploratory activity that can be very disruptive in the short-term on local sites. Stipulations that protect an area from disturbance during a particular period of the year or that require buffer zones also can be specified. These and other restrictions can be placed as Conditions of Approval when an Application for Permit to Drill is filed, in the case of oil and gas development. Once enough successful wells (5-6) are in place, then a Plan of Development is required for the field. Detailed NEPA analysis is required at this stage and a variety of mitigation measures can be negotiated.

RELATIONSHIPS WITH OTHER SPECIES: Because falcons are tolerant of Common Ravens and use old raven nests, raven management should be carefully considered where they do, or could, co-occur with falcons. Conversely, Golden Eagles, Red-tailed Hawks, Great Horned Owls, and Peregrine Falcons all are detrimental to Prairie Falcon populations. Tradeoffs in management of these various species must be carefully weighed.

PREDATORS: The chief mammalian predators of Prairie Falcon nests and nestlings (coyotes and bobcats) are common and widespread. As with most predator issues, the best approach to minimize predation is to provide high-quality habitat for the focal species. In this case, the provision and protection of good nest sites is the best strategy.

DISEASE: The impact of Rock Doves infected with trichomoniasis and herpesvirus on falcon populations is not known. However, Rock Dove control should be an obvious option where these doves are nesting in the wild on cliffs frequented by falcons or where they are otherwise available to falcons as prey.

SHOOTING: Shooting can be prevented through a constant program to educate the public on the value of falcons and the illegality of shooting them. Road access to areas where falcons need further protection from shooting can be eliminated or reduced.

ELECTROCUTION: Electrocution losses can be eliminated or greatly reduced by continuing to pursue programs that make power lines and facilities raptor safe (Avian Power Line Interaction Committee 1996).

FALCONRY: Although Steenhof (1998) states that the low level of harvest probably does not affect overall population size, disturbance at the nest site (Conway et al. 1995) does have impacts and should be further investigated. Further, in the absence of population data sufficient to model impacts, the continued harvest of wild birds for falconry must be questioned.

COLLISIONS: Elimination of fences in important foraging habitats could reduce this source of mortality. Unfortunately, this is apt to be impractical in many areas. Placing marker balls on wires to minimize collision mortality (Anderson and Squires 1997) might also be effective for problem sites. Where vehicle collisions are a problem, road closures, rerouting or signing (i.e., "Falcon Crossing") should be considered.

STOCK TANKS: Federal land management agencies have policies to provide escape ramps in livestock watering tanks. These policies and their enforcement should be examined for all land within the range of the Prairie Falcon. Similar policies should be implemented on grazing lands controlled by state agencies. Education and encouragement for private landowners also should be pursued.

ECTOPARASITES: Several ectoparasites contribute to nestling mortality and subsequent reproductive failure (review in Steenhof 1998). Hand treatment of nestlings to kill parasites is one option to improve nest success.

PESTICIDES: The use of pesticides known to be harmful to falcons should be discouraged or eliminated in foraging areas where falcons nest and winter. Although this may be impractical on a broad basis, it should be pursued where falcons concentrate and where agricultural lands are interspersed with frequently used native vegetation.

**Monitoring Requirements:** Christmas Bird Count (http://birdsource.cornell.edu/cbc/index.html#Reports) and North American Breeding Bird Survey (Sauer et al. 2001) both provide information on population trends of Prairie Falcons. Although neither technique is well suited for falcons or raptors in general, trends calculated over large geographic areas, such as the West or North America, may have some validity. Specially designed migration counts, such as those conducted by HawkWatch International (Hoffman et al. 1992), provide

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the best information on population trends. However, migration counts assess trends over large, and substantially undefined, geographic regions.

#### **Population/Occurrence Delineation**

Use Class: Breeding

Subtype(s): Foraging area, Nest site

**Minimum Criteria for an Occurrence:** Evidence of breeding (including historical); and potential recurring breeding at a given location, minimally a reliable observation of one or more breeding pairs with occupied nests in appropriate habitat. Occurrence includes not only the nest sites, but also the surrounding areas used for feeding during the nesting season.

**Mapping Guidance:** Although separations are based on nest sites, occurrences include nesting areas as well as foraging areas. Foraging areas for different occurrences may overlap.

#### Separation Barriers: None.

#### Separation Distance for Unsuitable Habitat: 20 km

#### Separation Distance for Suitable Habitat: 20 km

Alternate Separation Procedure: Where an occurrence is at least twice the size of a minimum A-ranked occurrence, it may be divided into two or more A-ranked occurrences along divisions that are narrower (or absent) than the separation distances given. The dividing lines should be made as much as possible along lines of limited falcon use; for example, along major urban areas or very wide bodies of water.

**Separation Justification:** Occurrences represent relatively distinct clusters of one or more nest sites and do not necessarily represent demographically distinct populations. Occurrence separation is based on nest sites; nest sites separated by a gap smaller than the separation distance represent the same occurrence.

Breeding home ranges vary a great deal: Idaho, 26-142 square kilometers (U. S. Bureau of Land Management 1979), southern California 31-78 square kilometers (Harmata et al. 1978), northern California 34-389 square kilometers (Haak 1982), Wyoming 26 square kilometers (Craighead and Craighead 1956), 59 to 314 square kilometers (six studies reported by Steenhof 1998). Squires et al. (1993) found that prairie falcons typically forage within 10 km of nests during the breeding season.

#### Inferred Minimum Extent of Habitat Use (when actual extent is unknown): 8.7 km

**Inferred Minimum Extent Justification:** Based on a relatively small home range of 59 square kilometers (Steenhof 1998). **Date:** 24Sep2004

Author: Cannings, S., and G. Hammerson

#### Use Class: Nonbreeding

**Minimum Criteria for an Occurrence:** Evidence of recurring presence of wintering individuals outside their breeding area (including historical); and potential recurring presence at a given location. Occurrences should be areas where more than one individual is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 20 days annually. Be cautious about creating EOs for observations that may represent single events

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 15 km

#### Separation Distance for Suitable Habitat: 15 km

**Separation Justification:** Separation distance somewhat arbitrary; nonbreeding occurrences based primarily on concentrations of wintering individuals, rather than on distinct populations.

Date: 16Apr2002

Author: Cannings, S.

#### **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).

The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

Authors/Contributors

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Management Information Edition Author: RICH, T., MINOR REVISIONS BY D. MEHLMAN AND S. CANNINGS.

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Element Ecology & Life History Edition Date: 30Mar1995

Element Ecology & Life History Author(s): HAMMERSON, G., REVISED BY S. CANNINGS

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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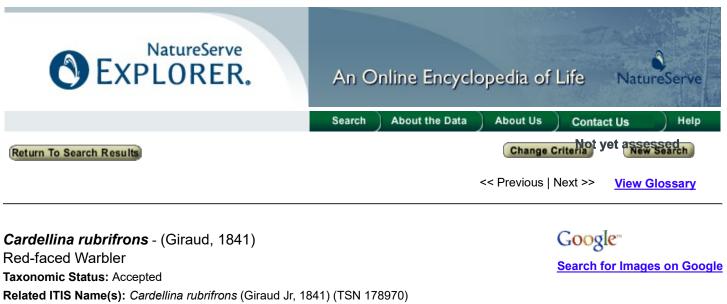
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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.





French Common Names: Paruline à face rouge

Spanish Common Names: Chipe Cara Roja

Unique Identifier: ELEMENT\_GLOBAL.2.100492

Element Code: ABPBX17010

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family    | Genus      |
|----------|----------|-------|---------------|-----------|------------|
| Animalia | Craniata | Aves  | Passeriformes | Parulidae | Cardellina |

Genus Size: A - Monotypic genus

Check this box to expand all report sections: ☑

## **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Cardellina rubrifrons

**Conservation Status** 

# **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 03Dec1996 Global Status Last Changed: 03Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N4B (19Mar1997)

# U.S. & Canada State/Province Status

| Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear        |
|---|
| on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your               |
| jurisdiction to obtain the most current data. Please refer to our Distribution Data Sources to find contact information for |
| your jurisdiction.  |

United States

Arizona (S4), New Mexico (S3B,S4N)

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# **Other Statuses**

IUCN Red List Category: LC - Least concern

# NatureServe Global Conservation Status Factors

**Range Extent Comments:** BREEDS: central Arizona and southwestern New Mexico south through Sonora, western Chihuahua and Sinaloa to western Durango. WINTERS: Sinaloa and Durango south through highlands to El Salvador and western Honduras. Often at elevations of 2000-2800 m in U.S.

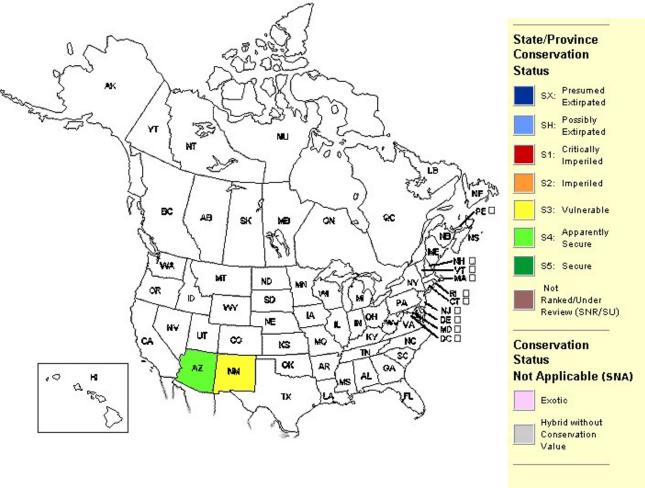
# Other NatureServe Conservation Status Information

# Distribution

**Global Range:** BREEDS: central Arizona and southwestern New Mexico south through Sonora, western Chihuahua and Sinaloa to western Durango. WINTERS: Sinaloa and Durango south through highlands to El Salvador and western Honduras. Often at elevations of 2000-2800 m in U.S.

# **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.



NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a

jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

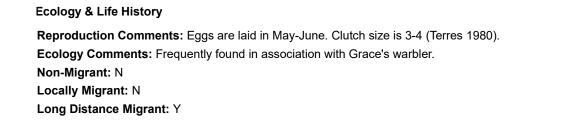
| U.S. & Canada State/Pro | ovince Distribution |
|-------------------------|---------------------|
| United States           | AZ, NM              |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002



Mobility and Migration Comments: Arrives in nesting areas early April (Terres 1980). Palustrine Habitat(s): Riparian Terrestrial Habitat(s): Forest - Conifer, Forest - Mixed, Woodland - Conifer, Woodland - Mixed Habitat Comments: Montane fir, pine and pine-oak woodland. In migration and winter in humid montane forest, pine-oak association and riparian woodland, rarely in open woodland in lowland habitats (Subtropical and lower Temperate zones) (AOU 1983). Nests on ground in depression under cover of rock, tree trunk or dense vegetation. Adult Food Habits: Invertivore Immature Food Habits: Invertivore Food Comments: Apparently mostly insectivorous. Forages actively in conifers and darts out after flying insects. Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 14 centimeters Weight: 10 grams **Economic Attributes Management Summary Population/Occurrence Delineation** Group Name: Passerines

## Use Class: Breeding

#### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

#### Separation Distance for Unsuitable Habitat: 5 km

### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the

critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

# Date: 10Sep2004

Author: Hammerson, G.

# Use Class: Migratory stopover

# Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

### Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

#### Date: 03Sep2004

Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

#### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G.

## Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

## Separation Barriers: None.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

**Date:** 10Sep2004 **Author:** Hammerson, G. **Notes:** These specs pertain to nonmigratory species.

# Population/Occurrence Viability

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u> Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

## Authors/Contributors

Element Ecology & Life History Edition Date: 17Mar1994 Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

## References

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **March 26, 2018** 

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#### Citation for data on website including State Distribution, Watershed, and Reptile Range maps:

NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Mammal Range Maps of North America:

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#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

#### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

Full metadata for the Mammal Range Maps of North America is available at: <a href="http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf">http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf</a>.

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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016



Red-naped Sapsucker Other English Common Names: red-naped sapsucker Synonym(s): Sphyrapicus varius nuchalis Taxonomic Status: Accepted Related ITIS Name(s): Sphyrapicus nuchalis S. F. Baird, 1858 (TSN 178211) French Common Names: Pic à nuque rouge Spanish Common Names: Chupasavia Nuca Roja Unique Identifier: ELEMENT\_GLOBAL.2.101489 Element Code: ABNYF05040 Informal Taxonomy: Animals, Vertebrates - Birds - Other Birds

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© Dick Cannings

| Kingdom  | Phylum   | Class | Order      | Family  | Genus       |
|----------|----------|-------|------------|---------|-------------|
| Animalia | Craniata | Aves  | Piciformes | Picidae | Sphyrapicus |

Genus Size: B - Very small genus (2-5 species)

Check this box to expand all report sections:  $\ensuremath{\,\boxdot}$ 

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

## Name Used in Concept Reference: Sphyrapicus nuchalis

**Taxonomic Comments:** This species formerly was included with *S. ruber* in *S. varius*. Based on mating preference and effective reproductive isolation, *S. ruber* and *S. nuchalis* were regarded as distinct species by Johnson and Johnson (1985). Despite the near genetic identity of *ruber* and *nuchalis* based both on allozymes (Johnson and Zink 1983) and mtDNA sequences (Cicero and Johnson 1995), the latter authors cited the mating preference study as sufficient reason to regard the two taxa as distinct biologic species.

**Conservation Status** 

## **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 09Apr2016 Global Status Last Changed: 02Dec1996 Ranking Methodology Used: Ranked by inspection

Rounded Global Status: G5 - Secure

**Reasons:** Fairly large nesting range centered on the Rocky Mountains; large winter range extends from southwestern United States to central Mexico; large population size; apparently stable to increasing in most of range; threats include loss of aspen and cottonwood nesting habitat as a result of human activities and human-influenced processes.

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Nation: United States National Status: N5B,NNRN (05Jan1997) Nation: Canada National Status: N5B (03Aug2000)

# U.S. & Canada State/Province Status

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| lunited | Arizona (S4), California (SNR), Colorado (S5), Idaho (S5B), Louisiana (S2N), Montana (S4B), Navajo Nation (S4B,S3N),<br>Nevada (S4S5B), New Mexico (S3B,S5N), Oregon (S4B,S3N), Texas (S3B,S4N), Utah (S4B,S3N), Washington (S4S5B),<br>Wyoming (S4B) |
|---------|---|
| Canada  | Alberta (SU), British Columbia (S5B), Saskatchewan (S1B)  |

## **Other Statuses**

IUCN Red List Category: LC - Least concern

## **NatureServe Global Conservation Status Factors**

#### Range Extent: 200,000-2,500,000 square km (about 80,000-1,000,000 square miles)

**Range Extent Comments:** Nesting range includes the Rocky Mountain region from the southeastern quarter of British Columbia, southwestern and southeastern Alberta, western and central Montana, and the Black Hills of South Dakota south, east of Cascades and Sierra Nevada, to east-central California, southern Nevada, central Arizona, southern New Mexico, and extreme western Texas (Davis and Guadalupe mountains) (AOU 1998). During the nonbreeding season, the range extends from southern California (casually Oregon), southern Nevada, Utah, and central New Mexico south to southern Baja California, Jalisco, Durango, Coahuila, and Nuevo Leon (AOU 1998). Casual or accidental records exist elsewhere.

Coded range extent refers to breeding range.

Number of Occurrences: 81 - 300 Number of Occurrences Comments: This species is represented by a large number of occurrences (subpopulations).

#### Population Size: >1,000,000 individuals

**Population Size Comments:** Total adult population size is unknown but likely exceeds 1,000,000. Rich et al. (2004) estimated population size at 2,200,000.

Number of Occurrences with Good Viability/Integrity: Many to very many (41 to >125)

## Overall Threat Impact: Medium

**Overall Threat Impact Comments:** Threats are largely unknown. Dependence on aspen and mature riparian woodlands is cause for concern, however, as these habitats have been impacted by land management activities throughout the range. Loss of aspen stands and decline of aspen regeneration have occurred throughout the mountain west due to fire suppression, conifer invasion, cutting, and development. For example, quaking aspen has declined 50 to 95 percent in Yellowstone National Park's northern range, probably due to a complex web of factors that includes changes since the Park's establishment in natural fire regimes and the abundance of various mammals, such as beaver, elk, and wolves (Schullery 1995). In the Southwest, many aspen forests are now over 100 years old and declining in vigor. Due to fire suppression the stands are being overtopped by conifers and there is little aspen regeneration (Muldavin et al. 1999). Although decadent aspen may be beneficial in the short term, lack of regeneration obviously will adversely affect the species in the long term. Degradation and loss of mature cottonwood riparian forests due to cottonwood cutting, livestock grazing, alteration of stream hydrology, and other activities has also likely reduced habitat. Also see Tobalske (1992) for information on the effect of logging on abundance and reproductive success in Montana.

Short-term Trend: Relatively Stable (<=10% change)

**Short-term Trend Comments:** Breeding Bird Survey (BBS) data for 1966-2007 for the Rocky Mountains suggest that populations are stable to increasing overall. Due to the localized and patchy nature of red-naped sapsucker habitat and the broad-scale design of BBS sampling, sample sizes are minimal for analysis for most states and physiographic regions.

## Long-term Trend: Decline of <30% to increase of 25%

Long-term Trend Comments: Extent of occurrence and area of occupancy probably have not changed more than 25% over the long term.

# **Other NatureServe Conservation Status Information**

### Distribution

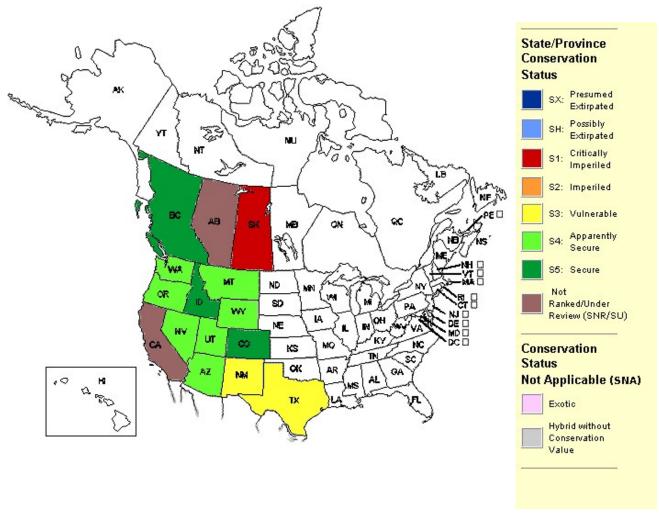
**Global Range:** (200,000-2,500,000 square km (about 80,000-1,000,000 square miles)) Nesting range includes the Rocky Mountain region from the southeastern quarter of British Columbia, southwestern and southeastern Alberta, western and central Montana, and the Black Hills of South Dakota south, east of Cascades and Sierra Nevada, to east-central California, southern Nevada, central Arizona, southern New Mexico, and extreme western Texas (Davis and Guadalupe mountains) (AOU 1998). During the nonbreeding season, the range extends from southern California (casually Oregon), southern Nevada, Utah, and central New Mexico south to southern Baja California, Jalisco, Durango, Coahuila, and Nuevo Leon (AOU 1998). Casual or accidental records exist elsewhere.

Coded range extent refers to breeding range.

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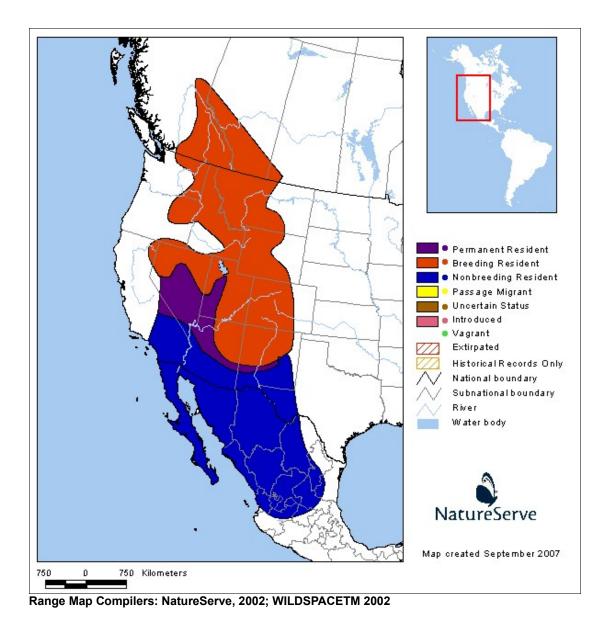


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |  |  |  |  |
|---|--|--|--|--|
| United States                             | AZ, CA, CO, ID, LA, MT, NM, NN, NV, OR, TX, UT, WA, WY |  |  |  |
| Canada                                    | AB, BC, SK   |  |  |  |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



# U.S. Distribution by County ⊘

# State County Name (FIPS Code)

ID Adams (16003), Bannock (16005), Cassia (16031), Latah (16057), Lemhi (16059), Owyhee (16073), Shoshone (16079), Valley (16085)

\* Extirpated/possibly extirpated

| U.S. Distributio      | U.S. Distribution by Watershed 📀   |  |  |  |  |
|-----------------------|--|--|--|--|--|
| Watershed<br>Region ⊘ | Watershed Name (Watershed Code)  |  |  |  |  |
| 17                    | Upper Coeur D'alene (17010301)+, Portneuf (17040208)+, Raft (17040210)+, Goose (17040211)+,<br>Middle Owyhee (17050107)+, North Fork Payette (17050123)+, Brownlee Reservoir (17050201)+,<br>Lemhi (17060204)+, Clearwater (17060306)+ |  |  |  |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

## Ecology & Life History

Basic Description: A bird (sapsucker).

**General Description:** Call a nasal or mewing "cheerrr" or "meeah" like yellow-bellied sapsucker; typical drumming pattern is a burst of several rapid thumps followed by several slow, rhythmic thumps (Peterson 1990, Howell and Webb 1995). Like other sapsuckers, leaves distinctive sign in horizontal rows of small, squarish sap wells around tree trunks, especially in broad-leaved trees. See Devillers (1970)

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and Dunn (1978) for detailed information on identification.

**Reproduction Comments:** Lays four to five eggs incubated by both female and male; incubation 12-13 days; young altricial; 25-26 days to fledging; both sexes attend young (Ehrlich et al. 1988). In Colorado, nests with eggs recorded throughout June. Nestlings noted late June to mid-July in Montana and Wyoming (Johnsgard 1986). In central Arizona, 100 percent of 18 nests monitored successfully fledged young (Li and Martin 1991). Re-use of same nest tree, but with a new cavity, each year suggests strong site fidelity (USDA Forest Service 1994).

**Ecology Comments:** Considered a "double keystone" species for its role excavating nest cavities and drilling sap wells, both of which are subsequently use by other species (Ehrlich and Daily 1988, Daily et al. 1993). Nest cavities are subsequently used by secondary cavity nesters, such as tree swallows (TACHYCINETA BICOLOR), violet-green swallows (TACHYCINETA THALASSINA), mountain bluebirds (SIALIA CURRUCOIDES), chickadees (POECILE spp.), northern flickers (COLAPTES AURATUS), and house wrens (TROGLODYTES AEDON; Daily et al. 1993). In one study, tree swallows and violet-green swallows were restricted to groves occupied by sapsuckers (Daily et al. 1993). Sap wells are used by 40+ species, including hummingbirds, warblers, chipmunks, squirrels, wasps and butterflies (Phillips 1964, Daily et al. 1993).

Centers of breeding abundance in British Columbia, the northern Rockies, northeastern Oregon, and the Colorado Rockies (Sauer et al. 1997). In Pacific Northwest, territory size reported as 4 hectares (Bull 1978). In California, defends territories 0.6 to 6.0 hectares in size (USDA Forest Service 1994).

Hybridizes with red-breasted sapsucker (SPHYRAPICUS RUBER) and yellow-bellied sapsucker (SPHYRAPICUS VARIUS) where distributions overlap and may produce viable hybrid offspring; hybrid and backcross matings, however, are apparently selected against (Scott et al. 1976, Johnson and Johnson 1985).

## Non-Migrant: N

#### Locally Migrant: Y

#### Long Distance Migrant: Y

**Mobility and Migration Comments:** Arrives in northern Rocky Mountains mainly April-May, departs late summer to early fall. In California, migrates north between end of March to end of April; fall migration lasts from September through the end of October (USDA Forest Service 1994). A transient and winter visitor in northwestern Mexico from late September to mid-April (Howell and Webb 1995). **Palustrine Habitat(s):** Riparian

**Terrestrial Habitat(s):** Forest - Hardwood, Forest - Mixed, Forest/Woodland, Woodland - Hardwood, Woodland - Mixed **Special Habitat Factors:** Standing snag/hollow tree

Habitat Comments: Breeding habitat is primarily coniferous forest that includes aspen and other hardwoods (AOU 1998), at elevations ranging from near sea level to 2,900 meters (Walters et al. 2002). In the Northern Rockies, the species is most abundant in cottonwood and aspen forests, also observed in other riparian cover types and in harvested conifer forests. Of harvest types, most observations were in patch cuts, seed-tree cuts, clearcuts, and older clearcuts. Birds in harvested stands and in drier conifer forests were probably associated with patches of deciduous trees (Hutto and Young 1999). In the Centennial Mountains, Idaho, sapsuckers used xeric tall willow communities (Douglas et al. 1992). In Wyoming and Colorado, sapsuckers were closely associated with aspen and mixed habitats (Finch and Reynolds 1988). In Colorado subalpine forests, they were significantly associated with habitats where aspen occurs near (less than 50 meters) willow, and used the willow for foraging (Ehrlich and Daily 1988, Daily et al. 1993). In the Pacific Northwest, the species typically breeds in aspen, riparian cottonwood, ponderosa pine, mixed conifer, and white fir forests (Bull 1978).

This species is a primary cavity nester that excavates nest holes in snags or living trees with a dead or rotten interior, and it shows a strong preference for aspen (Johnsgard 1986, Li and Martin 1991, Daily 1993;) but also uses paper birch, cottonwood, alder, western larch, ponderosa pine, Jeffrey pine, and lodgepole pine (Bent 1939, USDA Forest Service 1994). It especially favors aspen with heartwood decay brought about by shelf fungus (*Fomes igniarius* var. *populinus*), a heart rot that infects roots and dead branch stubs and spreads from the base of trees upward, but leaves the sapwood intact (Kilham 1971, Crockett and Hadow 1975, Daily 1993, Dobkin et al. 1995).

In a Colorado study, sapsuckers placed the first nest cavity close to ground and then excavated progressively higher cavities in subsequent years. Nest cavities were usually freshly excavated during the season of use and most nests were in trees bearing nest cavities excavated during previous years. Nest height averaged 2.7 meters in trees with no other cavities, 6.0 meters in trees with more than one cavity (Daily 1993). In a study in Colorado and Wyoming, sapsuckers used both healthy aspen and aspen infected by shelf fungus, nested in trees 17 to 42 centimeter dbh (mean 31 centimeter dbh) and used cavities that were 1 to 11 meters high (mean 5

meters; Crockett and Hadow 1975). In Colorado, abundance did not vary with differences in understories (herbaceous, short shrub, tall shrub) of mature aspen stands (Finch and Reynolds 1987).

In Oregon and Washington, the species is reported to nest in snags greater than or equal to 25.4 centimeter dbh at nest heights at least 4.6 meters (Thomas et al. 1979). In snow pocket and riparian aspen groves of the northwestern Great Basin, it used live trees more often than dead trees; nest trees measured 27 centimeter dbh and 14.6 meters high on average, were located an average of 20 meters from edges, and mean canopy cover was 76 percent (Dobkin et al. 1995). In western larch/Douglas-fir forests of northwestern Montana, it nested in both small and large trees, ranging from 22 to 119 centimeter dbh and averaging 58 centimeter dbh (McClelland et al. 1979).

In a study in mixed conifer forest in central Arizona, sapsuckers were strongly associated with large aspen (greater than 15 centimeter dbh), aspen snags, and large conifers (greater than 15 centimeter dbh), and negatively associated with shrub cover. Sapsuckers nested exclusively in aspen; mean nest height was 13.3 meters and mean dbh of nest trees was 37.1 centimeters (Li and Martin 1991).

Foraging includes drilling for sap in conifer (e.g., western larch, pine) and deciduous trees (e.g. aspen, willow, cottonwood, birch. In California, sapsuckers drilled in and around pitchy bole wounds on ponderosa pine that were the result of earlier overstory removal and porcupine feeding (Oliver 1970).

In migration and winter, habitat include various forest and open woodland habitats, parks, orchards, and gardens (AOU 1998). In southern California, winter habitats include riparian desert and other riparian habitats (USDA Forest Service 1994). In northwestern Mexico the species is found in forests and edge feeding at mid- to upper levels; it may overlap with wintering yellow-bellied sapsuckers in northcentral Mexico and red-breasted sapsuckers in northern Baja California (Howell and Webb 1995). In western Mexico, Hutto (1992) found red-naped sapsucker only in pine-oak-fir forest.

### Adult Food Habits: Invertivore

Immature Food Habits: Invertivore

**Food Comments:** Drills rows of small holes in conifer and broad-leaved trees and drinks the sap that flows from these holes; also feeds on insects caught in the sap. Amount of sap taken and tree species used vary seasonally (Scott et al. 1977). Sap is most important in seasons when insects are not abundant. Also feeds on tree cambium, ants, beetles, wasps, caterpillars, beetles, and small amounts of fruit and berries (Scott et al. 1977, USDA Forest Service 1994).

## Adult Phenology: Diurnal

Immature Phenology: Diurnal

#### **Economic Attributes**

#### **Management Summary**

**Stewardship Overview:** Occurs in the inland West, inhabiting montane coniferous forests mixed with deciduous groves, particularly aspen (POPULUS TREMULOIDES), cottonwood (POPULUS spp.), paper birch (BETULA PAPYRIFERA), and willow (SALIX spp.). Sapsucker nests are strongly associated with the presence of shelf fungus (FOMES IGNIARIUS var. POPULINUS), which advances heart rot in aspen. Considered a keystone species because it creates nest cavities and sap wells that are used by other birds, mammals, and insects. Locally common, populations are apparently stable to increasing, but there is concern over loss of aspen and cottonwood nesting habitat and large snags for nest cavities.

Species Impacts: May occasionally damage orchards (Phillips 1964).

**Restoration Potential:** Still relatively abundant in appropriate habitats. Restoring and sustaining populations will require an ecological approach to management that incorporates a landscape perspective of the required habitat mosaic, the relationship to aspen (POPULUS spp.) and presence of shelf fungus (FOMES IGNIARIUS var. POPULINUS), and management to sustain and regenerate riparian and aspen woodlands.

**Preserve Selection & Design Considerations:** Apparently responds to a habitat mosaic that includes broad-leaved trees (e.g., aspen [POPULUS spp.], birch [BETULA spp.], cottonwood [POPULUS spp.]) for nesting and adjacent coniferous forest and/or willows (SALIX spp.) for foraging (Ehrlich and Daily 1988, Tobalske 1992, USDA Forest Service 1994). Known to use natural edges of mature mixed conifer and deciduous hardwood habitats (USDA Forest Service 1994). In one study, sapsuckers showed a significant correlation with stand area and the presence of adjacent hardwoods (Rosenberg and Raphael 1986). No significant sensitivity to patch size was observed in a study of Idaho cottonwood gallery forests, although birds were more often detected in large patches (more than 10-200 hectares; 0.21 birds per point count visit) than in small patches (less than 1-3 hectares; 0.12 birds per point count visit; Saab 1998). **Management Requirements:** Sustaining populations requires maintaining, enhancing, and restoring snags, riparian woodlands, and

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hardwood stands of aspen (POPULUS spp.), birch (BETULA spp.), and cottonwood (POPULUS spp.) adjacent to coniferous forest.

FOREST MANAGEMENT: Both snags and live trees retained for the species should include a mix of hardwood and conifer species, particularly near riparian areas and mesic sites (USDA Forest Service 1994). Aspen and other trees with shelf fungus (FOMES IGNIARIUS var. POPULINUS) should be retained to provide optimal conditions for nest cavities. Access to conifer sap in adjacent forest is also important in the early spring, and to birches and aspens after bud-break (Tobalske 1992).

Thomas et al. (1979) estimated 25 centimeters was the minimum dbh required for a nest tree, and 4.6 meters the minimum cavity height. Nests have been reported in a wide range of tree sizes, from 9 to 47 centimeters dbh (Crockett and Hadow 1975, McClelland et al. 1979, Li and Martin 1991, Dobkin et al. 1995), with approximately 38 centimeter dbh the overall average.

Will use forest edges and logged forests, but extensive clearcuts or the removal of snags and preferred tree species would be detrimental. Also will use burns, partially-cut forests and small clearcuts where snags and live hardwood trees remain and adjacent forest is available for foraging (Bock and Lynch 1970, Tobalske 1992). In a western larch (LARIX OCCIDENTALIS) and Douglas-fir (PSEUDOTSUGA MENZIESII) forest in northwestern Montana, no significant difference in abundance or nest success was found between small partial cut and clearcut units (less than 16 hectares) and adjacent large tracts of unharvested even-aged forest. In cutting units, however, a large number of standing western larch snags and live paper birch (BETULA PAPYRIFERA) and aspen were retained (basal area of 1.8 to 8.0 square meters per hectare) and adjacent coniferous forest was available for feeding. The number of birch and aspen were equivalent in logged and unlogged stands, although canopy cover in logged stands was half that of unlogged stands (22 percent vs. 55 percent; Tobalske et al. 1991, Tobalske 1992). Assuming a linear relationship between sapsucker abundance and snag density, Bull (1978) recommended 150 snags greater than or equal to 25 centimeter dbh per 40 hectares to support maximum populations.

GRAZING: Mature riparian woodlands and regeneration of riparian trees have been heavily impacted by livestock throughout the West (Ohmart 1994). Grazing can have detrimental effects where the health and regeneration of aspen, cottonwood, and other preferred species is compromised. Studies of grazing impacts show mixed effects in the short term. In an Idaho cottonwood gallery forest where moderate to heavy grazing reduced understory shrub cover, Saab (1998) found no significant difference between grazed and unmanaged sites, although sapsucker abundances were slightly higher in unmanaged forest. Along one Colorado mountain stream, Schulz and Leninger (1991) observed sapsuckers only in grazed sites; however the authors indicated that aspen occurred in mesic upland areas but did not report the relationship between aspen cover and treatment. On a Nevada canyon stream, Medin and Clary (1991) found equal abundances in grazed and ungrazed sites, but the sites also showed no significant differences in percent forb cover, percent shrub cover, or in tree density.

On the other hand, in western Montana cottonwood/ponderosa pine (PINUS PONDEROSA) riparian habitat, were significantly more abundant on lightly grazed sites than on heavily grazed sites, where ground cover, bush cover, mid-canopy cover, and number of small trees (less than 10 centimeter dbh) were significantly reduced in the heavily grazed sites (Mosconi and Hutto 1982). In California/Nevada aspen habitat, Page et al. (1978, cited in Saab et al. 1995) also observed a negative response to grazing. **Monitoring Requirements:** A diurnal bird, readily recognized by its distinctive plumage, call, and drumming pattern. In the breeding season, individuals and individual populations can be readily observed and monitored with standard point count and other census techniques, and with sampling designs that include appropriate habitats. Relatively quiet in nonbreeding season, frequents the mid- to upper-canopy, and may be easily overlooked (Howell and Webb 1995). May require specialized monitoring that samples appopriate habitat (Saab and Rich 1997).

**Management Research Needs:** Management requirements have been little studied and there is ample opportunity to make significant contributions to the understanding of the species. Further study is needed of habitat relationships at multiple scales, and the effects of habitat alterations and management activities, particularly timber harvest, different grazing regimes, and fire. Better information is needed of nesting and foraging habitat relationships throughout the species range, and the species' relationship to the ecology and succession of hardwood and conifer woodlands. Landscape relationships, such as response to edge, fragmentation, patch size, and habitat juxtaposition are poorly known. Threats are largely unknown; regional assessments of the condition and trends in, aspen (POPULUS spp.), birch (BETULA spp.), and broad-leaved riparian cover types would help illuminate the threats to the species. Further understanding of interdependence of other species (e.g., shelf fungus) would provide an ecological perspective to management activities.

Biological Research Needs: Although this species is relatively common in appropriate habitats, its natural history has been little

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studied. Further research is needed on the distribution, migration, winter habitat use, and winter ecology. Its role as a keystone species deserves further study. Breeding biology, demographics, home range, territory size, site fidelity, dispersal, predators and competitors are poorly known.

### Population/Occurrence Delineation

Group Name: Woodpeckers

#### Use Class: Breeding

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** The high potential for gene flow among populations of birds separated by fairly large distances makes it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for woodpeckers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart.

Territories generally smaller than non-breeding home ranges. Territories/home ranges: Red-headed Woodpecker, summer territories 3.1-8.5 hectares (Venables and Collopy 1989), winter territories smaller (0.17 hectare to 1 hectare (Williams and Batzli 1979, Venables and Collopy 1989, Moskovits 1978); Lewis's Woodpecker, 1.0-6.0 hectares (Thomas et al. 1979); Golden-fronted Woodpecker, summer ranges larger than breeding territories, ranging from 15.4 to 41.7 hectares (average 24.9, Husak 1997); Gila Woodpecker, pair territories ranged from 4.45 to 10.0 hectares (n = 5) (Edwards and Schnell 2000); Nuttall's Woodpecker, about 65 hectares (0.8 kilometers diameter; Miller and Bock 1972); Hairy Woodpecker: breeding territories averaged 2.8 hectares, range 2.4 to 3.2 hectares (Lawrence 1967); Black-backed Woodpecker, home ranges 61-328 hectares (Goggans et al. 1988, Lisi 1988, Dixon and Saab 2000); White-headed Woodpecker, mean home ranges 104 and 212 hectares on old-growth sites and 321 and 342 hectares on fragmented sites (Dixon 1995a,b); Williamson's Sapsucker, home ranges 4-9 hectares (Crockett 1975).

Fidelity to breeding site: high in Red-headed Woodpeckers--15 of 45 banded adults returned to vicinity following year (Ingold 1991); one adult moved 1.04 kilometers between breeding seasons (Belson 1998).

Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .2 km

Inferred Minimum Extent Justification: Based on a conservatively small home range of 3 hectares.

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#### **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u> <u>Key for Ranking Species Element Occurrences Using the Generic Approach (2008).</u>

U.S. Invasive Species Impact Rank (I-Rank)

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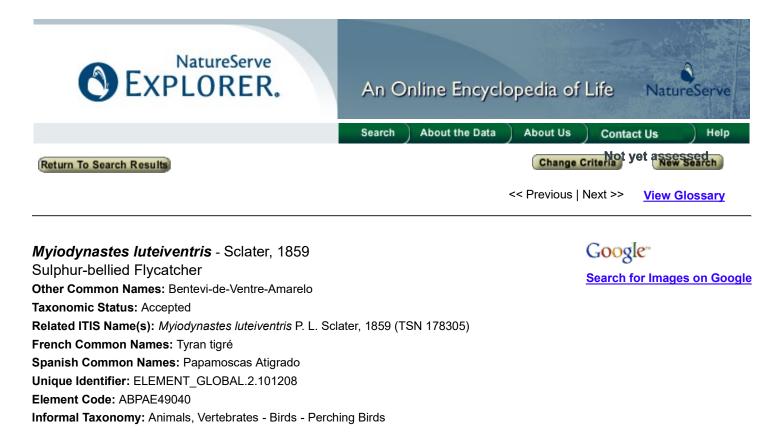
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Version 7.1 (2 February 2009) Data last updated: November 2016



| AnimaliaCraniataAvesPasseriformesTyrannidaeMyiodynastes | Kingdom  | Phylum   | Class | Order         | Family     | Genus        |
|---|----------|----------|-------|---------------|------------|--------------|
|   | Animalia | Craniata | Aves  | Passeriformes | Tyrannidae | Myiodynastes |

Genus Size: B - Very small genus (2-5 species)

Check this box to expand all report sections: ☑

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Myiodynastes luteiventris

**Conservation Status** 

#### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 02Dec1996 Global Status Last Changed: 02Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N3B (19Mar1997)

## U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

1 of 9

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United States

Arizona (S3)

# **Other Statuses**

IUCN Red List Category: LC - Least concern

## **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** BREEDS: primarily from southeastern Arizona, eastern Sonora, western Chihuahua, Nuevo Leon and Tamaulipas south along both slopes of Middle America to central Costa Rica. NORTHERN WINTER: South America, in Ecuador, Peru, and Bolivia, east of Andes.

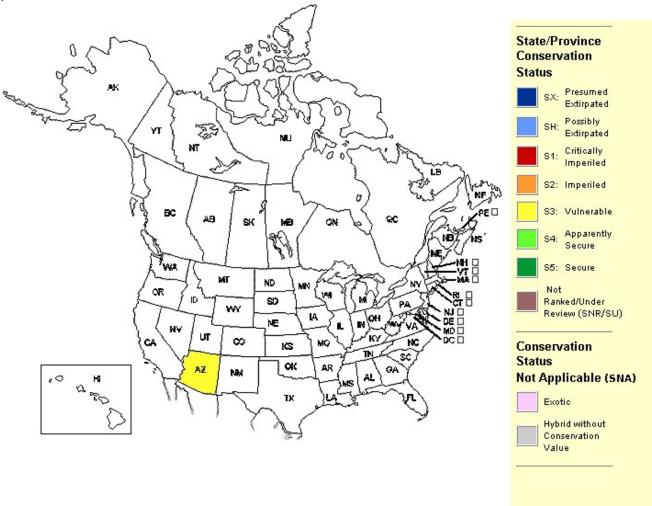
# **Other NatureServe Conservation Status Information**

#### Distribution

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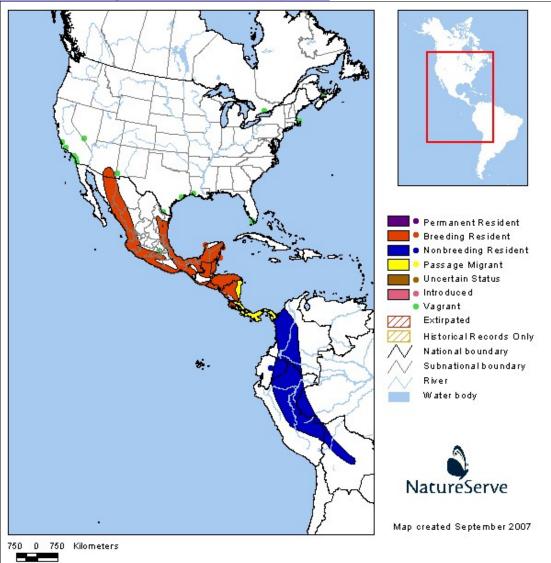
NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for

common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province | Distribution |
|------------------------------|--------------|
| United States                | AZ           |

#### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

## Ecology & Life History

**Reproduction Comments:** Clutch size is 2-4. Incubation, by female, lasts 15-16 days. Altricial young are tended by both adults, leave nest 16-18 days after hatching (Terres 1980). **Non-Migrant:** N

Locally Migrant: N

Long Distance Migrant: Y

**Mobility and Migration Comments:** Usually reaches breeding grounds in Arizona in early June. In Costa Rica, migrants from the north begin to appear by early August, depart (southward) by mid-October; northbound migrants arrive between early March and early April (Stiles and Skutch 1989). Arrives in southeastern Peru in late September-early October (Keast and Morton 1980).

Palustrine Habitat(s): Riparian

Terrestrial Habitat(s): Shrubland/chaparral, Woodland - Hardwood, Woodland - Mixed

Special Habitat Factors: Standing snag/hollow tree

Habitat Comments: Open woodland, forest edge, clearings, plantations and scrub (Tropical and Subtropical zones) (AOU 1983). In U.S., breeds primarily in sycamore-walnut canyons at 1500-1800 m. Costa Rica: in breeding season prefers dry forest and borders of wetter forest, semi-open, and open country country with scattered trees (Stiles and Skutch 1989). Usually nests in a tree cavity, sometimes in an abandoned woodpecker hole, 3-27 m above ground (Terres 1980, Stiles and Skutch 1989). May also nest in a bird box. Adult Food Habits: Frugivore, Invertivore

Immature Food Habits: Frugivore, Invertivore

**Food Comments:** Flys out from perch and gleans insects from leaves or hawks them from air; also feeds on small fruits and berries (Bent 1942), and arillate seeds (Stiles and Skutch 1989).

Adult Phenology: Diurnal

Immature Phenology: Diurnal

Length: 22 centimeters

Weight: 46 grams

**Economic Attributes** 

**Management Summary** 

**Population/Occurrence Delineation** 

Group Name: Passerines

## Use Class: Breeding

Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

## Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0

kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004 Author: Hammerson, G.

### Use Class: Migratory stopover

#### Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

## Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

## Use Class: Nonbreeding

## Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

## Separation Distance for Unsuitable Habitat: 5 km

# Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004

Author: Hammerson, G.

## Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

#### Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

## Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

#### **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008). The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

Authors/Contributors

Element Ecology & Life History Edition Date: 23Jan1990 Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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#### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf.

Full metadata for the Mammal Range Maps of North America is available at: <a href="http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf">http://www.natureserve.org/library/mammalsDistributionmetadatav1.pdf</a>.

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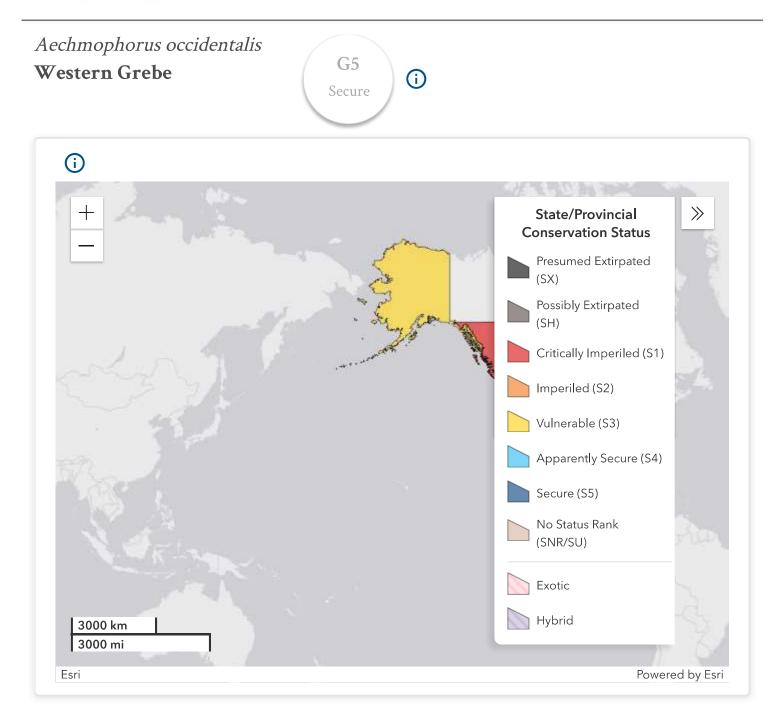
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Version 7.1 (2 February 2009) Data last updated: November 2016

# NatureServe EXPLORER



# Classification

Scientific Name: *Aechmophorus occidentalis* (Lawrence, 1858) Other Common Names: Achichilique Pico Amarillo (ES), Grèbe élégant (FR)

Kingdom: Animalia Phylum: Craniata

Class: Aves

**Order:** Podicipediformes

Family: Podicipedidae

Genus: Aechmophorus

Concept Reference: American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition.
American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.
Name Used in Concept Reference: Aechmophorus occidentalis
NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.106135
NatureServe Element Code: ABNCA04010
Related ITIS Names: Aechmophorus occidentalis (Lawrence, 1858) (TSN 174503)
Taxonomic Comments:

Light-phase birds, formerly included in this species, now regarded as distinct species, *A. clarkii* (Clark's grebe) (AOU 1985, 1998).

# **Conservation Status**

# NatureServe Status

Global Status: G5 Global Status Last Reviewed: 4/6/2016 Rank Method Used: Ranked by inspection

# National & State/Provincial Statuses

Canada: N4B,N2N3N,N4M

Alberta: S3B, British Columbia: S1B,S2N, Manitoba: S3S4B, Saskatchewan: S5B

### United States: N5B,N5N

Alaska: S3N, Arizona: S3, Arkansas: SNA, California: SNR, Colorado: S4B, Idaho: S2B, Illinois: SNA, Iowa: S2N, Kansas: S1B, Minnesota: SNRB, Montana: S4B, Navajo Nation: S3B,S4N, Nebraska: S3, Nevada: S4B, New Mexico: S3S4, North Dakota: SNRB, Oklahoma: S1N, Oregon: S3B,S2S3N, South Dakota: S4B, Texas: S3, Utah: S4B,S3N, Washington: S3B,S3N, Wyoming: S3S4B

# **Other Statuses**

U.S. Endangered Species Act: None

**Committee on the Status of Endangered Wildlife in Canada (COSEWIC):** Special Concern (5/2/2014) **Comments on COSEWIC:** 

#### Aechmophorus occidentalis | NatureServe Explorer 2.0

Reason for designation: Although population declines have occurred within this waterbirds Canadian wintering area on the Pacific coast, this could largely be the result of a southern shift in wintering distribution rather than a true loss in population size. Nevertheless, on a continental scale, wintering populations have undergone a 44% decline from 1995 to 2010 based on Christmas Bird Count data. Some of this decline may also be the result of declines on the Canadian

breeding grounds. In addition, this species propensity to congregate in large groups, both in breeding colonies and on its wintering areas, makes its population susceptible to a variety of threats, including oil spills, water level fluctuations, fisheries bycatch, and declines in prey availability.

Status history: Designated Special Concern in May 2014.

Canadian Species at Risk Act (SARA) Schedule 1/Annexe 1 Status: Special Concern/Préoccupante (11/2/2017)

# NatureServe Global Conservation Status Factors

**Range Extent:** 200,000 to >2,500,000 square km (about 80,000 to >1,000,000 square miles)

### Range Extent Comments:

BREEDS: south-central British Columbia, central Alberta, central Saskatchewan, and southwestern Manitoba, south to California, northern Utah, North Dakota, western Nebraska, northwestern Iowa, and western Minnesota; also locally in Mexico from Chihuahua and Durango south to Guerrero, Puebla, and San Luis Potosi. WINTERS: mainly along Pacific Coast from southeastern Alaska and British Columbia south to northwestern Mexico.

### **Threat Comments:**

Gregarious behavior makes it highly susceptible to oiling mortality in wintering areas. Vulnerable to disturbance of nesting colonies.

# Distribution

### National and State/Provincial Distribution:

**Canada:** AB, BC, MB, SK

United States: AK, AR, AZ, CA, CO, IA, ID, IL, KS, MN, MT, ND, NE, NM, NN, NV, OK, OR, SD, TX, UT, WA, WY

# Ecology and Life History

Length: 64 centimeters Weight: 1.477 kilograms Reproduction Comments:

#### Aechmophorus occidentalis | NatureServe Explorer 2.0

Reported average clutch size: about 2.5 in Utan, 3.4 in Colorado, 4.2 in North Dakota; dump nesting may result in large clutch in one nest. Incubation, by both adults in turn, lasts 3-4 weeks. Brood size usually is 1-3. Young are tended by both parents. Nests in colony; usually tens or hundreds of nests.

#### **Ecology Comments:**

Gregarious.

# **Mobility and Migration**

Colonial Breeder: Yes Non-Migrant: No Locally Migrant: Yes Long Distance Migrant: Yes Mobility and Migration Comments:

Begins departure from southernmost coastal wintering areas late March or April, moves inland by late April-early May. Migration evidently nocturnal over land, partly diurnal along coast. Apparently migrates in flocks.

# Habitat

Estuarine Habitats: River mouth/tidal river, Lagoon, Bay/sound Lacustrine Habitats: Deep water, Shallow water Marine Habitats: Near shore Palustrine Habitats: HERBACEOUS WETLAND Riverine Habitats: BIG RIVER, Low gradient Habitat Comments:

Marshes, lakes, and bays; in migration and winter also sheltered seacoasts, less frequently along rivers (Subtropical and Temperate zones) (AOU 1983). Nests on large inland bodies of water. Breeding ponds/lakes in North Dakota usually have 20 ha or more of open water. Nests usually in or very close to water deep enough to allow bird to swim submerged. Nests typically is anchored to, or build up over, living vegetation (Ehrlich et al. 1992).

# Phenology

Immature Phenologies: Diurnal Adult Phenologies: Diurnal

# Food

Immature Food Habits: Invertivore, Piscivore Adult Food Habits: Invertivore, Piscivore Food Comments:

Diet mainly fishes; opportunistic as to species eaten. Also eats insects (adults and larvae, especially in spring and summer), mollusks, crabs, marine worms, and salamanders. Ingests feathers and small stones. (Terres 1980, Johnsgard

1987). Obtains food underwater after diving from surface.

# Population / Occurrence Delineation

# **Use Class: Nonbreeding**

#### Group Name: Grebes

Minimum Criteria for an Occurrence:

Evidence of recurring presence of flocks (including historical) outside the breeding season; and potential recurring presence at a given location. Normally only areas where concentrations greater than 50 birds occur regularly for at least 20 days per year would be deemed EOs.

#### **Separation Barriers:**

None.

Separation Distance for Unsuitable Habitat: 5 kilometers Separation Distance for Suitable Habitat: 10 kilometers Separation Justification:

Separation distance is arbitrary, set at 10 kilometers to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of foraging birds, rather than on the basis of distinct populations.

Unsuitable habitat: upland areas.

Date: 2004-10-28 Author: Cannings, S., and G. Hammerson

# **Use Class: Breeding**

Group Name: Grebes Subtype(s): Foraging Area, Nesting Area Minimum Criteria for an Occurrence:

Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

#### **Separation Barriers:**

None.

Separation Distance for Unsuitable Habitat: 5 kilometers Separation Distance for Suitable Habitat: 10 kilometers

#### Separation Justification:

Separation distances are arbitrary. Unsuitable habitat: upland areas.

Home ranges during the breeding season usually quite small; each pair of Red-necked Grebes defends up to about 114 meters of shoreline and associated waters, where all activities take place (Palmer 1962). Pied-billed Grebes: average home range 1.3 hectares (a circle with a diameter of about 130 meters; Glover 1953), although occasionally as large as 35 hectares (Muller 1995).

# Inferred Minimum Extent of Habitat Use (when actual extent is unknown): 0.11 kilometers Inferred Minimum Extent Justification:

Based on conservative home ranges of Red-necked and Pied-billed Grebes.

Date: 2004-10-28 Author: Cannings, S., and G. Hammerson

# Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

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Page Last Published: 7/31/2020



Spanish Common Names: Junco Ojo de Lumbre

Unique Identifier: ELEMENT\_GLOBAL.2.101400

Element Code: ABPBXA5030

Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds

| Kingdom  | Phylum   | Class | Order         | Family      | Genus |
|----------|----------|-------|---------------|-------------|-------|
| Animalia | Craniata | Aves  | Passeriformes | Emberizidae | Junco |

Genus Size: B - Very small genus (2-5 species)

Check this box to expand all report sections:  $\square$ 

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

Name Used in Concept Reference: Junco phaeonotus

**Taxonomic Comments:** The four groups sometimes have been considered distinct species: *phaenotus* [Mexican Junco]; *bairdi* [Baird's Junco]; *fulvescens* [Chiapas Junco]; and *alticola* [Guatemala Junco] (AOU 1983, 1998).

**Conservation Status** 

#### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 04Dec1996 Global Status Last Changed: 04Dec1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N3 (19Mar1997)

### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for

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your jurisdiction.

United States

Arizona (S3), New Mexico (S2B,S2N)

### **Other Statuses**

IUCN Red List Category: LC - Least concern

### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** RESIDENT: southern Arizona, extreme southwestern New Mexico, northeastern Sonora, Chihuahua, northern Coahuila, Nuevo Leon and southwestern Tamaulipas south through mountains to Oaxaca and western Veracruz; southern Baja California; interior of Chiapas; mountains of southeastern Chiapas and western Guatemala (AOU 1983).

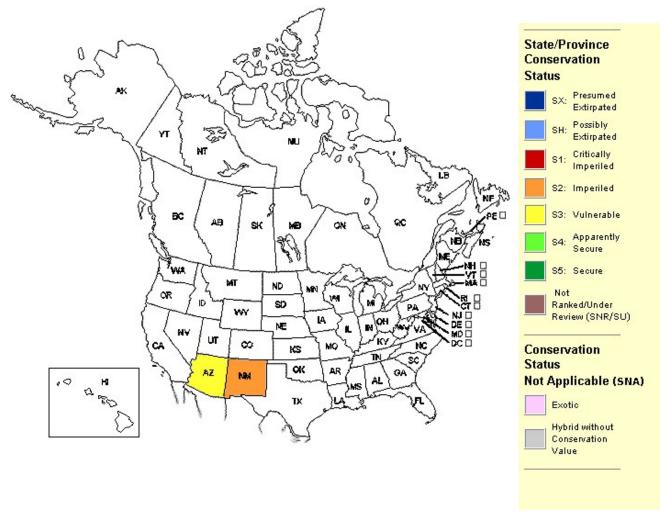
### **Other NatureServe Conservation Status Information**

#### Distribution

**Global Range:** RESIDENT: southern Arizona, extreme southwestern New Mexico, northeastern Sonora, Chihuahua, northern Coahuila, Nuevo Leon and southwestern Tamaulipas south through mountains to Oaxaca and western Veracruz; southern Baja California; interior of Chiapas; mountains of southeastern Chiapas and western Guatemala (AOU 1983).

### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

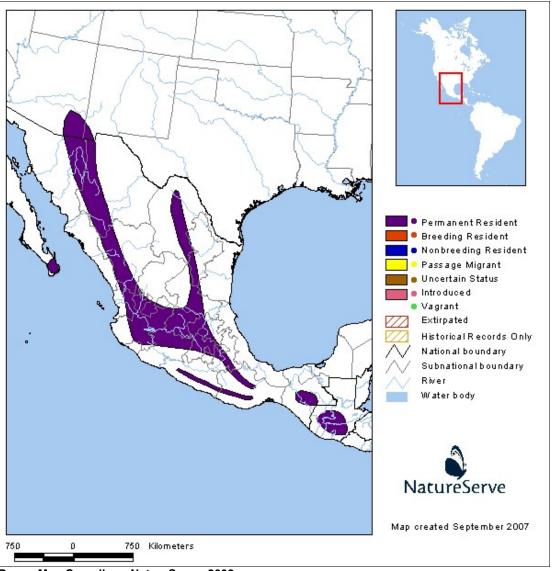


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Canada State/Province Distribution |        |  |  |
|---|--------|--|--|
| United States                             | AZ, NM |  |  |

#### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S. Distribution by County 📀    |                         |  |
|----------------------------------|-------------------------|--|
| State                            | County Name (FIPS Code) |  |
| NM                               | Hidalgo (35023)         |  |
| * Extirnated/nossibly extirnated |                         |  |

xtirpated/possibly extirpated

| U.S. Distribution by Watershed 🕜 |                                 |  |
|----------------------------------|---------------------------------|--|
| Watershed Region ⊘               | Watershed Name (Watershed Code) |  |
| 13                               | Playas Lake (13030201)+         |  |
| 15                               | Animas Valley (15040003)+       |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### **Ecology & Life History**

Reproduction Comments: In southeastern Arizona, the earliest nests are initiated in late April (Horvath and Sullivan 1988). In north, clutch size is 3-4, sometimes 5. Up to 3 broods/season. Incubation lasts 13 days. Nestlings spend 9-12 days in the nest, fed by both parents.

Ecology Comments: Spends winter in family-size groups. In one study, predation was main cause of death of nestlings and fledglings; starvation was major mortality factor for recently independent juveniles (Sullivan 1989). Non-Migrant: Y

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Locally Migrant: Y

Long Distance Migrant: N

**Mobility and Migration Comments:** In southeastern Arizona, migrates to lower elevations for winter, probably within 15 km of breeding site; generally winters in same area in successive years; return to high elevation breeding areas begins in late February but may be reversed by late winter storms (Horvath and Sullivan 1988).

**Terrestrial Habitat(s):** Cropland/hedgerow, Forest - Conifer, Forest - Mixed, Shrubland/chaparral, Woodland - Conifer, Woodland - Mixed

Habitat Comments: Open coniferous forest, pine-oak association and adjacent scrub, brush, pastures and fields (upper Subtropical and Temperate zones) (AOU 1983). Nests usually on ground; nest often concealed under bunch grass, a log, rock, or bush. Female constructs nest.

Adult Food Habits: Granivore, Invertivore Immature Food Habits: Granivore, Invertivore Food Comments: Feeds on insects and seeds. Usually feeds on or close to the ground. Adult Phenology: Diurnal Immature Phenology: Diurnal Length: 16 centimeters Weight: 20 grams Economic Attributes Management Summary Population/Occurrence Delineation

Group Name: Passerines

#### Use Class: Breeding

#### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

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For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Use Class: Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

Separation Distance for Unsuitable Habitat: 5 km

Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004 Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence,

even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.
Date: 03Sep2004
Author: Hammerson G

Author: Hammerson, G.

#### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

#### Separation Barriers: None.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

#### **Population/Occurrence Viability**

Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).

The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

#### Authors/Contributors

### Element Ecology & Life History Edition Date: 24Mar1994 Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

#### References

• American Ornithologists' Union (AOU). 1983. Check-list of North American Birds, 6th edition. Allen Press, Inc., Lawrence, Kansas. 877 pp.

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **March 26, 2018** 

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#### Citation for data on website including State Distribution, Watershed, and Reptile Range maps:

NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

#### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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#### Return To Search Results



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Setophaga petechia - (Linnaeus, 1766) Yellow Warbler Other English Common Names: yellow warbler Synonym(s): Dendroica petechia (Linnaeus, 1766) Taxonomic Status: Accepted Related ITIS Name(s): Dendroica petechia (Linnaeus, 1766) (TSN 178878) French Common Names: paruline jaune Spanish Common Names: Chipe Amarillo Unique Identifier: ELEMENT\_GLOBAL.2.106383 Element Code: ABPBX03010 Informal Taxonomy: Animals, Vertebrates - Birds - Perching Birds



C Bruce A. Sorrie

| Kingdom  | Phylum   | Class | Order         | Family    | Genus     |
|----------|----------|-------|---------------|-----------|-----------|
| Animalia | Craniata | Aves  | Passeriformes | Parulidae | Setophaga |

Genus Size: D - Medium to large genus (21+ species)

Check this box to expand all report sections: ☑

#### **Concept Reference**

**Concept Reference:** American Ornithologists' Union (AOU). 1998. Check-list of North American birds. Seventh edition. American Ornithologists' Union, Washington, D.C. [as modified by subsequent supplements and corrections published in *The Auk*]. Also available online: http://www.aou.org/.

Concept Reference Code: B98AOU01NAUS

#### Name Used in Concept Reference: Dendroica petechia

**Taxonomic Comments:** Phylogenetic analyses of sequences of mitochondrial and nuclear DNA (Lovette et al. 2010) indicate that all species formerly placed in *Dendroica*, one species formerly placed in *Wilsonia* (*citrina*), and two species formerly placed in *Parula* (*americana* and *pitiayumi*) form a clade with the single species traditionally placed in *Setophaga* (*ruticilla*). The generic name *Setophaga* has priority for this clade (AOU 2011).

Comprises three groups that formerly were regarded as separate species: *D. aestiva* (Yellow Warbler, of Canada and U.S.), *D. petechia* (Golden Warbler, of southern Florida and West Indies), and *D. erithachorides* (Mangrove Warbler, of both coasts of Middle America and northern South America) (AOU 1983, 1998). Browning (1994) examined geographic variation in plumage color and pattern and recognized 43 subspecies, some of which he described as new. Undoubtedly, some would question whether all of these represent units worthy of taxonomic recognition. Klein and Brown (1994) examined mtDNA variation in populations from North America, Central America, South America, and the West Indies. Only one of 37 identified haplotypes was found in more than one of these regions. The mtDNAs from North American migratory populations clearly were differentiated from those of most tropical sedentary populations. Apparently multiple colonizations of the West Indies archipelago and of individual Caribbean islands have occurred.

#### **Conservation Status**

#### NatureServe Status

Global Status: G5 Global Status Last Reviewed: 09Apr2016 Global Status Last Changed: 03Dec1996 Ranking Methodology Used: Ranked by inspection Rounded Global Status: G5 - Secure Nation: United States 0

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National Status: N5B,N5N (19Mar1997) Nation: Canada National Status: N5B (12Feb2012)

### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

| United<br>States | Alabama (S2B), Alaska (S5B), Arizona (S4), Arkansas (S3B,S5N), California (S3S4), Colorado (S5), Connecticut (S5B),<br>Delaware (S4B), District of Columbia (S2N), Florida (SNRB,SNRN), Georgia (S4), Idaho (S5B), Illinois (S5), Indiana (S4B),<br>Iowa (S4B), Kansas (S4B), Kentucky (S4S5B), Louisiana (SNA), Maine (S5B), Maryland (S5B), Massachusetts (S5B),<br>Michigan (S5), Minnesota (SNRB), Mississippi (SNA), Missouri (SNRB), Montana (S5B), Navajo Nation (S3B), Nebraska<br>(S5), Nevada (S3S4B,S4M), New Hampshire (S5B), New Jersey (S4B), New Mexico (S4B,S4N), New York (S5B), North<br>Carolina (S4B), North Dakota (SNRB), Ohio (S5), Oklahoma (S3B), Oregon (S4B), Pennsylvania (S5B), Rhode Island (S5B),<br>South Carolina (SNRB), South Dakota (S5B), Tennessee (S5), Texas (S2B,S5N), Utah (S4S5B), Vermont (S5B), Virginia<br>(S5), Washington (S4S5B), West Virginia (S5B), Wisconsin (S5B), Wyoming (S5B,S5N) |
|------------------|--|
|                  | Alberta (S5), British Columbia (S4S5B), Labrador (S5B), Manitoba (S5B), New Brunswick (S5B), Newfoundland Island (S5B),<br>Northwest Territories (S5B), Nova Scotia (S5B), Nunavut (SUB), Ontario (S5B), Prince Edward Island (S5B), Quebec (S5B),<br>Saskatchewan (S5B). Yukon Territory (S5B)  |

#### **Other Statuses**

IUCN Red List Category: LC - Least concern

#### **NatureServe Global Conservation Status Factors**

**Range Extent Comments:** Breeding range extends from northern Alaska across northern Canada to Labrador, and south to Panama and through the West Indies to the northern coast of South America. Range during the northern winter extends from southern California, southern Arizona, northern Mexico, and southern Florida south to central Peru, northern Bolivia, and Amazonian Brazil. Resident populations exist in the West Indies (Pashley 1988, Pashley 1988, Pashley and Hamilton 1990) and Middle America, along the Gulf-Caribbean coast to Venezuela, and on the Pacific coast of South America south to northwestern Peru.

**Overall Threat Impact Comments:** Jeopardized in some areas by loss of riparian habitat in combination with heavy brood parasitism by cowbirds (Ehrlich et al. 1992).

**Short-term Trend Comments:** Reportedly as declining in several areas in the U.S., most seriously in California and Arizona (Ehrlich et al. 1992). Breeding Bird Survey data indicate a significant population increase in eastern North America, 1966-1988 and 1978-1988; a significant decrease in central North America, 1966-1988; and a significant increase in western North America, 1978-1988 (Sauer and Droege 1992).

#### **Other NatureServe Conservation Status Information**

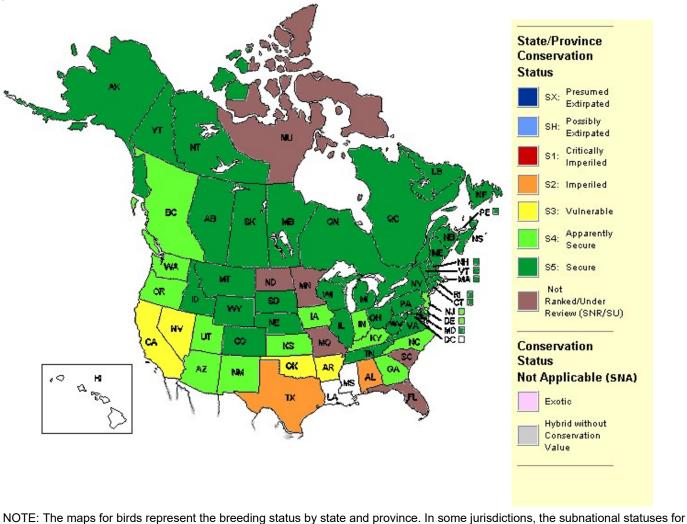
#### Distribution

**Global Range:** Breeding range extends from northern Alaska across northern Canada to Labrador, and south to Panama and through the West Indies to the northern coast of South America. Range during the northern winter extends from southern California, southern Arizona, northern Mexico, and southern Florida south to central Peru, northern Bolivia, and Amazonian Brazil. Resident populations exist in the West Indies (Pashley 1988, Pashley 1988, Pashley and Hamilton 1990) and Middle America, along the Gulf-Caribbean coast to Venezuela, and on the Pacific coast of South America south to northwestern Peru.

#### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your



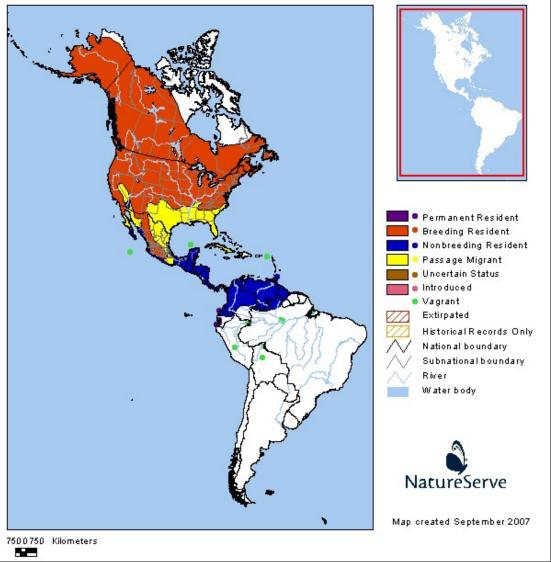


NOTE: The maps for birds represent the breeding status by state and province. In some jurisdictions, the subnational statuses for common species have not been assessed and the status is shown as not-assessed (SNR). In some jurisdictions, the subnational status refers to the status as a non-breeder; these errors will be corrected in future versions of these maps. A species is not shown in a jurisdiction if it is not known to breed in the jurisdiction or if it occurs only accidentally or casually in the jurisdiction. Thus, the species may occur in a jurisdiction as a seasonal non-breeding resident or as a migratory transient but this will not be indicated on these maps. See other maps on this web site that depict the Western Hemisphere ranges of these species at all seasons of the year. **Endemism:** occurs (regularly, as a native taxon) in multiple nations

| U.S. & Car       | U.S. & Canada State/Province Distribution  |  |  |  |
|------------------|--|--|--|--|
| United<br>States | AK, AL, AR, AZ, CA, CO, CT, DC, DE, FL, GA, IA, ID, IL, IN, KS, KY, LA, MA, MD, ME, MI, MN, MO, MS, MT, NC, ND, NE, NH, NJ, NM, NN, NV, NY, OH, OK, OR, PA, RI, SC, SD, TN, TX, UT, VA, VT, WA, WI, WV, WY |  |  |  |
| Canada           | AB, BC, LB, MB, NB, NF, NS, NT, NU, ON, PE, QC, SK, YT   |  |  |  |

### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: NatureServe, 2002

| U.S.   | J.S. Distribution by County 🕜   |  |  |  |  |
|--------|---|--|--|--|--|
| State  | State County Name (FIPS Code)   |  |  |  |  |
| CA     | Alameda (06001), Butte (06007), Fresno (06019), Imperial (06025)*, Inyo (06027), Kern (06029)*, Los<br>Angeles (06037), Marin (06041)*, Mendocino (06045)*, Mono (06051), Monterey (06053)*, Nevada (06057),<br>Placer (06061), Riverside (06065), San Bernardino (06071), San Diego (06073), San Joaquin (06077), Santa<br>Barbara (06083), Sierra (06091), Tehama (06103), Ventura (06111)* |  |  |  |  |
| FL     | Monroe (12087)  |  |  |  |  |
| ID     | Ada (16001), Bannock (16005), Blaine (16013), Bonneville (16019), Boundary (16021), Cassia (16031),<br>Custer (16037), Franklin (16041), Fremont (16043), Gooding (16047), Jefferson (16051), Latah (16057),<br>Lemhi (16059), Nez Perce (16069), Owyhee (16073), Shoshone (16079), Valley (16085)  |  |  |  |  |
| OK     | Murray (40099)  |  |  |  |  |
| WY     | Carbon (56007), Lincoln (56023), Sublette (56035)   |  |  |  |  |
| * Exti | pated/possibly extirpated   |  |  |  |  |

| U.S. Distribution by Watershed 📀 |                                      |  |
|----------------------------------|--------------------------------------|--|
| Watershed<br>Region 🕜            | Watershed Name (Watershed Code)      |  |
| 03                               | Florida Bay-Florida Keys (03090203)+ |  |
| 10                               | Upper North Platte (10180002)+       |  |
| 11                               | Middle Washita (11130303)+           |  |

| 14 | Upper Green (14040101)+   |
|----|---|
| 15 | Havasu-Mohave Lakes (15030101)+, Imperial Reservoir (15030104)+, Lower Colorado (15030107)+*  |
| 16 | Middle Bear (16010202)+, Lake Tahoe (16050101)+, Truckee (16050102)+  |
| 17 | Lower Kootenai (17010104)+, Upper Coeur D'alene (17010301)+, Idaho Falls (17040201)+, Lower<br>Henrys (17040203)+, Willow (17040205)+, Portneuf (17040208)+, Raft (17040210)+, Goose (17040211)+,<br>Upper Snake-Rock (17040212)+, Big Lost (17040218)+, Little Wood (17040221)+, Upper<br>Owyhee (17050104)+, Middle Owyhee (17050107)+, Boise-Mores (17050112)+, Lower Boise (17050114)+,<br>North Fork Payette (17050123)+, Lemhi (17060204)+, Lower Salmon (17060209)+, Clearwater (17060306)+  |
| 18 | Upper Eel (18010103)+*, Upper Yuba (18020125)+, Upper Bear (18020126)+, North Fork<br>American (18020128)+*, Cottonwood Creek (18020152)+, Paynes Creek-Sacramento River (18020155)+,<br>Thomes Creek-Sacramento River (18020156)+*, Butte Creek (18020158)+, South Fork Kern (18030002)+*,<br>Upper San Joaquin (18040006)+, Upper Mokelumne (18040012)+, San Francisco Bay (18050004)+,<br>Tomales-Drake Bays (18050005)+*, Salinas (18060005)+*, Santa Maria (18060008)+, Santa<br>Clara (18070102)+, Santa Ana (18070203)+, Santa Margarita (18070302)+, San Luis Rey-<br>Escondido (18070303)+, San Diego (18070304)+, Mono Lake (18090101)+, Upper<br>Amargosa (18090202)+*, Death Valley-Lower Amargosa (18090203)+*, Indian Wells-Searles<br>Valleys (18090205)+, Mojave (18090208)+*, Southern Mojave (18100100)+*, Whitewater<br>River (18100201)+, Carrizo Creek (18100202)+, Salton Sea (18100204)+ |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### Ecology & Life History

**General Description:** The plumage more extensively yellow than that of most other wood-warblers; the yellow areas on the inner webs of the tail feathers (except inner pair) are unique. Adult males in breeding plumage have a bright yellow face, throat, and remaining underparts, variably streaked with chestnut below the throat, and the upperparts are yellow-green to olive, with the wing feathers edged yellow. Breeding female is similar but less boldly marked (often duller or greener on upperparts), with reduced chestnut streaking on the underparts. Adults in winter are duller and more greenish above, and the streaking on the underparts is somewhat obscured. Immatures are duller than are adults and more greenish (may show very little yellow), and the streaking on the underparts is reduced or absent. Length is around 5 inches (13 cm).

See Kaufman (1991, Am. Birds 45:167-170) for detailed information on identification. See Wiedenfeld (1991) for information on geographical variation in male morphology.

**Reproduction Comments:** Nesting occurs mainly in May-June but may continue into July or rarely August. Clutch size is 3-6 in most region (usually 4-5, but mean of 2.5 in southern Florida). Incubation, by the female, lasts 11-12 days. Young are tended by both parents, leave nest at 9-12 days. Females generally attempt only one brood per year.

Yellow warblers are commonly subjected to brood parasitism by brown-headed cowbirds. Adult warblers often can be seen feeding much larger cowbird fledglings.

Ecology Comments: Breeding territories are as small as 0.16 ha (Harrison 1979).

See Weatherhead 1989 for relations among yellow warbler, red-winged blackbird, and brown-headed cowbird in Manitoba (yellow warbler heavily impacted by cowbird parasitism; cowbirds abundant due to success of cowbirds in blackbird nests).

Migrants are solitary and territorial in winter (Stiles and Skutch 1989, Greenberg and Salgado Ortiz 1994).

Non-Migrant: Y

Locally Migrant: Y

Long Distance Migrant: Y

**Mobility and Migration Comments:** Migrants arrive in breeding areas in northern contiguous United States mainly in Arpil-May, primarily in May in interior Alaska. Southward migration from northern nesting areas begins as early as July (or August in the far north), and southward migration throughout the contiguous United States continues through September-October and rarely into November in some areas.

In Costa Rica, abundant fall migrant September-October, with small numbers arriving by mid-August; migrants depart by early to mid-May (Stiles and Skutch 1989). Migrants are present in South America mainly September-April (Ridgely and Tudor 1989). Nonmigratory populations occur in the West Indies, Middle America, and northern coastal South America.

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### Estuarine Habitat(s): Scrub-shrub wetland

### Palustrine Habitat(s): FORESTED WETLAND, Riparian

Terrestrial Habitat(s): Old field, Shrubland/chaparral, Suburban/orchard, Woodland - Hardwood

Habitat Comments: Habitat includes open scrub, second-growth woodland, thickets, farmlands, and gardens, especially near water; riparian woodlands, especially of willows, are typical habitat in the West. In migration and winter, yellow warblers often occur in open woodland, plantations, brushy areas, and forest edge. Winter habitat in Mexico generally has a clear open understory (Greenberg and Salgado Ortiz 1994). Southern populations occupy mangroves, scrub, and thickets. Nests are placed in upright forks or crotches of bushes (e.g., willow), saplings, or large trees, from less than a meter above ground to high in tall trees.

See Knopf and Sedgwick (1992) for information on nest-site selection in north-central Colorado, where sites were chosen based primarily on characteristics of the vegetation patch rather than on characteristics of the nest plant itself.

#### Adult Food Habits: Invertivore

#### Immature Food Habits: Invertivore

**Food Comments:** Eats insects (especially caterpillars) and spiders. Takes most food items from leaves or bark; sometimes flycatches; occasionally eats small fruits or probes in flowers (Lack 1976).

Adult Phenology: Diurnal

Immature Phenology: Diurnal

Length: 13 centimeters

Weight: 10 grams

**Economic Attributes** 

**Management Summary** 

**Population/Occurrence Delineation** 

Group Name: Passerines

#### Use Class: Breeding

#### Subtype(s): Foraging Area, Nest Site, Nesting Colony

**Minimum Criteria for an Occurrence:** Evidence of historical breeding, or current and likely recurring breeding, at a given location, minimally a reliable observation of one or more breeding pairs in appropriate habitat. Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Mapping Guidance: Breeding occurrences include nesting areas as well as foraging areas.

For swallows and other species that have separate nesting and foraging areas, separations are based on nest sites or nesting areas, not to locations of foraging individuals. For example, nesting areas separated by a gap larger than the separation distance are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Mean foraging radius (from nesting area) of Brown-headed Cowbird females was 4.0 kilometers in California, 1.2 kilometers in Illinois-Missouri (Thompson 1994). Yellow-headed Blackbirds, Brewer's Blackbirds, and

probably Red-winged Blackbirds all forage up to 1.6 kilometers away from breeding colony (Willson 1966, Horn 1968). In one study, Brewer's Blackbirds were found as far as 10 kilometers from nesting area (Williams 1952), but this may be unusual.

For swallows and other parrerines with similar behavioral ecology, separation distance pertains to nest sites or nesting colonies, not to locations of foraging individuals. For example, nesting areas separated by a gap of more than 5 km are different occurrences, regardless of the foraging locations of individuals from those nesting areas. This separation procedure is appropriate because nesting areas are the critical aspect of swallow breeding occurrences, tend to be relatively stable or at least somwhat predictable in general location, and so are the basis for effective conservation; foraging areas are much more flexible and not necessarily static.

Be cautious about creating EOs for observations that may represent single breeding events outside the normal breeding distribution.

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids). Date: 10Sep2004

Author: Hammerson, G.

#### **Use Class:** Migratory stopover

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** For most passerines: Evidence of recurring presence of migrating individuals (including historical) and potential recurring presence at a given location; minimally a reliable observation of 25 birds in appropriate habitat.

For swallows: Evidence of recurring presence of migrating flocks (including historical) and potential recurring presence at a given location; minimally a reliable observation of 100 birds in appropriate habitat (e.g., traditional roost sites).

Occurrences should be locations where the species is resident for some time during the appropriate season; it is preferable to have observations documenting presence over at least 7 days annually.

EOs should not be described for species that are nomadic during nonbreeding season: e.g., Lark Bunting.

Be cautious about creating EOs for observations that may represent single events.

#### Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Separation distance somewhat arbitrary but intended to define occurrences of managable size for conservation purposes. Occurrences defined primarily on the basis of areas supporting concentrations of birds, rather than on the basis of distinct populations.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter.

Date: 03Sep2004

Author: Hammerson, G., and S. Cannings

#### Use Class: Nonbreeding

Subtype(s): Foraging Area, Roost Site

**Minimum Criteria for an Occurrence:** Any area used traditionally in the nonbreeding season (used for populations that are not resident in a location year-round). Minimally, reliable observations of 10 or more individuals in appropriate habitat for 20 or more days at a time. For G1-G3 species, observations of fewer individuals could constitute an occurrence of conservation value. Sites used during migration should be documented under the 'migratory stopover' location use class.

Separation Distance for Unsuitable Habitat: 5 km Separation Distance for Suitable Habitat: 5 km **Separation Justification:** Separation distance is necessarily arbitrary but attempts to balance the high mobility of birds with the need for occurrences of reasonable spatial scope. Note that a population's roost sites and foraging areas are parts of the same occurrence, even if they are more than 5 km apart.

For swallows and other species with similar behavioral ecology, the separation distance pertains to communal roost sites rather than to foraging areas; the former tend to be more stable and specific over time than the latter. **Date:** 03Sep2004 **Author:** Hammerson, G.

#### Use Class: Nonmigratory

**Minimum Criteria for an Occurrence:** Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a particular location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals in or near appropriate habitat.

These occurrence specifications are used for nonmigratory populations of passerine birds.

#### Separation Barriers: None.

Separation Distance for Unsuitable Habitat: 5 km

#### Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Significant dispersal and associated high potential for gene flow among populations of birds separated by tens of kilometers (e.g., Moore and Dolbeer 1989), and increasing evidence that individuals leave their usual home range to engage in extrapair copulations, as well as long foraging excursions of some species, make it difficult to circumscribe occurrences on the basis of meaningful population units without occurrences becoming too large. Hence, a moderate, standardized separation distance has been adopted for songbirds and flycatchers; it should yield occurrences that are not too spatially expansive while also accounting for the likelihood of gene flow among populations within a few kilometers of each other.

Be careful not to separate a population's nesting areas and breeding-season foraging areas as different occurrences; include them in the same occurrence even if they are more than 5 km apart. Blue jays have small summer home ranges but fly up to 4 kilometers to harvest mast (Tarvin and Woolfenden 1999). Flocks of pinyon jays range over 21-29 square kilometers (Ligon 1971, Balda and Bateman 1971); nesting and foraging areas may be widely separated. Tricolored blackbirds forage in flocks that range widely to more than 15 kilometers from the nesting colony (Beedy and Hamilton 1999).

Unsuitable habitat: Habitat not normally used for breeding/feeding by a particular species. For example, unsuitable habitat for grassland and shrubland birds includes forest/woodland, urban/suburban, and aquatic habitats. Most habitats would be suitable for birds with versatile foraging habits (e.g., most corvids).

Date: 10Sep2004

Author: Hammerson, G.

Notes: These specs pertain to nonmigratory species.

#### **Population/Occurrence Viability**

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this method.</u>

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

#### Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 01Feb2010 NatureServe Conservation Status Factors Author: Hammerson, G. Element Ecology & Life History Edition Date: 01Feb2010 Element Ecology & Life History Author(s): Hammerson, G.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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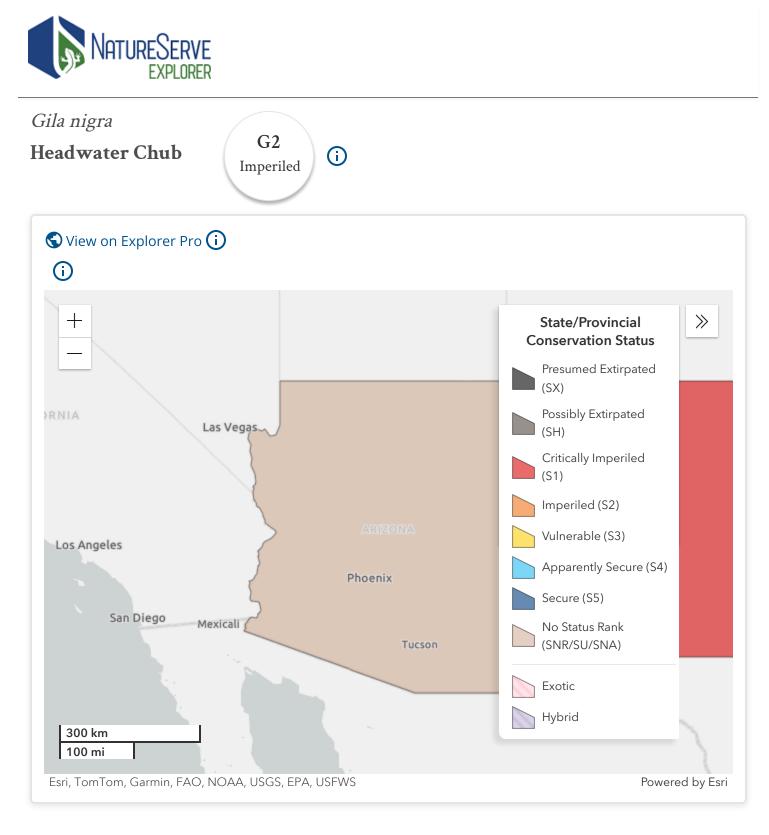
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Version 7.1 (2 February 2009) Data last updated: November 2016



# Classification

Scientific Name: Gila nigra Cope, 1875

Kingdom: Animalia

Phylum: Craniata

Class: Actinopterygii Order: Cypriniformes Family: Leuciscidae

Genus: Gila

Scientific Name Reference: Page, L. M., H. Espinosa-Pérez, L. T. Findley, C. R. Gilbert, R. N. Lea, N. E. Mandrak, R. L. Mayden, and J. S. Nelson. 2013. Common and scientific names of fishes from the United States, Canada, and Mexico. Seventh edition. American Fisheries Society, Special Publication 34, Bethesda, Maryland.
Concept Reference: Minckley, W. L., and B. D. DeMarais. 2000. Taxonomy of chubs (Teleostei, Cyprinidae, genus *Gila*) in the American Southwest with comments on conservation. Copeia 2000:251-256.
Name Used in Concept Reference: *Gila nigra*NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.102630
NatureServe Element Code: AFCJB13180
Related ITIS Names: *Gila nigra* Cope in Cope and Yarrow, 1875 (TSN 689138)
Taxonomic Comments:

Minckley and DeMarais (2000) proposed that "*Gila nigra*," an assemblage that possibly arose through more than one hybridization event between *Gila robusta* and *Gila intermedia*, be recognized as a distinct species ("headwater chub"). However, Gerber et al. (2001) cited several studies of allozymic and mtDNA characters that failed to identify any diagnostic characters among *Gila intermedia*, *Gila nigra*, and *Gila robusta robusta*; they referred to these taxa as "*G. robusta*." Nevertheless, the AFS checklists (Nelson et al. 2004, Page et al. 2013) list *Gila robusta* and *Gila nigra* as distinct species.

# **Conservation Status**

# NatureServe Status

Global Status: G2 Global Status Last Reviewed: 2/9/2012 Global status needs review. Rank Method Used: Ranked by inspection Reasons:

Small range in Gila River basin, Arizona and New Mexico; declining as a result of habitat loss and degradation and effects of non-native fishes; recently recognized as a distinct species, but some molecular evidence indicates that this taxon should be lumped with *Gila robusta*.

# National & State/Provincial Statuses

United States: N2

Arizona: SNR, New Mexico: S1

# **Other Statuses**

### U.S. Endangered Species Act: None Comments on Endangered Species Act Statuses:

These fish are now recognized as a part of a single taxonomic species—the roundtail chub (*Gila robusta*). Because the entities previously proposed for listing are no longer recognized as species, as defined by the Act, USFWS (2017) have determined that they are not listable entities and they withdrew the proposed rule to add them to the List of Endangered and Threatened Wildlife.

# **Committee on the Status of Endangered Wildlife in Canada (COSEWIC):** None **American Fisheries Society Status:** Endangered (8/1/2008)

### **NatureServe Global Conservation Status Factors**

Range Extent: 5000-200,000 square km (about 2000-80,000 square miles) Range Extent Comments:

Range is confined to the Gila River basin, Arizona and New Mexico (Minckley and DeMarais 2000, Page and Burr 2011). Voeltz (2002) determined that this species likely occurred in a number of tributaries of the Verde River, most of the Tonto Creek drainage, much of the San Carlos River drainage, and parts of the upper Gila River in New Mexico. Currently, the species occupies the East, Middle, and West forks of the Gila River, and may occupy lower Turkey Creek below a barrier in that stream and the Gila River below the forks area in New Mexico, although these fish have not been definitively identified. In Arizona, headwater chubs are believed to currently occupy: tributaries of the Verde River including Fossil Creek, East Verde River (including tributaries The Gorge, Pine Creek, and Webber Creek), Wet Bottom Creek, and Deadman Creek; and Tonto Creek and several of its tributaries (Buzzard Roost, Dinner, Gordon, Gun, Haigler, Marsh, Rock, Spring, Turkey creeks). The present status of this species in Deadman Creek and Turkey Creek is unclear; fires in the watersheds may have eliminated headwater chub in these waters. Other waters connected to Turkey Creek still contain headwater chubs, so there is opportunity for repopulation of this creek. Headwater chubs may still occur in parts of the San Carlos River basin, although recent survey information for these streams is unavailable because San Carlos Tribal survey information is proprietary and confidential. The taxonomic status of the Gila population in upper West Clear Creek has not been definitively resolved; currently that population is not included in the range of Gila nigra. Source: USFWS (2011), which see for further specific documentation.

Bestgen and Propst (1989) reported headwater chubs in the upper Gila River basin of New Mexico at elevations of 1,325-2,000 meters (4,347-6,562 feet). Unpublished elevational records from the Arizona's Heritage Data Management System range from about 1,200 meters (4,200 feet) in Fossil Creek to nearly 1,520 meters (5,000 feet) in Marsh Creek (Arizona Game and Fish Department 2003).

#### Area of Occupancy Comments:

This species now occupies approximately 200 stream-kilometers (USFWS 2011).

### **Estimated Number of Element Occurrences:** 6 - 20 **Estimated Number of Element Occurrences Comments:**

Known present range of the headwater chub includes 13 streams in Arizona (USFWS data) and a few in New Mexico.

Minckley and DeMarais (2000) mapped 17 collection sites in Arizona and 4 in New Mexico. There are 7 "populations" in Arizona (S. Schuetze, pers. comm., 2006) and up to 17 range wide (S. Stefferud).

#### Gila nigra | NatureServe Explorer

USFWS (2011) concluded that headwater chubs now occurs in 23 of 26 streams in which the species has been documented. The extant populations are in four drainages (San Carlos River (2), Tonto Creek (10), Upper Gila (4), and Verde River (7)). Three of the Upper Gila populations are connected (the Forks populations), the two San Carlos populations are probably connected, the Tonto Creek populations are in two clusters; Gordon, Haigler, Marsh and Tonto Creeks in the upper drainage and the five Spring Creek basin and Gunn Creek populations in the middle portion of the drainage, and the Verde populations have one cluster of four on the East Verde River and the remainder are isolated from each other (USFWS 2011).

### Number of Occurrences with Good Viability/Integrity: Few (4-12) Viability/Integrity Comments:

At least some of the extant subpopulations appear to have poor viability.

### **Global Protection Comments:**

In Arizona, this species occurs on private lands and on lands administered by the National Park Service, U.S. Forest Service, Bureau of Land Management, various Native American nations, and the State of Arizona.

Headwaters of the Gila River drainage in New Mexico occur primarily on U.S. Forest Service (USFS) lands (Carman 2006). USFS is collaboratively implementing management strategies, including fire, off-highway vehicle, and livestock management, with public and private interests (J. Monzingo, USFS, 2005, pers. comm., cited by Carman 2006).

Land ownership along inhabited streams: 80 percent federal (USFS), 10 percent tribal, 5 percent state, and 5 percent private (USFWS 2011).

# **Degree of Threat:** High **Threat Comments:**

USFWS (2011) summarized threats as follows: Remaining populations are fragmented and isolated, and threatened by a combination of factors. Headwater chubs are threatened by introductions of nonnative fishes (predators, competitors); these nonnative fishes are difficult to eliminate and thus pose an on-going threat. Habitat destruction and modification have occurred and continue to occur; examples include dewatering, impoundment, channelization, and channel changes caused by alteration of riparian vegetation, and watershed degradation from mining, grazing, roads, water pollution, urban and suburban development, groundwater pumping, and other human actions. Existing regulatory mechanisms do not appear to be adequate for addressing the impact of nonnative fishes and also have not removed or eliminated the threats that continue to be posed in relation to habitat destruction or modification. The fragmented nature and rarity of existing populations makes them vulnerable to other natural or manmade factors, such as drought and wildfire. The two most significant threats facing headwater chubs across the range are the presence of nonnative aquatic species in their habitats and wildfire.

Threats includes habitat loss and degradation resulting from dams, diversions, groundwater pumping, mining, recreation, and livestock grazing, as well as predation by and competition with nonnative fishes (Arizona Game and Fish Department 2003).

The decline of chubs in the Gila River basin in New Mexico has been attributed mainly to the introduction of nonnative species such as catfish and bass (Bestgen and Propst 1989, Carman 2006). Additionally, habitat has been lost as a result of drought (Carman 2006).

#### Gila nigra | NatureServe Explorer

In New Mexico, ash flows associated with wildfires have negatively impacted much of the drainage occupied by headwater and Gila chub, primarily in West Middle, and East forks Gila River and Turkey Creek (Carman 2006).

Long-term Trend: Decline of 50-70% Long-term Trend Comments:

Historical distribution of the headwater chub is uncertain, so long-term trend cannot be precisely quantified. However, area of occupancy, number of subpopulations, and population size are believed to have declined over the long term. USFWS (2011) estimated that the species now occurs in 40-50 percent of the historical range.

Short-term Trend: Decline of 10-30% Short-term Trend Comments:

Of the 23 extant populations, one is stable-secure, seven are stable-threatened, seven are unstable-threatened, and eight have unknown status (USFWS 2011). USFWS (2011) reviewed available information and concluded that the headwater chub is "probably in worse condition than assumed in 2006, and with the decline of the Upper Gila Forks populations, is in worse condition now than in 2006."

### Global Abundance: Unknown Global Abundance Comments:

Total adult population size is unknown.

### Distribution

### National and State/Provincial Distribution:

United States: AZ, NM

Endemism: endemic to a single nation

# Ecology and Life History

### **Reproduction Comments:**

Spawning occurs in spring and early summer at the end of spring runoff, at water temperatures of 14-24°C. Eggs hatch in 4-7 days at a water temperature of 19-20°C. Larval stage lasts up to 53 days.

In the Gila River basin, Bestgen and Propst (1989) observed ripe females and males in pools in late spring to summer. Afternoon water temperatures for spawning in the East Fork of the Gila River were 22 °C (Bestgen 1985). Headwater chubs probably grow rapidly in their first and second years, until reaching maturity at 2-5 years of age (Carman 2006). Life span ranges up to 8-10 years (Arizona Game and Fish Department 2003).

In Fossil Creek, Arizona (Neve 1976), young-of-year first appeared in May and by June measured 12 to 28 mm SL. Average sizes at year classes 0, 1, 2, 3, and 5 were 68, 127, 174, 217, and 321 mm (one fish) TL, respectively.

# **Mobility and Migration**

https://explorer.natureserve.org/Taxon/ELEMENT\_GLOBAL.2.102630/Gila\_nigra

Colonial Breeder: No Non-Migrant: Yes Locally Migrant: No Long Distance Migrant: No Mobility and Migration Comments:

Little is known about seasonal movements (Carman 2006).

### Habitat

Habitat Type: Freshwater Riverine Habitats: High gradient, MEDIUM RIVER, Riffle, Moderate gradient, Pool, CREEK Habitat Comments:

Habitat encompasses middle to headwater reaches of headwaters, creeks, and small rivers (Minckley and DeMarais 2000, Page and Burr 2011). Headwater chubs usually are in pools and runs near cover such as rocks, rootwads, undercuts, or deep water (Bestgen and Propst 1989). Minckley (1973) and Bestgen and Propst (1989) commented that chubs congregate near or in certain pools and are absent in other, similar-type pools. In Fossil Creek, Arizona, headwater chubs were found over sand substrates and appeared to select depths between 0.9-1.5 meters and velocities of 0.15 meters per second (Voeltz 2002). In the Gila River Basin, Bestgen and Propst (1989) found headwater chub in water temperatures of up to 26.5° C and water velocities less than 20 cm/sec.

Spawning occurs in pool, run, and riffle habitat. Eggs are scattered randomly over substrate (Arizona Game and Fish Department 2003).

Neve (1976) observed spawning in Fossil Creek. Males were not territorial, and the female probably chose the spawning site. Several males attended a female, in pool-riffle areas. Neve noted close contact of males to a female, 6 to 10 cm above the sandy-rocky substrate, and males were observed releasing milt. Neve made no mention of finding eggs in the substrate beneath locations of apparent spawning.

# Phenology

### Food

Immature Food Habits: Herbivore, Invertivore Adult Food Habits: Herbivore, Invertivore Food Comments:

In Fossil Creek, Arizona, the headwater chub is omnivorous, consuming mainly aquatic and terrestrial invertebrates, supplemented with plant material, detritus, and fishes (Neve 1976, Bestgen 1985, Rinne and Minckley 1991).

In the mainstem Gila River, Bestgen (1985) found algae, trichopterans, and miscellaneous insect parts to be predominant in the stomachs of chubs <100 mm; algae, ephemeropterans, trichopterans, and unidentified insects were dominant in chubs between 100-170 mm. Fishes longer than 170 mm contained algae, trichopterans, and ephemoeropterans, in addition to fishes and crayfish.

### Management Summary

### Stewardship Overview:

Primary management needs: watershed and stream flow protection; research to determine mechanisms of disappearance; amelioration of deleterious effects of nonnative fishes (Arizona Game and Fish Department 2003); reestablishment of headwater chub in formerly occupied waters.

A recovery plan is available for New Mexico (Carman 2006).

# Population / Occurrence Delineation

### Group Name: Medium Cyprinids Minimum Criteria for an Occurrence:

Occurrences are based on evidence of historical presence, or current and likely recurring presence, at a given location. Such evidence minimally includes collection or reliable observation and documentation of one or more individuals (including eggs and larvae) in appropriate habitat.

#### **Separation Barriers:**

Dam lacking a suitable fishway; high waterfall; upland habitat.

Separation Distance for Unsuitable Habitat: 15 kilometers Separation Distance for Suitable Habitat: 15 kilometers Separation Justification:

Data on dispersal and other movements generally are not available. In some species, individuals may migrate variable distances between spawning areas and nonspawning habitats.

Separation distances (in aquatic kilometers) for cyprinids are arbitrary but reflect the presumption that movements and appropriate separation distances generally should increase with fish size. Hence small, medium, and large cyprinids, respectively, have increasingly large separation distances. Separation distance reflects the likely low probability that two occupied locations separated by less than many kilometers of aquatic habitat would represent truly independent populations over the long term.

Because of the difficulty in defining suitable versus unsuitable habitat, especially with respect to dispersal, and to simplify the delineation of occurrences, a single separation distance is used regardless of habitat quality.

Occupied locations that are separated by a gap of 15 km or more of any aquatic habitat that is not known to be occupied represent different occurrences. However, it is important to evaluate seasonal changes in habitat to ensure that an occupied habitat occurrence for a particular population does not artificially separate spawning areas and nonspawning areas as different occurrences simply because there have been no collections/observations in an intervening area that may exceed the separation distance.

Date: 2004-09-21

Author: Hammerson, G.

# Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

### Authors and Contributors

NatureServe Conservation Status Factors Edition Date: 2/9/2012 NatureServe Conservation Status Factors Edition Authors: Hammerson, G.

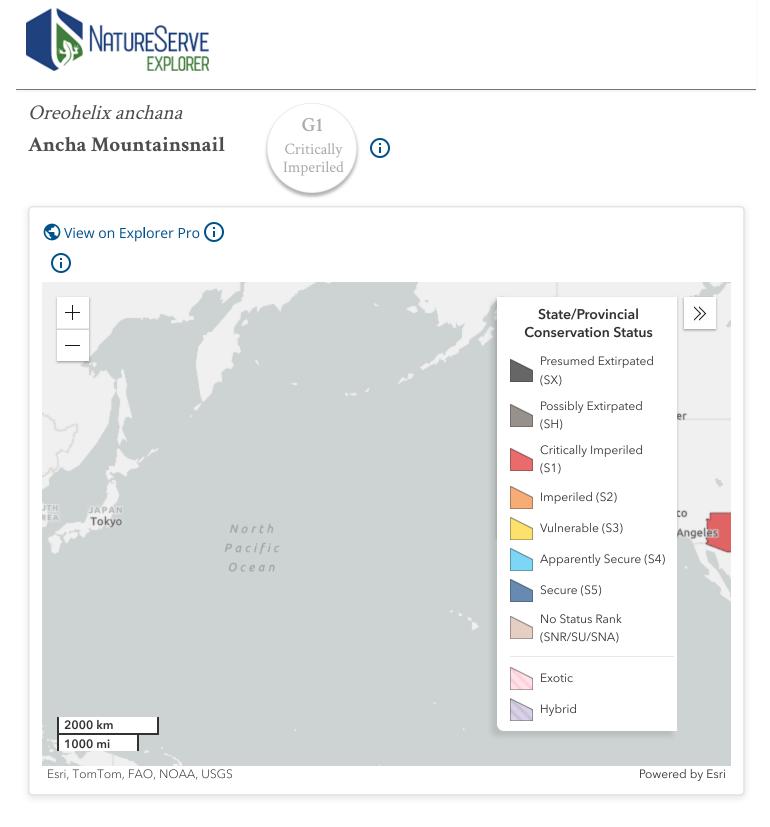
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Page Last Published: 2/28/2025



# Classification

Scientific Name: Oreohelix anchana Gregg, 1953

Kingdom: Animalia

Phylum: Mollusca

Class: Gastropoda

Order: Stylommatophora

Family: Oreohelicidae

Genus: Oreohelix

Scientific Name Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Concept Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Name Used in Concept Reference: Oreohelix anchana
NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.119114
NatureServe Element Code: IMGASB5030
Related ITIS Names: Oreohelix anchana Gregg, 1953 (TSN 77664)

### **Conservation Status**

### **NatureServe Status**

Global Status: G1 Global Status Last Reviewed: 11/27/2019 Rank Method Used: Ranked by calculator Reasons:

There is still a lot of potential habitat in the Sierra Anchas around Center Mountain that has not been searched, so the likelihood of finding additional populations is fair to good (per. comm. Jeff Sorensen, AZGFD, 2019).

### National & State/Provincial Statuses

United States: N1

Arizona: S1

### **Other Statuses**

U.S. Endangered Species Act: None Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

### **NatureServe Global Conservation Status Factors**

Range Extent: <100 square km (less than about 40 square miles)

### **Range Extent Comments:**

This Arizona endemic is known only from the type locality in the Sierra Ancha Mountains, Tonto National Forest, Gila Co. (Gregg, 1953). In August 2018 dead shells were located the northeast slope of Center Mountain within the Sierra Ancha Mountains, Tonto National Forest, Gila Co., Arizona (type locality for this mountain snail species) (inaturalist, accessed 12/14/2018).

Area of Occupancy: 1 4-km2 grid cells Area of Occupancy Comments:

In August 2018, following a recent fire in 2016, dead shells were located following a fire on northeast slope of Center Mountain within the Sierra Ancha Mountains, Tonto National Forest, Gila Co., AZ, type locality for this mountain snail species (inaturalist, 2018).

### Estimated Number of Element Occurrences: 1 - 5 Estimated Number of Element Occurrences Comments:

In past surveys, recently dead shells (intact with pigmentation of shoulderband stripes) among aged shells (weathered and bleached out) were found. There is still a lot of potential habitat in the Sierra Anchas around Center Mountain that has not been searched, so the likelihood of finding additional populations is fair to good (2019-11-06: Jeff Sorensen, in 11/06/2019 email to C. Flower (AZGFD, HDMS).

Number of Occurrences with Good Viability/Integrity: None (zero) Global Protection: None. No occurrences appropriately protected and managed Degree of Threat: Very high - medium

**Threat Comments:** 

Habitat loss or degradation may impact native land snail populations. Activities that affect land snail habitat on Tonto National Forest may include: wildfires and prescribed burns, road and trail construction, and mining. *Sonorella* and *Oreohelix* species are vulnerable to any disturbance that would remove talus or rocky habitat and increase interstitial sedimentation, and for forestdwelling species, any activities that open forest canopy, alter stream hydrogeomorphology, or otherwise change local moisture conditions may impact those populations

Long-term Trend: Decline of >90% Long-term Trend Comments:

Occurrences are possibly historic although recently fresh dead shells were located.

# Short-term Trend: Decline of >90% Short-term Trend Comments:

It was last seen as dead shells only after a recent fire in 2018 and had only been documented historically prior to that.

Global Abundance: Unknown Fragility: Highly vulnerable Fragility Comments:

Single site endemic that is susceptible to a multitude of disturbances.

Environmental Specificity: Very narrow. Specialist or community with key requirements scarce.

### **Environmental Specificity Comments:**

It is only known from a single limestone rockslide at 7200 feet (Gregg, 1953). *Oreohelix* share similar habitat associations, and overlap in distribution, with higher elevation *Sonorella* species and woodlandsnails of the genus *Ashmunella*. They prefer loose, talus slopes, rocky hillsides and ridges, and cracks and fissures of cliff faces.

# **Other NatureServe Conservation Status Information**

#### **Inventory Needs:**

Additional surveys of the type locality and vicinity are needed to determine the distribution, status, and threats for the Ancha mountainsnail. Any live specimens obtained in surveys should be genetically analyzed to verify their identity and relatedness to other *Oreohelix* in Arizona. Viability at the existing site is unknown as the last observation yielded only dead shells following a fire.

#### **Protection Needs:**

There currently is no adequate protection offered to the single known occurrence of this species. This last known site should be protected immediately. Viability of this site should be confirmed.

### Distribution

### National and State/Provincial Distribution:

United States : AZ

Endemism: endemic to a single state or province

# Ecology and Life History

### **Mobility and Migration**

Colonial Breeder: No Non-Migrant: Yes Locally Migrant: No Long Distance Migrant: No

### Habitat

Habitat Type: Terrestrial Terrestrial Habitats: Bare rock/talus/scree Habitat Comments:

Habitat is a limestone rockslide at 7200 feet (Gregg, 1953). Recent collections at the type locality revealed wide talus slide habitat after a 2016 Juniper Fire burned through the area (inaturalist, 2018).

# Phenology

### Management Summary

#### **Stewardship Overview:**

In light of a recent fire at the only known site, confirmation of the status of this species is immediately necessary as only dead shells were recorded there thus far since then. If living snails are present, the site should immediately be protected from disturbance and human intrusion. A management plan should be drafted and the species proposed for listing as a USESA Candidate Species. Where feasible, life history information should be studied through field observation and/or laboratory research.

### **Biological Research Needs:**

Little is known about the ecology and life history of this species. Some general questions: 1) Is the morphology-based taxonomy of the species supported by genetics-based phylogeny? 2) What are the life history aspects for each species? 3) What are the habitat requirements of the species? 4) How susceptible are the species to anthropogenic impacts? 5) How will climate change affect the species?

# Population / Occurrence Delineation

# Group Name: Terrestrial Snails

### Minimum Criteria for an Occurrence:

Occurrences are based on some evidence of historical or current presence of single or multiple specimens, including live specimens or recently dead shells (i.e., soft tissue still attached without signs of external weathering or staining), at a given location with potentially recurring existence. Weathered shells constitute a historic occurrence. Evidence is derived from reliable published observation or collection data; unpublished, though documented (i.e. government or agency reports, web sites, etc.) observation or collection data; or museum specimen information.

#### **Separation Barriers:**

Barriers include barriers to dispersal such as the presence of permanent water bodies greater than 30 m in width, permanently frozen areas (e.g. mountaintop glaciers) which generally lack land snails (Frest and Johannes, 1995), or dry, xeric areas with less than six inches precipitation annually, as moisture is required for respiration and often hatching of eggs. For the various slugs and slug-like species (families Arionidae, Philomycidae, Limacidae, Milacidae, Testacellidae, Veronicellidae), absence of suitable moisture, except for the most ubiquitous of species such as *Deroceras reticulatum* (Müller, 1774), can serve as a barrier to movement (Frest and Johannes, 1995). Members of these groups tend to have greater difficulty crossing areas of little moisture than other pulmonates. For tree snails (family Bulimulidae [= Orthalicidae]), lack of appropriate arboreal habitat (e.g. distance of greater than 500 m) also serves as a separation barrier.

Separation Distance for Unsuitable Habitat: 1 kilometers Separation Distance for Suitable Habitat: 1 kilometers

#### **Alternate Separation Procedure:**

#### None

#### Separation Justification:

Burch and Pearce (1990) suggest refuges may be the most important factor limiting terrestrial snail abundance, although the greatest richness of species among carbonate cliff habitats (one of the most diverse in North America) is associated with calcareous, as opposed to acidic, substrates (Nekola, 1999; Nekola and Smith, 1999). The panmictic unit (a local population in which matings are random) is small relative to those of other animal groups because terrestrial snails tend to be more sedentary. Baker (1958) claimed, "long-distance dispersal of terrestrial gastropods is undoubtedly passive" although short distance dispersal is active involving slow, short distance migration under favorable conditions. Long-distance passive migration is not considered when assigning separation distances, as otherwise separation distances for many animals and plants would be made impracticably large. Passive migration of snails on terrestrial mammals, birds, or insects may occur over longer distances may occur across barriers. Passive migration also may occur by wind or by rafting on floating objects (Vagvolgyi, 1975). A third form of passive migration may occur through human activity such as transport as food, with consumed goods, or for biological control of other organisms.

Terrestrial gastropods do not move much usually only to find food or reproduce. Olfaction is the primary sensory behavior utilized to find and move toward a food item (on the scale of cm to m) although Atkinson (2003) found that *Anguispira alternata* was capable of switching foraging behavior when snails encountered a physical barrier to movement. Fisher et al (1980) reported maximum movement rate of *Rumina decollata* (Linnaeus, 1758), an introduced pest species in California spreading relatively rapidly (for a snail), to be 20 m in three months (= 6.67 m/month) in an irrigated orchard. Tupen and Roth (2001) reported the movement rate for the same species in an un-irrigated native scrub on San Nicolas Island to be 0.4 km in 12 years (= 33.33 m/month). South (1965) found in dispersal studies of the slug, *Deroceras reticulatum*, that slugs traveled a mean distance of 1.13 m in seven days indicating this species disperses little throughout its life. Giokas and Mylonas (2004) found mean dispersal and minimal movement distances were very small (16.2 and 5.4 m, respectively) for *Albinaria coerulea*, with few individuals dispersing longer distances. Even the most extreme dispersal distances, such as 500 m for the giant African land snail *Achatina fulica* (Tomiyama and Nakane, 1993), do not approach the scale of km. Viable land snail populations generally occupy small areas. Frest and Johannes (1995) report the largest *Oreohelix* colony they observed was one mile (1.67 km) long and 0.25 miles (0.41 km) wide while the smallest was six feet (183 cm) long and two feet (61 cm) wide.

As a whole, pulmonates (previously Subclass Pulmonata) are better dispersers than prosobranchs (previously Subclass Prosobranchia) possibly due to their hermaphroditic reproduction increasing the chance of new colonization (Pilsbry, 1948). When compared with prosobranch families, pulmonates generally reproduce at smaller sizes and sooner, produce greater numbers of eggs/young, have larger clutch sizes, greater growth rates, and shorter life cycles (Brown, 1991). Further, prosobranchs' requirement of constant moisture for oxygen exchange limits their ability to colonize drier habitats. Suitable habitat for pulmonate groups tends to be more varied and less restrictive than for prosobranch groups. All of these factors contribute to pulmonates greater dispersal capability over prosobranchs, as evidenced by the wider and more varied distribution of pulmonates over prosobranchs. Despite this, separation distance for both groups is set at the minimum one km as most movements are well within this suggested minimum separation distance.

**Date:** 2004-05-26 **Author:** Cordeiro, J. Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

## Authors and Contributors

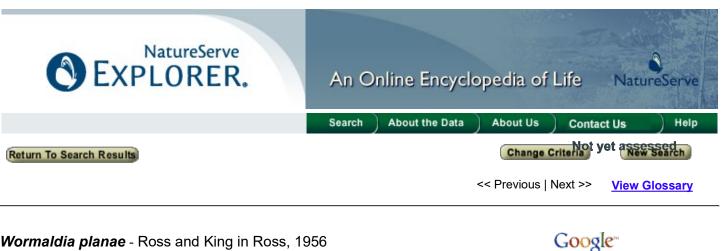
NatureServe Conservation Status Factors Edition Date: 11/27/2019 NatureServe Conservation Status Factors Edition Authors: Flower, C.

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- Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.

Page Last Published: 11/1/2024

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### Wormaldia planae - Ross and King in Ross, 1956 A Caddisfly Taxonomic Status: Accepted Related ITIS Name(s): Wormaldia planae Ross & King in Ross, 1956 (TSN 601839) Unique Identifier: ELEMENT\_GLOBAL.2.821617

Element Code: IITRI78190

Informal Taxonomy: Animals, Invertebrates - Insects - Caddisflies

| Kingdom  | Phylum      | Class   | Order       | Family         | Genus     |
|----------|-------------|---------|-------------|----------------|-----------|
| Animalia | Mandibulata | Insecta | Trichoptera | Philopotamidae | Wormaldia |

Check this box to expand all report sections: ☑

**Concept Reference** 

**Concept Reference:** Munoz-Quesada, F.J. and R.W. Holzenthal. 2008. Revision of the Nearctic species of the caddisfly genus *Wormaldia* McLachlan (Trichoptera: Philopotamidae). Zootaxa, 1838: 1-75. **Concept Reference Code:** A08MUN01EHUS

Name Used in Concept Reference: Wormaldia planae

**Conservation Status** 

### **NatureServe Status**

Global Status: G2 Global Status Last Reviewed: 05Mar2009 Global Status Last Changed: 05Mar2009 Rounded Global Status: G2 - Imperiled Reasons: This species was originally described from Chiapas, Mexico; but was recently found in Arizona from Gila to Yavapai Cos. (Munoz-Quesada and Holzanthal, 2008). Nation: United States National Status: N1N2 (05Mar2009)

### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

United States

Arizona (SNR)

### **Other Statuses**

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### NatureServe Global Conservation Status Factors

Range Extent: 1000-5000 square km (about 400-2000 square miles)

**Range Extent Comments:** This species was originally described from Chiapas, Mexico; but was recently found in Arizona from Gila to Yavapai Cos. (Munoz-Quesada and Holzanthal, 2008).

### Number of Occurrences: 6 - 20

**Number of Occurrences Comments:** This species was originally described from Chiapas, Mexico; but was recently found in Arizona from Gila to Yavapai Cos. (Gila Co.: Line Fossil Creek, Fossil Creek; Yavapai Co.: Beaver Creek, below outlet of Montezuma Well, unnamed stream at Ward Ranch) (Munoz-Quesada and Holzanthal, 2008).

### Population Size: Unknown

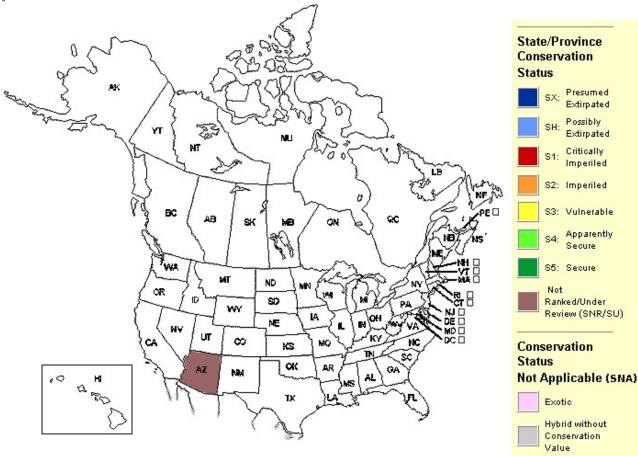
### **Other NatureServe Conservation Status Information**

### Distribution

**Global Range:** (1000-5000 square km (about 400-2000 square miles)) This species was originally described from Chiapas, Mexico; but was recently found in Arizona from Gila to Yavapai Cos. (Munoz-Quesada and Holzanthal, 2008).

### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.





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Endemism: occurs (regularly, as a native taxon) in multiple nations

U.S. & Canada State/Province Distribution
United States
AZ

Range Map No map available.

| Ecology & Life History            | 0 |
|-----------------------------------|---|
| Economic Attributes               | 0 |
| Management Summary                | 0 |
| Population/Occurrence Delineation | 0 |

Group Name: Caddisflies

### Use Class: Not applicable

**Minimum Criteria for an Occurrence:** Occurrences are based on some evidence of historical presence or current presence of single or multiple specimens (including larvae or adults) at a given location with potentially recurring existence. Evidence is derived from reliable published observation or collection data; unpublished, though documented (i.e. government or agency reports, web sites, etc.) observation or collection data; or museum specimen information. Sight records and photographs, though valuable, should not be accepted as the basis for new element occurrences as identification of caddisflies often requires close examination of the genitalia of adult males. Instead, such records should be utilized to further study an area to verify the element occurrence in that area.

Separation Distance for Unsuitable Habitat: 5 km

Separation Distance for Suitable Habitat: 5 km

### Alternate Separation Procedure: None

**Separation Justification:** Wiggins and Mackay (1978) found caddisfly distributions separated by trophic category as related to stream resource availability in Eastern streams; and to a lesser degree in Western streams. Shredders predominated in upstream habitats in relation to grazers and collectors, but the proportion of shredders became smaller downstream. Groups have also been separated ecologically into lotic-erosional (running water riffles), lotic-depositional (running water pools and margins), lentic-limnetic (standing water), lentic-littoral (standing water, shallow shore areas), lentic-profundal (standing water, basin), and beach zone (Wallace and Anderson, 1996). For the purpose of occurrence separation, however, the same genera or species often occur across habitats making such habitat classifications impractical.

Regardless of habitat, caddisfly adults tend to remain somewhat near the emergence site (LaFontaine, 1981; Collier and Smith, 1998) where oviposition occurs. Dispersal away from emergence sites tends to be negatively correlated with density of vegetation along the dispersal corridor; caddisflies tend to disperse shorter distances in dense forest compared with more open vegetation (Collier and Smith, 1998). Although dispersal flights are common especially from temporary habitats, such flights are relatively short and only occur immediately following emergence (unlike some Coleoptera and Hemiptera that also disperse additionally in autumn to overwinter) (Cummins and Merritt, 1996). Kovats et al. (1996) estimated that 85% of all adult Hydropsychidae were collected within 100 m of the water's edge with most of the remainder collected within 250 m, although significant, though small, numbers were collected up to 1845 m inland (esp. for *Hexagenia*). It is worth noting that in some instances, large river caddisflies may disperse a distance greater than five km from the river, suggesting long distance dispersal (Huryn and Harris, 2000; Kovats et al., 1996). Kovats et al. (1996) suggested this longer distance dispersal is likely accidental. Separation distances (unsuitable and suitable) have therefore been set at five km. **Date:** 18Oct2004

Author: Cordeiro, J.

### **Population/Occurrence Viability**

0

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> <u>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this</u> <u>method.</u>

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### Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

#### U.S. Invasive Species Impact Rank (I-Rank)

#### Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 05Mar2009 NatureServe Conservation Status Factors Author: Cordeiro, J.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

#### References

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### **Pyrgulopsis simplex** - Hershler, 1988 Fossil Springsnail **Taxonomic Status:** Accepted **Related ITIS Name(s):** *Pyrgulopsis simplex* Hershler, 1988 (TSN 568234)

Unique Identifier: ELEMENT\_GLOBAL.2.120260

Element Code: IMGASJ0210

Informal Taxonomy: Animals, Invertebrates - Mollusks - Freshwater Snails

| Kingdom  | Phylum   | Class      | Order           | Family      | Genus       |
|----------|----------|------------|-----------------|-------------|-------------|
| Animalia | Mollusca | Gastropoda | Neotaenioglossa | Hydrobiidae | Pyrgulopsis |
|          |          |            |                 |             |             |

Genus Size: D - Medium to large genus (21+ species)

Check this box to expand all report sections: ☑

### **Concept Reference**

**Concept Reference:** Turgeon, D.D., J.F. Quinn, Jr., A.E. Bogan, E.V. Coan, F.G. Hochberg, W.G. Lyons, P.M. Mikkelsen, R.J. Neves, C.F.E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F.G. Thompson, M. Vecchione, and J.D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland: 526 pp.

Concept Reference Code: B98TUR01EHUS

Name Used in Concept Reference: Pyrgulopsis simplex

**Conservation Status** 

### **NatureServe Status**

Global Status: G1G2 Global Status Last Reviewed: 05Sep2008 Global Status Last Changed: 14Sep1999 Rounded Global Status: G1 - Critically Imperiled Reasons: It is known only from a spring near Strawberry, Gila County, along with Fossil Springs, Yavapai County, Arizona. Nation: United States National Status: N1N2 (14Sep1999)

### U.S. & Canada State/Province Status

| Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear        |
|---|
| on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your               |
| jurisdiction to obtain the most current data. Please refer to our Distribution Data Sources to find contact information for |
| your jurisdiction.  |

United States

Arizona (S1)

 $\bigcirc$ 

 $\odot$ 

### **Other Statuses**

### IUCN Red List Category: DD - Data deficient

### NatureServe Global Conservation Status Factors

Range Extent: <100 square km (less than about 40 square miles)

**Range Extent Comments:** It is known only from a spring near Strawberry, Gila County, along with Fossil Springs, Yavapai County, Arizona (Hershler and Landye, 1988).

### Number of Occurrences: 1 - 5

**Number of Occurrences Comments:** It is found in springs along Fossil Creek in the Lower Verde River drainage (Hershler, 1994) in the Above Power Plant site (potentially a population washed in from a nearby spring (as of yet, unknown and unsampled) but not a reproducing; with an established population above the dam in springheads (Marks et al., 2005).

Population Size: Unknown

### Number of Occurrences with Good Viability/Integrity: None to very few (0-3)

### Short-term Trend: Relatively Stable (<=10% change)

**Short-term Trend Comments:** Fossil springsnail had experienced no apparent reduction in range or abundance as a result of activities in the Fossil Creek watershed during the past two decades.

### Other NatureServe Conservation Status Information

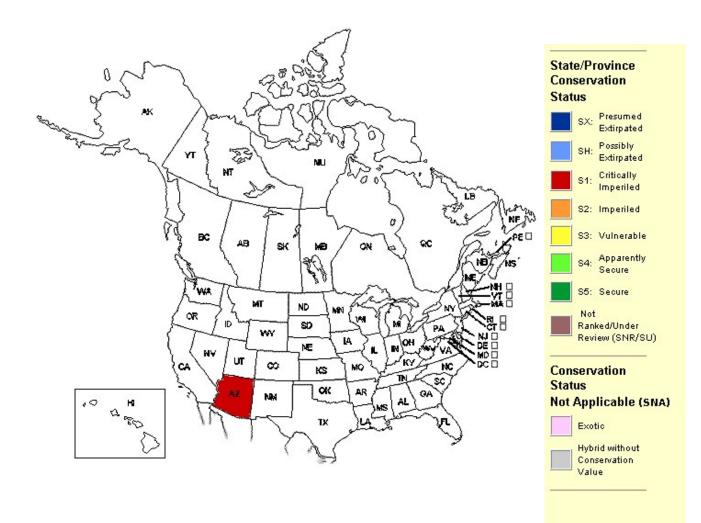
### Distribution

**Global Range:** (<100 square km (less than about 40 square miles)) It is known only from a spring near Strawberry, Gila County, along with Fossil Springs, Yavapai County, Arizona (Hershler and Landye, 1988).

### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

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Endemism: endemic to a single state or province

| U.S. & Canada State/Provinc | e Distribution |
|-----------------------------|----------------|
| United States AZ            |                |

### Range Map

No map available.

| U.S. Distribution by County 📀    |                               |  |
|----------------------------------|-------------------------------|--|
| State                            | County Name (FIPS Code)       |  |
| AZ                               | Gila (04007), Yavapai (04025) |  |
| * Extirnated/possibly extirnated |                               |  |

Exurpated/possibly exurpated

| U.S. Distribution by Watershed 🕜 |                                 |
|----------------------------------|---------------------------------|
| Watershed Region 📀               | Watershed Name (Watershed Code) |
| 15                               | Lower Verde (15060203)+         |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

### Ecology & Life History

General Description: See original description in Hershler (1988). Habitat Type: Freshwater Non-Migrant: N Locally Migrant: N

3 of 7

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#### Long Distance Migrant: N

### Riverine Habitat(s): SPRING/SPRING BROOK

### Special Habitat Factors: Benthic

**Habitat Comments:** They are typically found only in the headspring and upper sections of the outflow. The genus *Pyrgulopsis* is generally found on rock or aquatic macrophytes in moderate current. Because springsnails have only a partial operculum, they cannot withstand any desiccation, and occur only in water that is perennially flowing (Hershler and Landye, 1988).

**Economic Attributes** 

**Management Summary** 

**Population/Occurrence Delineation** 

Group Name: Freshwater Snails

#### Use Class: Not applicable

**Minimum Criteria for an Occurrence:** Occurrences are based on some evidence of historical or current presence of single or multiple specimens, including live specimens or recently dead shells (i.e., soft tissue still attached without signs of external weathering or staining), at a given location with potentially recurring existence. Weathered shells constitute a historic occurrence. Evidence is derived from reliable published observation or collection data; unpublished, though documented (i.e. government or agency reports, web sites, etc.) observation or collection data; or museum specimen information.

**Mapping Guidance:** Unlike most freshwater mussels [possibly excepting *Uniomerus tetralasmus* (Say, 1831) (see Isley, 1914)], some freshwater pulmonates are able to survive in intermittent streams and ponds by settling into sediment on the bottom and aestivating in otherwise dry or frozen conditions. Some species (e.g. *Stagnicola* spp.) may form a sheet of mucus just within the aperture called an epiphragm that effectively seals the snail from harsh external conditions (Jokinen, 1978; Brown, 1991). For ephemeral or intermittent water species, it may be particularly difficult to define the limits of an occurrence. Movement out of the water for the purposes of aestivation is on the order of cm (Jokinen, 1978), not m or km, so this behavior should not affect separation distance between occurrences. Species that may be found in intermittent waters include: *Aplexa elongata*, *Fossaria bulimoides*, *F. dalli*, *F. modicella*, *F. obrussa*, *F. parva*, *Gyraulus circumstriatus*, *G. crista*, *G. parvus*, *Laevapex fuscus*, *Physa vernalis*, *Physella gyrina*, *Planorbella campestris*, *Planorbula armigera*, *Stagnicola caperata*, *S. elodes*, *S. exilis*.

**Separation Barriers:** Separation barriers are largely based on permanent hydrological discontinuity between water bodies, with distances of 30 meters or greater between maximum high water marks constituting a separation barrier. Additional barriers are chemical and/or physical and include any connecting water body (regardless of size) with one or more of the following on a permanent basis: no dissolved calcium content, acidity greater than pH 5, lack of dissolved oxygen, extremely high salinity such as that found in saline lakes and brine waters, or temperature greater than 45

An additional physical barrier, particularly for flowing water, is presence of upland habitat between water connections. High waterfalls and anthropogenic barriers to water flow such as dams are barriers as they limit movement in an upstream direction. **Separation Distance for Unsuitable Habitat:** 2 km

### Separation Distance for Suitable Habitat: 2 km

Alternate Separation Procedure: Freshwater cave species (mostly prosobranchs) may occur near entrances to very deep in cave systems with specimens occurring on the undersides of small stones in riffle areas (Hershler et al., 1990). For cave species, separation distance cannot often be determined accurately due to varying degrees of accessibility to occupied cave habitat. In these instances, each cave where an observation or collection was recorded (see Minimum EO Criteria, above) constitutes an element occurrence regardless of separation distance. Multiple caves within a single hydrological cave system are each considered separately. Caves with multiple entrances and passages known to be connected, but with connecting passages too small or unsafe for human entry shall be treated as a single element occurrence when the non-negotiable portion of the cave is thought to be less than approximately 300 m linear length. Species known to occur in caves include: *Amnicola cora*, *Antrobia* spp., *Antrobis* spp., *Antroselates* spp., *Dasyscias* spp., *Fontigens aldrichi*, *F. antroecetes*, *F. bottimeri*, *F. morrisoni*, *F. nickliniana*, *F. orolibas*, *F. prosperpina*, *F. tartarea*, *F. turritella*, *Holsingeria* spp., *Phreatodrobia* spp., *Stygopyrgus* spp.

**Separation Justification:** Freshwater snails have adapted to most North American habitats including permanent standing, intermittent, and flowing waters. As a whole, pulmonates (previously Subclass Pulmonata) are better dispersers than prosobranchs (previously Subclass Prosobranchia). Pulmonates adapt better to changing temperature and oxygen concentration, resist desiccation better (use pulmonary respiration, store excreted nitrogen as urea, aestivate), and have faster crawling rates (including righting response and actual

movement rate) than prosobranchs (Brown et al., 1998). Some species are more tolerant to adverse habitat conditions such as high pollution levels (e.g. *Physella* spp.), high altitude [e.g. *Acroloxus coloradensis* (Henderson, 1930)], underground cave pools and springs (e.g. *Fontigens* spp., *Phreatodrobia* spp.) and hot springs (e.g. *Pyrgulopsis* spp.).

Precise geographic distribution of many American freshwater snails is not known but presumably reflects past geological, geographic, and climatic change (Smith, 1989). Movements between isolated or inaccessible portions of water bodies is possible but dependent on outside, passive processes (e.g. rafting, periodic flooding, transport by vertebrates, introduction by humans). Long-distance dispersal is generally not considered when assigning separation distances as otherwise impracticably large separation distances would result.

Several factors contribute to limiting freshwater snail distribution but none apply across diverse habitats or taxa. Approximately 95% of all freshwater gastropods are restricted to waters with calcium concentrations greater than 3 mg/liter (Brown, 1991; for exceptions see Jokinen, 1983). Calcium uptake for shell construction requires energy expenditure (active transport) when calcium concentration is low, but is passive at higher concentrations (Greenaway, 1971). Typically, no known biotic or abiotic factors consistently limit the abundance or distribution of freshwater gastropods among sites (DeVries et al., 2003). At specific localities, limiting factors may include hardness, acidity, dissolved oxygen, salinity, high temperature, and food availability as associated with depth (Smith, 1989). Most species and the largest populations occur in hard, alkaline waters with normal range 20-180 ppm (Shoup, 1943; Harman, 1974). Snails are uncommon in habitats with surface acidity greater than pH 5 (see also Jokinen, 1983). Dissolved oxygen limits diversity so severely polluted waters (oxygen consumed by algae blooms) are often devoid of freshwater snails excepting pollution tolerant species. Because pulmonates can utilize atmospheric oxygen, they can exist under anaerobic conditions for longer time periods (Harman and Berg, 1971; Harman, 1974; McMahon, 1983). High salinity is limiting to freshwater gastropods and inland saline lakes generally lack an associated snail fauna. Most species (excepting hot springs species) are intolerant of temperatures greater than 45°C (McDonald, 1969; van der Schalie and Berry, 1973), a condition rarely occurring naturally. Lower temperatures are less limiting as snails have been found foraging in ice-covered waters (Harman and Berg, 1971; Harman, 1974). Most species live in the shallows, (depths less than 3 m) where food abundance is greatest. As a result, drastic water fluctuations (draw-downs) may cause declines in snail populations (Hunt and Jones, 1972).

Any contiguous, occupied stretch of suitable flowing water habitat 2 km long or greater is considered an element occurrence. Two km was chosen based upon the limited active movement capabilities of most benthic invertebrates and observed home range of freshwater snails (J. Cordeiro, personal observation) as well as the relatively short life span of most species (five years for most stream species and two years for most pond species).

Date: 18Oct2004

### Author: Cordeiro, J.

**Notes:** Prosobranchs: Neritidae: *Neritina*; Viviparidae: *Campeloma*, *Cipangopaludina*, *Lioplax*, *Tulotoma*, *Viviparus*; Ampullariidae: *Marisa*, *Pomacea*; Pleuroceridae: *Elimia*, *Goniobasis*, *Gyrotoma*, *Io*, *Juga*, *Leptoxis*, *Lithasia*, *Pleurocera*; Thiaridae: *Melanoides*, *Tarebia*; Bithyniidae: *Bithynia*; Hydrobiidae: *Amnicola*, *Antrobia*, *Antrobis*, *Antroselates*, *Aphaostracon*, *Balconorbis*, *Birgella*, *Cincinnatia*, *Clappia*, *Cochliopa*, *Cochliopina*, *Colligyrus*, *Dasyscias*, *Eremopyrgus*, *Floridiscrobs*, *Fluminicola*, *Fontelicella*, *Fontigens*, *Gillia*, *Heleobops*, *Holsingeria*, *Hoyia*, *Hydrobia*, *Lepyrium*, *Littoridina*, *Littoridinops*, *Lyogyrus*, *Notogillia*, *Onobops*, *Paludina*, *Phreatoceras*, *Phreatodrobia*, *Potamopyrgus*, *Pristinicola*, *Probythinella*, *Pyrgophorus*, *Pyrgulopsis*, *Rhapinema*, *Somatogyrus*, *Spilochlamys*, *Spurwinkia*, *Stiobia*, *Stygopyrgus*, *Taylorconcha*, *Texadina*, *Texapyrgu*, *Tryonia*; Assimineidae: *Assiminea*; Pomatiopsidae: *Pomatiopsis*, *Heterostropha*; Valvatidae: Valvata *MORE IN BCD EO SPECS NOTES TAB* 

| Population/Occurrence Viability   | 0 |
|---|---|
| Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).                             |   |
| The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this | 1 |
| method.   |   |
| Key for Ranking Species Element Occurrences Using the Generic Approach (2008).  |   |
| U.S. Invasive Species Impact Rank (I-Rank)  | 0 |
| Authors/Contributors  | 0 |

NatureServe Conservation Status Factors Edition Date: 05Sep2008 NatureServe Conservation Status Factors Author: Cordeiro, J.

### Element Ecology & Life History Edition Date: 05Sep2008 Element Ecology & Life History Author(s): Cordeiro, J.

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#### References

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- Hershler, R. 1994. A review of the North American freshwater snail genus *Pyrgulopsis* (Hydrobiidae). Smithsonian Contributions to Zoology, 554: 1-115.
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- Turgeon, D.D., J.F. Quinn, Jr., A.E. Bogan, E.V. Coan, F.G. Hochberg, W.G. Lyons, P.M. Mikkelsen, R.J. Neves, C.F.E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F.G. Thompson, M. Vecchione, and J.D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland: 526 pp.

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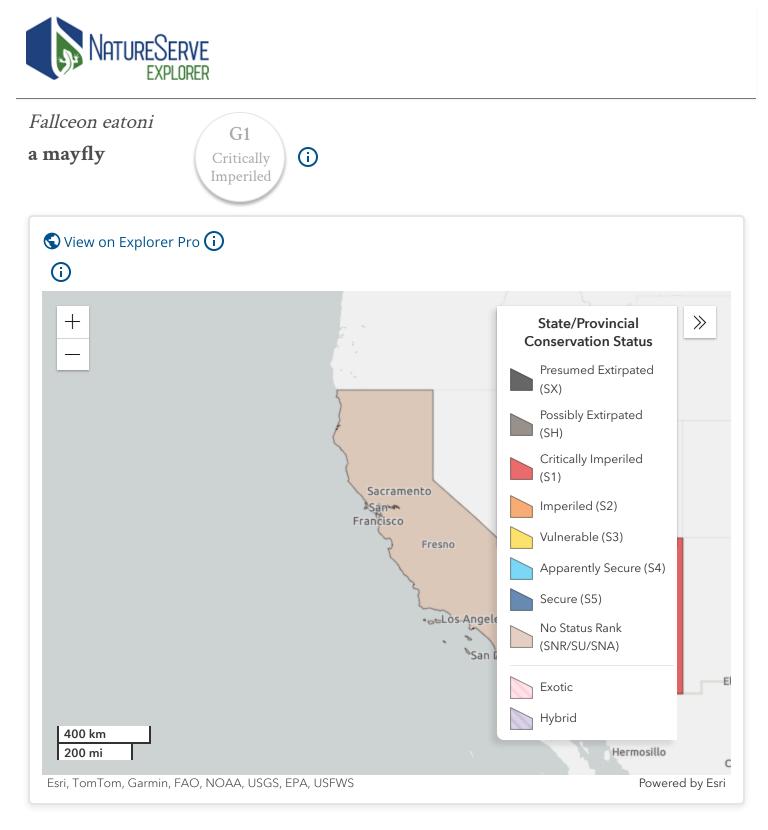
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Version 7.1 (2 February 2009) Data last updated: November 2016



# Classification

Scientific Name: Fallceon eatoni (Kimmins, 1934)

Kingdom: Animalia

Phylum: Arthropoda

Class: Insecta

**Order:** Ephemeroptera

Family: Baetidae

Genus: Fallceon

Scientific Name Reference: Purdue University Department of Entomology (W.P. McCafferty ed.) 1995. Mayfly Central-The Mayflies of North America. Continual updates available at: https://www.entm.purdue.edu/mayfly/index.php Concept Reference: Purdue University Department of Entomology (W.P. McCafferty ed.) 1995. Mayfly Central- The Mayflies of North America. Continual updates available at: https://www.entm.purdue.edu/mayfly/index.php Name Used in Concept Reference: Fallceon eatoni NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.791634 NatureServe Element Code: IIEPH81020 Related ITIS Names: Fallceon eatoni (Kimmins, 1934) (TSN 568599) Taxonomic Comments:

*Fallceon eatoni* previously deemed synonymous with *Fallceon quilleri* but revalidated by McCafferty and Lugo-Ortiz (1994) but not known in U.S. (or elsewhere) for over 100 years until 2005 from Salt River Canyon, Arizona (McCafferty, 2006).

### **Conservation Status**

### NatureServe Status

Global Status: G1G2 Global Status (Rounded): G1 Global Status Last Reviewed: 5/4/2009 Global status needs review. Reasons:

Originally collected over 100 years ago and redescribed from northern Sonora in 1934 but not seen until 2005 when a single specimen collected in Salt River Canyon, Gila Co., Arizona (McCafferty, 2006) plus a 1969 record from the San Bernardino Mountains, California (Meyer and McCafferty, 2008).

### National & State/Provincial Statuses

### United States: N1N2

Arizona: S1, California: SNR

### **Other Statuses**

U.S. Endangered Species Act: None Comments on Endangered Species Act Statuses:

In a 90-day finding on a petition to list a stonefly (*Isoperla jewetti*) and a mayfly (*Fallceon eatoni*) as threatened or endangered under the ESA, USFWS (April 6, 2010) found that the petition does not present substantial information

indicating that listing either of the species may be warranted at this time.

Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

### **NatureServe Global Conservation Status Factors**

Range Extent: 250-1000 square km (about 100-400 square miles) Range Extent Comments:

Originally collected over 100 years ago and redescribed from northern Sonora in 1934 but not seen until 2005 when a single specimen collected in Salt River Canyon, Gila Co., Arizona (McCafferty, 2006) plus a 1969 record from the San Bernardino Mountains, California (Meyer and McCafferty, 2008).

**Estimated Number of Element Occurrences:** 1 - 20 **Estimated Number of Element Occurrences Comments:** 

Unknown, but likely very few; only twos site in U.S. in Arizona and recently a 1969 record from Cottonwood Canyon, San Bernardino Mountains, California (Meyer and McCafferty, 2008). McCafferty et al. (2008) cite records from northern Sonora, Mexico; as well as Salt River Canyon in Gila Co., Arizona.

### Short-term Trend Comments:

Originally collected over 100 years ago and redescribed from northern Sonora in 1934 but not seen until 2005 when a single specimen collected in Salt River Canyon, Gila Co., Arizona (McCafferty, 2006) plus a 1969 record from the San Bernardino Mountains, California (Meyer and McCafferty, 2008).

# Distribution

### National and State/Provincial Distribution:

United States: AZ, CA

Ecology and Life History

### Habitat

### Phenology

Food

# Population / Occurrence Delineation

Group Name: Mayflies

### Minimum Criteria for an Occurrence:

Occurrences are based on some evidence of historical presence or current presence of single or multiple specimens ideally with evidence of on-site breeding (including nymphs, subimago adults, and imago adults) at a given location with potentially breeding habitat. Evidence is derived from reliable published observation or collection data; unpublished, though documented (i.e. government or agency reports, web sites, etc.) observation or collection data; or museum specimen information. A photograph may be accepted as documentation of an element occurrence for adults only (nymphs and subimagos are too difficult to identify in this manner) provided that the photograph shows diagnostic features that clearly delineate the species from other species with similar features. The families, Ameletidae, Baetidae, Caenidae, Ephemerellidae, Heptageniidae, Leptohyphidae, Leptophlebiidae, and Siphlonuridae, are particularly difficult to identify from a photograph alone; geographic information in almost always an additional requirement. Sight records, though valuable, should not be accepted as the basis for new element occurrences. Instead, such records should be utilized to further study an area to verify the element occurrence in that area.

#### **Separation Barriers:**

Within catchments there are likely no significant barriers to movement of adults between microhabitats, with even extensive sections of inappropriate waterway or major obstructions to flow being readily traversed by adults during dispersal following emergence.

Separation Distance for Unsuitable Habitat: 3 kilometers Separation Distance for Suitable Habitat: 3 kilometers Alternate Separation Procedure:

None

#### Separation Justification:

Mayflies (Order Ephemeroptera) are an order of insects with an immature larval stage that is entirely aquatic. Larvae usually undergo numerous molts and the length of larval existence is usually three to six months but can be as short as two weeks (some Baetidae, Leptohyphidae, and Caenidae) or as long as two years [*Hexagenia limbata* (Serville, 1829), in some cold climates] (Edmunds and Waltz, 1996). Following the larval molts, mayflies enter a unique life stage among living insects called the subimago. The subimago is a winged, though sexually immature stage, that is typically found perched on shoreline vegetation and lasts from four minutes to 48 hours (directly correlated with the lifespan of the adult) (Edmunds and Waltz, 1996). Females of some North American species are known to mate and lay eggs as a subimago (e.g. *Tortopus, Campsurus, Ephoron,* and *Serratella*) (Edmunds and Waltz, 1996).

The rate of mayfly dispersal is limited in the larval stage by drainage systems, and in adult stages by relatively short life spans and weak flying ability of gravid females (Berner and Pescador, 1988; McCafferty, 1998). Adults of most species live only two hours to three days (some less than 90 minutes) (Edmunds and Waltz, 1996; W.P. McCafferty, personal communication). Both subimagos and adults tend to remain along banks at emergence sites (Brittain, 1990; Knopp and Cormier, 1997). Dispersal at the population level has been little studied. At the species level, McCafferty (1998) claimed past dispersal of mayflies is reflected by both wide-ranging species resulting from diffusion dispersal (range expansion of individual species) and geographically radiating species diversity from secular migration (dispersal of a lineage via expansion with accompanying division of species ranges leading to geographic speciation) with the latter type spread over time resulting from a series of vicariant events on a small scale. Although passive dispersal (i.e. drift) is too unpredictable to consider when accurately assigning separation distances (see Stewart and Szczytko, 1983, for drift rates in m for a few species), it is worth noting that Humphries (2002) found that upstream movement in *Baetis rhodani* (Pictet) in the United

#### Fallceon eatoni | NatureServe Explorer

Kingdom is sufficient to compensate for numerical losses in populations because of drift.

Separation distances (unsuitable and suitable) have been set at three km based upon several life history characteristics that limit occurrences to a short distance from the area of emergence, among them: (1) life cycles of adults and subimagos are extremely short compared to other aquatic insects; (2) adults (and particularly subimagos) tend to remain along the banks of emergence sites with males gathering in swarms to intercept females for mating; (3) flying ability (particularly for adult females) is not strong with dispersal rarely exceeding a few km (Malmqvist, 2000).

**Date:** 2004-10-18 **Author:** Cordeiro, J.

# Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

### Authors and Contributors

NatureServe Conservation Status Factors Edition Date: 3/31/2009 NatureServe Conservation Status Factors Edition Authors: Cordeiro, J.

### References

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Page Last Published: 2/28/2025



### Danaus plexippus pop. 1

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Monarch - California Overwintering Population Other English Common Names: Monarch Butterfly - California Overwintering Population Taxonomic Status: Provisionally accepted Unique Identifier: ELEMENT\_GLOBAL.2.860028 Element Code: IILEPP2012 Informal Taxonomy: Animals, Invertebrates - Insects - Butterflies and Moths - Butterflies and Skippers

| Kingdom  | Phylum      | Class   | Order       | Family      | Genus  |
|----------|-------------|---------|-------------|-------------|--------|
| Animalia | Mandibulata | Insecta | Lepidoptera | Nymphalidae | Danaus |

Genus Size: C - Small genus (6-20 species)

Check this box to expand all report sections:  $\square$ 

### **Concept Reference**

**Concept Reference:** Oberhauser, K.S. and M.J. Solensky (editors). 2004. The Monarch Butterfly: Biology and Conservation. Cornell University Press, Ithaca, NY. 248 pp.

### Concept Reference Code: B04OBE01EHUS

### Name Used in Concept Reference: Danaus plexippus pop. 1

**Taxonomic Comments:** This is defined as the portion of the North American monarch that overwinters along the Pacific coast, mostly in California, often called the "western monarch". Taxonomically these are part of *Danaus plexippus plexippus*. The extent to which they interbreed with eastern monarchs that overwinter in the Mexican mountains is uncertain, but apparently substantial because microsatellite analyses suggest that the western and eastern Monarch populations are panmictic (Lyons et al. 2012). Also the distinction between eastern and western monarch winter habitats is not as absolute as it was formerly thought to be. Some monarchs from the western states overwinter with the eastern ones in the Mexican mountains.

**Conservation Status** 

### **NatureServe Status**

Global Status: G4T2T3 Global Status Last Reviewed: 31Dec2014 Global Status Last Changed: 31Dec2014 Ranking Methodology Used: Ranked by calculator Rounded Global Status: T2 - Imperiled

**Reasons:** Count data show that the portion of the monarch butterfly population that overwinters on the California coast has trended consistently downward since the late 1990s; the population has declined by ~50% from the long term (17 year) average (Monroe et al. 2014). A substantial number of recent winter sites no longer have any monarchs or support only trivial numbers. The major rank factors are the short term decline that probably is not a natural fluctuation, but rather part of a consistent longer term (>15 year) decline in numbers. The number of overwintering occurrences, that is area of winter occupancy, has probably also declined by more than 50% in the long term, but not 90% as has number of individuals. Rank Calculator estimate as of December 2014 is T2T3.

1 of 6

0

0

Nation: United States National Status: NNR Nation: Canada National Status: NNR

### U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

| Innieo States | Arizona (SNRB), California (S2S3), Idaho (SNRB), Nevada (SNRB), Oregon (SNRB), Utah (SNRB), Washington<br>(SNRB) |
|---------------|--|
| Canada        | British Columbia (SNR)   |

### **Other Statuses**

### **NatureServe Global Conservation Status Factors**

### Range Extent: 250-5000 square km (about 100-2000 square miles)

**Range Extent Comments:** The range extent is based on the winter range which runs along about 1,000 kilometers along the California coast, from northern Mendocino County south to Baja California, Mexico (Lane 1993, Leong et al. 2004, Jepsen and Black, in press). The monarch?s overwintering range has contracted in recent years (Griffiths and Villablanca 2014), and monarchs are rarely found overwintering in the far northern or southern extremes of their overwintering range.

The summer breeding range is about two million square kilometers and includes interior California, Nevada, Arizona, Utah, Idaho, Oregon and Washington (Dingle et al. 2005).

#### Area of Occupancy: 26-500 4-km2 grid cells

**Area of Occupancy Comments:** The area of occupancy is based on the overwintering range. The California Natural Diversity Database estimated the historic area of occupancy as 242 4-sq km grid cells. The current area of occupancy is likely to be much lower due to a decline in viable overwintering populations.

#### Number of Occurrences: 21 - 80

Number of Occurrences Comments: The western North American population has been documented to overwinter at more than 400 sites, mostly along the California coast. Some of these have been destroyed. In the past 10 years, only 83 (and 34 in 2013) of the 478 recorded monarch overwintering locations in California have hosted more than 1,000 monarchs. the fall of 2013 only 34 sites did (Monroe et al. 2014, Jepsen and Black, in press).

#### Population Size: 10,000 - 1,000,000 individuals

**Population Size Comments:** Fluctuates but has clearly trended downward since the 1990s. There are probably less than 500,000 monarchs that overwinter in California.

#### Number of Occurrences with Good Viability/Integrity: Few to some (4-40)

Percent Area with Good Viability/Integrity: Unknown percentage of area with excellent or good viability or ecological integrity Viability/Integrity Comments: Viability is apparently determined primarily by conditions in the breeding range. If enough adults arrive in the fall most of the winter populations would be viable.

#### Overall Threat Impact: Medium - low

**Overall Threat Impact Comments:** Threats do not appear to be high at the overwintering sites. Recent decline probably is related to problems in the breeding habitats, specifically decline of milkweed in disturbed habitats due to factors including droughts and increased herbicide use, among others, with considerable uncertainty as to relative importance of each of these and other factors in reducing milkweeds. Thus the number of adults reaching an overwintering site is not necessarily related to quality of the site. In some places overwintering groves are protected during the time of year that monarchs inhabit them, but they are not necessarily actively managed for

monarchs. Degradation of overwintering habitat quality is thought to pose a threat to western monarchs. Disease, senescence, or loss of roost trees (such as nonnative Eucalyptus and native conifers) appears to be a local threat at some sites. However populations do shift about from year to year as local conditions change.

### Short-term Trend: Decline of 30-70%

**Short-term Trend Comments:** Less than one million monarchs currently overwinter in California. In the past ten years, only 83 of the 458 recorded monarch overwintering locations in California have hosted more than 1,000 monarchs. In the fall of 2013, only 34 sites hosted more than 1,000 monarchs. Smaller aggregations of monarchs consisting of tens to hundreds of butterflies have been reported from Arizona and southeastern California (Monroe et al. 2015, Jepsen and Black in press).

### Long-term Trend: Decline of >90%

**Long-term Trend Comments:** Area of occupancy, number of subpopulations, population size, and habitat quality have declined over the long term. Historic estimates of the overall California overwintering population size range from 1 to 10 million (Nagano and Lane 1985, Nagano and Freese 1987). Leong et al. (2004) used data from the California Natural Diversity Database (CNDDB) from 1990 to 2000 to estimate the maximum number of overwintering monarchs for a single season to be more than 2.3 million. Historic estimates of the monarch population size that are available for a few overwintering sites suggest that the monarch population was larger prior to the onset of a large-scale yearly monitoring effort (the Western Monarch Thanksgiving Count) that began in 1997.

Data from the 17 sites that have been monitored annually since 1997 show that in 1997 there were more than 1.2 million monarchs overwintering in California (or an average of 12,232 monarchs per site), but in 2013 there were only about 200,000 monarchs counted (an average of 2,151 monarchs per site), representing a decline of 83 percent from the 1997 high and a 51 percent decline from the 17 year average (Monroe et al. 2014). Further analysis of these data show a statistically significant decline of, on average, 10.6% per year. It also shows evidence that a range contraction has also occurred, with significantly more sites declining at the southern and northern extremes of the monarch?s winter range (Griffiths and Villablanca 2014).

### Intrinsic Vulnerability: Moderately vulnerable

**Intrinsic Vulnerability Comments:** Concentration of about 29% of total adults into three sites on the California coast increases vulnerability, although the other 71% or so are fairly widely distributed.

### **Other NatureServe Conservation Status Information**

Protection Needs: Both breeding and overwintering habitat are critical. Currently efforts are being made to restore milkweeds.

### Distribution

**Global Range:** (250-5000 square km (about 100-2000 square miles)) The range extent is based on the winter range which runs along about 1,000 kilometers along the California coast, from northern Mendocino County south to Baja California, Mexico (Lane 1993, Leong et al. 2004, Jepsen and Black, in press). The monarch?s overwintering range has contracted in recent years (Griffiths and Villablanca 2014), and monarchs are rarely found overwintering in the far northern or southern extremes of their overwintering range.

The summer breeding range is about two million square kilometers and includes interior California, Nevada, Arizona, Utah, Idaho, Oregon and Washington (Dingle et al. 2005).

### **U.S. States and Canadian Provinces**

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

### Map unavailable!:

Distribution data for U.S. states and Canadian provinces is known to be incomplete or has not been reviewed for this taxon.

### U.S. & Canada State/Province Distribution

 $\odot$ 

| United States | AZ, CA, ID, NV, OR, UT, WA |
|---------------|----------------------------|
| Canada        | BC                         |

### Range Map

No map available.

| U.S. [   | U.S. Distribution by County 📀   |  |  |
|--|---|--|--|
| State  | County Name (FIPS Code)   |  |  |
|  | Alameda (06001), Contra Costa (06013), Inyo (06027)*, Kern (06029), Los Angeles (06037), Marin (06041),<br>Mendocino (06045)*, Monterey (06053), Orange (06059), San Diego (06073), San Francisco (06075), San Luis<br>Obispo (06079), San Mateo (06081), Santa Barbara (06083), Santa Cruz (06087), Solano (06095),<br>Sonoma (06097), Ventura (06111) |  |  |
| * Exating the discussion of the section of the discussion of the d |   |  |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 📀 |  |
|----------------------------------|--|
| Watershed<br>Region 🕜            | Watershed Name (Watershed Code)  |
| 18                               | Big-Navarro-Garcia (18010108)+*, Gualala-Salmon (18010109)+, Middle Kern-Upper<br>Tehachapi- (18030003)+, Suisun Bay (18050001)+*, San Pablo Bay (18050002)+, San Francisco<br>Bay (18050004)+, Tomales-Drake Bays (18050005)+, San Francisco Coastal South (18050006)+, San<br>Lorenzo-Soquel (18060001)+, Pajaro (18060002)+, Central Coastal (18060006)+, Santa Maria (18060008)+,<br>San Antonio (18060009)+, Santa Ynez (18060010)+, Alisal-Elkhorn Sloughs (18060011)+,<br>Carmel (18060012)+, Santa Barbara Coastal (18060013)+, Ventura (18070101)+, Santa Clara (18070102)+,<br>Calleguas (18070103)+*, Santa Monica Bay (18070104)+, Los Angeles (18070105)+, San<br>Gabriel (18070106)+, Seal Beach (18070201)+, Newport Bay (18070204)+, Aliso-San Onofre (18070301)+,<br>Santa Margarita (18070302)+, San Luis Rey-Escondido (18070303)+, San Diego (18070304)+, Eureka-<br>Saline Valleys (18090201)+* |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

| Ecology & Life History  | 0 |
|---|---|
| Economic Attributes   | 0 |
| Management Summary  | 0 |
| Population/Occurrence Delineation   | 0 |
| Population/Occurrence Viability   | 0 |
| Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).<br>The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this<br>method.<br>Key for Ranking Species Element Occurrences Using the Generic Approach (2008). | È |
| U.S. Invasive Species Impact Rank (I-Rank)  | 0 |
| Authors/Contributors  | 0 |

#### **Authors/Contributors**

### NatureServe Conservation Status Factors Edition Date: 31Dec2014

NatureServe Conservation Status Factors Author: Schweitzer, D.F., Jepsen, S., Ormes, M., and Sears, N.

Zoological data developed by NatureServe and its network of natural heritage programs (see Local Programs) and other contributors and cooperators (see Sources).

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0

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**Note:** All species and ecological community data presented in NatureServe Explorer at http://explorer.natureserve.org were updated to be current with NatureServe's central databases as of **November 2016**. **Note:** This report was printed on **March 26, 2018** 

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Citation for data on website including State Distribution, Watershed, and Reptile Range maps:

NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

#### Citation for Bird Range Maps of North America:

Ridgely, R.S., T.F. Allnutt, T. Brooks, D.K. McNicol, D.W. Mehlman, B.E. Young, and J.R. Zook. 2003. Digital Distribution Maps of the Birds of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Bird Range Maps of North America:

"Data provided by NatureServe in collaboration with Robert Ridgely, James Zook, The Nature Conservancy - Migratory Bird Program, Conservation International - CABS, World Wildlife Fund - US, and Environment Canada - WILDSPACE."

#### Citation for Mammal Range Maps of North America:

Patterson, B.D., G. Ceballos, W. Sechrest, M.F. Tognelli, T. Brooks, L. Luna, P. Ortega, I. Salazar, and B.E. Young. 2003. Digital Distribution Maps of the Mammals of the Western Hemisphere, version 1.0. NatureServe, Arlington, Virginia, USA.

#### Acknowledgement Statement for Mammal Range Maps of North America:

"Data provided by NatureServe in collaboration with Bruce Patterson, Wes Sechrest, Marcelo Tognelli, Gerardo Ceballos, The Nature Conservancy-Migratory Bird Program, Conservation International-CABS, World Wildlife Fund-US, and Environment Canada-WILDSPACE."

#### Citation for Amphibian Range Maps of the Western Hemisphere:

IUCN, Conservation International, and NatureServe. 2004. Global Amphibian Assessment. IUCN, Conservation International, and NatureServe, Washington, DC and Arlington, Virginia, USA.

#### Acknowledgement Statement for Amphibian Range Maps of the Western Hemisphere:

"Data developed as part of the Global Amphibian Assessment and provided by IUCN-World Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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**Feedback Request:** NatureServe encourages users to let us know of any errors or significant omissions that you find in the data through (see <u>Contact Us</u>). Your comments will be very valuable in improving the overall quality of our databases for the benefit of all users.



Version 7.1 (2 February 2009) Data last updated: November 2016

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### Agathon arizonicus - (Alexander, 1958)

Synonym(s): Agathon arizonica (Alexander, 1958) Taxonomic Status: Accepted Related ITIS Name(s): Agathon arizonica (Alexander, 1958) (TSN 121231) Unique Identifier: ELEMENT\_GLOBAL.2.111631 Element Code: IIDIP46010 Informal Taxonomy: Animals, Invertebrates - Insects - Other Insects



| Kingdom  | Phylum      | Class   | Order   | Family          | Genus   |
|----------|-------------|---------|---------|-----------------|---------|
| Animalia | Mandibulata | Insecta | Diptera | Blephariceridae | Agathon |

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#### **Concept Reference**

Concept Reference: Poole, R. W., and P. Gentili (eds.). 1996. Nomina Insecta Nearctica: a checklist of the insects of North America. Volume 3 (Diptera, Lepidoptera, Siphonaptera). Entomological Information Services, Rockville, MD. Concept Reference Code: B96POO03EHUS Name Used in Concept Reference: Agathon arizonica

**Conservation Status** 

#### **NatureServe Status**

Global Status: G1 Global Status Last Reviewed: 01Mar1992 Global Status Last Changed: 01Mar1992 Rounded Global Status: G1 - Critically Imperiled Nation: United States National Status: NNR

#### U.S. & Canada State/Province Status

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United States

Arizona (SNR)

#### **Other Statuses**

**NatureServe Global Conservation Status Factors** 

**Other NatureServe Conservation Status Information** 

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#### Distribution

#### **U.S. States and Canadian Provinces**

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#### Map unavailable!:

Distribution data for U.S. states and Canadian provinces is known to be incomplete or has not been reviewed for this taxon.

| U.S. & Canada State/Provinc | e Distribution |
|-----------------------------|----------------|
| United States               | AZ             |

#### Range Map

No map available.

| U.S. Distribution by County 🕜 |                         |  |  |
|-------------------------------|-------------------------|--|--|
| State                         | County Name (FIPS Code) |  |  |
| AZ                            | Gila (04007)            |  |  |
| * Extirnated/noss             | hlv extirnated          |  |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 🕜   |   |                   |
|--|---|-------------------|
| Watershed Region 📀   | Watershed Name (Watershed Code)   |                   |
| 15   | Upper Salt (15060103)+  |                   |
| + Natural heritage record(s) exist for this wate<br>* Extirpated/possibly extirpated | rshed   |                   |
| Ecology & Life History   |   | 0                 |
| Economic Attributes  |   | 0                 |
| Management Summary   |   | 0                 |
| Population/Occurrence Delineation  |   | 0                 |
| Population/Occurrence Viability  |   | 0                 |
| Justification: Use the Generic Guidelines for  | or the Application of Occurrence Ranks (2008).                                      |                   |
| · · · · · · · · · · · · · · · · · · ·  | Using the Generic Approach provides a step-wise process for impleme                 | <u>nting this</u> |
| method.  |   |                   |
| Key for Ranking Species Element Occurrer   | nces Using the Generic Approach (2008).   |                   |
| U.S. Invasive Species Impact Rank (I-Rank)   |   | 0                 |
| Authors/Contributors   |   | 0                 |
| Zoological data developed by NatureServe an and cooperators (see <u>Sources</u> ).   | d its network of natural heritage programs (see <u>Local Programs</u> ) and other o | contributors      |
| References   |   | 0                 |

• Poole, R. W., and P. Gentili (eds.). 1996. Nomina Insecta Nearctica: a checklist of the insects of North America. Volume 3 (Diptera, Lepidoptera, Siphonaptera). Entomological Information Services, Rockville, MD.

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#### Citation for Mammal Range Maps of North America:

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Conservation Union, Conservation International and NatureServe."

NOTE: Full metadata for the Bird Range Maps of North America is available at: <a href="http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf">http://www.natureserve.org/library/birdDistributionmapsmetadatav1.pdf</a>.

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Version 7.1 (2 February 2009) Data last updated: November 2016



### Cylloepus parkeri - Sanderson, 1953 Parker's Cylloepus Riffle Beetle Taxonomic Status: Accepted Related ITIS Name(s): Cylloepus parkeri Sanderson, 1953 (TSN 114209) Unique Identifier: ELEMENT\_GLOBAL.2.116410 Element Code: IICOL59010 Informal Taxonomy: Animals, Invertebrates - Insects - Beetles - Other Beetles

| Kingdom  | Phylum      | Class   | Order      | Family  | Genus     |
|----------|-------------|---------|------------|---------|-----------|
| Animalia | Mandibulata | Insecta | Coleoptera | Elmidae | Cylloepus |

Check this box to expand all report sections: ☑

#### **Concept Reference**

**Concept Reference:** Poole, R. W., and P. Gentili (eds.). 1996. Nomina Insecta Nearctica: a checklist of the insects of North America. Volume 1 (Coleoptera, Strepsiptera). Entomological Information Services, Rockville, MD. Available online: http://www.nearctica.com /nomina/nomina.htm

Concept Reference Code: B96POO01EHUS

Name Used in Concept Reference: Cylloepus parkeri

**Conservation Status** 

#### **NatureServe Status**

Global Status: G1? Global Status Last Reviewed: 20Feb1992 Global Status Last Changed: 20Feb1992 Rounded Global Status: G1 - Critically Imperiled Nation: United States National Status: NNR

#### U.S. & Canada State/Province Status

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|  | United States Ari | rizona (S1) |
|--|-------------------|-------------|
|--|-------------------|-------------|

#### **Other Statuses**

IUCN Red List Category: NE - Not evaluated

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#### NatureServe Global Conservation Status Factors

Range Extent Comments: Bloody Basin, Yavapai Co., AZ.

#### **Other NatureServe Conservation Status Information**

Distribution

Global Range: Bloody Basin, Yavapai Co., AZ.

#### **U.S. States and Canadian Provinces**

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#### Map unavailable!:

Distribution data for U.S. states and Canadian provinces is known to be incomplete or has not been reviewed for this taxon.

| U.S. & Canada State/Provin | ce Distribution |
|----------------------------|-----------------|
| United States              | AZ              |

#### Range Map

No map available.

| U.S. Distribution by  | County 📀                |
|-----------------------|-------------------------|
| State                 | County Name (FIPS Code) |
| AZ                    | Yavapai (04025)         |
| * Extirnated/possibly | extirnated              |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed ⊘ |                                 |
|----------------------------------|---------------------------------|
| Watershed Region 📀               | Watershed Name (Watershed Code) |
| 15                               | Lower Verde (15060203)+         |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

#### **Ecology & Life History**

 Non-Migrant: N

 Locally Migrant: N

 Long Distance Migrant: N

 Riverine Habitat(s): CREEK, SPRING/SPRING BROOK

 Habitat Comments: Small, rocky streams. Probably hides under rocks. Could well occur in spring brooks as well as creeks.

 Economic Attributes

 Management Summary

 Population/Occurrence Delineation

 Population/Occurrence Viability

 Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).

 The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this

#### method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

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 $\bigcirc$ 

#### U.S. Invasive Species Impact Rank (I-Rank)

#### Authors/Contributors

#### Element Ecology & Life History Edition Date: 29Mar1991 Element Ecology & Life History Author(s): SCHWEITZER, D. F.

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

#### References

- Brown, Harley, P. 1976. Aquatic Dryopoid beetles (Coleoptera) of the United States. U.S. E.P.A. Office Res. Dev., Envir. Monitoring Support Laboratory, Cincinnati, OH. E.P.A. Doc.# 600/B-76-001.
- Poole, R. W., and P. Gentili (eds.). 1996. Nomina Insecta Nearctica: a checklist of the insects of North America. Volume 1 (Coleoptera, Strepsiptera). Entomological Information Services, Rockville, MD. Available online: http://www.nearctica.com/nomina /nomina.htm
- Sanderson, M. W. 1953a-54. A revision of the nearctic genera of Elmidae (Coleoptera). J. Kansas Ent. Soc. 26(4): 148-163; 27(1): 1-13.
- Sanderson, M.W. 1953b. New species and a new genus of New World Elmidae with supplemental keys. The Coleopterists' Bulletin VII(5): 37-40.

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NatureServe, Arlington, Virginia. Available http://explorer.natureserve.org. (Accessed: March 26, 2018).

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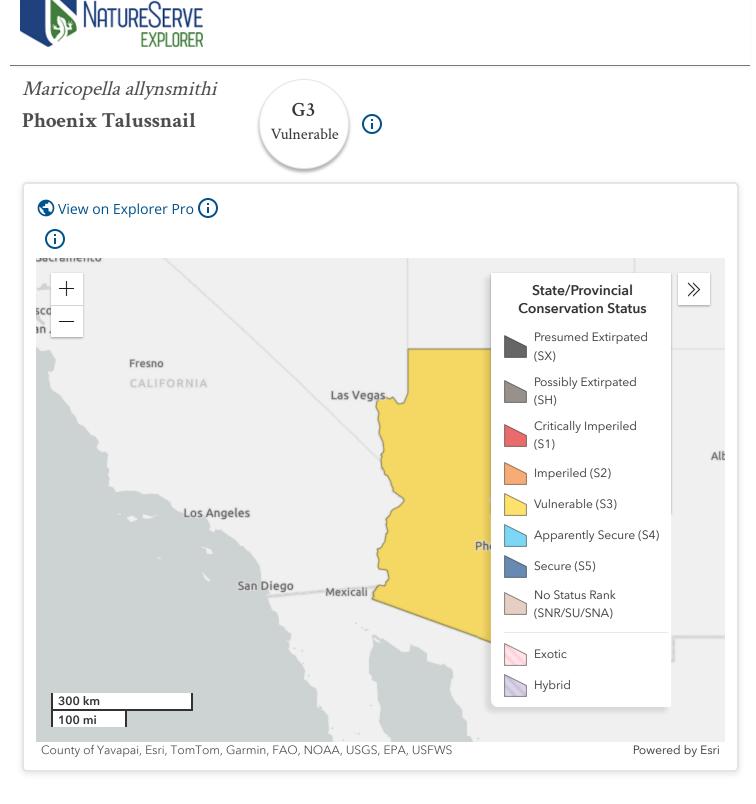
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Version 7.1 (2 February 2009) Data last updated: November 2016



## Classification

Scientific Name: Maricopella allynsmithi (Gregg and W.B. Miller, 1969)

Kingdom: Animalia

Phylum: Mollusca

Class: Gastropoda

Order: Stylommatophora

Family: Helminthoglyptidae

Genus: Maricopella

Scientific Name Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Concept Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Name Used in Concept Reference: Maricopella allynsmithi
Synonyms: Sonorella allynsmithi
NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.114155
NatureServe Element Code: IMGASC9010
Related ITIS Names: Maricopella allynsmithi (Gregg and W. B. Miller, 1969) (TSN 567860), Sonorella allynsmithi Gregg and W. B. Miller, 1969 (TSN 77833)

**Conservation Status** 

## NatureServe Status

Global Status: G3 Global Status Last Reviewed: 8/7/2019 Rank Method Used: Ranked by calculator Reasons:

This species has a limited distribution, although new populations are being discovered. Its known range encompasses a metropolitan area that is undergoing widespread development.

## National & State/Provincial Statuses

### United States: N3

Arizona: S3

## **Other Statuses**

U.S. Endangered Species Act: Under Review (12/16/2009) Comments on Endangered Species Act Statuses:

Included in the partial 90-day finding on a petition to list 475 species in the southwestern United States (USFWS 2009). Included in the USFWS FY23-27 National Domestic Listing Workplan (April 14, 2023 version) (USFWS 2023). Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

## **NatureServe Global Conservation Status Factors**

Range Extent: 1000-5000 square km (about 400-2000 square miles) Range Extent Comments:

This species is endemic to Arizona, U.S. It occurs within northeastern Maricopa County on the isolated southeast to northwest trending mountains between the Verde River to the east, the Gila and Salt River to the South, the Agua Fria River to the west, and the base of New River Mesa to the north. The greater Phoenix metropolitan area encompasses the range of the species. Municipalities include Phoenix, Glendale, Peoria, New River, Cave Creek, Carefree, Scottsdale, and Fountain Hills. It is likely the species also occurs within the Salt River Pima-Maricopa Indian Community in the southern portion of the McDowell Mountains (Waters 2011).

Area of Occupancy: 26-125 4-km2 grid cells Estimated Number of Element Occurrences: 21 - 80 Estimated Number of Element Occurrences Comments:

According to Waters (2011), this species is known from 20 localities. Populations are being discovered annually on other mountain ranges in the Phoenix area, therefore this species may be more common than previously thought.

**Global Protection:** Many (13-40) occurrences appropriately protected and managed **Global Protection Comments:** 

Most populations are on city or county parks.

**Degree of Threat:** Medium - low **Threat Comments:** 

Waters (2011) reports that buffelgrass (*Pennisetum ciliare*) and fountaingrass (*Pennisetum setaceum*) have become widespread throughout mountains occupied by the Phoenix talussnail, particularly adjacent to heavily landscaped developments at the type locality, Piestewa Peak, and at Hedgpeth Hills, Deem Hills, and Ludden Mountain. Wildfires fueled from dense stands of these invasive grasses and weeds burn rapidly and at high temperature. While rocky soils and talus mitigate temperature extremes caused by fire (Stoof and others 2010), high temperatures rapidly shatter and break down rock into smaller particles, reducing shade and forming soil which subsequently reduce interstitial space (Blackwater 1927; Dorn 2003; Dragovich 1993). Urban development and materials mining are also primary threats to the species, although most occupied habitats are either on city and county park preserves, or on hillsides that are unsuitable for residential development or commercial rock and mineral excavation.

Threats: wildfire fueled by invasive weeds and grasses; housing development; rock and mineral mining; and as a lesser impact, the disturbance of habitat from off-trail hikers. Management needs: invasive weed management; educational outreach in parks to alert hikers of activities that may be detrimental to the talussnail; periodic monitoring of snail populations and their habitat.

Long-term Trend: Unknown Short-term Trend: Unknown Short-term Trend Comments:

Surveys often find empty shells. Monitoring needs to be conducted immediately after soaking rains (i.e. limits when

people survey).

**Fragility:** Moderately vulnerable **Environmental Specificity:** Very narrow. Specialist or community with key requirements scarce. **Environmental Specificity Comments:** 

Only on talus slopes. Loose, talus slopes, rocky hillsides and ridges, and cracks and fissures of cliff face

## **Other NatureServe Conservation Status Information**

#### **Inventory Needs:**

Population surveys to determine snail status among occupied sites. In general, additional surveys are needed to determine the status and distribution of the invertebrate Species of Concern on the Tonto National Forest.

## Distribution

National and State/Provincial Distribution:

United States : AZ

Endemism: endemic to a single state or province

## Ecology and Life History

## **Mobility and Migration**

Colonial Breeder: No Non-Migrant: No Locally Migrant: No Long Distance Migrant: No

## Habitat

Habitat Type: Terrestrial Habitat Comments:

This species occupies isolated talus habitat which is unevenly distributed across mountainous areas (Waters 2011).

## Phenology

## Food

Management Summary

#### **Stewardship Overview:**

1) Invasive weed management; 2) Educational outreach in parks to alert hikers of activities that may be detrimental to the talussnail; 3) Periodic monitoring of snail populations and their habitat.

#### **Biological Research Needs:**

Genetic review of other snails in area. In *situ* and laboratory studies of their life history, reproduction and habitat preferences, including temperature and humidity tolerances to model impacts of future climate change. Questions to still address in general: 1) Is the morphology-based taxonomy of the species supported by genetics-based phylogeny? 2) What are the life history aspects for each species? 3) What are the habitat requirements of the species? 4) How susceptible are the species to anthropogenic impacts? 5) How will climate change affect the species?

## Population / Occurrence Delineation

### Group Name: Terrestrial Snails Minimum Criteria for an Occurrence:

Occurrences are based on some evidence of historical or current presence of single or multiple specimens, including live specimens or recently dead shells (i.e., soft tissue still attached without signs of external weathering or staining), at a given location with potentially recurring existence. Weathered shells constitute a historic occurrence. Evidence is derived from reliable published observation or collection data; unpublished, though documented (i.e. government or agency reports, web sites, etc.) observation or collection data; or museum specimen information.

#### **Separation Barriers:**

Barriers include barriers to dispersal such as the presence of permanent water bodies greater than 30 m in width, permanently frozen areas (e.g. mountaintop glaciers) which generally lack land snails (Frest and Johannes, 1995), or dry, xeric areas with less than six inches precipitation annually, as moisture is required for respiration and often hatching of eggs. For the various slugs and slug-like species (families Arionidae, Philomycidae, Limacidae, Milacidae, Testacellidae, Veronicellidae), absence of suitable moisture, except for the most ubiquitous of species such as *Deroceras reticulatum* (Müller, 1774), can serve as a barrier to movement (Frest and Johannes, 1995). Members of these groups tend to have greater difficulty crossing areas of little moisture than other pulmonates. For tree snails (family Bulimulidae [= Orthalicidae]), lack of appropriate arboreal habitat (e.g. distance of greater than 500 m) also serves as a separation barrier.

Separation Distance for Unsuitable Habitat: 1 kilometers Separation Distance for Suitable Habitat: 1 kilometers Alternate Separation Procedure:

None

#### Separation Justification:

Burch and Pearce (1990) suggest refuges may be the most important factor limiting terrestrial snail abundance, although the greatest richness of species among carbonate cliff habitats (one of the most diverse in North America) is associated with calcareous, as opposed to acidic, substrates (Nekola, 1999; Nekola and Smith, 1999). The panmictic unit (a local population in which matings are random) is small relative to those of other animal groups because terrestrial snails tend to be more sedentary. Baker (1958) claimed, "long-distance dispersal of terrestrial gastropods is undoubtedly passive" although short

#### 3/18/25, 7:11 AM

#### Maricopella allynsmithi | NatureServe Explorer

distance dispersal is active involving slow, short distance migration under favorable conditions. Long-distance passive migration is not considered when assigning separation distances, as otherwise separation distances for many animals and plants would be made impracticably large. Passive migration of snails on terrestrial mammals, birds, or insects may occur over longer distances may occur across barriers. Passive migration also may occur by wind or by rafting on floating objects (Vagvolgyi, 1975). A third form of passive migration may occur through human activity such as transport as food, with consumed goods, or for biological control of other organisms.

Terrestrial gastropods do not move much usually only to find food or reproduce. Olfaction is the primary sensory behavior utilized to find and move toward a food item (on the scale of cm to m) although Atkinson (2003) found that *Anguispira alternata* was capable of switching foraging behavior when snails encountered a physical barrier to movement. Fisher et al (1980) reported maximum movement rate of *Rumina decollata* (Linnaeus, 1758), an introduced pest species in California spreading relatively rapidly (for a snail), to be 20 m in three months (= 6.67 m/month) in an irrigated orchard. Tupen and Roth (2001) reported the movement rate for the same species in an un-irrigated native scrub on San Nicolas Island to be 0.4 km in 12 years (= 33.33 m/month). South (1965) found in dispersal studies of the slug, *Deroceras reticulatum*, that slugs traveled a mean distance of 1.13 m in seven days indicating this species disperses little throughout its life. Giokas and Mylonas (2004) found mean dispersal and minimal movement distances were very small (16.2 and 5.4 m, respectively) for *Albinaria coerulea*, with few individuals dispersing longer distances. Even the most extreme dispersal distances, such as 500 m for the giant African land snail *Achatina fulica* (Tomiyama and Nakane, 1993), do not approach the scale of km. Viable land snail populations generally occupy small areas. Frest and Johannes (1995) report the largest *Oreohelix* colony they observed was one mile (1.67 km) long and 0.25 miles (0.41 km) wide while the smallest was six feet (183 cm) long and two feet (61 cm) wide.

As a whole, pulmonates (previously Subclass Pulmonata) are better dispersers than prosobranchs (previously Subclass Prosobranchia) possibly due to their hermaphroditic reproduction increasing the chance of new colonization (Pilsbry, 1948). When compared with prosobranch families, pulmonates generally reproduce at smaller sizes and sooner, produce greater numbers of eggs/young, have larger clutch sizes, greater growth rates, and shorter life cycles (Brown, 1991). Further, prosobranchs' requirement of constant moisture for oxygen exchange limits their ability to colonize drier habitats. Suitable habitat for pulmonate groups tends to be more varied and less restrictive than for prosobranch groups. All of these factors contribute to pulmonates greater dispersal capability over prosobranchs, as evidenced by the wider and more varied distribution of pulmonates over prosobranchs. Despite this, separation distance for both groups is set at the minimum one km as most movements are well within this suggested minimum separation distance.

**Date:** 2004-05-26 **Author:** Cordeiro, J.

## Population / Occurrence Viability

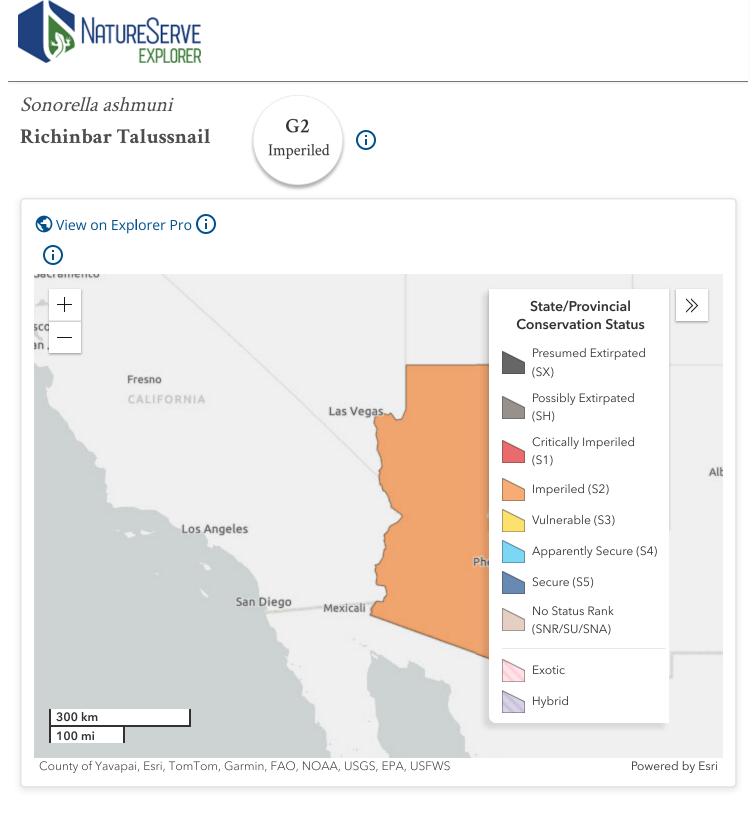
See the Generic Guidelines for the Application of Occurrence Ranks (2008).

## Authors and Contributors

NatureServe Conservation Status Factors Edition Date: 8/7/2019 NatureServe Conservation Status Factors Edition Authors: Tonn, S. References

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Page Last Published: 2/28/2025



## Classification

#### Scientific Name: Sonorella ashmuni Bartsch, 1904

Kingdom: Animalia

Phylum: Mollusca

Class: Gastropoda

Order: Stylommatophora

Family: Helminthoglyptidae

Genus: Sonorella

Scientific Name Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Concept Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Name Used in Concept Reference: Sonorella ashmuni
NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.108005
NatureServe Element Code: IMGASC9060
Related ITIS Names: Sonorella ashmuni Bartsch, 1904 (TSN 77840)

## **Conservation Status**

### **NatureServe Status**

Global Status: G2 Global Status Last Reviewed: 10/29/2019 Rank Method Used: Ranked by calculator Reasons:

Although thought to have a wide geographic distribution, it has limited occurrences and on-going/continuing threats.

## National & State/Provincial Statuses

**United States:** N2

Arizona: S2

## **Other Statuses**

U.S. Endangered Species Act: None Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

### **NatureServe Global Conservation Status Factors**

Range Extent: 1000-5000 square km (about 400-2000 square miles)

#### **Range Extent Comments:**

This species has a wide geographic distribution in the Tonto National Forest, Arizona, USA.

### Area of Occupancy: 6-25 4-km2 grid cells Area of Occupancy Comments:

Wide geographic distribution, type locality at the abandoned mine site, Richinbar, about 48.3 km (30 mi) southeast of Prescott at 1067 m (3500 ft) elevation, to the west of the Agua Fria River and 4.8 km (3 mi) east of Bumblebee. Also found along Seven Springs Road, at Locust Spring near the Yavapai and Maricopa County boundary in the vicinity of Roundtree Canyon. Another population occurs on the northeast slope of Center Mountain in the Sierra Anchas overlapping in distribution with S. anchana.

### **Estimated Number of Element Occurrences:** 6 - 20 **Estimated Number of Element Occurrences Comments:**

This species was found at 7 locations in recent surveys with 4 additional historical locations. Type locality at the abandoned mine site, Richinbar, about 48.3 km (30 mi) southeast of Prescott at 1067 m (3500 ft) elevation, to the west of the Agua Fria River and 4.8 km (3 mi) east of Bumblebee.

**Global Protection:** None. No occurrences appropriately protected and managed **Degree of Threat:** Very high - medium **Threat Comments:** 

Habitat loss or degradation may impact native land snail populations. Activities that affect land snail habitat on Tonto National Forest may include: wildfires and prescribed burns, road and trail construction, and mining. *Sonorella* and *Oreohelix* species are vulnerable to any disturbance that would remove talus or rocky habitat and increase interstitial sedimentation, and for forestdwelling species, any activities that open forest canopy, alter stream hydrogeomorphology, or otherwise change local moisture conditions may impact those populations

Long-term Trend: Unknown Short-term Trend: Unknown Global Abundance: Unknown Environmental Specificity: Very narrow. Specialist or community with key requirements scarce. Environmental Specificity Comments:

Loose, talus slopes, rocky hillsides and ridges, and cracks and fissures of cliff face

## **Other NatureServe Conservation Status Information**

#### **Inventory Needs:**

Additional surveys are needed to determine the status and distribution of the invertebrate Species of Concern on the Tonto National Forest. Most of the primary literature describing these species only focused on their morphology and taxonomy. Unfortunately, many of these invertebrate species are very cryptic in nature and difficult to sample without extensive survey efforts under various weather conditions and seasons.

#### **Protection Needs:**

The Department recommends this species as a proposed Species of Conservation Concern for Tonto National Forest.

#### Distribution

#### National and State/Provincial Distribution:

United States: AZ

Endemism: endemic to a single state or province

## Ecology and Life History

## **Mobility and Migration**

Colonial Breeder: No Non-Migrant: No Locally Migrant: No Long Distance Migrant: No

## Habitat

Habitat Type: Terrestrial

## Phenology

## Food

## Management Summary

#### Stewardship Overview:

1) Monitor the known populations, 2) Locate and monitor additional populations to better understand its distribution, sensitivity to disturbance and overall status, 3) Mitigate activities that threaten/disturb the snail's native habitat

#### **Biological Research Needs:**

The wide geographic distribution of this species overlaps with several other *Sonorella* species. Additional specimens of Richinbar talussnail and nearby congeners should be genetically analyzed to determine their relatedness. More general questions include: 1) Is the morphology-based taxonomy of the species supported by genetics-based phylogeny? 2) What are the life history aspects for each species? 3) What are the habitat requirements of the species? 4) How susceptible are the species to anthropogenic impacts? 5) How will climate change affect the species?

## Population / Occurrence Delineation

### Group Name: Terrestrial Snails

#### Minimum Criteria for an Occurrence:

Occurrences are based on some evidence of historical or current presence of single or multiple specimens, including live specimens or recently dead shells (i.e., soft tissue still attached without signs of external weathering or staining), at a given

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#### Sonorella ashmuni | NatureServe Explorer

location with potentially recurring existence. Weathered shells constitute a historic occurrence. Evidence is derived from reliable published observation or collection data; unpublished, though documented (i.e. government or agency reports, web sites, etc.) observation or collection data; or museum specimen information.

#### **Separation Barriers:**

Barriers include barriers to dispersal such as the presence of permanent water bodies greater than 30 m in width, permanently frozen areas (e.g. mountaintop glaciers) which generally lack land snails (Frest and Johannes, 1995), or dry, xeric areas with less than six inches precipitation annually, as moisture is required for respiration and often hatching of eggs. For the various slugs and slug-like species (families Arionidae, Philomycidae, Limacidae, Milacidae, Testacellidae, Veronicellidae), absence of suitable moisture, except for the most ubiquitous of species such as *Deroceras reticulatum* (Müller, 1774), can serve as a barrier to movement (Frest and Johannes, 1995). Members of these groups tend to have greater difficulty crossing areas of little moisture than other pulmonates. For tree snails (family Bulimulidae [= Orthalicidae]), lack of appropriate arboreal habitat (e.g. distance of greater than 500 m) also serves as a separation barrier.

Separation Distance for Unsuitable Habitat: 1 kilometers Separation Distance for Suitable Habitat: 1 kilometers Alternate Separation Procedure:

None

#### Separation Justification:

Burch and Pearce (1990) suggest refuges may be the most important factor limiting terrestrial snail abundance, although the greatest richness of species among carbonate cliff habitats (one of the most diverse in North America) is associated with calcareous, as opposed to acidic, substrates (Nekola, 1999; Nekola and Smith, 1999). The panmictic unit (a local population in which matings are random) is small relative to those of other animal groups because terrestrial snails tend to be more sedentary. Baker (1958) claimed, "long-distance dispersal of terrestrial gastropods is undoubtedly passive" although short distance dispersal is active involving slow, short distance migration under favorable conditions. Long-distance passive migration is not considered when assigning separation distances, as otherwise separation distances for many animals and plants would be made impracticably large. Passive migration of snails on terrestrial mammals, birds, or insects may occur over longer distances may occur across barriers. Passive migration also may occur by wind or by rafting on floating objects (Vagvolgyi, 1975). A third form of passive migration may occur through human activity such as transport as food, with consumed goods, or for biological control of other organisms.

Terrestrial gastropods do not move much usually only to find food or reproduce. Olfaction is the primary sensory behavior utilized to find and move toward a food item (on the scale of cm to m) although Atkinson (2003) found that *Anguispira alternata* was capable of switching foraging behavior when snails encountered a physical barrier to movement. Fisher et al (1980) reported maximum movement rate of *Rumina decollata* (Linnaeus, 1758), an introduced pest species in California spreading relatively rapidly (for a snail), to be 20 m in three months (= 6.67 m/month) in an irrigated orchard. Tupen and Roth (2001) reported the movement rate for the same species in an un-irrigated native scrub on San Nicolas Island to be 0.4 km in 12 years (= 33.33 m/month). South (1965) found in dispersal studies of the slug, *Deroceras reticulatum*, that slugs traveled a mean distance of 1.13 m in seven days indicating this species disperses little throughout its life. Giokas and Mylonas (2004) found mean dispersal and minimal movement distances were very small (16.2 and 5.4 m, respectively) for *Albinaria coerulea*, with few individuals dispersing longer distances. Even the most extreme dispersal distances, such as 500 m for the giant African land snail *Achatina fulica* (Tomiyama and Nakane, 1993), do not approach the scale of km. Viable land snail populations generally occupy small areas. Frest and Johannes (1995) report the largest *Oreohelix* colony they observed was one mile (1.67 km) long and 0.25 miles (0.41 km) wide while the smallest was six feet (183 cm) long and

two feet (61 cm) wide.

As a whole, pulmonates (previously Subclass Pulmonata) are better dispersers than prosobranchs (previously Subclass Prosobranchia) possibly due to their hermaphroditic reproduction increasing the chance of new colonization (Pilsbry, 1948). When compared with prosobranch families, pulmonates generally reproduce at smaller sizes and sooner, produce greater numbers of eggs/young, have larger clutch sizes, greater growth rates, and shorter life cycles (Brown, 1991). Further, prosobranchs' requirement of constant moisture for oxygen exchange limits their ability to colonize drier habitats. Suitable habitat for pulmonate groups tends to be more varied and less restrictive than for prosobranch groups. All of these factors contribute to pulmonates greater dispersal capability over prosobranchs, as evidenced by the wider and more varied distribution of pulmonates over prosobranchs. Despite this, separation distance for both groups is set at the minimum one km as most movements are well within this suggested minimum separation distance.

**Date:** 2004-05-26 **Author:** Cordeiro, J.

## Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

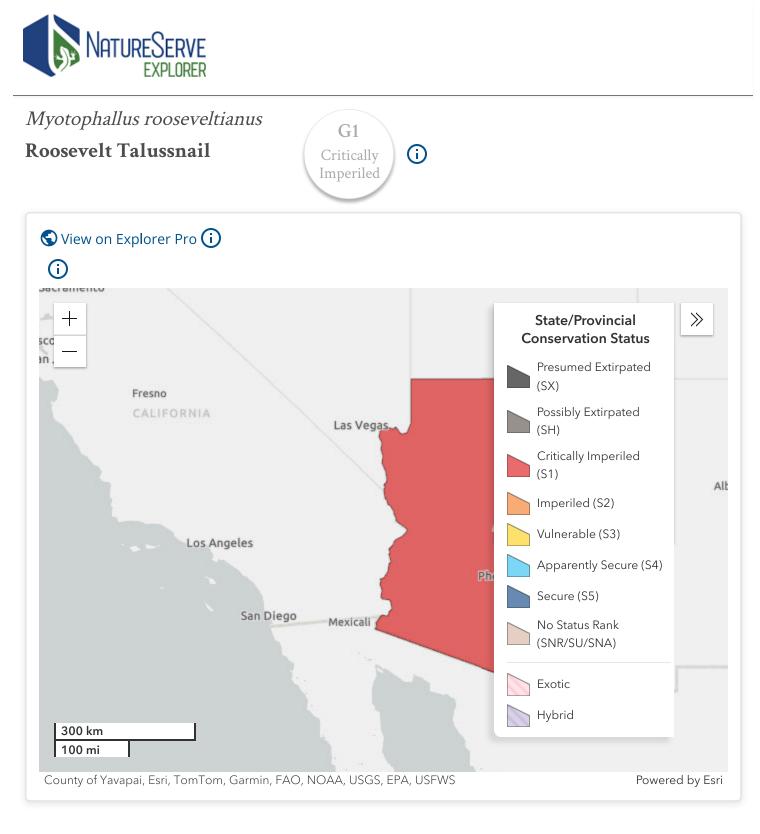
## Authors and Contributors

NatureServe Conservation Status Factors Edition Date: 10/29/2019 NatureServe Conservation Status Factors Edition Authors: Tonn, S.

## References

 Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.

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## Classification

Scientific Name: Myotophallus rooseveltianus (S.S Berry, 1917)

Kingdom: Animalia

Phylum: Mollusca

Class: Gastropoda

Order: Stylommatophora

Family: Helminthoglyptidae

Genus: Myotophallus

Scientific Name Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Concept Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Name Used in Concept Reference: Myotophallus rooseveltianus
Synonyms: Sonorella fragilis, Sonorella rooseveltiana, Sonorella rooseveltiana fragilis
NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.115142
NatureServe Element Code: IMGASC9510
Related ITIS Names: Myotophallus rooseveltianus (S. S. Berry, 1917) (TSN 567927), Sonorella rooseveltiana S. S. Berry, 1917 (TSN 77885)

## **Conservation Status**

### NatureServe Status

Global Status: G1 Global Status Last Reviewed: 10/29/2019 Rank Method Used: Ranked by calculator Reasons:

This species has a very narrow range with few populations. Not much is known about the species, or how recent fire has impacted its habitat.

## National & State/Provincial Statuses

### United States: N1

Arizona: S1

## **Other Statuses**

U.S. Endangered Species Act: None Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

## **NatureServe Global Conservation Status Factors**

Range Extent: <100 square km (less than about 40 square miles)

#### **Range Extent Comments:**

This species is endemic to the Tonto National Forest, Arizona, U.S.

## Area of Occupancy: 3-5 4-km2 grid cells Area of Occupancy Comments:

In 1914, numerous specimens of the Roosevelt talussnail were found by G. Willet at Roosevelt, in rock slides of north slopes at 671 m (2200 ft) elevation, in Gila County (ANSP 2017). In 1921, J.H. Ferriss and in 1948, M.L. Walton, each collected additional specimens of the talussnail in rock slides west of Roosevelt Dam (ANSP 2017). In 1979, a couple of specimens were also found under sotol (Dasylirion) plants along State Route 88 in Alchesay Canyon, about a quarter mile southwest of Roosevelt Dam (SBMNH 2017)

### **Estimated Number of Element Occurrences:** 1 - 5 **Estimated Number of Element Occurrences Comments:**

One historical collection from Tonto National Monument. Five known locations surrounding the monument in Tonto National Forest, only two of which have recent observations.

### Number of Occurrences with Good Viability/Integrity: Unknown

**Degree of Threat:** Very high - medium **Threat Comments:** 

Habitat loss or degradation may impact native land snail populations. Activities that affect land snail habitat on Tonto National Forest may include: wildfires and prescribed burns, road and trail construction, and mining. Sonorella and Oreohelix species are vulnerable to any disturbance that would remove talus or rocky habitat and increase interstitial sedimentation, and for forest dwelling species, any activities that open forest canopy, alter stream hydrogeomorphology, or otherwise change local moisture conditions may impact those populations.

Long-term Trend: Unknown Short-term Trend: Unknown Global Abundance: Unknown Environmental Specificity: Very narrow. Specialist or community with key requirements scarce. Environmental Specificity Comments:

Loose, talus slopes, rocky hillsides and ridges, and cracks and fissures of cliff face

## **Other NatureServe Conservation Status Information**

#### **Inventory Needs:**

Additional surveys are needed to determine the status and distribution of the invertebrate Species of Concern on the Tonto National Forest. Most of the primary literature describing these species only focused on their morphology and taxonomy. Unfortunately, many of these invertebrate species are very cryptic in nature and difficult to sample without extensive survey efforts under various weather conditions and seasons.

#### **Protection Needs:**

The Tonto National Forest is currently undergoing a Forest Plan Revision

## Distribution

#### National and State/Provincial Distribution:

United States: AZ

Endemism: endemic to a single state or province

## Ecology and Life History

## **Mobility and Migration**

Colonial Breeder: No Non-Migrant: No Locally Migrant: No Long Distance Migrant: No

## Habitat

Habitat Type: Terrestrial

## Phenology

### Food

## Management Summary

#### **Stewardship Overview:**

1) Monitor the known populations, 2) Locate and monitor additional populations to better understand its distribution, sensitivity to disturbance and overall status, 3) Avoid management activities that might potentially disturb the snails (e.g. recreational use, development, mining).

#### **Biological Research Needs:**

Questions that still need to be addressed: 1) Is the morphology-based taxonomy of the species supported by genetics-based phylogeny? 2) What are the life history aspects for each species? 3) What are the habitat requirements of the species? 4) How susceptible are the species to anthropogenic impacts? 5) How will climate change affect the species?

## Population / Occurrence Delineation

#### Group Name: Terrestrial Snails

#### Minimum Criteria for an Occurrence:

Occurrences are based on some evidence of historical or current presence of single or multiple specimens, including live specimens or recently dead shells (i.e., soft tissue still attached without signs of external weathering or staining), at a given location with potentially recurring existence. Weathered shells constitute a historic occurrence. Evidence is derived from reliable published observation or collection data; unpublished, though documented (i.e. government or agency reports, web sites, etc.) observation or collection data; or museum specimen information.

#### **Separation Barriers:**

Barriers include barriers to dispersal such as the presence of permanent water bodies greater than 30 m in width, permanently frozen areas (e.g. mountaintop glaciers) which generally lack land snails (Frest and Johannes, 1995), or dry, xeric areas with less than six inches precipitation annually, as moisture is required for respiration and often hatching of eggs. For the various slugs and slug-like species (families Arionidae, Philomycidae, Limacidae, Milacidae, Testacellidae, Veronicellidae), absence of suitable moisture, except for the most ubiquitous of species such as *Deroceras reticulatum* (Müller, 1774), can serve as a barrier to movement (Frest and Johannes, 1995). Members of these groups tend to have greater difficulty crossing areas of little moisture than other pulmonates. For tree snails (family Bulimulidae [= Orthalicidae]), lack of appropriate arboreal habitat (e.g. distance of greater than 500 m) also serves as a separation barrier.

Separation Distance for Unsuitable Habitat: 1 kilometers Separation Distance for Suitable Habitat: 1 kilometers Alternate Separation Procedure:

None

#### Separation Justification:

Burch and Pearce (1990) suggest refuges may be the most important factor limiting terrestrial snail abundance, although the greatest richness of species among carbonate cliff habitats (one of the most diverse in North America) is associated with calcareous, as opposed to acidic, substrates (Nekola, 1999; Nekola and Smith, 1999). The panmictic unit (a local population in which matings are random) is small relative to those of other animal groups because terrestrial snails tend to be more sedentary. Baker (1958) claimed, "long-distance dispersal of terrestrial gastropods is undoubtedly passive" although short distance dispersal is active involving slow, short distance migration under favorable conditions. Long-distance passive migration is not considered when assigning separation distances, as otherwise separation distances for many animals and plants would be made impracticably large. Passive migration of snails on terrestrial mammals, birds, or insects may occur over longer distances may occur across barriers. Passive migration also may occur by wind or by rafting on floating objects (Vagvolgyi, 1975). A third form of passive migration may occur through human activity such as transport as food, with consumed goods, or for biological control of other organisms.

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#### Myotophallus rooseveltianus | NatureServe Explorer

*Albinaria coerulea*, with few individuals dispersing longer distances. Even the most extreme dispersal distances, such as 500 m for the giant African land snail *Achatina fulica* (Tomiyama and Nakane, 1993), do not approach the scale of km. Viable land snail populations generally occupy small areas. Frest and Johannes (1995) report the largest *Oreohelix* colony they observed was one mile (1.67 km) long and 0.25 miles (0.41 km) wide while the smallest was six feet (183 cm) long and two feet (61 cm) wide.

As a whole, pulmonates (previously Subclass Pulmonata) are better dispersers than prosobranchs (previously Subclass Prosobranchia) possibly due to their hermaphroditic reproduction increasing the chance of new colonization (Pilsbry, 1948). When compared with prosobranch families, pulmonates generally reproduce at smaller sizes and sooner, produce greater numbers of eggs/young, have larger clutch sizes, greater growth rates, and shorter life cycles (Brown, 1991). Further, prosobranchs' requirement of constant moisture for oxygen exchange limits their ability to colonize drier habitats. Suitable habitat for pulmonate groups tends to be more varied and less restrictive than for prosobranch groups. All of these factors contribute to pulmonates greater dispersal capability over prosobranchs, as evidenced by the wider and more varied distribution of pulmonates over prosobranchs. Despite this, separation distance for both groups is set at the minimum one km as most movements are well within this suggested minimum separation distance.

**Date:** 2004-05-26 **Author:** Cordeiro, J.

## Population / Occurrence Viability

See the Generic Guidelines for the Application of Occurrence Ranks (2008).

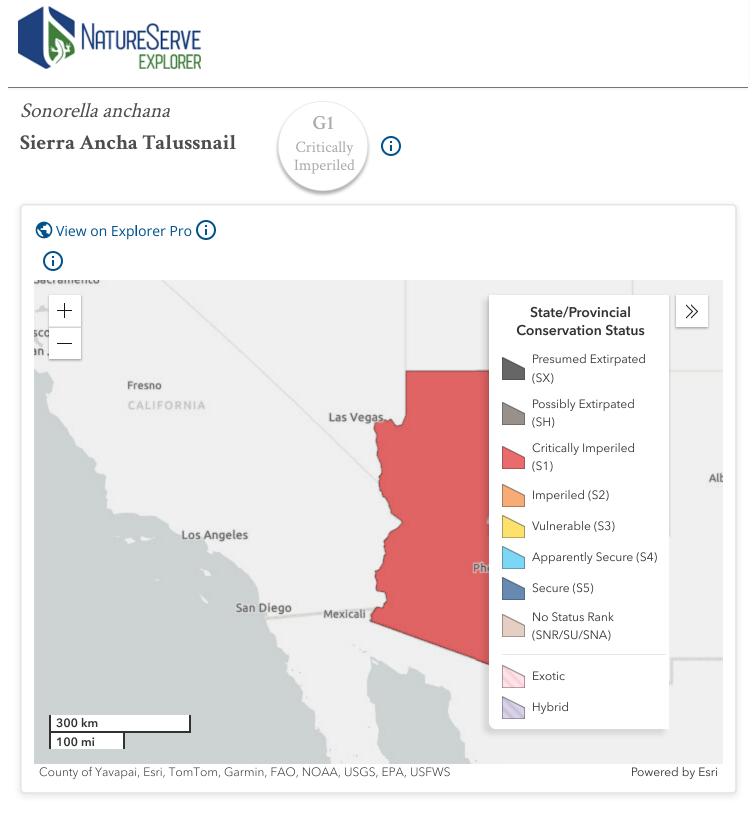
## Authors and Contributors

NatureServe Conservation Status Factors Edition Date: 10/29/2019 NatureServe Conservation Status Factors Edition Authors: Tonn, S.

### References

 Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.

Page Last Published: 11/1/2024



## Classification

### Scientific Name: Sonorella anchana S.S. Berry, 1948

Kingdom: Animalia

Phylum: Mollusca

Class: Gastropoda

Order: Stylommatophora

Family: Helminthoglyptidae

Genus: Sonorella

Scientific Name Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Concept Reference: Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.
Name Used in Concept Reference: Sonorella anchana
NatureServe Unique Identifier: ELEMENT\_GLOBAL.2.116529
NatureServe Element Code: IMGASC9030
Related ITIS Names: Sonorella anchana S. S. Berry, 1948 (TSN 77835)

## **Conservation Status**

### NatureServe Status

Global Status: G1G2 Global Status (Rounded): G1 Global Status Last Reviewed: 12/15/2018 Rank Method Used: Ranked by calculator Reasons:

This is a narrowly distributed with small occupied habitat in Arizona. Decline has not been documented although current surveys are necessary. Live specimens were located in 2017 in three nearby areas in very close proximity within the current known range.

## National & State/Provincial Statuses

### United States: N1

Arizona: S1

### **Other Statuses**

U.S. Endangered Species Act: None Committee on the Status of Endangered Wildlife in Canada (COSEWIC): None

### **NatureServe Global Conservation Status Factors**

**Range Extent:** <100 square km (less than about 40 square miles)

#### Range Extent Comments:

This species is native to a very small section of the Sierra Ancha, Reynolds Creek, in Gila County, Arizona (Bequaert and Miller, 1973).

### Area of Occupancy: 3-25 4-km2 grid cells Area of Occupancy Comments:

Berry (1948) described this species from Sierra Ancha, Reynolds Creek, 3 miles above Ranger Station, on Pleasant Valley Road, 6000 feet, Gila County, Arizona. It was also described at the type locality of *Oreohelix anchana* (limestone rockslide on the northeast slope of Center Mountain, Lucky Strike Mine and the Pueblo Mine property just north of Reynolds Creek, Sierra Ancha, Gila County, Arizona; see Gregg and Miller, 1969). In 2017 live specimens were located in three nearby areas in very close proximity (single occurrence) all on the southwest side of Center Mountain near Reynolds Creek in the Sierra Ancha Mountains, Tonto National Forest, Gila County, Arizona (iNaturalist, 2018).

### Estimated Number of Element Occurrences: 1 - 5 Estimated Number of Element Occurrences Comments:

In 2017 live specimens were located within its current narrow footprint on the southwest side of Center Mountain near Reynolds Creek in the Sierra Ancha Mountains, Tonto National Forest, Gila County, Arizona (iNaturalist, 2018).

## Number of Occurrences with Good Viability/Integrity: Very few (1-3) Global Protection: None. No occurrences appropriately protected and managed Global Protection Comments:

All known occurrences are within the Tonto National Forest but this offers no layer of protection to the species.

# **Degree of Threat:** Very high - medium **Threat Comments:**

The species is known only from a very small area with a history of mining and road construction.

Long-term Trend: Relatively Stable (<=10% change) Long-term Trend Comments:

There are old records for this species back to the 1940s and as yet no extirpations or declines have been documented.

**Short-term Trend:** Relatively Stable (<=10% change) **Short-term Trend Comments:** 

In 2017 live specimens were located on the southwest side of Center Mountain near Reynolds Creek in the Sierra Ancha Mountains, Tonto National Forest, Gila County, AZ (iNaturalist, 2018).

Global Abundance: Unknown Fragility: Highly vulnerable Fragility Comments:

This is a very localized endemic susceptible to random events that could easily impact the species as a whole.

Environmental Specificity: Narrow. Specialist or community with key requirements common.

#### **Environmental Specificity Comments:**

It lives primarily on limestone rockslides.

## **Other NatureServe Conservation Status Information**

#### **Inventory Needs:**

Population size and abundance are all unknown. Status of existing populations needs to be determined and recent trend information confirmed. Further inventory of suitable habitat within the known range is required.

#### **Protection Needs:**

There currently is no adequate protection offered to any of the known occurrences of this species. Additional evaluation of protection needs is required.

## Distribution

#### National and State/Provincial Distribution:

United States: AZ

Endemism: endemic to a single state or province

## Ecology and Life History

## **Mobility and Migration**

Colonial Breeder: No Non-Migrant: Yes Locally Migrant: No Long Distance Migrant: No

## Habitat

Habitat Type: Terrestrial Terrestrial Habitats: Bare rock/talus/scree, Shrubland/chaparral Habitat Comments:

This species occurs on limiestone rockslides at medium to high altitude in the Sierra Ancha, Gila Co., AZ (Bequaert and Miller, 1973).

## Phenology

## Food

## Management Summary

#### Stewardship Overview:

Further taxonomic research, including the use of molecular techniques, is needed to help clarify the relationships of the informal *Sonorella* taxa. Status surveys are highly needed for this species at known sites. Recently documented occurrences should be monitored for evidence of threat or decline. Threat and trend information is lacking for all occurrences. Inventory of nearby suitable habitat is recommended to determine if additional populations exist. Where feasible, life history information should be studied through field observation and/or laboratory research.

#### **Biological Research Needs:**

Little is known about the ecology and life history of this species.

## Population / Occurrence Delineation

### Group Name: Terrestrial Snails Minimum Criteria for an Occurrence:

Occurrences are based on some evidence of historical or current presence of single or multiple specimens, including live specimens or recently dead shells (i.e., soft tissue still attached without signs of external weathering or staining), at a given location with potentially recurring existence. Weathered shells constitute a historic occurrence. Evidence is derived from reliable published observation or collection data; unpublished, though documented (i.e. government or agency reports, web sites, etc.) observation or collection data; or museum specimen information.

#### **Separation Barriers:**

Barriers include barriers to dispersal such as the presence of permanent water bodies greater than 30 m in width, permanently frozen areas (e.g. mountaintop glaciers) which generally lack land snails (Frest and Johannes, 1995), or dry, xeric areas with less than six inches precipitation annually, as moisture is required for respiration and often hatching of eggs. For the various slugs and slug-like species (families Arionidae, Philomycidae, Limacidae, Milacidae, Testacellidae, Veronicellidae), absence of suitable moisture, except for the most ubiquitous of species such as *Deroceras reticulatum* (Müller, 1774), can serve as a barrier to movement (Frest and Johannes, 1995). Members of these groups tend to have greater difficulty crossing areas of little moisture than other pulmonates. For tree snails (family Bulimulidae [= Orthalicidae]), lack of appropriate arboreal habitat (e.g. distance of greater than 500 m) also serves as a separation barrier.

Separation Distance for Unsuitable Habitat: 1 kilometers Separation Distance for Suitable Habitat: 1 kilometers Alternate Separation Procedure:

None

#### Separation Justification:

Burch and Pearce (1990) suggest refuges may be the most important factor limiting terrestrial snail abundance, although the greatest richness of species among carbonate cliff habitats (one of the most diverse in North America) is associated with calcareous, as opposed to acidic, substrates (Nekola, 1999; Nekola and Smith, 1999). The panmictic unit (a local population in which matings are random) is small relative to those of other animal groups because terrestrial snails tend to be more

#### Sonorella anchana | NatureServe Explorer

sedentary. Baker (1958) claimed, "long-distance dispersal of terrestrial gastropods is undoubtedly passive" although short distance dispersal is active involving slow, short distance migration under favorable conditions. Long-distance passive migration is not considered when assigning separation distances, as otherwise separation distances for many animals and plants would be made impracticably large. Passive migration of snails on terrestrial mammals, birds, or insects may occur over longer distances may occur across barriers. Passive migration also may occur by wind or by rafting on floating objects (Vagvolgyi, 1975). A third form of passive migration may occur through human activity such as transport as food, with consumed goods, or for biological control of other organisms.

Terrestrial gastropods do not move much usually only to find food or reproduce. Olfaction is the primary sensory behavior utilized to find and move toward a food item (on the scale of cm to m) although Atkinson (2003) found that *Anguispira alternata* was capable of switching foraging behavior when snails encountered a physical barrier to movement. Fisher et al (1980) reported maximum movement rate of *Rumina decollata* (Linnaeus, 1758), an introduced pest species in California spreading relatively rapidly (for a snail), to be 20 m in three months (= 6.67 m/month) in an irrigated orchard. Tupen and Roth (2001) reported the movement rate for the same species in an un-irrigated native scrub on San Nicolas Island to be 0.4 km in 12 years (= 33.33 m/month). South (1965) found in dispersal studies of the slug, *Deroceras reticulatum*, that slugs traveled a mean distance of 1.13 m in seven days indicating this species disperses little throughout its life. Giokas and Mylonas (2004) found mean dispersal and minimal movement distances were very small (16.2 and 5.4 m, respectively) for *Albinaria coerulea*, with few individuals dispersing longer distances. Even the most extreme dispersal distances, such as 500 m for the giant African land snail *Achatina fulica* (Tomiyama and Nakane, 1993), do not approach the scale of km. Viable land snail populations generally occupy small areas. Frest and Johannes (1995) report the largest *Oreohelix* colony they observed was one mile (1.67 km) long and 0.25 miles (0.41 km) wide while the smallest was six feet (183 cm) long and two feet (61 cm) wide.

As a whole, pulmonates (previously Subclass Pulmonata) are better dispersers than prosobranchs (previously Subclass Prosobranchia) possibly due to their hermaphroditic reproduction increasing the chance of new colonization (Pilsbry, 1948). When compared with prosobranch families, pulmonates generally reproduce at smaller sizes and sooner, produce greater numbers of eggs/young, have larger clutch sizes, greater growth rates, and shorter life cycles (Brown, 1991). Further, prosobranchs' requirement of constant moisture for oxygen exchange limits their ability to colonize drier habitats. Suitable habitat for pulmonate groups tends to be more varied and less restrictive than for prosobranch groups. All of these factors contribute to pulmonates greater dispersal capability over prosobranchs, as evidenced by the wider and more varied distribution of pulmonates over prosobranchs. Despite this, separation distance for both groups is set at the minimum one km as most movements are well within this suggested minimum separation distance.

**Date:** 2004-05-26 **Author:** Cordeiro, J.

## Population / Occurrence Viability

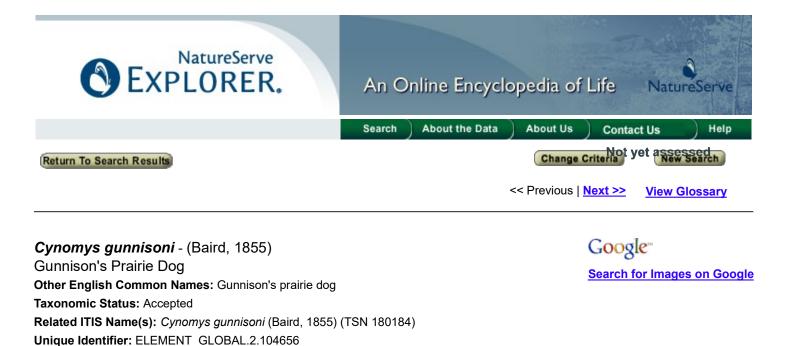
See the Generic Guidelines for the Application of Occurrence Ranks (2008).

## Authors and Contributors

NatureServe Conservation Status Factors Edition Date: 12/15/2018 NatureServe Conservation Status Factors Edition Authors: Cordeiro, J.R.

- 1. Bequaert, J.C. and W.B. Miller. 1973. The mollusks of the arid southwest with an Arizona checklist. University of Arizona Press: Tucson, Arizona. 271 pp.
- 2. Berry, S.S. 1948. Snails of Sierra Ancha, Arizona. The American Midland Naturalist 39(1):151-159.
- 3. Gregg, W.O., and W.B. Miller. 1969. A New Sonorella from Phoenix, Arizona. The Nautilus 82(3):90-93.
- 4. Turgeon, D. D., J. F. Quinn, Jr., A. E. Bogan, E. V. Coan, F. G. Hochberg, W. G. Lyons, P. M. Mikkelsen, R. J. Neves, C. F. E. Roper, G. Rosenberg, B. Roth, A. Scheltema, F. G. Thompson, M. Vecchione, and J. D. Williams. 1998. Common and scientific names of aquatic invertebrates from the United States and Canada: Mollusks. 2nd Edition. American Fisheries Society Special Publication 26, Bethesda, Maryland. 526 pp.

Page Last Published: 11/1/2024



Element Code: AMAFB06040 Informal Taxonomy: Animals, Vertebrates - Mammals - Rodents

| Kingdom  | Phylum   | Class    | Order    | Family    | Genus   |
|----------|----------|----------|----------|-----------|---------|
| Animalia | Craniata | Mammalia | Rodentia | Sciuridae | Cynomys |

Genus Size: B - Very small genus (2-5 species)

Check this box to expand all report sections: ☑

#### **Concept Reference**

**Concept Reference:** Wilson, D. E., and D. M. Reeder (editors). 1993. Mammal species of the world: a taxonomic and geographic reference. Second edition. Smithsonian Institution Press, Washington, DC. xviii + 1206 pp. Available online at: http://www.nmnh.si.edu /msw/.

#### Concept Reference Code: B93WIL01NAUS

#### Name Used in Concept Reference: Cynomys gunnisoni

**Taxonomic Comments:** Researchers have come to different conclusions regarding the taxonomic status of the two nominal subspecies (gunnisoni and zuniensis). Pizzimenti (1975) examined variation in cranial and external characteristics and suggested that C. cunnisoni begregarded as a montypic species. Hoffmeister (1986) questioned Pizzimenti's analyses and conclusions, and he stated that "it appears there are size and proportional differences between prairie dogs that can be called *C. g. gunnisoni* and *C. g. zuniensis*, but the area of intergradation between the two may need redefining." Hoffmeister (1986) also stated that "some workers may prefer to regarded this subspecies [*C. g. zuniensis*] as indistinguishable from *C. g. gunnisoni*." Unpublished research by Hafner (cited by USFWS 2008) indicates that the distribution of mtDNA haplotype lineages supports past geographic isolation, followed by limited mixing in regions coincident with the recognized borders of the two purported subspecies. USFWS (2008) avoided the subspecies issue and instead distinguished "montane" and "prairie" populations whose distributions are essentially the same as those of the subspecies *gunnisoni* and *zuniensis*, respectively.

Based on information from two colonies 13 kilometers apart in Arizona, Travis et al. (1997) determined that this species exhibits low within-population genetic diversity and significant differentiation between colonies.

#### **Conservation Status**

#### **NatureServe Status**

Global Status: G5 Global Status Last Reviewed: 10Mar2008  $\bigcirc$ 

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Global Status Last Changed: 06Nov1996 Rounded Global Status: G5 - Secure Nation: United States National Status: N5 (15Jan1997)

## U.S. & Canada State/Province Status

Due to latency between updates made in state, provincial or other NatureServe Network databases and when they appear on NatureServe Explorer, for state or provincial information you may wish to contact the data steward in your jurisdiction to obtain the most current data. Please refer to <u>our Distribution Data Sources</u> to find contact information for your jurisdiction.

United States Arizona (S4), Colorado (S5), Navajo Nation (S4), New Mexico (S2), Utah (S3)

## **Other Statuses**

U.S. Fish & Wildlife Service Lead Region: R6 - Rocky Mountain IUCN Red List Category: LC - Least concern

ICCI Red List Category. LC - Least concern

## NatureServe Global Conservation Status Factors

## Range Extent: 250-20,000 square km (about 100-8000 square miles)

**Range Extent Comments:** Range extends from central Colorado to central Arizona, including a small portion of southeastern Utah and much of the northwestern half of New Mexico. The montane and prairie portions of the range are separated by mountain ranges that almost completely limit prairie dog movement between them (USFWS 2008). See Goodwin (1995) for a review of the biogeographic history of prairie dogs.

## Area of Occupancy: 501-12,500 4-km2 grid cells

**Area of Occupancy Comments:** Based on the best available information, USFWS (2008) estimated that the range-wide historical (circa 1916) occupied habitat totaled approximately 24 million acres (9.7 million hectares).

Number of Occurrences: 81 to >300

Population Size: 100,000 to >1,000,000 individuals

**Population Size Comments:** Population size is very large. In Arizona, each of two colonies studied by Travis et al. (1997) was estimated to include several thousand individuals.

## Number of Occurrences with Good Viability/Integrity: Unknown

**Viability/Integrity Comments:** The number of occurrences with good viability is unknown; many are constantly threatened with extirpation by plague.

## Overall Threat Impact: High

**Overall Threat Impact Comments:** USFWS (2008) concluded that "of all the factors affecting Gunnison's prairie dog populations, sylvatic plague is the most significant." Sylvatic plague is an often-fatal bacterial disease that is generally transmitted among rodents by fleas. It is not native to North America and was first detected in Gunnison's prairie dog in New Mexico in 1938 (Link 1955). Plague epizootics can severely reduce or extirpate populations within a short time frame (3 to 10 years) (Lechleitner et al. 1962, 1968; Fitzgerald and Lechleitner 1974; Rayor 1985; Cully et al. 1997; USFWS 2008). Major populations are separated from each other by mountain ranges and large rivers, which preclude repopulation after plague epizootics (USFWS 2008). Habitat loss and degradation, shooting, and inadequacy of existing regulatory mechanisms, were not regarded by USFWS (2008) as significant threats. Although poisoning of Gunnison's prairie dogs and the effects of climate change in the montane portion of the range were regarded as issues important to monitor, USFWS (2008) concluded that aside from plague "no other natural or manmade factors are a significant threat to this species, at this time, throughout all or a significant portion of its range."

Plague is primarily a bacterial disease of rodents, often spread through flea bites or contact with the tissues of infected individuals. It has a long history in Asia and has been present in the United States since 1900.

"Flea-born plague occurs in regular outbreaks and causes population declines and extirpations. Because the disease has only been present within the species' range for approximately 70 years, there has been very little time for resistance to evolve. It is believed that prairie dogs are highly susceptible to plague because of high population densities, abundant flea vectors, and uniformly low resistance. Partial or complete recovery following population reductions due to plague have been reported for both white-tailed and black-tailed prairie dogs, but little to no recovery to previous levels has been noted in montane Gunnison's prairie dog colony die-offs, even after long periods of time."

"The landscape in the montane portion of the Gunnison's prairie dog range is characterized by fewer, smaller, and more isolated colonies with minimal to no metapopulation structure. These factors make the prairie dogs in this habitat highly susceptible to plague-related declines. Gunnison's prairie dogs also commonly forage outside of their home territory which may contribute to the communicability of plague.

"Gunnison's prairie dog populations in the moister montane areas have been widely and severely affected by plague. This may be due in part to higher levels of spring moisture which increases flea numbers, and in turn, plague outbreaks. Although documented population declines due to plague also occur in the drier prairie portions of the Gunnison's prairie dog range, evidence shows that many of these populations recover more rapidly from plague outbreaks probably due to the availability of nearby colonizers.

"After assessing the best available science, the Service has concluded that the Gunnison's prairie dog is not in danger of extinction or likely to become endangered throughout all of its range; however, within the montane habitat in central and south-central Colorado and north-central New Mexico, the species is likely to become threatened or endangered within the foreseeable future due to plague. Based on the continued presence of plague and its effects and the average to maximum life span of Gunnison's prairie dogs, the foreseeable future has been determined to be the year 2042."

## Short-term Trend: Decline of <30% to relatively stable

**Short-term Trend Comments:** Relative to the large decline from historical levels, populations may have been more stable in some states in recent decades (USFWS 2006).

# Long-term Trend: Decline of 70-90%

**Long-term Trend Comments:** Populations in all states within the range have declined significantly compared to historical levels (USFWS 2006).

Between 1916 and 1961, range-wide historical habitat occupied by the Gunnison's prairie dog declined from approximately 97,000 square kilometers to approximately 4,064 square kilometers (USFWS 2008). Between 1916 and the present, habitat occupied by Gunnison's prairie dog throughout its range declined from approximately 97,000 square kilometers to 1,360-2,000 square kilometers (USFWS 2008). This represents a range-wide decline of greater than 95 percent.

Recent data indicate that approximately 3.6 percent of potential Gunnison's prairie dog habitat is occupied in the montane portion of the range, as compared to 18.3 percent occupancy in the prairie portion of the range (USFWS 2008).

In Arizona, Wagner et al. (2006) found that most Gunnison's prairie dog colonies identified as active in initial surveys (1987, 1990-1994, 1998) did not persist to the time of recent surveys in 2000 and 2001; just 82 (30%) of the 270 colonies identified in the initial surveys were still active.

# Intrinsic Vulnerability: Moderately vulnerable

**Intrinsic Vulnerability Comments:** Reproductive rate is low, relative to other rodents, and survivorship is low (Hoogland 2001), but population size of individual colonies nevertheless may increase rapidly from year to year (Travis et al. 1995, Cully 1997).

Environmental Specificity: Moderate. Generalist or community with some key requirements scarce.

# Other NatureServe Conservation Status Information

Protection Needs: Protect existing colonies from poisoning. Protect several acres/colony.

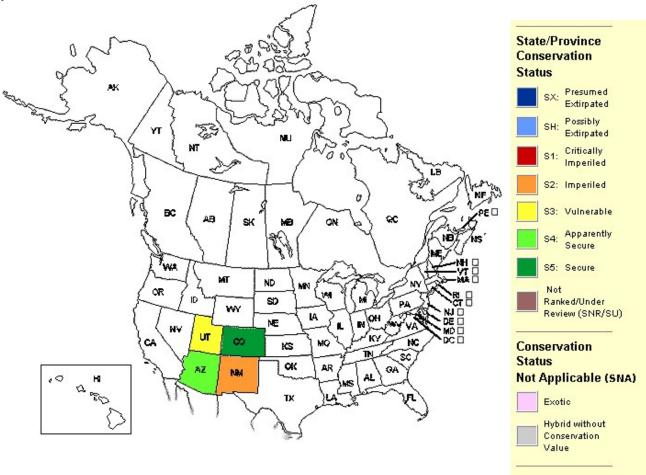
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#### Distribution

**Global Range:** (250-20,000 square km (about 100-8000 square miles)) Range extends from central Colorado to central Arizona, including a small portion of southeastern Utah and much of the northwestern half of New Mexico. The montane and prairie portions of the range are separated by mountain ranges that almost completely limit prairie dog movement between them (USFWS 2008). See Goodwin (1995) for a review of the biogeographic history of prairie dogs.

## **U.S. States and Canadian Provinces**

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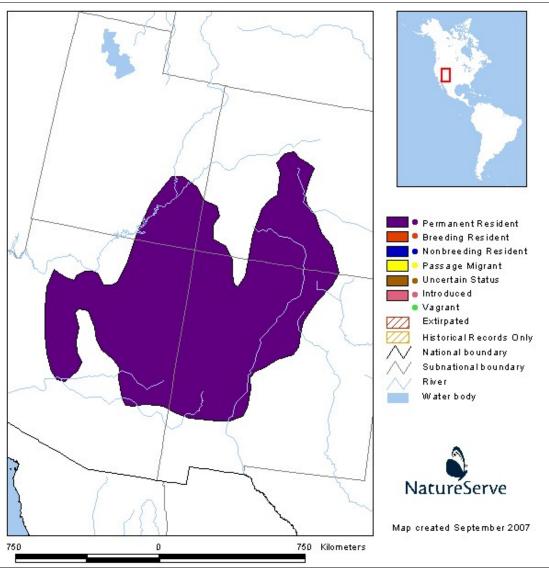


Endemism: endemic to a single nation

| U.S. & Canada State/Province Distribution |                    |  |
|---|--------------------|--|
| United States                             | AZ, CO, NM, NN, UT |  |

#### Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted. For information on how to obtain shapefiles of species ranges see our Species Mapping pages at www.natureserve.org/conservation-tools/data-maps-tools.



Range Map Compilers: Sechrest, 2002

# U.S. Distribution by County 🕜

| State | County Name (FIPS Code)   |  |  |
|-------|---|--|--|
|       | Archuleta (08007), Chaffee (08015), Conejos (08021), El Paso (08041), Huerfano (08055), La Plata (08067), |  |  |
|       | Montrose (08085), Rio Grande (08105), Saguache (08109), San Miguel (08113), Teller (08119)                |  |  |
| NM    | Bernalillo (35001), Catron (35003), Cibola (35006), Colfax (35007), Mckinley (35031), Mora (35033), Rio   |  |  |
|       | Arriba (35039), San Juan (35045), Sandoval (35043), Santa Fe (35049), Socorro (35053), Taos (35055),      |  |  |
|       | Torrance (35057), Valencia (35061)  |  |  |
| UT    | Grand (49019), San Juan (49037)   |  |  |

\* Extirpated/possibly extirpated

| U.S. Distribution by Watershed 🕜 |   |  |
|----------------------------------|---|--|
| Watershed<br>Region 🕜            | Watershed Name (Watershed Code)   |  |
| 10                               | South Platte Headwaters (10190001)+, Upper South Platte (10190002)+   |  |
| 11                               | Arkansas Headwaters (11020001)+, Upper Arkansas (11020002)+, Fountain (11020003)+,<br>Huerfano (11020006)+, Canadian headwaters (11080001)+, Cimarron (11080002)+, Upper<br>Canadian (11080003)+, Mora (11080004)+  |  |
| 13                               | Rio Grande headwaters (13010001)+, Alamosa-Trinchera (13010002)+, Saguache (13010004)+,<br>Conejos (13010005)+, Upper Rio Grande (13020101)+, Rio Chama (13020102)+, Rio Grande-Santa<br>Fe (13020201)+, Jemez (13020202)+, Rio Grande-Albuquerque (13020203)+, Rio Puerco (13020204)+,<br>Arroyo Chico (13020205)+, North Plains (13020206)+, Plains of San Agustin (13020208)+, Western |  |

|   | Estancia (13050001)+  |
|---|---|
| 14         Upper Dolores (14030002)+, San Miguel (14030003)+, Lower Dolores (14030004)+, Upper Colorad<br>Springs (14030005)+, Upper San Juan (14080101)+, Piedra (14080102)+, Animas (14080104)+, M<br>San Juan (14080105)+, Lower San Juan-Four Corners (14080201)+, Mcelmo (14080202)+,<br>Montezuma (14080203)+ |   |
| 15  | Carrizo Wash (15020003)+, Upper Gila (15040001)+, San Francisco (15040004)+ |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

## Ecology & Life History

Basic Description: A large rodent (prairie dog).

**Reproduction Comments:** Only one litter is produced per year, and only about one-fourth of males copulate as yearlings (Hoogland 2001). All females copulate as yearlings (Hoogland 2001). Seasonal timing of onset of reproduction varies somewhat with latitude, elevation, and year. Gestation lasts about 30 days. Litter size averages about 6, but for those females that are successful in weaning offspring, an average of only 3.8 young per female emerge from the nursery burrow (Hoogland 2001). The probability of weaning a litter each year is 82 percent (Hoogland 2001). Parturition occurs in April or early May in northern Arizona (Shalaway and Slobodchikoff 1988). Young stay underground for about 1 month.

**Ecology Comments:** Colonies often are smaller than those of other species; may consist of fewer than 50-100 individuals. Colonial groups are organized into territories that generally contain one adult male, one or more adult females, nonbreeding yearlings, and young of the year; overlap between areas of high use is low between members of neighboring territories (Travis and Slobodchikoff, 1993, Can. J. Zool. 71:1186-1192). Hoogland (1999) also described social organization.

Survivorship is low: only about 50 percent of females that emerged from burrows as juveniles are alive at the end of their first year, and less than 15 percent are alive at the end of their second year (Hoogland 2001).

Major mortality factors are disease, predation, and humans. Colonies suffer drastic population declines and are often extirpated during outbreaks of flea-borne sylvatic plague (Rayner 1985; see also papers by Barnes, Cully, and Fitzgerald in Oldemeyer et al. 1993). This species and *Cynomys ludovicianus* occur at densities up to 10 times higher and are more social than *Cynomys leucurus*, and thus they are much more susceptible to the fast spread of plague; in fact, *C. gunnisoni* is perhaps the most susceptible (Cully and Williams 2001).

This prairie dog is an important prey species in fall for migrating raptors in northern New Mexico (Cully 1988).

Non-Migrant: Y

Locally Migrant: N

Long Distance Migrant: N

Terrestrial Habitat(s): Grassland/herbaceous, Shrubland/chaparral

Special Habitat Factors: Burrowing in or using soil

Habitat Comments: High mountain valleys and plateaus at elevations of 1,830-3,660 meters; open or slightly brushy country, scattered junipers and pines. Mainly in areas with high abundance of native plants in northern Arizona (Slobodchikoff et al. 1989). Burrows usually on slopes or in hummocks.

Adult Food Habits: Granivore, Herbivore

Immature Food Habits: Granivore, Herbivore

**Food Comments:** Diet includes on grasses, forbs, sedges, and shrubs. Insects are of minor importance. This species is not known to store food in its burrow. In Arizona, it feeds mainly on dead grass and seeds in spring and fall, on growing vegetation in summer (Shalaway and Slobodchikoff 1988).

Adult Phenology: Diurnal, Hibernates/aestivates

Immature Phenology: Diurnal, Hibernates/aestivates

**Phenology Comments:** Individuals exhibit periods of inactivity during winter, which may last several months; hibernation may occurs in some parts of the range. In northern Arizona, activity occurs mostly March-October (Shalaway and Slobodchikoff 1988). During spring and summer, most activity occurs in early morning and late afternoon (Pizzimenti and Hoffmann 1973).

Length: 36 centimeters

Weight: 1125 grams

**Economic Attributes** 

## Management Summary

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Species Impacts: Reintroduction of prairie dogs had no observable influence on the resident small mammal and plant connunities in the short-term, but their influences may be more evident over the long-term (Davidson et al. 1999).
 Restoration Potential: Davidson et al. (1999) discussed a reintroduction onto a former colony in New Mexico.
 Management Requirements: Benefits from management of grasslands to favor native species (Slobodchikoff et al. 1989).

See Oldemeyer et al. (1994) for information on the management of prairie dog complexes for the reintroduction of black-footed ferret. **Management Research Needs:** See Miller et al. (in Oldemeyer et al. 1993) for a list of questions for management and research, related to ferret reintroduction, in priority order in each category of disease, habitat management, population dynamics, and public relations. **Biological Research Needs:** More information is needed on the impacts of disease, specifically sylvatic plague, and on population status and trends (USFWS 2006).

More information is needed on the impacts of fragmentation and isolation with regard to persistence of prairie dog populations and on the magnitude of the potential threat posed by increasing oil and gas development (USFWS 2008).

## **Population/Occurrence Delineation**

## **Use Class:** Not applicable

**Minimum Criteria for an Occurrence:** Evidence of historical presence, or current and likely recurring presence of a prairie dog town or town complex at a given location.

Separation Distance for Unsuitable Habitat: 1 km

## Separation Distance for Suitable Habitat: 5 km

**Separation Justification:** Home ranges small; for closely related C. PARVIDENS, 1.2 to 8.2 hectares (Crocker-Bedford and Spillett 1977). Separation distance set at 1 kilometer minimum for unsuitable habitat and raised to 3 kilometers for suitable habitat, to reflect dispersal abilities.

In spring individual yearling males and adult females of C. LUDOVICIANUS disperse an average 2.4 kilometers (Garrett and Franklin 1988); dispersal in that species is generally less than 8 kilometers (Knowles 1985).

## Inferred Minimum Extent of Habitat Use (when actual extent is unknown): .2 km

**Inferred Minimum Extent Justification:** Based on a typical home range of 4 hectares for the closely-related C. PARVIDENS (Crocker-Bedford and Spillett 1977).

Date: 03Aug2001

Author: Cannings, S.

## Population/Occurrence Viability

Justification: <u>Use the Generic Guidelines for the Application of Occurrence Ranks (2008).</u> The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this

#### method.

Key for Ranking Species Element Occurrences Using the Generic Approach (2008).

U.S. Invasive Species Impact Rank (I-Rank)

## Authors/Contributors

NatureServe Conservation Status Factors Edition Date: 10Mar2008

NatureServe Conservation Status Factors Author: Hammerson, G., and S. Cannings

Element Ecology & Life History Edition Date: 07Mar2008

Element Ecology & Life History Author(s): Hammerson, G., and S. Cannings

Zoological data developed by NatureServe and its network of natural heritage programs (see <u>Local Programs</u>) and other contributors and cooperators (see <u>Sources</u>).

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Version 7.1 (2 February 2009) Data last updated: November 2016



Xantusia bezyi - Papenfuss, Macey, and Schulte, 2001 Bezy's Night Lizard

Google Search for Images on Google

Taxonomic Status: Accepted

Related ITIS Name(s): Xantusia bezyi Papenfuss, Macey and Schulte, 2001 (TSN 683048)

Unique Identifier: ELEMENT GLOBAL.2.102461

Element Code: ARACK01060

Informal Taxonomy: Animals, Vertebrates - Reptiles - Lizards

| Kingdom  | Phylum   | Class    | Order    | Family      | Genus    |
|----------|----------|----------|----------|-------------|----------|
| Animalia | Craniata | Reptilia | Squamata | Xantusiidae | Xantusia |

Genus Size: B - Very small genus (2-5 species)

Check this box to expand all report sections:

## **Concept Reference**

Concept Reference: Papenfuss, T. J., J. R. Macey, and J. A. Schulte, II. 2001. A new lizard species in the genus Xantusia from Arizona. Natural History Museum, The University of Kansas, Scientific Papers (23):1-9.

Concept Reference Code: A01PAP01NAUS

## Name Used in Concept Reference: Xantusia bezyi

Taxonomic Comments: Papenfuss et al. (2001) examined genetic and morphological variation of Xantusia and reviewed allozyme data from Bezy and Sites (1987). They concluded that three species are represented in Arizona: Xantusia vigilis, a yucca-dwelling species; X. arizonae, a granite-adapted species; and X. bezyi (newly described), another granite-associated species. Crother et al. (2003) listed X. bezyi and X. vigilis as distinct species but included arizonae as a subspecies of X. vigilis. Stebbins (2003) mentioned the taxonomic changes proposed by Papenfuss et al. but did not adopt them. Sinclair et al. (2004) examined phylogeographic patterns in Xantusia and concluded that X. bezyi is a valid species (but more widely distributed than previously known) and that X. arizonae has a smaller range than previously understood). Leavitt et al. (2007) confirmed the distinctiveness and distributions of X. arizonae and X. bezyi.

**Conservation Status** 

## **NatureServe Status**

Global Status: G2 Global Status Last Reviewed: 25Jun2009 Global Status Last Changed: 25Jun2009 Rounded Global Status: G2 - Imperiled Reasons: Known from a small area in central Arizona; more information is needed on distribution and abundance. Nation: United States National Status: N2 (25Jun2009)

## U.S. & Canada State/Province Status

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United States Arizona (S2)

## **Other Statuses**

IUCN Red List Category: LC - Least concern

## NatureServe Global Conservation Status Factors

Range Extent: 1000-20,000 square km (about 400-8000 square miles)

**Range Extent Comments:** When first described, the known range was confined to a small area near Sunflower, Maricopa County, central Arizona (Pappenfuss et al. 2001). Subsequent phylogeographic study expanded the range, but it is still confined to central Arizona (Sinclair et al. 2004, Leavitt et al. 2007).

Area of Occupancy: Unknown 4-km2 grid cells Area of Occupancy Comments:

Number of Occurrences: 6 - 20

**Number of Occurrences Comments:** This lizard is represented by several known occurrences or subpopulations. Sinclair et al. (2004) mapped 8 localities that they assigned to this species. Leavitt et al. (2007) listed 9 collection localities.

Population Size: Unknown Population Size Comments: Total adult population size is unknown.

Number of Occurrences with Good Viability/Integrity: Unknown

Overall Threat Impact: Unknown

**Overall Threat Impact Comments:** No major threats have been identified, but removal of lizards and habitat degradation by collectors likely are significant in some localities.

Short-term Trend: Relatively Stable (<=10% change)

**Long-term Trend:** Decline of <30% to increase of 25% **Long-term Trend Comments:** Long-term and short-term trends are presumably relatively stable, but no data are available.

Intrinsic Vulnerability: Moderately vulnerable

## **Other NatureServe Conservation Status Information**

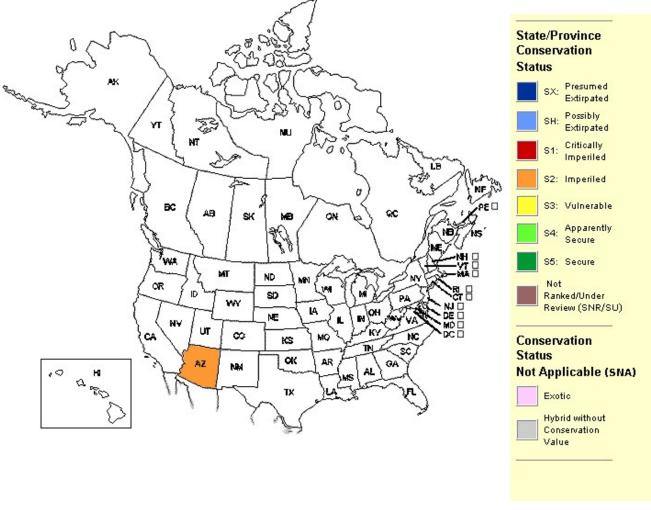
#### Distribution

0

**Global Range:** (1000-20,000 square km (about 400-8000 square miles)) When first described, the known range was confined to a small area near Sunflower, Maricopa County, central Arizona (Pappenfuss et al. 2001). Subsequent phylogeographic study expanded the range, but it is still confined to central Arizona (Sinclair et al. 2004, Leavitt et al. 2007).

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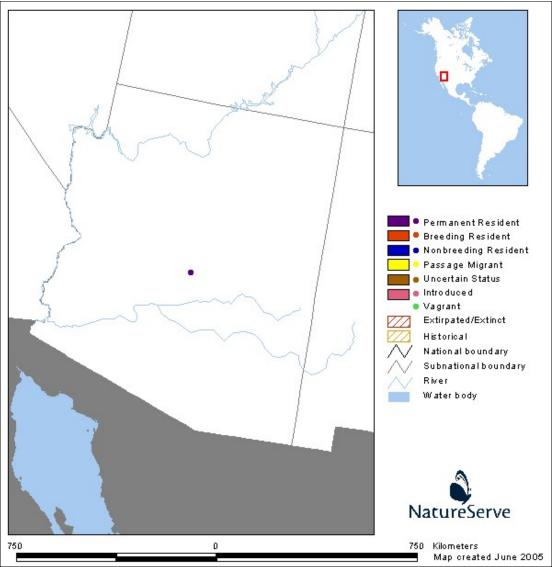


Endemism: endemic to a single state or province

| U.S. & Canada State/Provir | nce Distribution |
|----------------------------|------------------|
| United States              | AZ               |

## Range Map

Note: Range depicted for New World only. The scale of the maps may cause narrow coastal ranges or ranges on small islands not to appear. Not all vagrant or small disjunct occurrences are depicted. For migratory birds, some individuals occur outside of the passage migrant range depicted.



Range Map Compilers: NatureServe, 2005

| U.S. Distribution by County 📀    |   |  |
|----------------------------------|---|--|
| State                            | County Name (FIPS Code)                       |  |
| AZ                               | Gila (04007), Maricopa (04013), Pinal (04021) |  |
| * Extirpated/possibly extirpated |   |  |

| U.S. Distribution by Watershed 📀   |   |  |
|--|---|--|
| Watershed Region Output Description Output Description Watershed Name (Watershed Code) |   |  |
|  | Middle Gila (15050100)+, Lower San Pedro (15050203)+*, Upper Salt (15060103)+, Lower<br>Verde (15060203)+ |  |

+ Natural heritage record(s) exist for this watershed

\* Extirpated/possibly extirpated

Ecology & Life History

Non-Migrant: Y

Locally Migrant: N

Long Distance Migrant: N

Terrestrial Habitat(s): Bare rock/talus/scree

Habitat Comments: This species is found under exfoliating rock in granite outcrops (Papenfuss et al. 2001).

| Adult Food Habits: Invertivore  |   |
|---|---|
| Immature Food Habits: Invertivore   |   |
| Economic Attributes   | 0 |
| Management Summary  | 0 |
| Population/Occurrence Delineation   | 0 |
| Population/Occurrence Viability   | 0 |
| Justification: Use the Generic Guidelines for the Application of Occurrence Ranks (2008).                             |   |
| The Key for Ranking Species Occurrences Using the Generic Approach provides a step-wise process for implementing this |   |
| method.   |   |
| Key for Ranking Species Element Occurrences Using the Generic Approach (2008).  |   |
| U.S. Invasive Species Impact Rank (I-Rank)  | 0 |
| Authors/Contributors  | 0 |
| NatureServe Conservation Status Factors Edition Date: 25Jun2009   |   |
| NatureServe Conservation Status Factors Author: Hammerson, G.   |   |
| Element Ecology & Life History Edition Date: 31Aug2005  |   |

Element Ecology & Life History Edition Date: 31Aug2005

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