

# Wilson's Warbler

*Cardellina pusilla*

Class: Aves  
Order: Passeriformes

**Review Status:** Peer-reviewed

**Version Date:** 21 May 2019

## Conservation Status

NatureServe:

Agency:

G Rank: G5

ADF&G: Species of Greatest Conservation Need

IUCN: Least Concern

Audubon AK: Watch

S Rank: S5B

USFWS:

BLM:

| Final Rank  |              |              |
|---|--------------|--------------|
| Conservation category: <b>V. Orange</b>                                     |              |              |
| unknown status and either high biological vulnerability or high action need |              |              |
| <u>Category</u>   | <u>Range</u> | <u>Score</u> |
| Status  | -20 to 20    | 0            |
| Biological  | -50 to 50    | -32          |
| Action  | -40 to 40    | 4            |
| <b>Higher numerical scores denote greater concern</b>                       |              |              |

**Status** - variables measure the trend in a taxon's population status or distribution. Higher status scores denote taxa with known declining trends. Status scores range from -20 (increasing) to 20 (decreasing).

**Score**

*Population Trend in Alaska (-10 to 10)*

0

Suspected to be decreasing in interior Alaska (Schmidt et al. 2013; Handel and Sauer 2017). Trends in southeast Alaska appear to be stable (Handel and Sauer 2017). Trends are unknown for other parts of its Alaskan range. We rank this question as Unknown.

*Distribution Trend in Alaska (-10 to 10)*

0

Unknown.

Status Total: 0

**Biological** - variables measure aspects of a taxon's distribution, abundance and life history. Higher biological scores suggest greater vulnerability to extirpation. Biological scores range from -50 (least vulnerable) to 50 (most vulnerable).

**Score**

*Population Size in Alaska (-10 to 10)*

-10

Uncertain, but >25,000. PIF (2019) estimates the population size in Alaska at 35 million individuals (95% CI: 25 to 48 million). Handel et al. (2009) estimated that ~261,000 individuals breed in the Yukon-Charley Rivers National Preserve.

*Range Size in Alaska (-10 to 10)*

-10

Breeds throughout most of the state except for the Arctic coastal plain and the western portion of the Seward Peninsula (Kessel 1989; Ammon and Gilbert 1999). Possible breeder in the eastern Aleutian Islands (Gibson and Byrd 2007). Breeding range is >400,000 sq. km. Overwinters from Mexico

|  |     |
|--|-----|
| south to Panama (Ammon and Gilbert 1999).  |     |
| <i>Population Concentration in Alaska (-10 to 10)</i>  | -10 |
| Does not concentrate (Ammon and Gilbert 1999).   |     |
| <i>Reproductive Potential in Alaska</i>  |     |
| <u>Age of First Reproduction (-5 to 5)</u>   | -5  |
| Few data available, but thought to be 1 year (Ammon and Gilbert 1999).   |     |
| <u>Number of Young (-5 to 5)</u>   | 1   |
| In Alaska, clutch sizes ranging from 3 to 7 have been reported (Ammon and Gilbert 1999), with average clutch sizes of $4.5 \pm 0.1$ SE (Ammon and Gilbert 1999) and $5.6 \pm 0.6$ (Kessel 1989). Thought to lay only one clutch per year, though double-brooding has been reported elsewhere in its range (Ammon and Gilbert 1999).  |     |
| <i>Ecological Specialization in Alaska</i>   |     |
| <u>Dietary (-5 to 5)</u>   | 1   |
| Few data available. Consumes adult and larval invertebrates including spiders, beetles, ants, flies, and butterflies (Ammon and Gilbert 1999). In Alaska, Kessel (1989) noted that individuals were also observed eating berries and seeds, though the importance of plant matter to its diet has not been studied.  |     |
| <u>Habitat (-5 to 5)</u>   | 1   |
| Habitat preferences appear to vary regionally in Alaska (Cotter and Andres 2000a). It is most common in tall shrubs and woodland-shrub habitats (Isleib and Kessel 1973; Petersen et al. 1991; Johnson et al. 2008b; Amundson et al. 2018; Savage et al. 2018), but it has also been found in a variety of forest types (e.g. Isleib and Kessel 1973; Matsuoka et al. 2001), including spruce stands with little understory (Petersen et al. 1991). Nevertheless, habitats with thick, tall shrubs appear to support higher densities (Cotter and Andres 2000a; Matsuoka et al. 2001; Amundson et al. 2018). |     |
| <b>Biological Total:</b>   | -32 |

**Action** - variables measure current state of knowledge or extent of conservation efforts directed toward a given taxon. Higher action scores denote greater information needs due of lack of knowledge or conservation action. Action scores range from -40 (lower needs) to 40 (greater needs).

|   | <b>Score</b> |
|---|--------------|
| <i>Management Plans and Regulations in Alaska (-10 to 10)</i>   | 2            |
| Protected under the Migratory Bird Treaty Act (MBTA 1918).  |              |
| <i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>  | -10          |
| Habitat associations and distribution are well-known throughout the state from many multi-species surveys and studies (see Habitat section; Ruthrauff et al. 2007; Schmidt et al. 2013; Corcoran et al. 2014). Some knowledge of migration timing in different parts of its Alaskan range (Benson et al. 2006).   |              |
| <i>Knowledge of Population Trends in Alaska (-10 to 10)</i>   | 2            |
| Although it is commonly detected during multi-species surveys (see above), population monitoring is only conducted in parts of the interior and southeast Alaska, mostly through BBS and ALMS or localized monitoring programs (e.g. Schmidt et al. 2013). Trends are available from these locations (see Population trends), but statewide trends are not available. |              |
| <i>Knowledge of Factors Limiting Populations in Alaska (-10 to 10)</i>  | 10           |
| Little is known about the factors that limit populations in Alaska. A study on Kodiak Island from   |              |

2010 to 2014 found that Wilson's warblers exhibited extremely low levels of productivity, both overall and when compared to older data from elsewhere in its Alaskan range (Corcoran et al. 2014). Moreover, both Schmidt et al. (2013) and Handel and Sauer (2017) have documented declines in interior Alaska. However, contributing factors are unknown. A long-term study in central California found that abundance was positively correlated to recruitment in the previous year, and only weakly correlated with high overwinter survival (Chase et al. 1997). The authors concluded that population dynamics in their study were mostly influenced by factors on breeding grounds (Chase et al. 1997). Other studies have found that habitat loss at stop-over and wintering sites negatively affect body condition, but additional research is needed to link these findings to population dynamics (Yong et al. 1998; Ruiz-Sánchez et al. 2017). It is unknown whether these findings apply to populations in Alaska.

Several studies have investigated the use of genetics to investigate migratory routes and connectivity across its North American range (e.g. Kimura et al. 2002; Clegg et al. 2003; Irwin et al. 2011; Paxton et al. 2013; Ruegg et al. 2014; Kardynal et al. 2018). Breeding populations in interior Alaska appear to be most closely related to populations that breed in Alberta and share similar migratory ecology (Ruegg et al. 2014). Additional research is needed to determine levels of differentiation between eastern and western populations in North America, which may represent separate species (Ruiz-Sánchez et al. 2015).

Action Total: 4

**Supplemental Information** - variables do not receive numerical scores. Instead, they are used to sort taxa to answer specific biological or management questions.

|                                       |                    |
|---------------------------------------|--------------------|
| <b>Harvest:</b>                       | None or Prohibited |
| <b>Seasonal Occurrence:</b>           | Breeding           |
| <b>Taxonomic Significance:</b>        | Monotypic species  |
| <b>% Global Range in Alaska:</b>      | >10%               |
| <b>% Global Population in Alaska:</b> | 25-74%             |
| <b>Peripheral:</b>                    | No                 |

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