

# Barn Swallow

*Hirundo rustica*

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: S4B

USFWS:

BLM:

Final Rank		
Conservation category: <b>II. Red</b>		
high status and either high biological vulnerability or high action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status	-20 to 20	12
Biological	-50 to 50	-20
Action	-40 to 40	16
<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)*

10

Data are limited. Analyses of Breeding Bird Survey (BBS) data found a declining trend from 1993 to 2015 (Handel and Sauer 2017). Sample sizes were too limited to analyze shorter-term trends. This species is also known to be declining across most of its range in North America (COSEWIC 2011b; Rosenberg et al. 2016).

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

2

Prior to the early 1900s, barn swallows ranged as far west as the eastern Aleutian Islands (Kessel and Gibson 1994; Gibson and Withrow 2015). Causes behind their range contraction are unknown, but appears to have occurred naturally (Kessel and Gibson 1994). Their range is now restricted to southeast and southcoastal Alaska.

Status Total: 12

**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)*

0

There are large uncertainties regarding the population size of barn swallows in Alaska. PIF (2013) estimates a mean population size of 39,000 (95% CI: 5,400-110,000). Because these estimates would span three ranking categories, the resulting score is 0 (equivalent to Unknown).

<i>Range Size in Alaska (-10 to 10)</i>	-8
Barn swallows do not overwinter in Alaska (Armstrong 2008). Subspecies <i>H. r. erythrogaster</i> breeds from southeast Alaska to Prince William Sound (Kessel and Gibson 1994; Gibson and Withrow 2015), though it has been reported as far west as the Kenai Peninsula (Kessel and Gibson 1978). Breeding range is ~160,000 sq. km., estimated in GIS. Two Eurasian subspecies ( <i>H. r. gurruralis</i> and <i>H. r. rustica</i> ) are extremely rare visitors to western and northern Alaska (Robinson and DeCicco 2017 and references therein) and are not considered here.	
<i>Population Concentration in Alaska (-10 to 10)</i>	-10
Does not concentrate. Occasionally reported to form small nesting colonies of up to 83 nests elsewhere in North America, though smaller colonies of ~10 nests are much more common (Brown and Brown 1999; COSEWIC 2011b). Similar colonies have not been reported in Alaska .	
<i>Reproductive Potential in Alaska</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-5
Unknown for Alaska. Elsewhere in North America, barn swallows breed at 1 year old (Brown and Brown 1999).	
<u>Number of Young (-5 to 5)</u>	1
Clutch size ranges from 1 to 7, with average clutch sizes between 3 and 5 eggs (Brown and Brown 1999; COSEWIC 2011b). Multiple broods are uncommon in the northern parts of its range (COSEWIC 2011b).	
<i>Ecological Specialization in Alaska</i>	
<u>Dietary (-5 to 5)</u>	1
Generalist, aerial insectivore. While it may prefer flying insects of a certain size category, it opportunistically feeds on a variety of flying insects such as flies, beetles, wasps, and ants (Brown and Brown 1999; Law et al. 2017). Because invertebrates are an ephemeral and potentially unpredictable food source (e.g. Nebel et al. 2010), we rank this question as B- Moderately adaptable with key requirements common.	
<u>Habitat (-5 to 5)</u>	1
Inhabits open areas including meadows, wetlands, agricultural fields, and urban areas (Brown and Brown 1999). Forages near bodies of water such as rivers, marshes, ponds, and estuaries (Isleib and Kessel 1973; Johnson et al. 2008b). Barn swallows build their nest using mud, to which they add grass and feathers (Brown and Brown 1999). Nowadays, nest sites are strongly associated with human structures (e.g. bridges, buildings) and the use of natural nest sites is rare (Bailey 1927; Isleib and Kessel 1973; Brown and Brown 1999; Johnson et al. 2008b; Robinson and DeCicco 2017). Natural nest sites include crevices and cavities of trees, cliffs, and caves (Brown and Brown 1999). Nest site fidelity is high: breeders tend to either reuse old nests or build new nests within 10 - 30 meters of the old one (Shields 1984; Brown and Brown 1999).	
Biological Total:	
	-20
<b>Action</b> - 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
Managed and protected under the Migratory Bird Treaty Act (MBTA 1918).	
<i>Knowledge of Distribution and Habitat in Alaska (-10 to 10)</i>	2
Detected in the core of its range during multi-species bird surveys (e.g. Isleib and Kessel 1973;	

Johnson et al. 2008b; Heint and Piston 2009), with knowledge of habitat associations. Its distribution in southcoastal and eastern interior Alaska is not fully understood (Gibson and Withrow 2015). Barn swallows have been seen much further north and west, including on the Kenai Peninsula, the Aleutian Islands, western Alaska, and Utqiagvik (Byrd et al. 1978; Kessel and Gibson 1978; reviewed in Robinson and DeCicco 2017) and in some cases breeding has been confirmed (Robinson and DeCicco 2017). These rare sightings are thought to be of Eurasian subspecies (Byrd et al. 1978; Eskelin 2008; Robinson and DeCicco 2017), rather than the New World subspecies that breeds in southern Alaska.

*Knowledge of Population Trends in Alaska (-10 to 10)*

2

Detected on some BBS routes in southeast Alaska. However, sample sizes are small and precluded analysis of short-term trends (Handel and Sauer 2017).

*Knowledge of Factors Limiting Populations in Alaska (-10 to 10)*

10

Little is known about the factors that limit populations in Alaska or the reasons for its decline in Alaska or elsewhere in North America. Proposed factors include habitat loss, changes in the availability of insect prey, climate change, competition, and parasitism (reviewed in COSEWIC 2011b). Similarly, it is unknown why barn swallows experienced drastic range contractions in Alaska at the beginning of the 20th century (see Distribution trend). Inclement weather or other environmental factors may have extirpated populations that were at the northernmost limit of their breeding range (Kessel and Gibson 1994).

Barn swallows have been potentially selecting areas around humans for over 7,000 years (Smith et al. 2018). In North America, patterns of human activity in the 19th- and 20th-century were likely favorable for barn swallows. Large-scale deforestation, conversion of natural lands to pastures and dairy farms, and construction of human structures likely increased foraging and nesting habitats, and contributed to range expansions and increases in population (COSEWIC 2011b). These patterns have changed in the last half-century: trends towards reforestation and the decline of livestock operations have likely reduced the amount of habitat (COSEWIC 2011b). However, it is unclear to what extent changing land use patterns explain current declines in populations (COSEWIC 2011b). We encourage interested readers to consult the COSEWIC (2011b) assessment report and references therein for further information.

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Action Total: 16

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

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<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%
<b>Peripheral:</b>	No

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