Rufous Hummingbird

Selasphorus rufus

Class: Aves
Order: Apodiformes

Review Status: Peer-reviewed **Version Date:** 30 November 2018

Conservation Status

NatureServe:	*Agency:*		
G Rank: G5	ADF&G: Species of Greatest Conservation Need	IUCN: Least Concern	Audubon AK: Red
S Rank: S4B	USFWS: Bird of Conservation Concern	BLM: Watch	

Final Rank

Conservation category: **II. Red**

high status and either high biological vulnerability or high action need

Category	Range	Score
Status	-20 to 20	10
Biological	-50 to 50	-24
Action	-40 to 40	16

Higher numerical scores denote greater concern

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

Declining throughout their range in Canada and the U.S. (Sauer et al. 2013; Warnock 2017a). In Alaska, data from the Breeding Bird Survey (BBS) found a non-significant trend for both short-term (2003-2015) and long-term (1993-2015) analyses (Handel and Sauer 2017). However, sample sizes are small and the BBS may not be appropriate for monitoring this species because of its affinity for artificial feeders (Cotter and Andres 2000a). Short-term data from off-road surveys suggest a declining trend in Alaska (Handel and Sauer 2017).

Distribution Trend in Alaska (-10 to 10) 0

Unknown.

Status Total: 10

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

Unknown, but >25,000. PIF (2019) estimates an Alaskan population size of 4.5 million birds (95% CI: 1.5 to 11 million).

Range Size in Alaska (-10 to 10) -8

Breeds in southcentral and southeast Alaska from Cook Inlet through Prince William Sound and

south to British Columbia (Healy and Calder 2006; MacIntosh 2009; ACCS 2017a). Accidental in western Alaska (Petersen et al. 1991; see Yukon Delta National Wildlife Refuge bird list: https://www.fws.gov/uploadedFiles/birdlist(10).pdf). Individuals in Alaska overwinter at least as far south as Texas and Florida (McLaughlin 2013) and perhaps to Mexico (Healy and Calder 2006). Estimated range size in Alaska is ~103,000 sq. km, based on range map from ACCS (2017a) and not accounting for accidental observations.

Population Concentration in Alaska (-10 to 10) -6

During spring migration, high concentrations have been observed along the shores of the Stikine River in spots where blueberry and fireweed are blooming (G. Baluss, USFS, pers. comm.). In late summer, groups of hundreds have been observed at feeders near the delta (G. Baluss, USFS, pers. comm.). These concentration sites have not been formally quantified, but number of sites when hummingbirds are aggregating is likely less than 250 (G. Baluss, USFS, pers. comm.).

Reproductive Potential in Alaska

Age of First Reproduction (-5 to 5) -5

Unknown, but assumed to breed in their first year (Healy and Calder 2006).

Number of Young (-5 to 5) 3

Females typically lay a single, two-egg clutch (Calder 1976; Andres 1999b; Healy and Calder 2006).

Ecological Specialization in Alaska

Dietary (-5 to 5) 1

Feeds on nectar from a variety of flowers including blueberries, fireweed, salmonberry, and false azaleas (Calder 1976; Healy and Calder 2006; Johnson et al. 2008b; Baluss and Carrothers 2014). When nectar is available, feeds on insects and sap from woodpecker wells (Healy and Calder 2006; Sutherland et al. 1982; Miller and Nero 1983).

Habitat (-5 to 5) 1

Occur in coniferous and mixedwood forests, along forest edges, and in shrublands (Isleib and Kessel 1973; Kessler and Kogut 1985; Andres et al. 2004; Van Hemert et al. 2006; Johnson et al. 2008b). They tend to avoid closed-canopy forests where there are few shrubs and forbs available for foraging (G. Baluss, USFS, pers. comm.) and seem to prefer areas very close to the coast (Van Hemert et al. 2006; G. Baluss, pers. comm.). In southeast Alaska, they are rarely seen at elevations over 250 meters (G. Baluss, pers. comm.); similar patterns have been observed in nearby British Columbia (Moran and Fraser 2015). Nests are constructed on shrubs and low-lying tree branches (Bailey 1927; Healy and Calder 2006). Although our understanding remains incomplete, rufous hummingbirds do appear to have relatively specialized habitat requirements and we therefore rank this question as B- Moderately adaptable.

Biological Total: -24

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). **Score**

Management Plans and Regulations in Alaska (-10 to 10) 2

Protected under the Migratory Bird Treaty Act (MBTA 1918).

Knowledge of Distribution and Habitat in Alaska (-10 to 10) 2

Habitat associations and distribution are generally well-understood in southeast Alaska through multi-species bird surveys (e.g. Calder 1976; Kessler and Kogut 1985; Andres et al. 2004; Johnson et al.

2008b; Baluss and Carrothers 2014). However, distribution is not as well-studied in southcoastal and southcentral Alaska (but see Isleib and Kessel 1973; Calder 1976; Van Hemert et al. 2006). Surveys in 2006 were the first to document evidence of breeding in Kenai Fjords National Park; these surveys also suggest that habitat requirements may be more specialized in this part of its range (Van Hemert et al. 2006).

Knowledge of Population Trends in Alaska (-10 to 10) 2

Monitored in southeast Alaska through the Breeding Bird Survey (BBS) and the Alaska Landbird Monitoring Survey (ALMS) (Handel and Sauer 2017), and at sites near Juneau through a mark-recapture program (Baluss and Carrothers 2014). Monitoring routes in southcoastal and southcentral Alaska are scarce and roadside surveys are likely not representative of the population (Cotter and Andres 2000a; Handel and Sauer 2017).

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

Although this species is declining across its range (Sauer et al. 2013; Warnock 2017a), the reasons for this decline are unknown and little research has been conducted in Alaska. Competition for food resources (Calder 1976) and climate change (Courter 2017; Baluss 2017) have been proposed, but have not been formally investigated. In southeast Alaska, Baluss (2017) noted annual changes in capture rates and wondered whether these changes might be linked to variations in temperatures or plant phenology. However, additional years of data are required to test this idea (Baluss 2017). In BC, OR, and WA, changes in the hummingbird's arrival on breeding grounds has been linked to warmer spring temperatures (Courter 2017).

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.

Harvest:	None or Prohibited
Seasonal Occurrence:	Breeding
Taxonomic Significance:	Monotypic species
% Global Range in Alaska:	<10%
% Global Population in Alaska:	<25%
Peripheral:	No

References

Alaska Center for Conservation Science (ACCS). 2017a. Wildlife Data Portal. University of Alaska Anchorage. Available online: http://aknhp.uaa.alaska.edu/apps/wildlife

Andres, B. A. 1999b. Landbird conservation plan for Alaska biogeographic regions. Version 1.0. Boreal Partners in Flight Working Group. U.S. Fish and Wildlife Service, Anchorage, AK, USA.

Andres, B. A., M. J. Stotts, and J. M. Stotts. 2004. Breeding birds of Research Natural Areas in southeastern Alaska. Northwestern Naturalist 85(3):95–103. DOI: 10.1898/1051-1733(2005)085[0095:BBORNA]2.0.CO;2

Bailey, A. M. 1927. Notes on the birds of southeastern Alaska (concluded). The Auk 44(3):351–367.

Baluss, G. 2017. Tongass rufous hummingbird project, 2016 update. Page 21 in G. Baluss, ed. 2016 Summary of landbird projects for Boreal Partners in Flight. Boreal Partners in Flight, Anchorage, AK, USA. Available online: https://alaska.usgs.gov/science/biology/bpif/meetings/index.php

Baluss, G., and C. Carrothers. 2014. Tongass rufous hummingbird project 2014 season. Pages 36-37 in G. Baluss, ed. 2014 Summary of landbird projects for Boreal Partners in Flight. Available online:

https://alaska.usgs.gov/science/biology/bpif/meetings/index.php

Calder, W. A. 1976. Energetics of small body size and high latitude the rufous hummingbird in coastal Alaska. International Journal of Biometeorology 20(1):23-35.

Cotter, P. A., and B. A. Andres. 2000a. Breeding bird habitat associations on the Alaska breeding bird survey. Information and Technology Report USGS/BRD/ITR- 2000-0010, Biological Resource Division, U.S. Geological Survey, Springfield, VA, USA.

Courter, J. R. 2017. Changes in spring arrival dates of rufous hummingbirds (Selasphorus rufus) in western North America in the past century. The Wilson Journal of Ornithology 129(3):537–546. DOI: 10.1676/16-133.1

Handel, C. M. and Sauer, J. R. 2017. Combined analysis of roadside and off-road breeding bird survey data to assess population change in Alaska. The Condor 119(3):557-575. DOI: 10.1650/CONDOR-17-67.1

Healy, S., and W. A. Calder. 2006. Rufous Hummingbird (Selasphorus rufus), version 2.0. In Poole, A. F., ed. The Birds of North America. Cornell Lab of Ornithology, Ithaca, NY, USA. DOI: 10.2173/bna.53

Isleib, M. E., and B. Kessel. 1973. Birds of the north Gulf Coast- Prince William Sound region, Alaska. Biological Papers of the University of Alaska no. 14. University of Alaska Fairbanks, AK, USA.

Johnson, J. A., B. A. Andres, and J. A. Bissonette. 2008b. Birds of the major mainland rivers of Southeast Alaska. General Technical Report PNW-GTR-739. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, OR, USA.

Kessler, W. B., and T. E. Kogut. 1985. Habitat orientations of forest birds in southeastern Alaska. Northwest Science 59(1):58-65.

MacIntosh, R., ed. 2009. Kodiak National Wildlife Refuge and the Kodiak Archipelago birds. Unpublished report, U.S. Fish and Wildlife Service, Kodiak National Wildlife Refuge, Kodiak, AK, USA. Available online: https://www.fws.gov/uploadedFiles/Region_7/NWRS/Zone_2/Kodiak/PDF/knwr_bird_broc_2009.pdf

Migratory Bird Treaty Act (MBTA). 1918. U.S. Code Title 16 §§ 703-712 Migratory Bird Treaty Act.

McLaughlin, K. 2013. Chenega Bay hummingbird banding project. Page 34 in Hagelin, J., ed. 2013 Summary of landbird projects for Boreal Partners in Flight. Boreal Partners in Flight, Anchorage, AK, USA. Available online: https://alaska.usgs.gov/science/biology/bpif/meetings/index.php

Miller, R. S., and R. W. Nero. 1983. Hummingbird-sapsucker associations in northern climates. Canadian Journal of Zoology 61:1540-1546. DOI: 10.1139/z83-207

Moran, A., and D. F. Fraser. 2015. Rufous Hummingbird. In Davidson, P. J. A., R. J. Cannings, A. R. Couturier, D. Lepage, and C. M. Di Corrado, eds. The Atlas of the Breeding Birds of British Columbia, 2008-2012. Bird Studies Canada, Delta, B.C., CAN. Available online: http://www.birdatlas.bc.ca/accounts/speciesaccount.jsp?sp=RUHU&lang=en Accessed 16-Apr-2019.

Petersen, M. R., D. N. Weir, and M. H. Dick. 1991. Birds of the Kilbuck and Ahklun Mountain region, Alaska. North American Fauna 76:1-158.

Partners in Flight (PIF). 2019. Population Estimates Database, version 3.0. Available online: http://pif.birdconservancy.org/PopEstimates. Accessed 09-April-2019.

Sauer, J. R., W. A. Link, J. E. Fallon, K. L. Pardieck, and D. J. Ziolkowski. 2013. The North American Breeding Bird Survey 1966–2011: Summary analysis and species accounts. North American Fauna 79:1–32. DOI: 10.3996/nafa.79.0001

Sutherland, G. D., C. L. Gass, P. A. Thompson, and K. P. Lertzman. 1982. Feeding territoriality in migrant rufous hummingbirds: Defense of yellow-bellied sapsucker (Sphyrapicus varius) feeding sites. Canadian Journal of Zoology 60:2046-2050. DOI: 10.1139/z82-263

Van Hemert, C., C. M. Handel, M. N. Cady, and J. Terenzi. 2006. Summer inventory of landbirds in Kenai Fjords National Park. Final report NPS/AKRSWAN/NRTR-2006/04, U.S. Geological Survey, Alaska Science Center, Anchorage, AK, USA.

Warnock, N. 2017a. The Alaska WatchList 2017, Red List. Audubon Alaska, Anchorage, AK, USA.

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