Fox Sparrow

Passerella iliaca

Class: Aves
Order: Passeriformes

Review Status: Peer-reviewed **Version Date:** 28 March 2019

Conservation Status

NatureServe:	*Agency:*		
G Rank: G5	ADF&G: Species of Greatest Conservation Need	IUCN: Least Concern	Audubon AK:
S Rank: S5B,S3N	USFWS:	BLM:	

Final Rank

Conservation category: **VII. Yellow**

low status and either high biological vulnerability or high action need

Category	Range	Score
Status	-20 to 20	-6
Biological	-50 to 50	-38
Action	-40 to 40	4

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) -6

Trends vary by survey type and region, but show either a stable or an increasing trend (Schmidt et al. 2013; Handel and Sauer 2017).

Distribution Trend in Alaska (-10 to 10) 0

Unknown across most of its range in Alaska. Analyses of long-term data (1995-2013) from Denali National Park found that fox sparrows have expanded their distribution (Mizel et al. 2016). Climate-related changes may lead to continued increases in suitable habitat in the future (Marcot et al. 2015; Thompson et al. 2016).

Status Total: -6

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

>25,000. PIF (2019) estimates the Alaskan population at 16 million individuals (95% CI: 9 to 25 million). Handel et al. (2009) estimated a population size of 183,000 (95% CI: 139,000-239,000) in Yukon-Charley Rivers National Preserve, which represents only a small portion of this species' range in Alaska.

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

Widely distributed from the northern and western treeline south to southeast Alaska, and from western Alaska and the eastern Aleutian Islands east to the Canadian border (Weckstein et al. 2002). All but one of the seven subspecies in Alaska overwinter in coastal B.C. and the U.S. West Coast (Gabrielson and Lincoln 1959; Webster 1983). Some P. i. townsendi individuals overwinter in southeast Alaska, while others migrate further south (Bailey 1927; Gabrielson and Lincoln 1959). Estimated breeding range size is >400,000 sq. km.

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

Does not concentrate during breeding and is not known to gather in large flocks during migration (Weckstein et al. 2002).

Reproductive Potential in Alaska

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

Unknown, but assumed to be <2 years (Johnson and Anderson 2004).

Number of Young (-5 to 5) 1

Little information available, but clutch sizes of 3 to 4 eggs are commonly reported in Alaska (Willett 1920; Bailey 1927; Petersen et al. 1991; Rogers 1994) and elsewhere (Weckstein et al. 2002). Double-brooding was reported in Juneau by Rogers (1994), but this behaivor has not been well-documented in Alaska. Double-brooding does occur on Mandarte Island in southern B.C. (Visty et al. 2018).

Ecological Specialization in Alaska

Dietary (-5 to 5) -5

Few data available for Alaska. Elsewhere in its range, fox sparrows are omnivorous and their diet changes with availability (reviewed in Weckstein et al. 2002). Consumes a variety of invertebrates (e.g. beetles, millipedes, spiders), seeds, and berries (Weckstein et al. 2002).

Habitat (-5 to 5) 1

Throughout its range in Alaska, this species is most often found in low and tall shrub thickets (Isleib and Kessel 1973; Spindler and Kessel 1980; Gill et al. 1981; Kessler and Kogut 1985; Cotter and Andres 2000a; Van Hemert et al. 2006; Schmidt et al. 2013; Amundson et al. 2018), including edge habitat near rivers and other waterbodies (Kessel and Schaller 1960; Cotter and Andres 2000a). In interior Alaska, also reported in open deciduous or mixedwood forests with a thick shrub understory (Spindler and Kessel 1980; Cotter and Andres 2000a; Schmidt et al. 2013).

Biological Total: -38

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) -10

Distribution and habitat associations are well-known from multi-species surveys and inventories across its range (see Habitat section above). Additional research is needed to clarify subspecies' ranges and migration patterns (Weckstein et al. 2002; Fraser et al. 2018).

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

Locally or sporadically monitored in parts of its range through multi-species surveys such as BBS,

ALMS, and MAPS (e.g. Corcoran et al. 2014; Handel and Sauer 2017; Amundson et al. 2018). A long-term dataset also exists for Denali National Park (Schmidt et al. 2013; Mizel et al. 2016). Because this species is commonly detected during surveys, estimates of population trends are possible (e.g. Handel and Sauer 2017). However, surveys do not cover the entirety of this species' range in Alaska.

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

Very little is known about the factors that limit its population dynamics in Alaska or elsewhere. Potential factors include heavy snow on breeding grounds, inclement weather during migration or winter, nest predation, and competition (Johnson and Anderson 2004; Johnson et al. 2018c; Visty et al. 2018), but few data exist to support or refute these suggestions. Analyses of long-term data (1995-2013) from Denali National Park found that fox sparrows have expanded their distribution to include both lower and higher elevation areas (Mizel et al. 2016), which may account for the observed increased in fox sparrow abundance in the park (Schmidt et al. 2013; Mizel et al. 2016). Using a related dataset, Mizel et al. (2017) also noticed that there was less variation between individuals in the timing of arrival on breeding grounds. Additional research is needed to understand what is driving this pattern. One explanation proposed by the authors is that population increases may have intensified competition for breeding territories. Several papers have considered the evolution and genetics of fox sparrow species and subspecies (e.g. Burns and Zink 1990; Zink 1994; Zink and Weckstein 2003).

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.

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

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