

Brown Creeper (*occidentalis*)

Certhia americana occidentalis

Class: Aves

Order: Passeriformes

Conservation Status

NatureServe: Agency:

G Rank: BLM: IUCN: Audubon AK:

S Rank: USFWS: ADF&G: Species of Greatest Conservation Need

Final Rank		
Conservation category: VII. Yellow		
VII = low status and high biological vulnerability and action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status:	-20 to 20	-6
Biological:	-50 to 50	-10
Action:	-40 to 40	8
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
<i>Population Trend (-10 to 10)</i>	-6
Infrequently detected during surveys. Limited data suggest a stable long-term (1993-2015) trend in southeast and southcoastal Alaska (Handel and Sauer 2017).	
<i>Distribution Trend (-10 to 10)</i>	0
Unknown.	
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
<i>Population Size (-10 to 10)</i>	0
Unknown.	
<i>Range Size (-10 to 10)</i>	-2
Found in southeast Alaska (Poulin et al. 2013; Gibson and Withrow 2015). Estimated range size is between 10,000 and 100,000 sq. km.	
<i>Population Concentration (-10 to 10)</i>	-10
Does not concentrate.	
<i>Reproductive Potential</i>	
<u>Age of First Reproduction (-5 to 5)</u>	-5
Unknown, but probably breeds in first year (Poulin et al. 2013).	
<u>Number of Young (-5 to 5)</u>	1
Unknown for Alaska, but elsewhere in North America its annual clutch size averages 5-6 eggs (Poulin et al. 2013).	

Ecological Specialization

Dietary (-5 to 5)

1

Consumes a variety of invertebrates including spiders, flies, beetles, insect larvae, ants, and lepidopterans (reviewed in Poulin et al. 2013). These prey items are principally obtained by gleaning invertebrates from rough tree bark (Poulin et al. 2013). Because this habit of feeding is specialized and restricts the type of prey available, we rank this question as B- Moderately adaptable.

Habitat (-5 to 5)

5

In Alaska, inhabits closed-canopy, old-growth coniferous and mixedwood forests (Isleib and Kessel 1973; Spindler and Kessel 1980; Dellasala et al. 1996; Andres et al. 2004; Van Hemert et al. 2006). Nests in natural crevices behind loose or peeling bark, usually in dead or dying trees (Andres et al. 2004; Poulin et al. 2013). The availability of suitable foraging and nesting habitat is thought to be a limiting factor for populations in Alaska (USFS 2008).

Biological Total: -10

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 (-10 to 10)

2

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

Knowledge of Distribution and Habitat (-10 to 10)

2

Habitat associations are well-known in southeast Alaska (Kessler and Kogut 1985; Dellasala et al. 1996; Smith et al. 2001; Andres et al. 2004). However, additional studies are needed to identify range limits and contact zones between *C. a. occidentalis* and *C. a. alascensis*.

Knowledge of Population Trends (-10 to 10)

2

Monitored in southeast and southcoastal Alaska through the Breeding Bird Survey (Handel and Sauer 2017). However, detections are low and data are inadequate for estimating short-term trends.

Knowledge of Factors Limiting Populations (-10 to 10)

2

The availability of suitable foraging and nesting habitat is thought to be a limiting factor for populations in Alaska (USFS 2008). Research in Alaska and elsewhere in its range suggests that this species is sensitive to habitat disturbance. Specifically, studies have found lower abundances (Nappi et al. 2010; Vanderwel et al. 2011; Thompson et al. 2013) and lower nest densities (Poulin et al. 2010; D'Astous and Villard 2012; Geleynse et al. 2016) in harvested or heavily burned forests stands. It is unclear whether these lower densities are the result of limited food (Poulin et al. 2010; D'Astous and Villard 2012) or limited nest sites (Geleynse et al. 2016). In addition, lower reproductive success has been documented for nests near forest edges and for nests in small forest patches, perhaps because of increased predation (Poulin and Villard 2011). Additional research is needed on the ecology and demographic rates of populations in Alaska, for which few data are available.

Action Total: 8

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

Harvest:	None or Prohibited
Seasonal Occurrence:	Year-round
Taxonomic Significance:	Subspecies
% Global Range in Alaska:	<10%
% Global Population in Alaska:	<25%
Peripheral:	No

References

- 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
- D'Astous, É., and M.-A. Villard. 2012. Effects of selection harvesting on bark invertebrates and nest provisioning rate in an old forest specialist, the brown creeper (*Certhia americana*). *Écoscience* 19(2):106–112. DOI: 10.2980/19-2-3472
- Dellasala, D. A., J. C. Hagar, K. A. Engel, W. C. McComb, R. L. Fairbanks, and E. G. Campbell. 1996. Effects of silvicultural modifications of temperate rainforest on breeding and wintering bird communities, Prince of Wales Island, southeast Alaska. *The C*
- Geleynse, D. M., E. Nol, D. M. Burke, and K. A. Elliott. 2016. Brown Creeper (*Certhia americana*) demographic response to hardwood forests managed under the selection system. *Canadian Journal of Forest Research* 46(4):499–507. DOI: 10.1139/cjfr-2015-0112
- Gibson, D. D., and J. J. Withrow. 2015. Inventory of the species and subspecies of Alaska birds, second edition. *Western Birds* 46(2):94–185.
- 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
- 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.
- Kessler, W. B., and T. E. Kogut. 1985. Habitat orientations of forest birds in southeastern Alaska. *Northwest Science* 59(1):58-65.
- Migratory Bird Treaty Act (MBTA). 1918. U.S. Code Title 16 §§ 703-712 Migratory Bird Treaty Act.
- Nappi, A., P. Drapeau, M. Saint-Germain, and V. A. Angers. 2010. Effect of fire severity on long-term occupancy of burned boreal conifer forests by saproxylic insects and wood-foraging birds. *International Journal of Wildland Fire* 19(4):500–511. DOI: 10.1
- Poulin, J.-F., and M.-A. Villard. 2011. Edge effect and matrix influence on the nest survival of an old forest specialist, the Brown Creeper (*Certhia americana*). *Landscape Ecology* 26(7):911–922. DOI: 10.1007/s10980-011-9615-1
- Poulin, J.-F., M.-A. Villard, and S. Haché. 2010. Short-term demographic response of an old forest specialist to experimental selection harvesting. *Écoscience* 17(1):20–27. DOI: 10.2980/17-1-3297
- Poulin, J., É. D'Astous, M. Villard, S. J. Hejl, K. R. Newlon, ..., and C. K. Ghalambor. 2013. Brown Creeper (*Certhia americana*), version 2.0. In Poole, A. F., ed. *The Birds of North America*. Cornell Lab of Ornithology, Ithaca, NY, USA. <https://doi.org/1>
- Smith, W. P., M. J. Stotts, B. A. Andres, J. M. Melton, A. Garibaldi, and K. Boggs. 2001. Bird, mammal, and vegetation community surveys of research natural areas in the Tongass National Forest. Research paper PNW-RP-535, U.S. Department of Agriculture, F
- Spindler, M. A., and B. Kessel. 1980. Avian populations and habitat use in interior Alaska taiga. Final report, University of Alaska Museum, Fairbanks, AK, USA.
- Thompson, I. D., D. A. Kirk, and C. Jastrebski. 2013. Does postharvest silviculture improve convergence of avian communities in managed and old-growth boreal forests? *Canadian Journal of Forest Research* 43(11):1050–1062. DOI: 10.1139/cjfr-2013-0104
- U.S. Forest Service (USFS). 2008. Tongass land and resource management plan. Final Environmental Impact Statement. Record of Decision R10-MB-603a, U.S. Forest Service Alaska Region, Anchorage, AK, USA.
- 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.

Vanderwel, M. C., J. P. Caspersen, J. R. Malcolm, M. J. Papaik, and C. Messier. 2011. Structural changes and potential vertebrate responses following simulated partial harvesting of boreal mixedwood stands. *Forest Ecology and Management* 261(8):1362–1371.

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