

## Common Raven (*principalis*)

*Corvus corax principalis*

Class: Aves

Order: Passeriformes

### Conservation Status

NatureServe: Agency:

G Rank: BLM: IUCN: Audubon AK:

S Rank: USFWS: ADF&G:

Final Rank		
Conservation category: <b>IX. Blue</b>		
IX = low status and low biological vulnerability and action need		
<u>Category</u>	<u>Range</u>	<u>Score</u>
Status:	-20 to 20	-11
Biological:	-50 to 50	-36
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 (-10 to 10)*

-6

Both short-term and long-term trends indicate populations are stable in interior Alaska and increasing in southeast Alaska (Handel and Sauer 2017). Appears to have increased on the Arctic Coastal Plain in recent years (2003-2012; Stehn et al. 2013).

*Distribution Trend (-10 to 10)*

-5

Industrial activity on the North Slope led to the erection of tall structures in the 1970s, which created suitable nesting habitat and an increase in the northern distribution of the Common Raven (Powell and Backensto 2009). Trends elsewhere in the state are unknown, but likely stable or increasing in response to human activity.

Status Total: -11

**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 (-10 to 10)*

-10

Unknown at subspecies level, but subspecies *C. c. principalis* is common and widely distributed in Alaska. PIF (2019) estimates that there are 430,000 common ravens in Alaska (95% CI: 320,000 - 570,000). We therefore assume population size of *C. c. principalis* is >25,000.

*Range Size (-10 to 10)*

-10

>400,000 sq. km. Found throughout Alaska from the North Slope to southeast Alaska, and from the Canadian border west to western Alaska (Gibson and Withrow 2015; ACCS 2017a).

*Population Concentration (-10 to 10)*

-10

Does not concentrate.

*Reproductive Potential*

Age of First Reproduction (-5 to 5)

-3

Unknown, but likely between 2-4 years (Jollie 1976, qtd. in Boarman and Heinrich 1999).

**Number of Young (-5 to 5)** 1

On the North Slope, average clutch size was  $3.9 \pm 1.4$  young, with a range from 0 to 7 (Backensto 2010). Common ravens typically lay a single clutch per year, though replacement clutches are possible (Boarman and Heinrich 1999; Backensto 2010).

*Ecological Specialization*

**Dietary (-5 to 5)** -5

Generalist omnivore and scavenger (Kessel 1989). Common ravens on the North Slope and in western Alaska consume plant matter, small mammals (lemmings, voles), birds and eggs, fish, insects, and human food (Temple 1974; Kessel 1989; Powell and Backensto 2009; Lafferty et al. 2016). This varied diet is consistent with what has been documented elsewhere in the species' range (Boarman and Heinrich 1999).

**Habitat (-5 to 5)** 1

Found in a variety of habitats including coniferous and deciduous forests, shrubland, tundra, coastlines, cities, and mountains (Boarman and Heinrich 1999; Cotter and Andres 2000a; Ruthrauff et al. 2007). Some habitat specialization as ravens require tall structures for nesting. Nests in trees and cliffs, as well as on anthropogenic structures such as telephone poles, buildings, and bridges (Kessel 1989; Boarman and Heinrich 1999; Gibson and Byrd 2007; Backensto 2010). The availability of nest sites is believed to have limited the distribution of Common Ravens on the North Slope prior to industrial development (Powell and Backensto 2009).

Biological Total: -36

**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)** -10

Regularly detected by multi-species surveys throughout Alaska, often with descriptions of habitat associations (e.g. White and Cade 1975; Van Hemert et al. 2006; Ruthrauff et al. 2007; Saracco et al. 2007; Booms et al. 2010b; Stehn et al. 2013; Handel and Sauer 2017). White and Cade (1971) and Backensto (2010) described nest site characteristics on the North Slope, while Baltensperger et al. (2013) built seasonal occupancy models to examine relationships between occurrence and human activities in Fairbanks.

**Knowledge of Population Trends (-10 to 10)** 2

Local population trends are captured by multi-species monitoring surveys such as Breeding Bird Survey (Handel and Sauer 2017), the Alaska Landbird Monitoring Survey, and waterfowl surveys on the Arctic Coastal Plain (Stehn et al. 2013). Monitoring of raven nests was conducted on the North Slope from 2004-2011 (<http://nssi-test.gina.alaska.edu/catalog/entries/1158-bpxa-long-term-monitoring-raven>). However, given the raven's widespread distribution in Alaska, most of its range is not encompassed by these surveys.

**Knowledge of Factors Limiting Populations (-10 to 10)** 2

On Alaska's North Slope, industrial development may have contributed to population increases by creating suitable nest sites (tall structures) and increasing food availability (Powell and Backensto 2009). Other researchers have noted similar increases in local abundance in response to increased food availability (e.g. landfills, roadkill) in human-occupied areas (White 2006; Baltensperger et al. 2013). The availability of human food may benefit populations by increasing juvenile (Webb et al. 2004; Kristan and Boarman 2007) or overwinter survival (Preston 2005; Peebles and Conover 2017). At the same time, these "food bonanzas" can be detrimental to a population if they are monopolized by non-breeding individuals (Heinrich 1988; Bijlsma and ten Seldam 2013 and references therein). Little is known about factors that limit raven populations in remote areas with little human influence.

Action Total: -4

**Supplemental Information** - variables do not receive numerical scores. Instead, they that 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>	Year-round
<b>Taxonomic Significance:</b>	Subspecies
<b>% Global Range in Alaska:</b>	>10%
<b>% Global Population in Alaska:</b>	<25%
<b>Peripheral:</b>	No

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## References

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

Backensto, S. A. 2010. Common ravens in Alaska's North Slope oil fields: An integrated study using local knowledge and science. MSc thesis, University of Alaska Fairbanks, AK, USA.

Baltensperger, A. P., T. C. Mullet, M. S. Schmid, G. R. W. Humphries, L. Kövér, and F. Huettmann. 2013. Seasonal observations and machine-learning-based spatial model predictions for the common raven (*Corvus corax*) in the urban, sub-arctic environment of

Bijlsma, R. G., and H. ten Seldam. 2013. Impact of focal food bonanzas on breeding ravens *Corvus corax*. *Ardea* 101(1):55–59. DOI: 10.5253/078.101.0108

Boarman, W. I., and B. Heinrich. 1999. Common Raven (*Corvus corax*), version 2.0. In Poole, A. F., and F. B. Gill, eds. *The Birds of North America*, Cornell Lab of Ornithology, Ithaca, NY, USA. DOI: 10.2173/bna.476

Booms, T. L., P. F. Schempf, B. J. McCaffery, M. S. Lindberg, and M. R. Fuller. 2010b. Detection probability of cliff-nesting raptor during helicopter and fixed-wing aircraft surveys in western Alaska. *Journal of Raptor Research* 44(3):175–187. DOI: 10.335

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.

Gibson, D. D., and G. V. Byrd. 2007. *Birds of the Aleutian Islands, Alaska*. Nuttall Ornithological Club, Cambridge, MA, USA.

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

Heinrich, B. 1988. Winter foraging at carcasses by three sympatric corvids, with emphasis on recruitment by the raven, *Corvus corax*. *Behavioral Ecology and Sociobiology* 23(3):141–156. DOI: 10.1007/BF00300349

Kessel, B. 1989. *Birds of the Seward Peninsula, Alaska: Their biogeography, seasonality, and natural history*. University of Alaska Press, Fairbanks, AK, USA.

Kristan, W. B., and W. I. Boarman. 2007. Effects of anthropogenic developments on Common Raven nesting biology in the west Mojave Desert. *Ecological Applications* 17(6):1703–1713. DOI: 10.1890/06-1114.1

Lafferty, D. J. R., Z. G. Loman, K. S. White, A. T. Morzillo, and J. L. Belant. 2016. Moose (*Alces alces*) hunters subsidize the scavenger community in Alaska. *Polar Biology* 39(4):639–647. DOI: 10.1007/s00300-015-1819-4

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

Peebles, L. W., and M. R. Conover. 2017. Winter ecology and spring dispersal of Common Ravens in Wyoming. *Western North American Naturalist* 77(3):293–308. DOI: 10.3398/064.077.0303

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

Powell, A. N., and S. Backensto. 2009. Common ravens (*Corvus corax*) nesting on Alaska's North Slope oil fields. Coastal Marine Institute, University of Alaska Fairbanks, AK, USA.

Preston, M. I. 2005. Factors affecting winter roost dispersal and daily behaviour of Common Ravens (*Corvus corax*) in southwestern Alberta. *Northwestern Naturalist* 86(3):123–130. DOI: 10.1898/1051-1733(2005)086[0123:FAWRDA]2.0.CO;2

Pruett, C. L., T. Li, and K. Winker. 2018. Population genetics of Alaska Common Raven show dispersal and isolation in the world's largest songbird. *The Auk* 135(4):868–880. DOI: 10.1642/AUK-17-144.1

Ruthrauff, D. R., T. L. Tibbitts, R. E. Gill, and C. M. Handel. 2007. Inventory of montane-nesting birds in Katmai and Lake Clark National Parks and Preserves. Report NPS/AKRSWAN/NRTR-2007/02, U.S. Geological Survey Alaska Science Center, Anchorage, AK, U

Saracco, J. F., D. R. Kaschube, and D. F. DeSante. 2007. 2006 report of the Monitoring Avian Productivity and Survivorship (MAPS) Program in Dillingham, Nome, and Umiat, Alaska. The Institute for Bird Populations, Point Reyes, CA, USA.

Stehn, R. A, W. W. Larned, and R. M. Platte. 2013. Analysis of aerial survey indices monitoring waterbird populations of the Arctic Coastal Plain, Alaska, 1986-2012. U.S. Fish and Wildlife Service, Anchorage and Soldotna, AK. Available online: <https://www>

Temple, S. A. 1974. Winter food habits of ravens on the Arctic Slope of Alaska. *Arctic* 27(1):41–46. DOI: 10.14430/arctic2851

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.

White, C. 2006. Indirect effects of elk harvesting on ravens in Jackson Hole, Wyoming. *Journal of Wildlife Management* 70(2):539–545. DOI: 10.2193/0022-541X(2006)70[539:IEOEHO]2.0.CO;2

White, C. M., and T. J. Cade. 1971. Cliff nesting raptors and ravens along the Colville River in Arctic Alaska. *Living Bird* 10:107-150.

White, C. M., and T. J. Cade. 1975. Raptor studies along the proposed Susitna powerline corridors, oil pipeline and in the Yukon and Colville River regions of Alaska. Combined report for 1975 submitted to U. S. Fish and Wildlife, Bureau of Land Management

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