Common Raven (kamtschaticus)

Corvus corax kamtschaticus

Note: This assessment refers to this subspecies only. A species level report, which refers to all associated subspecies, is also available.

| Review Status: Peer-reviewed | Version Date: 06 February 2019 | |
|------------------------------|--------------------------------|--|
| Conservation Status | | |
| NatureServe: Agency: | | |

| i tanti eserve: | ngeney. | | |
|-----------------|---------|-------|-------------|
| G Rank: | ADF&G: | IUCN: | Audubon AK: |
| S Rank: | USFWS: | BLM: | |

| Final Rank | | |
|--|------------------------------|--|
| Conservation unknown status and either high | n category: biological vu | V. Orange Inerability or high action need |
| Category | Range | Score |
| Status | -20 to 20 | 0 |
| Biological | -50 to 50 | -18 |
| Action | -40 to 40 | 16 |
| Higher numerical scores denote greater concern | | |

- variables measure the trend in a taxon's population status or distribution. Higher status scores denote taxa with Status known declining trends. Status scores range from -20 (increasing) to 20 (decreasing).

| known declining trends. Status scores range from -20 (increasing) to 20 (decreasing). | | Score | |
|---|---------------|-------|--|
| Population Trend in Alaska (-10 to 10) | | 0 | |
| Unknown. | | | |
| Distribution Trend in Alaska (-10 to 10) | | 0 | |
| Unknown. | | | |
| | Status Total: | 0 | |

| 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 |
| Unknown. | |
| Range Size in Alaska (-10 to 10) | -2 |
| Year-round resident in southwest Alaska, from the Aleutian Islands east to Chignik (central Alaska Peninsula) and north to Cape Newenham (northern Bristol Bay; Gibson and Withrow 2015). Estimated range size is >10,000 sq. km but <100,000 sq. km. | |
| Population Concentration in Alaska (-10 to 10) | -10 |

Population Concentration in Alaska (-10 to 10)

Does not concentrate.

Reproductive Potential in Alaska

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 Clutch sizes of 4 and 6 eggs have been reported on the Aleutian Islands (Gibson and Byrd 2007). On the North Slope (subspecies C. c. principalis), average clutch size was 3.9 ± 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 in Alaska Dietary (-5 to 5) -5 Generalist omnivore and scavenger (Kessel 1989). Consumes plant matter, small mammals (lemmings, voles), birds and eggs, fish, insects, and human food (Temple 1974; Kessel 1989; Boarman and Heinrich 1999; Powell and Backensto 2009; Lafferty et al. 2016). On the Aleutian Islands, forages on beaches year-round, but diet likely changes seasonally to take advantage of seabird eggs in the summer and anthropogenic food sources in the winter (Gibson and Byrd 2007). Habitat (-5 to 5) 1 On the Aleutian Islands, forages on beaches and near human settlements (Gibson and Byrd 2007). Habitat on the mainland has not been described, but likely diverse: the mainland subspecies, C. c. principalis, inhabits a variety of habitats including tundra, alpine, forests, and shrublands (Boarman and Heinrich 1999; Cotter and Andres 2000a; Ruthrauff et al. 2007). Common ravens

require tall structures for nesting. On the Aleutian Islands, nests on tall structures such as cliffs and sea caves (Gibson and Byrd 2007). On the mainland, 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: -18

| 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 |
| Occasionally recorded during seabird and shorebird surveys on the Aleutian Islands and southwestern Alaksa (e.g. MacDonald 2000 and subsequent surveys; Byrd and Williams 2002a; | |

Savage 2009; Kaler et al. 2011; Mallek and Dau 2011), though subspecies name is rarely mentioned . Habitat associations have been described from opportunistic sightings (e.g. Gibson and Byrd 2007 for the Aleutian Islands), but specific studies are lacking. Additional surveys are needed to study range limits and contact zones between C. c. kamtschaticus and C. c. principalis.

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

Not currently monitored.

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

On Alaska's North Slope, industrial development may have contributed to population increases by

2

10

2

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: 16

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

| None on Drobibited |
|--------------------|
| None of Prohibited |
| Year-round |
| Subspecies |
| <10% |
| <25% |
| Yes |
| |

References

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 Fairbanks, Alaska. Polar Biology 36(11):1587–1599. DOI: 10.1007/s00300-013-1376-7

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

Byrd, G. V., and J. C. Williams. 2002a. Pre-fox removal wildlife surveys at Avatanak Island, Alaska. Report AMNWR 02/01, Alaska Maritime National Wildlife Refuge, U.S. Fish and Wildlife Service, Homer, AK, USA.

Clements, J. F., T. S. Schulenberg, M. J. Iliff, D. Roberson, T. A. Fredericks, B. L. Sullivan, and C. L. Wood. 2018. The eBird/Clements checklist of birds of the world: v2018. Available online: http://www.birds.cornell.edu/clementschecklist/download/

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.

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

Kaler, R. S. A., L. A. Kenney, J. C. Williams, G. V. Byrd, and J. F. Piatt. 2011. Breeding ecology of Kittlitz's murrelet at Agattu Island, Alaska, in 2010: Progress report. U.S. Fish and Wildlife Service.

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

MacDonald, R. 2000. Bird monitoring on the Togiak National Wildlife Refuge and the Dillingham Area, Alaska, 1999. U.S. Fish and Wildlife Service, Togiak National Wildlife Refuge, Dillingham, AK, USA.

Mallek, E. J., and C. P. Dau. 2011. Aerial survey of emperor geese and other waterbirds in southwestern Alaska, fall 2010. U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage and Fairbanks, AK, USA.

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

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, USA.

Savage, S. 2009. Pacific golden-plover avian influenza surveillance and banding effort, Alaska Peninsula, 20 May - 1 June 2009. U.S. Fish and Wildlife Service, Alaska Peninsula / Becharof National Wildlife Refuge, King Salmon, AK, USA.

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

Webb, W. C., W. I. Boarman, and J. T. Rotenberry. 2004. Common Raven juvenile survival in a human-augmented landscape. The Condor 106(3):517–528. DOI: 10.1650/7443

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

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