Horned Puffin
*Fratercula corniculata*

**Class:** Aves  
**Order:** Charadriiformes

### Conservation Status

<table>
<thead>
<tr>
<th>Agency</th>
<th>NatureServe</th>
<th>G Rank: G5</th>
<th>IUCN: Least Concern</th>
<th>Audubon AK: Red</th>
<th>USFWS:</th>
<th>ADF&amp;G: Species of Greatest Conservation Need</th>
</tr>
</thead>
</table>

**Final Rank**

<table>
<thead>
<tr>
<th>Category</th>
<th>Range</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Status</td>
<td>-20 to 20</td>
<td>0</td>
</tr>
<tr>
<td>Biological</td>
<td>-50 to 50</td>
<td>-22</td>
</tr>
<tr>
<td>Action</td>
<td>-40 to 40</td>
<td>4</td>
</tr>
</tbody>
</table>

**Conservation category:** V. Orange  
V = unknown status and either high biological vulnerability or high action need

**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).

#### Population Trend (-10 to 10)

Unknown. All trend estimates are out of date and reliable estimates are difficult to obtain (Denlinger 2006).

#### Distribution Trend (-10 to 10)

In the mid-1980s, a small colony became established on Cooper Island, east of Utqiaġvik (Divoky 2010). Statewide trends are unknown.

### 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).

#### Population Size (-10 to 10)

Estimated at 921,000 individuals (Denlinger 2006).

#### Range Size (-10 to 10)

During breeding, inhabits coastal regions and oceanic islands from Cape Lisburne west to the Aleutian Islands and south to southeast Alaska (Piatt and Kitaysky 2002a). A small colony also occurs on Cooper Island in the Beaufort Sea (Denlinger 2006). Overwinters at sea in the North Pacific Ocean and the southern Bering Sea (Piatt and Kitaysky 2002a). Estimated breeding range is ~96,000 sq. km, calculated in GIS and based on range map from ACCS (2017a).

#### Population Concentration (-10 to 10)

>250 breeding colonies in Alaska (Denlinger 2006; USFWS 2013d).

#### Reproductive Potential

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

Unknown, but likely >2 year. Most individuals probably do not breed until at least their fourth or fifth year (Piatt and Kitaysky 2002a).
Females lay a single egg per year (Piatt and Kitaysky 2002a).

Ecological Specialization

Dietary (-5 to 5)

Habitat (-5 to 5)
Inhabits coastlines and remote oceanic islands. Usually nests in rock crevices in cliffs and boulder fields, but at some locations excavates burrows in soft substrates (Kessel 1989; Byrd et al. 2005; Gibson and Byrd 2007). Forages in nearshore and offshore waters (Kessel 1989; Piatt and Kitaysky 2002a; Gibson and Byrd 2007; Hunt et al. 2014).

Biological Total: -22

Management Plans and Regulations (-10 to 10)
Protected under the Migratory Bird Treaty (MBTA 1918). Open to subsistence harvesting except during the summer (AMBCC 2018).

Knowledge of Distribution and Habitat (-10 to 10)
Distribution of colonies is documented and available through the North Pacific Seabird Data Portal (USFWS 2013d), with knowledge of nesting and foraging habitats (Kessel 1989; Piatt and Kitaysky 2002a; Byrd et al. 2005; Gibson and Byrd 2007; Hunt et al. 2014). At-sea has been documented largely through shipboard surveys compiled in the USGS North Pacific Pelagic Seabird Database (Piatt and Drew 2015; also see summary table in Jahncke et al. 2008) and in a few multi-species studies (Hunt et al. 2014; Wong et al. 2014; Cushing et al. 2018). Non-breeding distribution is not well understood.

Knowledge of Population Trends (-10 to 10)
Although reproductive parameters are monitored at a few colonies, no data are currently available to assess population trends (Dragoo et al. 2018). Reliable colony counts are hard to obtain because of this species' crevice-nesting behavior (Denlinger 2006).

Knowledge of Factors Limiting Populations (-10 to 10)
Population dynamics are hard to study because data on population size and trends are largely unavailable. Research on horned puffins and other piscivorous alcids have speculated that population growth rates are affected by climate-related changes in prey availability (Agler et al. 1999; Kitaysky and Golubova 2000; Goyert et al. 2018), but the sensitivity to changes in prey availability varies by species (Goyert et al. 2018). Horned puffins can maintain high reproductive success even during prolonged food shortages, but the effects on other population parameters and for longer time scales are unknown (Harding et al. 2003). Unlike tufted puffins, horned puffins are not thought to have been drastically affected by introduced predators on the Aleutian Islands (Byrd et al. 2005), but predation by Arctic ground squirrels may limit some colonies in the Gulf of Alaska (Pollom et al. 2015a). Subsistence harvest rates are not a current concern (Naves 2018). Additional data are needed to determine the impacts of gillnet fisheries (Denlinger 2006) and nest site availability.

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.
Alaska Species Ranking System - Horned Puffin

<table>
<thead>
<tr>
<th>Harvest:</th>
<th>Not substantial</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seasonal Occurrence:</td>
<td>Year-round</td>
</tr>
<tr>
<td>Taxonomic Significance:</td>
<td>Monotypic species</td>
</tr>
<tr>
<td>% Global Range in Alaska:</td>
<td>&gt;10%</td>
</tr>
<tr>
<td>% Global Population in Alaska:</td>
<td>≥75%</td>
</tr>
<tr>
<td>Peripheral:</td>
<td>No</td>
</tr>
</tbody>
</table>

References


