Pomarine Jaeger (*Stercorarius pomarinus*)

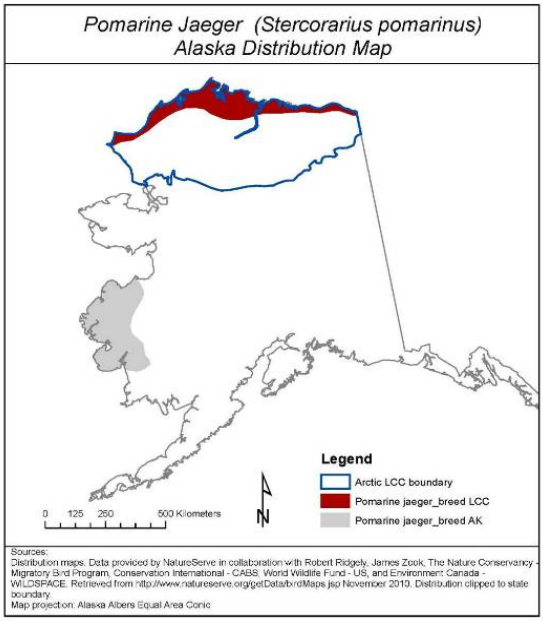
Vulnerability: **Moderately vulnerable** Confidence: Low

The Pomarine Jaeger, the largest of the three jaegers, prowls the arctic tundra subsisting on a diet composed almost entirely of brown lemmings (*Lemmus trimucronatus*). This species presumably nests only in years when lemmings are abundant (Wiley and Lee 2000). Their breeding range in Alaska is relatively close to the coast, typically nesting in wet tundra habitats, the same habitats as those utilized by their favorite prey. Pomarine Jaegers may forgo breeding in low lemming years and prematurely return to their tropical and sub-tropical pelagic wintering grounds (Wiley and Lee 2000). Current global population estimate is 250,000 – 3 million individuals (BirdLife International 2012).

Range: For the assessment, we used a range map modified from the NatureServe map that more closely approximated the range depicted in the Birds of North America species account (Wiley and Lee 2000). We also included an inland breeding range extension in the Teshekpuk Lake region (J. Liebezeit, unpublished data).

Interactions with Other Species: In the assessment, Pomarine Jaegers were ranked as particularly vulnerable ("increased" or "greatly increased") to climate change impacts for three categories which are tied to their dependence on their main source of food - brown lemmings (see table below). They have low dietary versatility and their "interaction" with brown lemmings in terms of being dependent on their cyclical population booms could potentially make them vulnerable to climate change. In fact, there is some concern that climate change could disrupt lemming cycles (Ims and Fuglei 2005). The resulting repercussion on Pomarine Jaegers is unknown but could be detrimental.

Physiologic Hydro Niche: Because Pomarine jaegers nest in wet habitats the physiological hydrologic niche category also scored highly because of the potential for a drying trend in the arctic which could result in a net loss of wet tundra habitats. Current projections of annual potential evapo-transpiration suggest negligible atmospheric-driven drying for the foreseeable future (TWS and SNAP), and its interaction with hydrologic processes is very poorly understood (Martin et al. 2009). Thus atmospheric moisture, as an exposure factor, was not heavily weighted in the assessment. This species' "preference" for wet habitats may be more related to being close to their prey base rather than to a physiological need. Unfortunately, little is known about their nesting habitat requirements or their flexibility in nest site selection (Wiley and Lee 2000).



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Vulnerability: **Moderately vulnerable** Confidence: Low

Vulnerability Factors	D	SD	N	SI	I	GI	Unknown or N/A
B1. Sea level rise			*				
B2a. Natural barriers			*	*			
B2b. Anthropogenic barriers			*				
B3. Human response to CC			*				
C1. Dispersal/Movement			*				
C2ai. Historical thermal niche (GIS)			*				
C2aii. Physiological thermal niche			*				
C2bi. Historical hydro niche (GIS)				*			
C2bii. Physiological hydro niche				*	*	*	
C2c. Disturbance regime			*	*			
C2d. Ice & Snow habitats			*				
C3. Physical habitat restrictions		*					
C4a. Biotic habitat dependence			*	*			
C4b. Dietary versatility				*	*		
C4d. Biotic dispersal dependence			*				
C4e. Interactions with other species			*	*	*		
C5a. Genetic variation							*
C5b. Genetic bottlenecks							
C6. Phenological response			*	*			*
D1. CC-related distribution response							*

D=Decrease vulnerability, SD=Somewhat decrease vulnerability, N=Neutral effect, SI=Slightly increase vulnerability, I=Increase vulnerability, GI=Greatly increase vulnerability.

Physical Habitat Restrictions: Because this species often breeds relatively close to the coast they could be constrained in nesting habitat by the natural barrier of the Arctic Ocean if climate change results in a net loss of wet tundra habitats (and the associated lemmings) on the coastal plain.

Phenological Response: Currently there is insufficient information on how or if specific climate-mediated disturbance regimes will impact this species. Certainly, disturbances that would impact lemming populations (e.g. increasing snow depth) would, in turn, likely impact Pomarine Jaegers.

In summary, the combined dependence of Pomarine Jaegers on one primary food source, brown lemmings (which themselves, could be vulnerable to a warming climate), use of coastal areas, reliance on wet habitats, and other factors, resulted in a "moderately vulnerable" ranking for this species in this assessment.

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