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Post-breeding movements of northeast Atlantic ivory gull Pagophila eburnea populations

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Abstract

The post-breeding movements of three northeast Atlantic populations (north Greenland, Svalbard and Franz Josef Land) of the ivory gull Pagophila eburnea, a threatened high-Arctic sea-ice specialist, were studied between July and December 2007 using 31 satellite transmitters. After leaving their breeding grounds, all birds first dispersed eastward in August-September, to an area extending from the Fram Strait to the northwestern Laptev Sea (off Severnaya Zemlya). Most returned along the same flyway in October-November, hence describing a loop migration before moving south, off east Greenland. Wintering grounds were reached in December, in southeast Greenland and along the Labrador Sea ice-edge, where Canadian birds also overwinter. One to two birds from each population however continued eastwards towards a third wintering area in the Bering Strait region, hence demonstrating a bi-directional migration pattern for the populations and elucidating the origin of the birds found in the north Pacific during winter time. Overall, all birds breeding in the northeast Atlantic region used the same flyways, had similar rates of travel, and showed a peak in migratory activity in November. Though the total length of the main flyway, to the Labrador Sea, is only and at most 7500 km on a straight line, the mean total distance travelled by Greenland birds between July and December was 50 000 km when estimated from hourly rates of travel. Our study presents the first comprehensive and complete picture for the post-breeding movements of the different ivory gull populations breeding in the northeast Atlantic.

KeyWords: SEA-ICE; SATELLITE-TRACKING; LOCATION ACCURACY; ARCTIC CANADA; WATER POLYNYA; GREENLAND; ABUNDANCE; MIGRATION; SEABIRDS; SUMMER