

Foraging and migratory movements of seabirds from St Lawrence Island, Northern Bering Sea

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Long-term decline in the seasonal sea ice extent and increase in sea temperatures have been reported in Northern Bering Sea. Such changes in the physical environment appear to have caused the changes in the distribution of fish and zooplankton in this region, which is expected to affect the higher trophic level predators such as seabirds. A large number of seabirds breeds annually on St Lawrence Island, in the Northern Bering Sea, but little is known about how these seabirds use marine habitat for foraging during breeding as well as non-breeding seasons. As a part of the ArCS (Arctic Challenge for Sustainability) project, we set out to characterize their marine habitat use by tracking the movements of five species of seabirds from St Lawrence Island: two diving piscivores (thick-billed and common murre), two diving planktivores (crested and least auklets), and a surface feeding piscivore (black-legged kittiwake). GPS data loggers and light-based geolocators were deployed to track their foraging movements during breeding season and migratory movements during non-breeding season, respectively. This poster presents preliminary results obtained during the summers of 2016 and 2017. The number of birds tracked with GPS or geolocators was small (< 5 birds for each species of each device type) because capture and recapture of the birds were difficult due to their high sensitivity to humans. Nevertheless, GPS tracking data suggest that all the species foraged relatively close to the breeding colony (< 50km) over the shallow shelf north of St. Lawrence Island. Geolocator data suggest that these seabird species often wintered outside the Northern Bering Sea.