NIGHT AND DAY – CONTRASTING FORAGING STRATEGIES OF BLACK-LEGGED KITTIWAKES BETWEEN PRE-BREEDING AND BREEDING STAGE

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Black-legged Kittiwakes (*Rissa tridactyla*) are widely distributed in the northern hemisphere and the most abundant gull species in the world. They are already well studied in many respects, but more detailed knowledge about their foraging strategies and feeding areas is still needed.

During pre-breeding (April) and breeding (May-August) in 2008 we deployed miniaturised GPS-dataloggers to adult Black-legged Kittiwakes on Middleton Island in the Gulf of Alaska to investigate their foraging behaviour. In early pre-breeding stage (April), when returning from their wintering areas in central Pacific, kittiwakes perform almost exclusively nocturnal foraging flights (95%) in nearly always south-easterly direction of their colony to pelagic deep sea waters. Later during the breeding season they forage only over continental shelf areas not deeper than 200m, mainly during daytime. Nocturnal flights occur only in 24% of the trips. Nocturnal foraging trips during pre-breeding stage last longer than during breeding stage ($p<0.05$) and all overnight trips last significantly longer than foraging trips during daytime ($p<0.001$). Foraging trip duration was significantly longer ($p<0.001$) during the pre-breeding season (mean: 10.7h, range: 5.7-13.7h) than during the breeding season (mean: 4.5h, range: 1.4-15.7h) and kittiwakes travelled significantly farther from their colony site ($p<0.05$) in April (mean: 55km, range: 4-159km) than later from May-August (mean: 30km, range: 1.8-110km). There was no difference in total distance travelled per foraging trip in both breeding stages.

These different foraging strategies are also reflected in prey types found in pellets during both stages, which were sampled in previous years. The results show a high proportion of lanternfish (Myctophidae) or capelin and sand lance during the pre-breeding season and breeding season, respectively.

Our results show that Black-legged Kittiwakes perform very different foraging strategies during the different breeding stages. They alter their foraging behaviour with changing prey availability, preying on fish species which are probably easier available.