

Raising healthy chicks: diet effects on chick development of Lesser Black-backed Gulls

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The Lesser Black-backed Gull *Larus fuscus* is a large gull species (135-150 cm wingspan) found in coastal regions of the North Atlantic, including the Belgian Coast, where it arrives in summer to breed. These gulls exploit different food sources: discarded fish from demersal trawlers, human (urban and industrial) food waste, and soil dwellers such as earthworms, insects and small mammals mainly at agricultural fields and urban parks. Each of these food sources is exploited with different frequencies by each individual bird and in each period of the breeding season. We are studying what drivers lead a breeding gull to forage on a particular food source, and whether certain foraging strategies are more advantageous than others. From the chick's point of view, an ideal diet has to meet all energetic and nutritional requirements for development from hatching until fledging. Depending on the origin of the food provided, a chick's diet will have different energy densities and nutrient content, but certain food sources are also more abundant and/or easier to obtain, so that a chick might be fed a lower quality diet in larger quantities, or vice versa.

GPS tracking data gathered in the framework of the LifeWatch Belgium Project show that a majority of tracked Lesser Black-backed gulls forage inland, looking for soil invertebrates and human refuse. However, fishery discards are a key component of the diet provided by most gull parents to their chicks. Some food types, such as industrial food waste, are used as a secondary, or replacement, food source. We have tested the effects of the amount and type of food provided to a chick on its development in captivity rearing experiments performed at the Ostend Bird Rescue Centre (VOC Oostende). These results bring light on the consequences of each foraging strategy for the offspring, which we then compare to the costs of foraging at different habitat types.

Keywords: seabirds; lesser black-backed gull; foraging distribution; chick rearing; artificial diet; chick development