

## Fish or garbage: Do diet and foraging choices of an avian scavenger impact on its breeding performance?

Sotillo Alejandro<sup>1,2</sup>, Baert Jan<sup>1,3</sup>, Müller Wendt<sup>3</sup>, Stienen Eric<sup>4</sup>, Soares Amadeu<sup>2</sup> and Lens Luc<sup>1</sup>

<sup>1</sup> Department of Biology, Terrestrial Ecology Unit, Ghent University, K.L. Ledeganckstraat 35, 9000 Ghent, Belgium

E-mail: [alejandro.sotillogonzales@ugent.be](mailto:alejandro.sotillogonzales@ugent.be)

<sup>2</sup> Department of Biology & CESAM - Centre for Environmental and Marine Studies, University of Aveiro, Campus de Santiago, 3810-193 Aveiro, Portugal

<sup>3</sup> Department of Biology - Behavioural Ecology and Ecophysiology Group, University of Antwerp, Campus Drie Eiken, Universiteitsplein 1, 2610, Antwerp, Belgium

<sup>4</sup> Research Institute for Nature and Forest (INBO), Kliniekstraat 25, 1070 Brussels, Belgium

Human activities induce behavioural and population changes in animal species affected by them. For instance, opportunistic scavengers may benefit from the exploitation of human-mediated food subsidies. Such is the case of the Lesser Black-backed Gull (*Larus fuscus*), an originally marine forager whose breeding population has expanded, from the mid-20th century onwards, throughout the coasts of the Southern North Sea and further inland, by relying on the exploitation of fishery discards, garbage and soil organisms as food resources. 5 years of GPS tracking data of adult *L. fuscus* breeding at the Outer Port of Zeebrugge (Belgium) have provided evidence of widespread foraging on both fishery discards and terrestrial food sources by this population, with a marked variation between sexes and furthermore between individuals. On the other hand, stable isotope data from feathers of fledglings show that the food provided by adults to their chicks is here predominantly of marine origin. Cost-benefit analyses of a marine versus terrestrial diet in chicks, as well as of a terrestrial or marine foraging behaviour of adults, shed light on the consequences of diet and foraging choices, and how these might be affected by changes in human activities, such as a decrease in the production of fishery discards.

Keywords: gulls; discards; garbage; foraging niche; scavengers; breeding performance; gps; stable isotopes