Ashley Bennison[1], Thomas Bodey[2], Mark Jessopp[1], Stuart Bearhop[2]
*[1]University College Cork, [2]University of Exeter*

The miniaturisation and reduction in cost of GPS loggers has led to a proliferation of studies on seabird foraging ecology. However, Time Depth Recorders (TDR) are still comparatively expensive, so in the majority of studies foraging events are based on GPS track metrics such as Area Restricted Search (ARS) and first passage time. We used concurrent deployments of GPS and TDRs (n=9) to train a model to reliably predict seabird foraging events (plunge dives) based on GPS tracks alone, in northern gannets (Morus bassanus). The model predicted that foraging events in a trip could be predicted by GPS tracks when applied to a dataset of gannets not equipped with TDR devices (n=7), we predicted approximately 600 new foraging events. Diet of instrumented birds was investigated using Stable Isotope Analysis, with 9 birds classified as low users and 7 birds classed as high users of fisheries discards. Track data and predicted foraging events from the two groups was analysed in relation to fisheries data using the Vessel Monitoring System. The overall rate of plunge diving was slower in areas of high fisheries activity for all birds. However, high users of fisheries discards had a higher rate of diving than birds of lower discard use which supports a 'junk food hypothesis.' The combination of multiple fine scale data formats provides a fully detailed insight to seabird ecology. Prediction and projection techniques as utilised in this study have the power to greatly enhance long distance ecological studies of seabirds. If used in more studies, this may provide a solid basis for extending the efficiency and quality of research.

**PS7.3 Combining GPS tracking and Stable Isotope Analysis in a synanthropic seabird: the Lesser Black-backed Gull Larus fuscus**

Alejandro Sotillo[1], Eric Stienen[2], Luc Lens[1]
*[1]Ghent University, [2]Research Institute for Nature and Forest*

The Lesser Black-backed Gull (Larus fuscus) has colonized and quickly proliferated along the Belgian coast during the second half of the 20th Century. The Belgian L. fuscus breeding population exploits human-conditioned nesting space and human-generated sources of food: fishery discards, industrial food waste, soil invertebrates in agricultural lands and urban garbage. This synanthropic behaviour, extensive to a large proportion of its populations along the North-eastern Atlantic coasts, has expanded the species' breeding range through the exploitation of anthropogenic resources. However, ecological trap conditions emerge as natural nesting grounds give way to urban development and food availability is affected by swift changes in human activities. In particular, the onset of a European ban on discarding by fisheries may result in a sharp and permanent decline in their key food source. Stable isotope analyses on chick feathers have revealed an overall importance of fishery discards in the food provided by local breeding parents to their chicks. However, the relative amount of fish in chick diet showed a significant degree of individual variation, which was as well observed in foraging patterns given by GPS tracking data during the chick rearing period. This variation points toward the possibility that gulls develop individual foraging strategies, which would in turn have consequences in the capacity to respond to changes in local food availability. Through cost-benefit analyses on the different observed foraging strategies of this generalist feeder, and an evaluation of the local availability and distribution of the exploited food sources, we aim at evaluating the future viability of the local L. fuscus breeding population, as well as potential changes in foraging distributions.