

Individual migratory schedules and wintering areas of the largest North Atlantic seabird, the northern gannet

Stefan Garthe (1), Robert W. Furness (2)

(1) Research and Technology Centre (FTZ), University of Kiel, Hafentörn 1, D-25761 Büsum, Germany, garthe@ftz-west.uni-kiel.de

(2) Institute of Biomedical and Life Sciences, Graham Kerr Building, University of Glasgow, Glasgow G12 8QQ, UK, r.furness@bio.gla.ac.uk

Extended abstract

Northern gannets are long-lived migratory seabirds. Individual migratory schedules and wintering areas were studied over two consecutive winters by deploying geolocation data loggers on breeding adults from the Bass Rock, UK. Recapture rates of the devices after one year were 87 and 81 %, respectively. Some gannets stayed in winter in the North Sea but most birds travelled to areas further south, with a hotspot off West Africa (see Fig. 1 for one example). A few birds moved into the Mediterranean Sea. Direct distances between Bass Rock and the core winter area ranged from 170 to 4552 km (winter means: 2154 km and 2897 km). Gannets followed quite closely the continental shelf while migrating. Birds attended the colony until between 24 September and 13 October (median: 4-5 October). Birds wintering off West Africa migrated to their winter areas mostly within 3-5 weeks starting usually between early and late October. Return migration was initiated between end of January and mid-February and took equally long as autumn migration. Individual winter home ranges (75% fixed kernel density) varied between 31,000 and 297,000 km², with an overall mean of 134,000 km². High proportions of gannets stayed in areas where demersal fisheries produce high rates of discards. The winter areas overlapped with areas of high pelagic fish catches, too. Further investigations should elucidate the advantages and disadvantages for gannets to stay close to their breeding site (i.e. in the North Sea) or to undertake migratory movements to distant wintering areas. This includes identification of winter diets and possible dependency on fishery discards in winter.

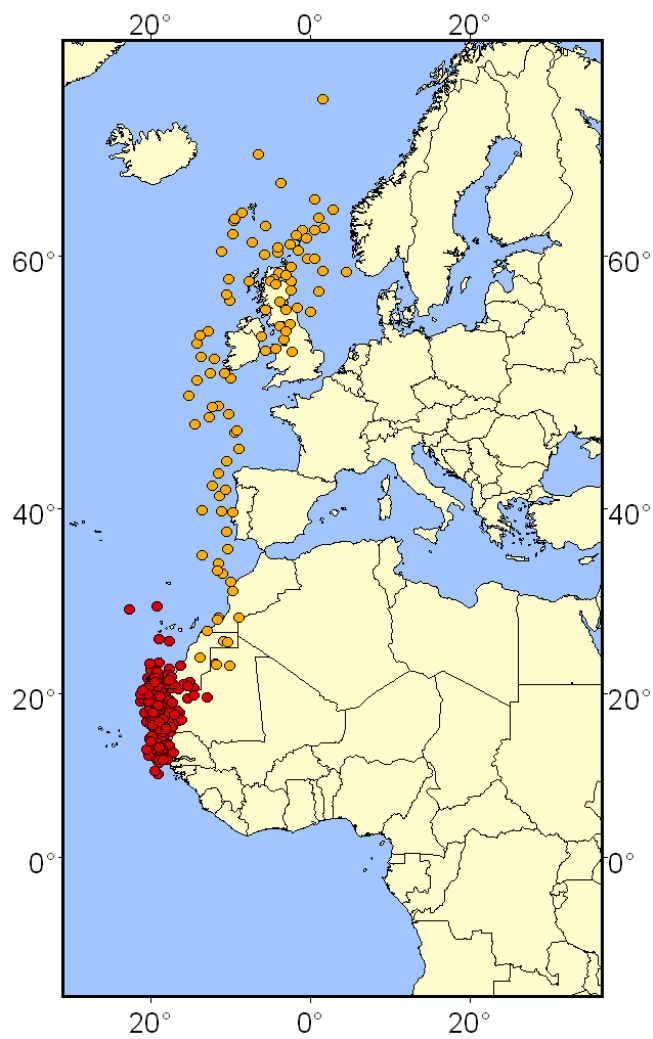


Fig. 1: Movements of a northern gannet breeding on Bass Rock in eastern Scotland from 10 Oct 2003 to 21 Feb 2004. Each dot on the map represents one positional determination. The red dots indicate the winter area, the yellow dots the areas used on migration. Please note that data are not smoothed.