

# Migratory connectivity analysis

by EURING Migration Atlas

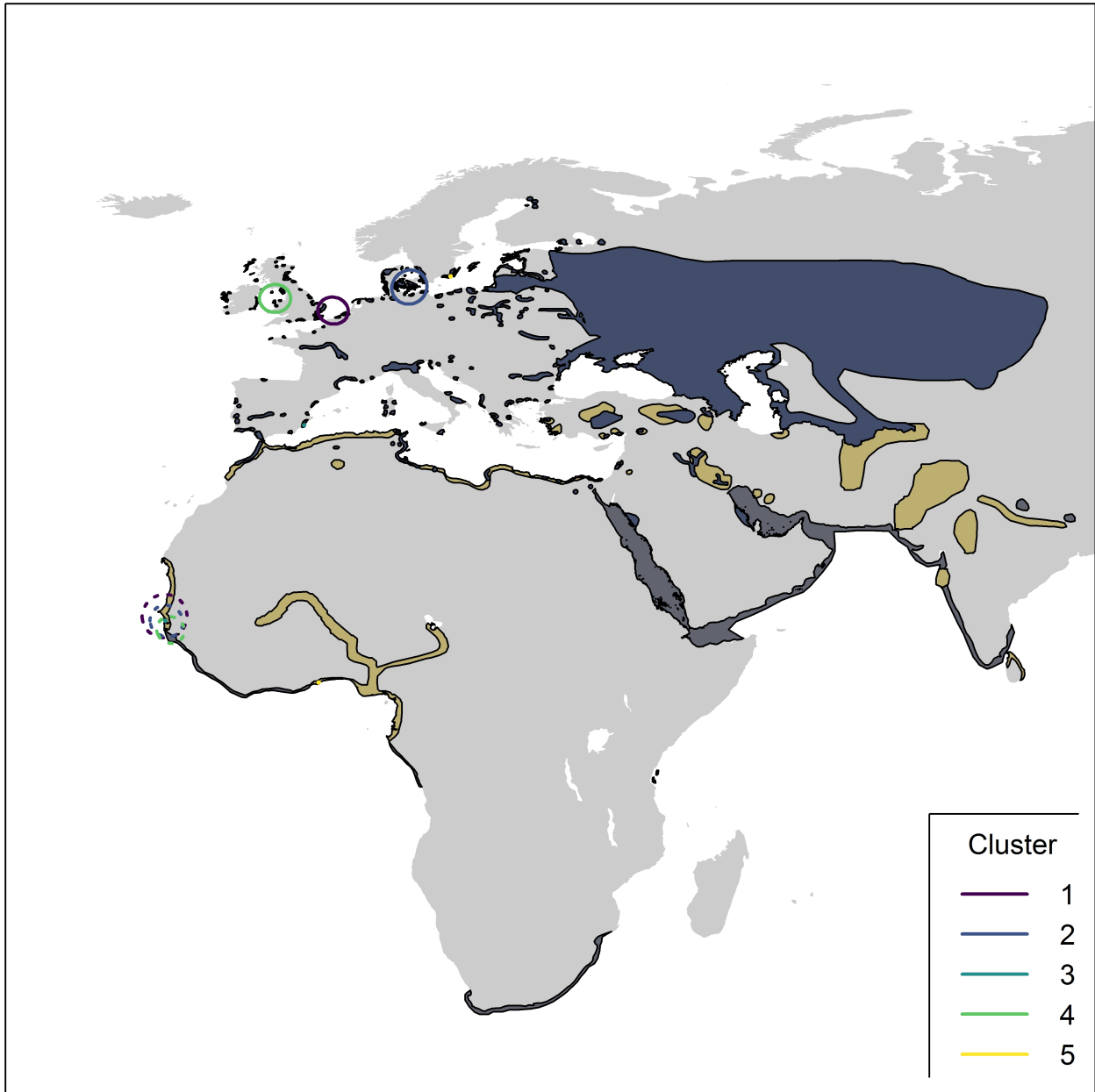
*Sterna albifrons* (EURING code 06240)

## 1. Connectivity between individuals

The analysis evaluated 23 individuals (46 encounters) filtered from a total of 10061 records in the EURING databank which were considered for the Atlas. The species shows a significant connectivity from clustering, with a number of first-level clusters = 5 (Table 06240-1; Figure 06240-1).

**Table 06240-1.** Results from the migratory connectivity analysis. For each cluster, the degree of connectivity ( $r_M$ ), its statistical significance (p-value) and 95% confidence interval limits are shown. When the p-value is less than or equal to 0.1, the degree of clustering structure (oasw) and the best number of clusters identified are reported.

Cluster name	Level of clustering	N individuals	Migratory connectivity ( $r_M$ )	p-value	Lower 95% confidence limit	Upper 95% confidence limit	Best number of clusters	oasw
0	0	23	0.238	0.084	-0.097	0.62	5	0.567
1	1	12	-	-	-	-	-	-
2	1	4	-	-	-	-	-	-
3	1	1	-	-	-	-	-	-
4	1	5	-	-	-	-	-	-
5	1	1	-	-	-	-	-	-



**Figure 06240-1.** Map showing 95% kernel contours of of first-level clusters identified by the migratory connectivity analysis, if any, or 95% kernel contours of all encounters, in case of no clustering structure. Solid lines indicate the clusters in the breeding range, dotted lines those in the non-breeding range. Different contour colours correspond to different clusters, as reported in legend. The species distribution range is also shown (breeding range: blue; non-breeding range: dark grey; resident range: beige; from BirdLife International, 2019).

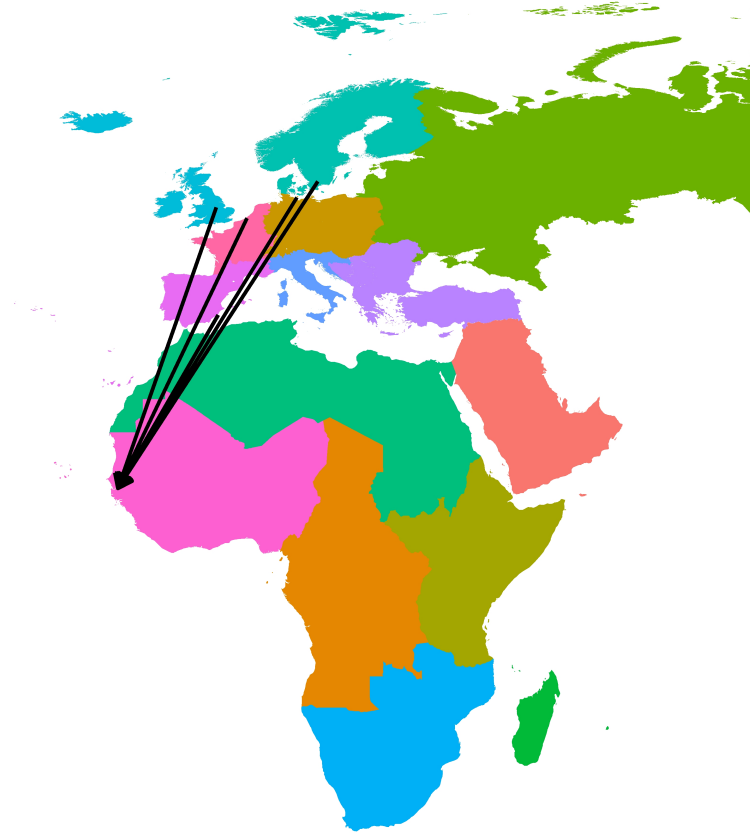
## 2. Connectivity between pre-defined regions

The species shows no connectivity ( $MC = 0$ ;  $MC = 0$  when adjusted for absolute abundance) between 5 breeding regions and 1 non breeding regions (Table 06240-2; Figure 06240-6).

**Table 06240-2.** Transition probabilities between pre-defined regions. Estimated abundance (number of

individuals) in each breeding region is also reported.

Breeding region	Abundance	Non breeding region	Transition probability
Central Europe	3081	West Africa	1
North Europe	1961	West Africa	1
North-west Europe	4676	West Africa	1
South-west Europe	9248	West Africa	1
West Europe	3749	West Africa	1



**Figure 06240-6.** Map showing pre-defined regions in different colours, with black arrows linking centroids of individual encounters in different regions. Arrow width is proportional to transition probability.

## Reference

BirdLife International and Handbook of the Birds of the World (2019). Bird species distribution maps of the world. Version 2019.1. Available at <http://datazone.birdlife.org/species/requestdis>.