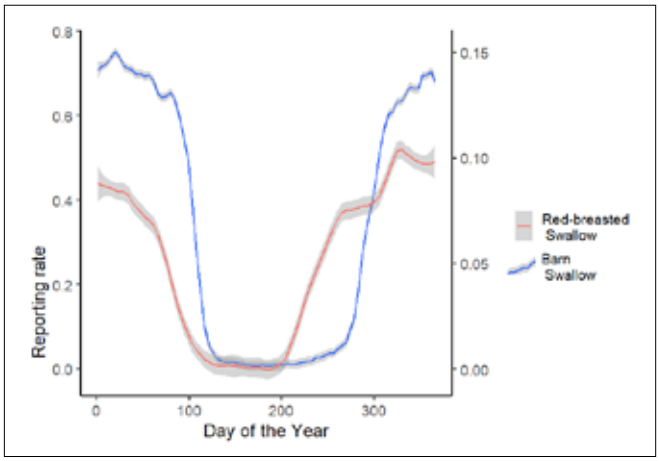
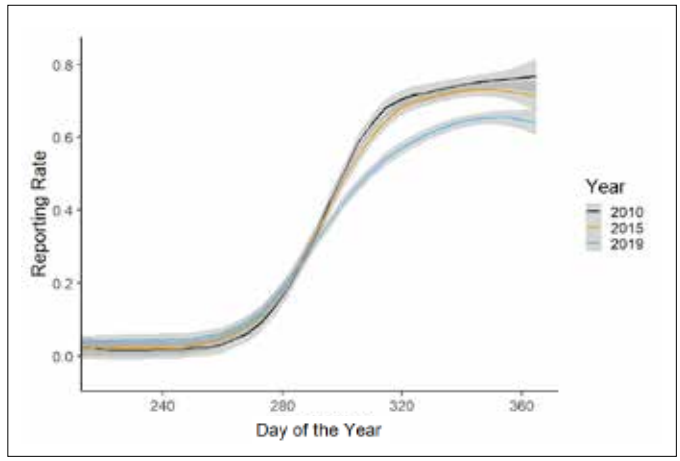
MONITORING BIRD MIGRATION





above, left *Annual reporting rate from SABAP2 for Barn and Red-breasted swallows.*

above *Reporting rate for Barn Swallow for the midwinter to midsummer period for three selected years.*

One of the main aims of the Southern African Bird Atlas Project 2 (SABAP2) is to map the distribution of bird species. Since 2007, millions of records have been submitted and vetted to build detailed distribution maps. Researchers and conservationists now use these maps to better understand birds and determine how best to implement conservation actions. SABAP is a wonderful resource!

However, the SABAP2 dataset also collects fine-scale temporal data. As each atlas card has a date and time linked to it, we can detect changes in species distributions over time. This is increasingly useful to monitor the impact of climate change on birds. But did you know that we can also use the data to monitor bird migration patterns?

The graph on the left shows the reporting rate over time for the Barn Swallow and Red-breasted Swallow, both very common summer migrants. Reporting rates are shown on the y-axis, with the day of the year (starting with 1 January as 1) on the x-axis. The concept is very simple. In January, Barn Swallows (blue line) are regularly recorded on atlas cards. However, in midwinter, when most Barn Swallows are in the northern hemisphere, no birder has recorded the species, resulting in a reporting rate of zero. By tracking changes in reporting rates, we can tell when Barn Swallows arrive and depart from South Africa. They gradually return in spring and depart in a more co-ordinated wave in autumn.

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If you compare this to the data for Red-breasted Swallow (red line), an intra-African migrant, you can see that these birds arrive several months before Barn Swallows and some depart earlier too, but others remain until about the time that the last Barn Swallows depart.

Researchers can also compare these graphs from year to year for the same species to detect changes in migration patterns. The graph on the right shows how from 2010 to 2019 the arrival times of Barn Swallows have tended to shift to later in the year, perhaps reflecting longer summers in their northern breeding range as the earth's climate warms. Such data allow us to identify which migratory species may be adversely impacted by the climate crisis.

However, to conduct these analyses, we need lots of data during the periods when migratory birds arrive and leave South Africa. We appeal to atlasers to log as much data as possible during these times. Even data from your home pentad on a weekly basis will be of great value. And if you cannot go out atlasing, check out the migration graphs for all the migratory species on the website (*http://sabap2.birdmap.africa/*). You can find them under the main distribution map for a species.

Happy atlasing and enjoy the website!

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