

BATLAS - A database with integrated automatic analysis of count data for estimating population trends

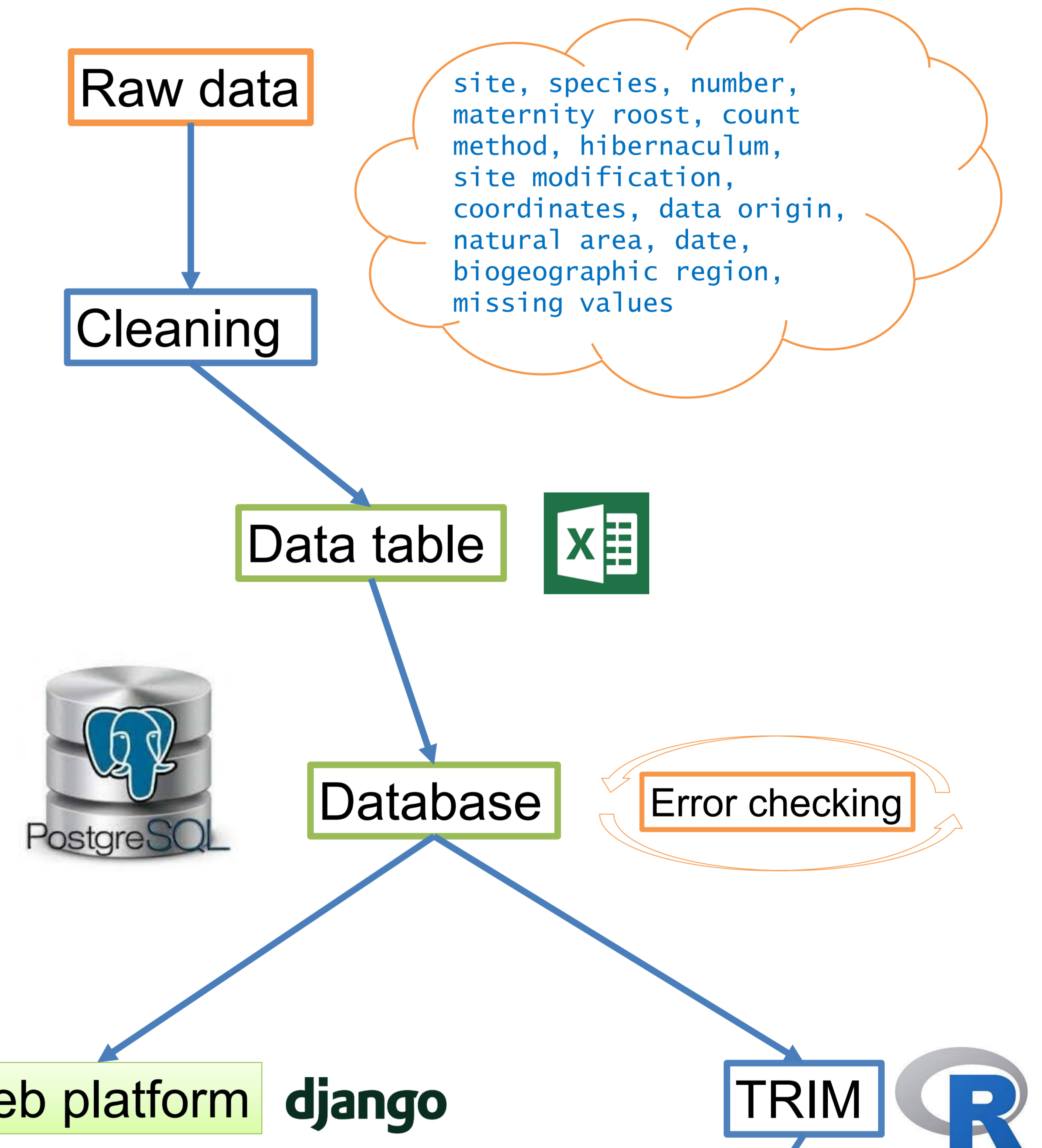
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Population trends are crucial to assess the conservation status of a species. Hereby, animal count data over time are a valuable data source to calculate such trends. Nevertheless, gathering such data, storing and analyzing can be challenging since data availability is often limited and count methods as well as data formats are not standardized.

To overcome at least some of these drawbacks the statistical method TRIM (TRENds and Indices for Monitoring data) was developed >30 years ago by Statistics Netherlands (Pannekoek and Van Strien, 1991). This software can both deal with missing values, as well as serial correlation, and the frequently encountered overdispersion of data.

We developed an on-purpose database for collection and storing bat count data in a standardized way which consists of a built-in tool (using the 'rtrim' package in R) for the automatic calculation of population trends.

On the frontend, we created a web platform where appropriate filters can be set, while bat species-specific population trends, species distribution layers and data sources are displayed on a dashboard. So far, we collected bat count data from large areas across Germany, providing trend estimates for many bat species.



Filter:

Roost type

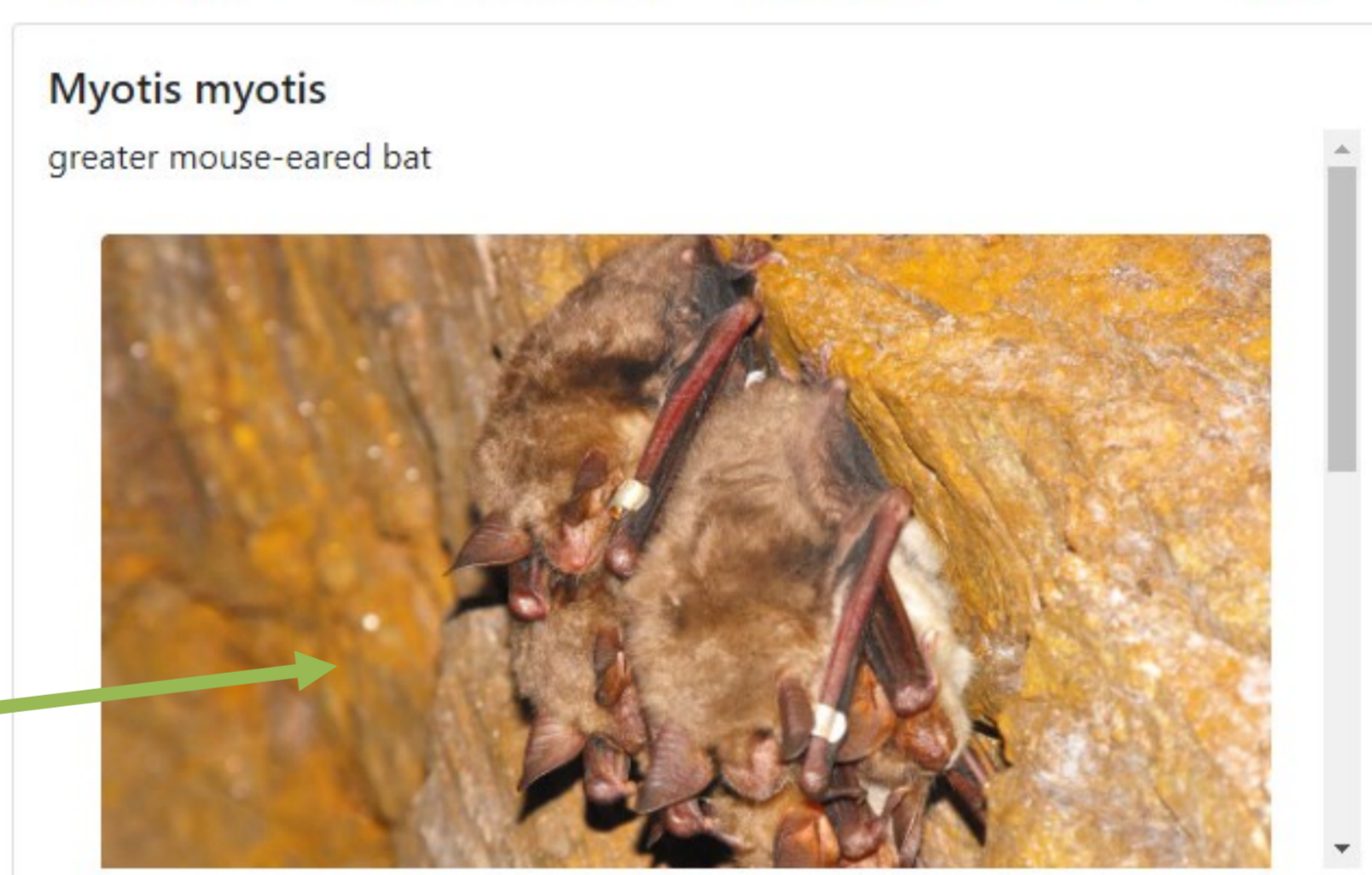
Region

Year range

Species

Myotis myotis winter (hibernacula) All Regions Timespan 2000 2020

Picture and general information about the species



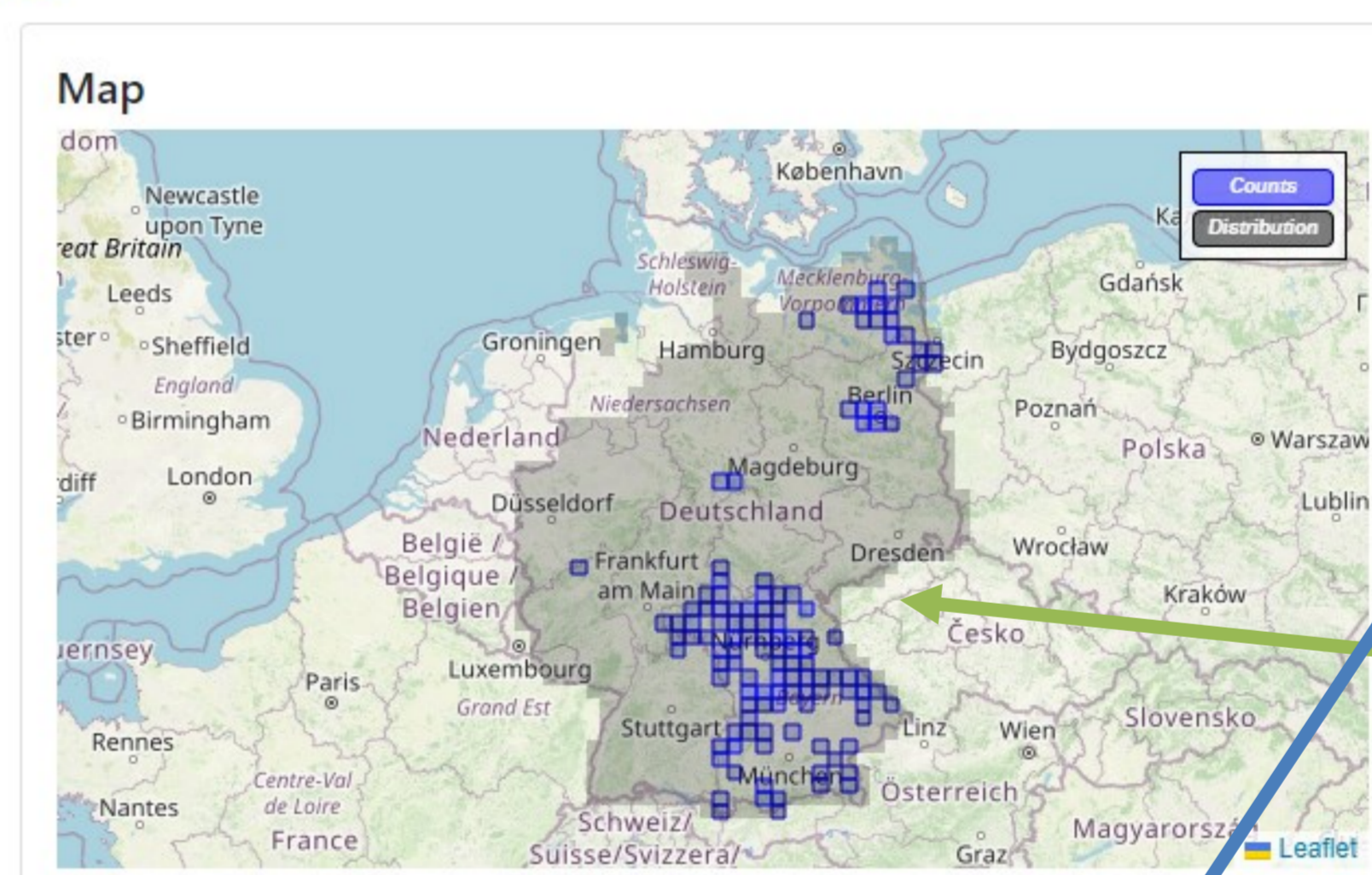
Data sources, contributors, Details about the TRIM estimate

More Information

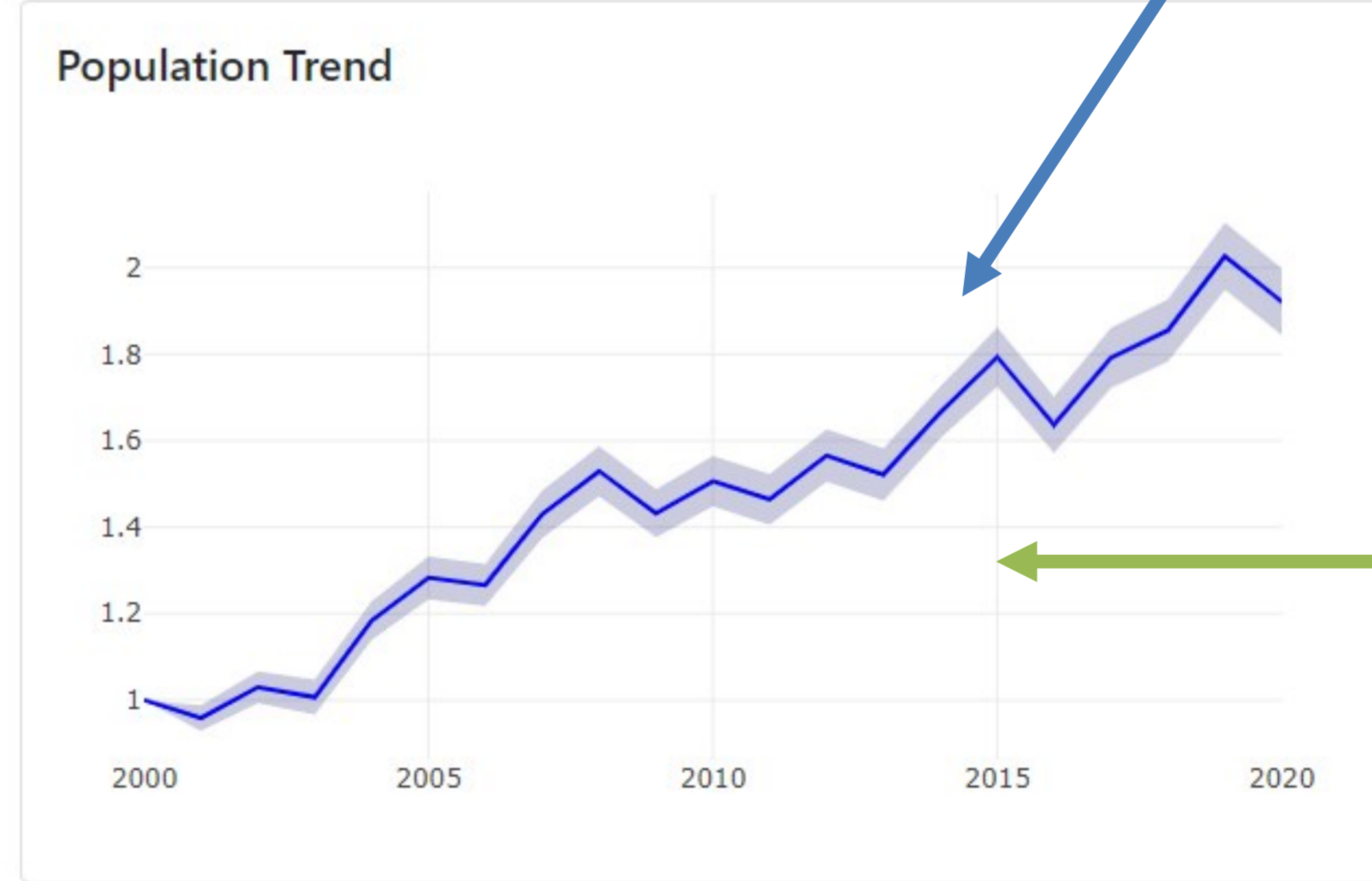
Based on a total of 4597 counts from 9 sources in 330 locations.

9 Sources

Bayerisches Landesamt für Umwelt	3649
Jens Berg	327
Senatsverwaltung für Umwelt Verkehr und Klimaschutz Berlin	



Map of geolocations of contributed counts and species distribution in Germany



Bat species population trend based on the filter settings

<https://batlas.info/>



The BATLAS platform is the first of its kind and provides important, freely available information on species distribution, data contributions and population trend indices. We are confident that this approach will help to improve the assessment of bat species conservation status in the Red Lists and to provide decision-makers with data-based information on population developments.

ACKNOWLEDGEMENTS

We are grateful to all the bat workers, researchers and authorities who collected and shared their data. We would like to thank the BfN and the BMUV for funding the project 'Endangered data of endangered species'.

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