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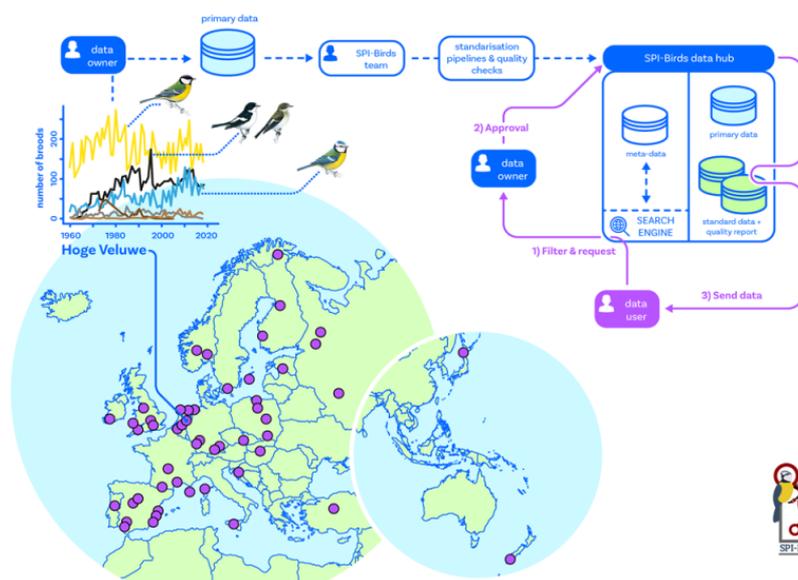
# When a shared vision becomes a reality: connecting data on individually marked birds

November 18, 2020 · by Julie · in #StoryBehindThePaper, Guest post. ·

**This blog post is provided by Dr. Antica Culina and Professor Dr. Marcel Visser and tells the #StoryBehindThePaper for the paper “[Connecting the data landscape of long-term ecological studies: the SPI-Birds data hub](#)”, which was recently published in *Journal of Animal Ecology*.**

Behind the paper there are people, data, and a lot of work. Behind this particular paper there are around 120 people and data on 1.5 million individually marked birds from 80 populations of 19 species. And an army of people that have been collecting these data, in sunshine and rain, over a cumulative 2000 seasons of fieldwork.

The Studies of Populations of Individuals – Birds (SPI-Birds) Network and Database connects researchers and serves as a data hub for data collected by different research groups. These data are then converted into one standard format, checked for quality, and richly described with meta-data. In this way, all the populations are visible within and outside the network, all the data are secured against loss, and they are easier to understand and combine. It is also a safe haven for data from population studies that are no longer continued and that could easily get lost when the responsible researchers retire. Sounds nice, right? We think so – and everyone can go to our website ([www.spibirds.org](http://www.spibirds.org)), search for populations, and request data from the data owners.



The overall overview of SPI-Birds workflow. Data on breeding, individually marked birds, are collected over years in different populations. These data (primary data) are then sent to SPI-Birds, where we convert them to the standard format, and conduct quality checks. Data users can search for populations of interests and request the data through the SPI-Birds website. Photo credit Szymek Drobnik; Mike Langman; rspb-images.com

## How has this all started?

*Antica: The first concrete step towards establishing the SPI-Birds Network and Database happened at the Hole Nesting Birds conference in Trondheim, at the very end of 2017. I presented a poster on the idea to map and connect all the studies of birds in which individuals are uniquely marked, starting with the Great tit (as one of the most commonly studied birds). I was inspired by the amount of time (almost a year) that I had spent trying to locate populations that would fit criteria for a research project I was developing. Why should everyone always have to go through the same process? Why don't we just have a place where everyone can easily search for populations, based on population 'traits' (e.g. length of study, population size, type of data collected). At the HNB 2017 I also held a very productive meeting with a dozen keen participants on the best ways to start this database. We called ourselves Hole Nesting Birds Network and Database. Then, mid 2019, we officially established the SPI-Birds, and published the first version of the standard data format. Liam Bailey worked hard on setting up an efficient system for creating code pipelines to get the data in the standard format, while Stefan Vriend was doing the same for data quality checks. I also well remember Marcel and myself discussing the potential official name (yes, there were many funny ideas, it is a pity we did not note them down), when we realised that we should not limit the programme to hole-nesters only, but be inclusive of all birds species. Who knows, in the future we might even see SPI-Mammals or SPI-Lizards?*

*However, the idea of creating a data hub has its roots much earlier than 2017. For example, Frank Adriaensen, one of our very engaged network members, recently told me: 'For me this has been a dream for more than 25 years. About half a year before my retirement, I finally trust that I have a safe haven for our (and others) databases now and in the future.' He also shared an interesting story that these ideas were discussed in the 'Kings Arms' pub in Oxford in the late 80's/early 90's by himself and Robin McCleery.*

*Marcel: SPI-Birds was largely possible because the research community working on hole nesters has always been very willing to share data. My first large-scale collaborative project, involving multiple populations, dates back at least 20 years. What was really hampering such collaboration was not so much the type of data that was collected (like date of clutch initiation, or number of eggs laid) but the way the different groups coded and stored these data in their own database systems. I remember that I was discussing database coding and cut off values with a dozen groups around Europe. Even at the Hole Breeding Passerines meeting in 2004 on Vlieland in the Netherlands (see picture) we had sessions on database coding. And I was not the only one. Others that started such collaborative projects also had to go through a long and painstaking process of 'translating' all data so that they meant the same and groups that provided data often had very long and highly specific protocols on how they were supposed to format their data. Despite plans to create a common database, it never really got off the ground until SPI-Birds was started, but then it fell on fertile ground and bloomed.*



Hole Nesting Bird (HNB) meeting, 2004, Vlieland, the Netherlands. SPI-Birds was originally started as HNB Network and Database. However, we soon realized that we needed to look beyond the hole-nesters.

## Where are we going?

This is just the beginning. SPI-Birds has been getting recognition outside of the community. For example, we have won two prizes: one at the Open Science Festival in the Netherlands, and, very recently, the Dutch Data Prize. Our team, and our members are all enthusiastic, and we hope we will soon grow to include more species from different continents – if you are working on a population of birds with uniquely marked individuals, and collect data on their breeding success (or you know someone who does) please get in touch. Finances, as always, are a bit of a struggle. The developer team of SPI-Birds (Liam Bailey, Stefan Vriend, Cloe Nater and Zuzana Zajkova) are creating the code pipelines to get the data in the standard format, which is crucial for doing analysis on multiple study populations. This saves data users an enormous amount of time, but is still a major time investment for the developers. While we are so far managing to secure the minimum to continue our development (with support from the personal NWO Veni grant of Antica, and institutional support from the NIOO and NTNU), we hope to attract more substantial funding to reach our vision of a connected data landscape on all different kinds of data collected on birds (hormonal, behavioural etc.).

## When do ideas, visions, and dreams start?

Now, after almost a year and a half after officially establishing the SPI-Birds, and talking to many of our members, we realize this work was truly a shared vision. Otherwise, we would not have achieved what we have in such a short period of time. SPI-Birds is a living example of how the vision, plan, and a dedicated effort, can build a more connected future where everyone benefits from a shared knowledge.