

Ecological monitoring on bird populations in Europe re-evaluated

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Biodiversity and environmental monitoring is of crucial importance to diagnose changes in the environment and natural populations in order to provide conservation practice with relevant data and recommendations. The information from monitoring is required, for example, for the design and evaluation of biodiversity policies, conservation management, land use decisions, and environmental protection.

Birds are headline indicators of biodiversity due to their worldwide distribution and popularity. More than 600 bird [monitoring](#) programs are in place in Europe, resulting in huge investment of effort. Nearly 28,000 people have been involved in the 144 monitoring programs analyzed in the [Nature Conservation paper](#), spending almost 80,000 person days per year. The evaluation was performed in [SCALES](#), a large-scale integrated project funded by the 7th Framework Program (FP7) of the European Union.

At a dedicated SCALES symposium at the 3rd European Congress of [Conservation Biology](#) (ECCB) in Glasgow on 28th-31st of August 2012, the lead author Dr [Dirk Schmeller](#) from the CNRS, France and guest researcher at the [Helmholtz Centre for Environmental Research - UFZ](#) in Leipzig, Germany, commented: "Although popular among conservationists, bird-monitoring practices have never been characterized quantitatively. We undertook a focused questionnaire-based survey to objectively explore the strengths and weaknesses of the massive bird-monitoring effort in Europe. The results indicate a high potential for further improvements to bird monitoring in sampling

design, data analysis and involvement of [volunteers](#) from the public".

"Variation in space and time can cause a significant deviation in the monitoring results, which may lead to incorrect conservation [policy decisions](#)", added Dr Klaus Henle from UFZ and coordinator of SCALES. "Therefore increasing awareness of the spatial or temporal scale at which monitoring has been performed can be of crucial importance!"

To optimize the monitoring practices, the scientists have proposed a range of recommendations. For most monitoring programs, the best data type to be collected is quantitative (count) data, such as number of individuals, which provide an early warning for conservation and policy. Further, monitoring could optimize resource allocation between independent monitoring sites. Importantly, even low variation between sites or years can induce spurious conclusions; hence repetitive sampling of the same sites within a year should be the rule.

In case of limited manpower, Schmeller and colleagues recommend an increase in the number of monitoring samples, even at the expense of the size of each sample. Further, more collaborations between monitoring programs at different scales need to be established, so that the sampled data may be integrated and re-used.

Finally, monitoring coordinators have to make special efforts to attract volunteers. Coordinators need to keep in mind several important points: 1) the specific characters of the local community; 2) having a recruitment strategy for volunteers interested in monitoring; 3) maintaining good communication with the volunteers; 4) having low hierarchies and treat volunteers with respect, and 5) making links to other voluntary organizations to add value to the work. Schmeller adds: "There is no one clear recipe to recruit and keep volunteers, but what is important is to keep in mind that the volunteers sacrifice their spare time

for monitoring activities, which are of interest to all society!"

More information: Schmeller D, Henle K, Loyau A, Besnard A, Henry PY (2012) Bird-monitoring in Europe – a first overview of practices, motivations and aims. Nature Conservation 2: 41-57. [doi: 10.3897/natureconservation.2.3644](https://doi.org/10.3897/natureconservation.2.3644)

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