

Can citizen science improve or substitute a National programme, monitoring species included in the EEC Habitats Directive?

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Denmark has initiated systematic monitoring of species included in Annex II and Annex IV of the Habitats Directive through the launch of the National Nature programme (NOVANA). The monitoring programme primarily monitors population size and distribution in order to provide the scientific background to assess conservation status for each species. The same species are simultaneously monitored in a Danish web-based citizen science project (www.naturbasen.dk) where data are collected randomly, i.e. no methods of data collection are designed and the 15,000 volunteers decide individually what to report. The existence of these two monitoring data sets poses the question whether the citizen science project can improve or partly substitute the National monitoring programme.

We have verified that the citizen science project can supplement the National monitoring programme and improve our knowledge about species distribution (Søgaard & Asferg 2009; Søgaard *et al.* 2010). New analyses show additionally, that species like dragon flies and other “popular” and easy to recognise species are actually better covered by citizen science, looking solely on distribution data, whereas the diminutive vertigo snails, floating water-plantain (*Luronium natans*), the submerged Slender naiad (*Najas flexilis*) and similar partly inaccessible species are best covered by the National monitoring programme.

We conclude, that by combining these two data sets we can improve and strengthen the monitoring effort in the National nature monitoring programme concerning the distribution of species suitable for citizen science.

References:

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